TRONOX KZN SANDS

HILLENDALE MINE

EXTERNAL AUDIT OF EMPR

January 2024 – December 2024

Audit Findings and Summary Report

Report prepared for:

Tronox KZN Sands (Pty) Ltd
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Empangeni
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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 Hillendale Mine Environmental Management Programmes (EMPr), viz.:

- Hillendale EMPR- Prepared by MSA Geoservices (Pty) Ltd, dated 27 July 2009.

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

In accordance with Regulation 34 of the Environmental Impact Assessment Regulations of 2014, as amended (GNR No. 326 of 2017):

(1) The holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid-

a) ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited and

b) submit an environmental audit report to the relevant competent authority

The auditing process entails a thorough examination of the conditions outlined in the EMPr to assess the degree of compliance to the approved EMPr issued for Hillendale Mine.

This report is a summary of the findings from the external audit for the period January 2024 - December 2025 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 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 a checklist which outlines the EMPr conditions, observed or established findings and a measure of compliance to the specified conditions. This checklist is 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 Hillendale 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 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. Appendix 1 (Audit Checklist) of this report provides detailed commentary and notes recorded during the auditing process.

The mining operations conducted at Hillendale involved a series of stages, starting with the clearance of vegetation and topsoil. Upon completion of the mining process, the primary aim of rehabilitation was to restore the site to its initial land utilization, which entailed sugarcane farming.

The scope of the audit and this report are therefore related mainly to the success of the rehabilitation of construction and mining affected areas, as well as the implementation of conditions relating to rehabilitation and closure aspects of the mine. In general, the license holder appears to be actively implementing the conditions of the EMPr. Observations on site show that

the license holder has continued proactively to protect water resources and environmental sensitive areas.

Table 1 below provides a summary of the non-compliance and partial compliance aspects of the approved EMPr and proposed focus points to address the deficiencies identified:

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

REF No.	Condition / Requirements	Improvement Focus points	Timeframe
1	Minimise the loss of a soil resource. (Partial Compliance)	Topsoil conservation has been implemented on the site. Steep slopes have been vegetated accordingly. However, there were areas where erosion was observed, and this must be addressed accordingly. Suitable erosion control measures and enhancing vegetation management must be implemented. Document Reference MCL-REP-130-21-22	Ongoing as and when erosion occurs on site.
27	Linear infrastructure (roads and pipelines) will be inspected on a regular basis (ideally monthly) to check that the associated water management infrastructure is effective in controlling erosion. If any of the inspections identify eroded areas, these will be repaired where necessary as soon as practicable.	The site visit confirmed that most of the roads were in good condition. There was however some erosion and damage to some roads due to recent heavy rainfall events which requires rehabilitation to be undertaken on site. Some of the dirt roads will remain post-closure to serve as access roads	Erosion on some internal roads must be repaired and areas rehabilitated.

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

5. REPORTABLE INCIDENTS

During the audit period under review, no incidents, which had the potential to cause pollution, health and safety risks or a contravention with the conditions of any of the EMPr were recorded and reported.

6. 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 on site, in accordance with the conditions outlined in the EMPr, are adequate and effective.

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

APPENDIX 1 – HILLENDALE EMPR- PREPARED BY MSA GEOSERVICES (PTY) LTD, DATED 27 JULY 2009 (CHECKLIST)

TRONOX KZN: HILLENDALE MINE: ENVIRONMENTAL LEGAL COMPLIANCE AUDIT REPORT Compliance Checklist Audit based on Document: Hillendale EMPR- Prepared by MSA Geoservices (Pty) Ltd, dated 27 July 2009					
Site Inspection Number:		**Site Inspection Date:**	**10 April 2025**		
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			
Objective	**Reference Number**	**Measures, criteria or principles**	**Compliance Rating**	**Findings**	**Follow-up Action**
Environmental Management Programme Report (Prepared by MSA Geoservices (Pty) Ltd. Dated 27 July 2009)					
Soil					

Minimise the loss of a soil resource.	1	Topsoil conservation will be practiced in accordance with the topsoil utilisation guide given in Section 2.4.3.	**1**	Topsoil conservation has been implemented on the site. Steep slopes have been vegetated accordingly. However, there were areas where erosion was observed, and this must be addressed accordingly. Suitable erosion control measures and enhancing vegetation management must be implemented. Document Reference MCL-REP-130-21-22	None.
	2	The areas to be disturbed (servitudes and areas affected by mining) will be kept as small as possible.	**-1**	Hillendale is under Closure and all disturbed areas are in the process of being rehabilitated. Since mining is complete this condition could not be verified on site however mining was limited to the approved mining footprint.	Not Applicable.
Land Capability					
Minimise the loss of land with agricultural potential.	3	Following backfilling, the landform will be shaped to the extent where it will be possible to farm on the area.	**2**	The site visit confirmed that all landform shaping has been completed to align with the intended land use and visually blend with the natural landscape.	None.
	4	The rehabilitation of the soil moisture retention characteristics will take place so that the original or current land use can be supported and long-term recharge to ground water will be reduced.	**2**	As confirmed during the site audit interview, there has been a decrease in soil moisture retention. As a component of Tronox's remediation endeavours, they have integrated fine materials into the topsoil in many areas to improve soil moisture retention. Regular monitoring and reporting is undertaken by an appointed service provider (GCS).	None.

	5	2 to 3 years before decommissioning a small (~1 ha) sugar cane trial plot will be established to evaluate the most effective cane farming methods.	**2**	The test plot results revealed that sugar cane can be viably planted on rehabilitated areas and planting of sugarcane is now taking place on site. Eucalyptus trials have also been conducted to test the viability of this crop.	None.
Land Use					
Prevent long term changes in land use.	6	The post-mining land use will be agriculture, specifically sugar cane.	**2**	The Hillendale Mine has been reshaped to resemble a natural valley formation. In accordance with the rehabilitation plan, the historical sugarcane plantations on Bell, UVS, and Chennel will not be reintroduced. Eucalyptus trees and Casuarina on the RSF have been planted. Rehabilitation Plan	None.
Vegetation					
Minimise loss of vegetation within the mining footprint.	7	The identified wetlands and riparian area will be protected against disturbance (declared no-go areas) with respect to mining equipment.	**2**	Hillendale is in the closure phase, and there are no disturbances or activities in restricted no-go areas.	None.
	8	The mine will rehabilitate all disturbed land throughout the life of the mine as soon as the disturbing force is removed.	**2**	Hillendale is in the closure phase, and rehabilitation efforts began straight after the conclusion of mining activities. Substantial work has been done to restore and rehabilitate the area.	Ensure compliance with the Rehabilitation Plan.
Animal Life					
Minimise or prevent deterioration in surface water quality due to mining activities.	9	Mining-associated traffic will be restricted to the roads and remain out of sensitive areas.	**2**	Traffic is restricted solely to security and maintenance vehicles responsible for fire breaks.	None.

Surface Water					
Minimise or prevent deterioration in surface water quality due to mining activities.	10	Water quality and flow monitoring within the freshwater and the estuarine parts of the Siyaya/ Amanzimnyama system will be undertaken in accordance with EXXARO KZN SANDS's monitoring programme. Baseline monitoring has already commenced. The results will be used in the development of the closure plan remediation and monitoring programme.	**2**	Surface water monitoring and biomonitoring are standard practices at Hillendale and are conducted regularly. Regular monitoring and reporting is undertaken by an appointed service provider (GCS). Document Reference	None.
	11	Clean water diversions and dirty water collection facilities will be established before land clearing and mining commences, to prevent clean rainfall runoff becoming contaminated by construction or operational activities. The measures envisioned are simple soil berms to prevent clean runoff entering dirty areas and others to divert dirty water to settlement paddocks.	**-1**	These structures were implemented during operational phase.	Not Applicable.
	12	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.	**-1**	These structures were implemented during operational phase.	Not Applicable.

	13	All water used for mining and mineral processing to be kept in a closed circuit.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	14	The PWP has bunds around it to contain any possible spillage.	**-1**	The primary wet plant (PWP) area has to date been decommissioned.	Not Applicable.
	15	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.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	16	The mine will keep water systems clear of obstructions. Drains will be inspected regularly. Unless problems are encountered during these inspections, the drains will be cleaned and maintained as necessary.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	17	Spillage from pipelines will be contained by bunds. These will direct spillage 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.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	18	The mine will use its incident reporting system to ensure appropriate measures are taken in the event of incidents.	**2**	Although there are no mining activities on site. The mine still has procedures in place to address any incidents that might occur while the mine is obtaining official closure.	None.

	19	The mine will ensure that temporary toilet facilities do not cause any water pollution or a health hazard.	**2**	The only operational toilet facilities are located in the offices and are exclusively used by the security personnel. They are cleaned on a regular basis using a honeysucker.	None.
	20	The flocculant used will be such that both the flocculant and its decay products will not be to the detriment of downstream water users. The dosage of excessive amounts of flocculant will be avoided. The selection of a flocculant will be made from a toxicological point of view, that is, possible flocculants will be tested before hand in terms of possible impacts on the aquatic ecosystem or environment.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	21	Should contamination or excessive 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 residual contamination has been detected onsite and recent reports reflect an overall improvement in water quality.	None.
	22	The PWP has bunds around it to contain any possible spillage. Bunds to be checked regularly for cracks and leakages.	**-1**	The primary wet plant (PWP) area has to date been decommissioned.	Not Applicable.

Minimise impact of residue dam on water quality.	23	•The residue dam embankments are maintained at an elevation sufficient to contain a 1:100-year 24-hour storm event and still have 0.8 m freeboard. •The residue dam is regularly inspected by suitably qualified consultant engineers who devise a system of checks and management principles to ensure that the stability of the dam remains within acceptable limits. •The residue dam starter walls were constructed from a sandy material. The outer surface of the walls is vegetated with grass to prevent surface erosion. The dam is inspected after every major storm event and any repairs to it made as necessary. If certain areas experience high velocities (in excess of 2 m/s) due to swirling, protective measures such as *Reno mattresses* or *Armourflex* will be used to prevent repeated flood damage. •A facility to recirculate return water to the thickeners when the suspended solids level is too high has not been installed as suspended solids in the process water have not been a problem. •Toe paddocks were constructed and are maintained. •The residue dam starter walls were built higher than the 1:100 year flood level to lessen the chances of flooding. •Process and rainwater is pumped into a return water dam which is capable of containing the volume of water generated by a reasonably large rainstorm.	**2**	The RSF return water dam was reopened and restored. The Smelter underflow was reclassified in accordance with Waste classification regulations and is currently disposed of at an authorized facility. It must be noted that inspections are still undertaken to date.	None.

	24	•The return water dam was constructed with only one compartment instead of two as initially envisaged in order to gain maximum storage volume in the available area. When cleaning of settled solids is required it will either be done by means of dredging system while operation is in process or a temporary facility will be installed to return water to the PWP while the dam is cleaned. •The storm water running off the dune above the residue dam is contained in the closed circuit and aids in reducing the water requirement from the uMhlathuze River. •The residue dam embankments are maintained at an elevation sufficient to contain a 1:100-year 24-hour storm event and still have 0,8m freeboard.	**2**	The decommissioned return water dam has been modified to allow free drainage and has been preserved as a wetland area with mature natural vegetation. The spillway construction has been finished, and the originally specified freeboard is no longer relevant due to the subsidence of the RSF surface. To adapt to the declining RSF surface level, the penstock drain vents have been lowered, enabling unrestricted water drainage.	None.
Minimise risk of erosion from either increased base flow or mining operations.	25	To minimise impact on the receiving water bodies, the mine will optimise the removal of return water from backfilling operations.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	26	Water systems, such as drains, and canals will be designed to prevent pollution and minimise erosion or sedimentation.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.

Minimise risk of erosion from either increased base flow or mining operations.	27	Linear infrastructure (roads and pipelines) will be inspected on a regular basis (ideally monthly) to check that the associated water management infrastructure is effective in controlling erosion. If any of the inspections identify eroded areas, these will be repaired where necessary as soon as practicable.	**1**	The site visit confirmed that most of the roads were in good condition. There was however some erosion and damage to some roads due to recent heavy rainfall events which requires rehabilitation to be undertaken on site. Some of the dirt roads will remain post-closure to serve as access roads	Erosion on some internal roads must be repaired and areas rehabilitated.
	28	All surface water management infrastructure constructed from soil (berms, canals and bunds) will be inspected on a regular basis, with more frequent inspections during periods of high rainfall and after major rainfall events. If any of the inspections identify eroded areas, these will be repaired where necessary as soon as practicable.	**2**	Stormwater infrastructure is actively maintained to prevent erosion and regulate runoff as needed. Frequent inspections have been undertaken.	None.
	29	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). The effectiveness of these dissipaters will be checked on a regular basis. If any of the inspections identify eroded areas, these will be repaired where necessary as soon as practicable.	**2**	Energy dissipaters, inclusive of Reno-matrasses, are included in the infrastructure being finalised.	None.

	30	Energy dissipaters will be placed in footpaths where there are signs of erosion. The footpaths will be inspected on a regular basis, with more frequent inspections during periods of high rainfall and after major rainfall events. If any of the inspections identify eroded areas, these will be repaired where necessary as soon as practicable.	**2**	While energy dissipaters have been implemented on site. No formal footpaths have been designated on site.	None.
Minimise impact of reside dam on surface water quantity.	31	Flange covers are to be installed to prevent spraying of material. Pipelines are monitored continuously for pressure drops by means of flow meters. Maintenance programme includes regular visual inspection of pipelines.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
	32	Contain all water falling on the mining area and thereby prevent runoff.	**2**	Efforts are in place to manage stormwater infrastructure, with a focus on erosion prevention and runoff control, especially during heavy rainfall. It is essential to conduct inspections after each significant rain event.	None.
	33	Water systems are designed so that as little surface water as possible ponds on the mining area.	**-1**	These activities do not apply to the present closure phase.	Not Applicable.
Groundwater					
Minimise change in ground water quantity and quality.	34	See Surface Water (ref 10 - 22) for monitoring, water use optimisation and pollution control requirements.	**2**	Regular monitoring and reporting is undertaken by an appointed service provider (GCS). Monitoring reports are available from Tronox.	None

	35	There are a number of uncertainties regarding the groundwater model input parameters so improve the model a monitoring programme consisting of the following should be conducted, and the groundwater models updated prior to mining in order to ensure that the conservative estimates are refined further: the use of soil moisture probes or other relevant instrumentation to determine unsaturated zone conditions; piezometer data used to monitored to establish the shape of the current groundwater mound accurately.	**2**	Regular monitoring and reporting is undertaken by an appointed service provider (GCS).Monitoring reports are available from Tronox.	None
	36	Construction of trenches as required on the edges of the mining areas to collect any seepage which might emanate due to the mining operation.	**-1**	Construction of trenches was completed during the construction phase.	None
	37	To ensure maximum water retention after mining, as much slimes as possible is added to the sand fraction being replaced on the dune.	**2**	The deposition of smelter slag has been successfully finalized. The areas have been covered with topsoil, grassed, and planted with Eucalyptus trees.	None
Air Quality					
Air emissions will be managed to minimise nuisance effects and prevent health effects.	38	The mine will continuously update the Air Pollution Control System (APCS). This APCS includes detailed management plans, mitigation measures and monitoring and operational procedures developed for each significant source to ensure reductions in emissions. Some of the matters to be included in the APCS are listed below.	**2**	An Air Management Plan was formulated for Hillendale in January 2018, and it has been verbally confirmed that it is being put into action. Monthly measurements of dust fallout are presently being undertaken by the appointed service provider ENVASS. Monitoring reports are available from Tronox.	Monitoring of implementation actions of Air Quality Management Plan.

	39	The indicated maximum speed limits will be observed on all dirt roads.	**2**	Traffic is restricted solely to security and maintenance vehicles responsible for fire breaks. Additionally, speed limits have also been observed.	None.
	40	Dust will be minimised by the use of grass or cane cover, or dune coating (which can achieve higher efficiencies that vegetation in the short term). This will necessitate the establishment of dedicated entry and exit routes to the actively mined void and the routine monitoring of vegetation cover to determine the effectiveness of the rehabilitation protocols that have been employed.	**2**	An Air Management Plan was formulated for Hillendale in January 2018, and it has been verbally confirmed that it is being put into action. Monthly measurements of dust fallout are presently undertaken by the appointed service provider ENVASS. Monitoring reports are available from Tronox.	Monitoring of implementation actions of Air Quality Management Plan.
	41	The rehabilitation (vegetation) or dust suppression measures of the backfilled area will take place as soon as the previously mined void has been filled.	**2**	The re-establishment of vegetation took place following the filling of the voids in the 2017 program.	None.
	42	Dust suppression will be used on unpaved roads to achieve a maximum control efficiency of 85% (using either water sprays or chemical suppressants).	**2**	Currently, no dust suppression methods are in practice, and the roads are solely utilized for maintenance works	None.
	43	Source based performance indicators for the mining operations will include visible reductions in fugitive dust resulting from mining activities.	**2**	No mining activities apart from final rehabilitation are being undertaken. No active dust control activities are being undertaken anymore.	None.

	44	Source based performance indicators for sources of wind erosion will include vegetation cover up to 1m from the top (applicable to the residue dam and topsoil pile); vegetation	**2**	Vegetation cover was fully established by the end of 2018, and various types of vegetation are now visible at the RSF. Continuous monitoring is necessary to detect and address any emerging issues in specific areas.	None.
	45	Compliance with the performance indicators will be assessed as part of an ongoing monitoring programme. There is a dust fallout network for FBCX and a similar network will be employed for the rest of the Fairbreeze sites. The network comprises of two twin directional dust buckets and 14 single buckets. These buckets are monitored as follow: 4 monthly, 1 weekly and 9 daily.	**2**	Ongoing monitoring of dust fallout is carried out by ENVASS to ensure compliance with the national ambient dust fallout standard.	None.
Noise					
Minimise noise disturbance.	46	The mine will use road rather than rail transport to convey the HMC from Hillendale to the CPC in Empangeni.	**-1**	No transportation of minerals is being undertaken as the Hillendale Mine is in the closure phase and mining has been completed.	Not Applicable.
	47	Bulldozing operations will be limited to daytime hours	**-1**	There are presently no activities or operations underway at the mine that necessitate bulldozing.	Not Applicable.
Archaeology					
Manage the loss of archaeological or culturally sites.	48	A regular monitoring program to record and assess potential sites/artefacts that were missed due to the dense vegetation or that were below the surface at the time of the survey will be undertaken.	**-1**	These activities are not applicable to the current closure phase.	Not Applicable.

	49	Destruction permits will be obtained for any unrecorded sites that may be recorded during the monitoring program, in terms of the KwaZulu Natal Heritage Act of 1997.	**-1**	These activities are not applicable to the current closure phase.	Not Applicable.
Visual					
Minimise visual disturbance.	50	The following mitigation measures are in place for minimizing the impact of the view from the N2: •Retain existing plantations on the south side of the N2 which already provides a visual screen. •Plant new visual screens of the same vegetation, i.e. Eucalyptus, pines and indigenous vegetation close to the road to screen the view. In view of the short mining period (approximately ten years) fast-growing indigenous species will be preferred. •A substantial number of indigenous trees were planted to ensure that the passing viewer would be presented with a barrier. Further activities relating to the rehabilitation of the residue dam will be initiated during the closure phase. •Containment walls are built surrounding the area which are grassed and vegetated and have slopes no steeper than 1:2. This allows re-vegetation and they fit in with the surrounding landform. These barrier berms were constructed prior to any deposition of tailings behind them and are periodically raised so that there is always a vegetated stable slope presented to the passing viewer.	**2**	Extensive landscaping and vegetation efforts have been undertaken at the Hillendale Mine to minimize visual disturbance. Moreover, trees have been planted along the N2 acting as visual screens.	None.

	51	The following mitigation measures are in place for minimizing the impact of the view from other access roads: •Retain all existing vegetation between the mining site and the road. •From a practical perspective little can be done to mitigate impacts in the active mining area. The focus is therefore on constraining the active mining area to as little a footprint as possible and rehabilitating available areas as soon as possible. The existing vegetation comprises Eucalyptus and indigenous trees. More indigenous, fast-growing trees (because of the short mine life) were planted along this edge. •The worked out area behind the mining face was screened using shrub planting where effective. •A reclamation and rehabilitation process was developed which utilises waste material in order to build up a new landform behind the advancing face, which is then shaped, top-soiled and revegetated.	**2**	Extensive landscaping and vegetation efforts have been undertaken at the Hillendale Mine to minimize visual disturbance. Moreover, trees have been planted along the N2 acting as visual screens.	None.
Socio-economic					
Minimise changes in the demographics of the area.	52	The mine and its sub-contractors will employ people strictly from the TSA offices in Empangeni, or an employment agency elsewhere.	**2**	This condition was fulfilled during the operation of the mine. Currently, no mining activity is taking place, and the only people at the mine are security personal.	Not Applicable.
	53	Issues such as the development of informal settlements will be addressed via the relevant Forum.	**2**	No informal settlements have occurred in the mined area.	None.

	54	Where possible Ticor South Africa will employ people from the local District (uThungulu District Municipality). The EXXARO KZN SANDS policy is to employ at least 60% of the people from the local district and the remainder of the workforce from anywhere. This was approved by the HR&R Board Committee. 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**	This condition was fulfilled during the operation of the mine. Currently, no mining activity is taking place, and the only people at the mine are security personal.	None.
	55	If suitably trained employees are not available from within the surrounding communities, Ticor South Africa will, in accordance with the TSA Social and Labour Plan, introduce training programmes focused on raising the skill levels of the local residents.	**2**	This condition was fulfilled during the operation of the mine. Currently, no mining activity is taking place, and the only people at the mine are security personal.	None.
	56	EXXARO KZN SANDS will not allow establishment of informal settlements on its land.	**2**	This condition was fulfilled during the operation of the mine. Currently, no mining activity is taking place, and the only people at the mine are security personal.	None.
Maximise possible contributions to the economy.	57	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 TSA Social and Labour Plan.	**2**	This condition was fulfilled during the operation of the mine. Currently, no mining activity is taking place, and the only people at the mine are security personal.	None.
Interested and affected parties					

Maintain positive and transparent relationships with EXXARO KZN SANDS's stakeholders.	58	Exxaro KZN Sands South Africa will maintain communication channels with I&AP's through the following forums: Greater Mhlathuze 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**	The following meetings have continued following the conclusion of mining operations: • Regular Amakhozi Meetings • Annual Rehabilitation Meeting • Annual SHERQ meeting with the Greater Neighbouring Communities Forum Records of meetings are available from Tronox CCA Department.	None.
	59	Forums will be maintained until mine closure.	**2**	The following meetings have continued following the conclusion of mining operations: • Regular Amakhozi Meetings (weekly) • Annual Rehabilitation Meeting • Annual SHERQ meeting with the Greater Neighbouring Communities Forum Records of meetings are available from Tronox CCA Department.	None.
Submission of information					
Provide stakeholders with O/D relevant information.	60	All information as described in the relevant sections will be made available to interested and affected parties via the communication channels outlined in Ref 58.	**2**	Information is available to all Interested and Affected Parties (I&APs) and stakeholders as and when required.	None.

	61	Authorities will be provided with information as specified in the relevant legislation or authorisation.	**2**	Information is available to all Interested and Affected Parties (I&APs) and stakeholders as and when required.	None.
Miscellaneous environmental management					
Environmental management will be undertaken in accordance with EXXARO KZN SANDS's environmental policy.	62	The Environmental Management System (EMS) of EXXARO KZN SANDS will be used to audit, track, and manage mitigation measures.	**-1**	No longer applicable as mining has been concluded.	Not Applicable.
	63	The maintenance of mitigation measures is described in the relevant sections above.	**2**	Dedicated staff have been assigned to Hillendale to give effect to the final mitigation measures implemented.	None.
	64	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. A contamination clean-up plan will be developed to ensure that any spills are cleared as soon as possible and to ensure disposal of spilt material in an appropriate way.	**2**	The site is well maintained and while there are no mining activities on site, the mine still has certain emergency procedures in place in case there are incidents on site.	None.
	65	The mine will ensure that relevant equipment is well maintained and fully operational.	**2**	Although mining stopped, Tronox is still maintaining pipes and pumps present on site.	None.

	66	Non-mining waste materials will be classified according to the minimum requirements for the handling and disposal of waste as published by the Department of Water Affairs and Forestry. 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 KZN SANDS procedure.	**-1**	Waste is not being generated on site.	None.
	67	The approved EXXARO KZN SANDS Emergency Procedure will be applied during all phases of mining.	**2**	The existing Fire Response Team will remain operational during the closure phase.	None.
	68	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 this Section of the EMPR; incident identification and reporting.	**2**	Although there are no mining activities on site. All employees, including the maintenance and security team are given environmental awareness training.	None.
Environmental management will be undertaken in accordance	69	Performance assessments relating to the contents of this section will be conducted every two years.	**2**	Tronox regularly assesses and undertakes performance assessments and external auditors are appointed annually to assess performance with this section.	None.

with TSA's environmental policy. – cont.	70	The mine will carry out regular risk assessments to ensure that potentially hazardous materials are appropriately stored, labelled and handled.	**-1**	No hazardous chemicals or materials are being handled onsite.	Not Applicable.
	71	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 in order to minimise the impact on water resources.	**2**	The existing Hydrocarbon Spill Clean-up Plan applies. Document Reference CPDOC-40-71 and CPDOC-40-72.	None.
	72	Hazardous chemicals (paint and hydrocarbons) will be kept in an appropriate store at the PWP. Vehicles will not be refuelled on site, except in an emergency. In the event that a vehicle is refuelled on site, appropriate measures will be taken to ensure that all spills are cleaned up in accordance with EXXARO KZN SANDS procedures.	**-1**	No hazardous chemicals or materials are being retained onsite.	Not Applicable.
Further investigation					
Undertake further investigations prior to the commencement	73	Detailed engineering design for the final mitigation plans for the impacts identified during the environmental impact assessment process.	**2**	Tronox has been compliant during the operational phase of the mine.	None.

of mining to confirm predictions made in this report	74	Air quality monitoring as per the specialist study recommendations (Airshed Professionals, 2004) – see ref 43-44.	**2**	An Air Management Plan was formulated for Hillendale in January 2018, and it has been verbally confirmed that it is being put into action. Monthly measurements of dust fallout are presently being undertaken by the appointed service provider ENVASS. Monitoring reports are available from Tronox.	None.
Specific Clauses as contained in the Environmental Management Programme Report (Prepared by MSA Geoservices (Pty) Ltd. Dated 27 July 2009) relating to decommissioning and closure					
Roads, Railways and power lines					
Roads.	5.2.1.1	Depending on the requirements of the landowner, the road on the mine sites could either revert to him or be demolished. Should the latter option be chosen then the surface and sub-base will be removed, the ground will be scarified and contoured and shaped to conform to the topography. Topsoil will then be distributed and grass sown on the area.	**2**	The ultimate road infrastructure design will be surveyed in compliance with the regulatory requirements for closure. Currently negotiations are underway.	None.
Railway.	5.2.1.2	There are no railways.	**-1**	Not applicable as there are no railways.	Not Applicable.
Powerlines.	5.2.1.3	The pylon foundations will be removed and the ground rehabilitated. The surface and groundwater flows will stabilize to pre-mining conditions. There will be a short-term impact on air quality and noise due to the use of construction equipment. Should the surface structures not be removed there will be a remaining visual impact.	**2**	All structures have been demolished and taken away. During mining operations, no pylons were employed since the 11Kva lines were supported by wooden poles. These poles have all been dismantled and relocated to Fairbreeze Mine.	None.

Solid waste management facilities					
Residue Dam.	5.2.2.1	The walls of the residue dam will be planted with kikuyu grass or suitable indigenous grass species on a continuous basis to reduce the visual impact and assist erosion prevention.	**2**	There is a noticeable increase of indigenous vegetation on the RSF.	None.
Soil.	5.2.3	The soil removed during the construction phase was stockpiled for use on the residue dam walls and the surface will be covered with soil and grassed during decommissioning. Sugar cane can then be re-established.	**2**	The mining area has undergone landscaping and vegetation efforts. Erosion is evident in certain areas, demanding attention. Continued rehabilitation efforts are required at the RSF, as vegetation growth is slow in specific areas of the site.	None.
Land capability.	5.2.4	Rehabilitation measures followed during rehabilitation will continue for disturbed areas, until all areas have been rehabilitated. The land capability will then return to its pre-mining potential.	**2**	During the mining phase only 560 ha was disturbed, and rehabilitation and restoration is now in the final closure phase. Ongoing monitoring is being conducted to guarantee the effectiveness and success of the rehabilitation initiatives.	None.
Land use.	5.2.5	A suitable capping cover must be placed on the residue dam to ensure that it can carry farming machinery, making it possible to return the area to sugar cane farming, following decommissioning.	**2**	The inner regions of the RSF exhibit the natural growth of reeds and brush vegetation, signifying the formation of a raised wetland. Furthermore, the presence of mature grass, shrub, and tree species along the drier East, South, and North banks of the RSF demonstrates the successful stabilization of the landform.	None.

Noise.	5.2.6	Noise generated by earthmoving equipment will be within the standard noise requirements. However, it will impact on surrounding settlements. Some additional noise will be generated on local roads by vehicles transporting HMC to the smelter site and returning rejects from the smelter to the mine site. Similar considerations apply for the increased traffic transporting personnel to and from the mine sites.	**-1**	No noise generation is occurring on site as mining activities have been concluded.	None.
Sites of archaeological and cultural interest.	5.2.7	No impact, as the archaeological sites have been investigated and necessary action taken during operation.	**2**	No further impact on archaeological sites are anticipated as the mine is currently undergoing mine closure and no further mining will take place.	None.
Sensitive landscapes.	5.2.8	The riparian areas and the wetland are not impacted on as they are located outside of the mining activities.	**2**	Hillendale is in the closure phase, and there are no disturbances or activities in restricted no-go areas.	

Natural vegetation/plant life.	5.2.9	One of the possible effects of decommissioning is the infestation of disturbed sites by alien weed species. This will require monitoring and control for some time during decommissioning and post closure.	**2**	While conducting the site assessment Invasive Alien Plant Species (IAPS) were observed. Tronox has a dedicated in-house team responsible for alien plant clearing.	The presence of alien and invasive species on the site will be addressed through the application of suitable herbicides or the physical removal of these species.
Animal life.	5.2.10	Decommissioning could result in disturbance to the fauna due to increased traffic and noise. Thereafter colonies will re-establish themselves, however due to the limited natural habitat this impact is of low significance and therefore does not require mitigation.	**2**	The current activities are limited to continuous rehabilitation maintenance, leading to a decrease in the impact on fauna due to reduced traffic and noise.	None.
Air quality.	5.2.11	Some dust may be generated during decommissioning of the mine and residue dam. This can be alleviated by watering down and the effects are seen as insignificant.	**2**	While conducting the site visit at Hillendale, no dust generation was observed, as no physical activities are taking place. Air quality is monitored by Envass on a monthly basis by ENVASS.	None.

Visual aspects.	5.2.12	Construction equipment will be visible during decommissioning operations; however the visual impacts will improve as the rehabilitation continues. The visual impact during decommissioning are considered insignificant.	**2**	The site audit verified that there were no visual impacts as there are no mining activities on site.	None.
Central processing plant rejects.	5.3.1	These discard products are placed in the rehabilitated dunes during decommissioning and prior to closure. The base of the dump is scarified, the residue placed in the sand tailings and the area contoured, top-soiled and grassed. The mine sites embody a number of structures. There are steel structures to house cyclones and spirals and a conveyor system to the HMC stockpile. The above ground structures will be demolished and removed during decommissioning or alternatively taken over by the farmer pending conformance to relevant legal requirements. Concrete rubble will be buried below ground.	**2**	Tronox Hillendale has actively engaged in post-mining rehabilitation efforts since 2014. The decommissioning phase, spanning from 2016 to 2020, involved the removal of surface infrastructure, including temporary storage units, pipes, and pumps, which were subsequently relocated to the Fairbreeze operation. Successful re-vegetation of the waste tailing stockpile area has been achieved. Additionally, an integrated stormwater management system was designed and constructed for the rehabilitated area, incorporating spillways on the RSF. Certain areas and infrastructure have been earmarked for third-party transfer, and the re-vegetation of the waste tailing stockpile area has been effectively completed.	None.
Water pollution management facilities					

Sewage plant.	5.3.2.1	Should this not be utilized the sludge will be removed and deposited in the sand dunes prior to rehabilitation. The structure will be demolished, the excavation backfilled with earth, contoured, top-soiled and planted with grass.	**2**	A sewage plant was not constructed, and sewage was managed through the municipal sewage system. The concrete conservancy tank is currently in operation and undergoes monthly cleaning. The decision regarding the future use of the office building, which will be determined during the final closure negotiation process, will dictate whether the tank will be retained or removed.	None.
Potable water plant.	5.3.2.2	This will be removed as part of the mineral processing plant.	**-1**	No processing plant was established as municipal supplied water was and is being used.	None.
Process water supply system.	5.3.2.3	Should the dams not be required, they will be demolished, backfilled, contoured and top- soiled and rehabilitated. The debris will be placed in the dunes prior to rehabilitation.	**2**	The originally established process water dams remain operational and are integral to the Fairbreeze Mine's supply of raw water. This raw water is sourced from uMhlathuze Water and conveyed from the process water dams to the Fairbreeze process water dams through the Bulk Water Pipeline. To maintain ongoing security and safety measures, fencing has been erected around the Hillendale process water dam.	None.

Mineral processing plants.	5.3.3	Whilst the plant will be of modular construction it will be mounted on concrete foundations. The base will be removed, and the piles cut down to one meter below the final elevation of the rehabilitation surface. The excavations will be backfilled, contoured, top-soiled and planted with grass. The HMC stockpile will be processed before decommissioning. The base will be demolished, scarified and the residue will be deposited in the rehabilitated dunes. The base will be then contoured, top-soiled and grassed.	**2**	The mine plans to facilitate the future re-use of the plant area and offices. As part of this effort, surface piles have been removed, and the subsurface structures have been buried under soil and covered with grass. These areas now feature robust grass cover. With the exception of the workshop and office infrastructure, no other plant infrastructure is visible at this time.	None.
Workshops, administration and other buildings.	5.3.4	Should these not be required by the landowner, they will be demolished and rehabilitated as described above.	**2**	The administration block comprises a permanent building as well as temporary containers. The containers have been removed, and the office buildings still await finalization of a third-party handover agreement.	None.
Housing, recreation and employee facilities.	5.3.5	EXXARO KZN Sands did not build any houses or employee facilities for the mining project. It is up to employees to purchase, rent and sell properties as they see fit. However, timeous advice of closure of operations should be given to employees to allow them to make suitable arrangements.	**2**	Between 2008 and 2013, staff were informed about the mine's position and the closure process through a series of meetings. Records of these meetings are on file.	None.

Transport.	5.3.6	Transport of HMC to the CPC and the return of rejects to the mine site will be operational under contract. Finished products are transported from the CPC to Richards Bay harbour by trucks and tankers. Timeous advice of closure of operations will be given to these contractors to assist in their operational planning.	**-1**	No transportation of products are being undertaken as mining activities have been concluded.	None.
Storm water.	5.3.7	It may be advantageous to leave storm water diversion measures in place to avoid any further disturbance to surface and groundwater. The drains would be removed, backfilled, contoured, top-soiled and grassed.	**2**	Post-mining construction of stormwater infrastructure was completed.	Monitor erosion areas and ensure that erosion mitigation measures are put in place.
Closure.	5.4	The mining area will be rehabilitated on a continuous basis. However, it would have to be demonstrated that there is no continuum in terms of water to the rest of the mine.	**2**	All disturbed areas have been rehabilitated	None.

Long-term impacts on groundwater.	5.4.1	The groundwater table in the rehabilitated mining area will be slightly lower than before mining due to the increased permeability of the dune due to the removal of the slimes fraction. The total seepage rate out of the rehabilitated dunes will not differ much from that at present. Slightly more of the total seepage will flow to Lake Cubhu than to the UMhlathuze River at Hillendale. The groundwater recharge will not be significantly altered. The permeability of the residue dam is very low hence the groundwater level in this area will be just below the surface. It will thus be raised from the pre-mining situation.	**2**	Currently GCS undertakes the water quality monitoring of the site, and the results are fairly consistent at most of the monitoring sites. There was no noticeable impact observed on the immediate groundwater and subsurface resulting from mining operations. The bio-monitoring report also indicates that there was no discernible deterioration in conditions from the pre-mining to post-mining stages. In terms of land use, particularly agriculture, the mine's influence was considered to be minimal.	None.
Long term stability of rehabilitation ground and residue deposits.	5.4.2	The rehabilitated ground at Hillendale will be planted to sugar cane. The residue dam should be regularly inspected by suitably qualified engineers who will devise a system of checks and management principles to ensure that the stability of the dams remains within acceptable limits. The stacked sand tailings will also require monitoring for stability during decommissioning and for a period post closure.	**2**	In the RSF rehabilitation efforts, Eucalyptus trees will be planted in the dry beach areas to the east, while natural reed growth will be encouraged. Extensive topsoiling will not be carried out on the RSF. Recent experiences and scientific sustainability references suggest that opting for Eucalyptus plantation is a more economically viable approach.	None.

Closure objectives.	6.2.1	Closure objectives: •To rehabilitate the mine site to the extent where the previous land use is not compromised in terms of value unlocked. •To minimise any residual environmental impacts resulting from the mining operations. •To minimise the social impacts following mine closure through sustainable development with education, vocational training and the establishment of local businesses.	**2**	The primary focus of managing the post-mining landscape is to ensure sustainable future land use, which is the core driver behind the rehabilitation process. The rehabilitation approach is carefully crafted to foster opportunities for sustainable agriculture while taking into account the impact of previous mining activities. A comprehensive Social Impact Assessment conducted by ACER indicated that all Hillendale Mine employees were offered continued employment with Tronox, with the option to transfer to the Fairbreeze operation. This measure was put in place to preserve employment and significantly alleviate potential social and socio-economic consequences that could result from layoffs. Tronox is also attentive to the community's aspirations for the post-mining area. As per these aspirations, the mine office complex is being considered for repurposing as a police station, and the land adjacent to the office complex may be allocated for a water treatment plant. Furthermore, there are plans to return certain areas of land to communities for productive agricultural use.	None.

Infrastructure areas.	6.2.2	Depending on the requirements of the landowner it may be beneficial not to demolish certain structures which could be useful for agricultural purposes. The mine sites will embody a number of structures. There will be steel structures to house cyclones and spirals and conveyor system to the HMC stockpile will be removed. Buildings such as change rooms, offices and workshops could be used for agricultural purposes. Some of the piping systems could be similarly used. Should any of the buildings not devolve to the landowner, they will be removed, the foundations demolished and backfilled, contoured, top-soiled and re-vegetated. Where piles have been used, these will be put down to 1m below the final ground level. Similar considerations apply to power lines if above ground. If buried they may be abandoned. The debris removed will be buried in the sand dunes, prior to final rehabilitation.	**2**	The administrative building is scheduled to be retained and subsequently handed over to the SAPS. Several areas within the Hillendale mine site are currently under aftercare and maintenance initiatives, with some areas already successfully returned to their previous landowners for post-mining agricultural activities. The mine is actively working on facilitating the future reuse of the plant area and office facilities. As part of this initiative, surface piles have been disassembled, and subsurface structures have been concealed under a layer of soil, which is now flourishing with lush grass cover. With the exception of the workshop and office infrastructure, there are no visible traces of other plant facilities.	None.
Mine residue deposits					
Disposal facilities.	6.2.3.1	Any infrastructure that is considered necessary to sustain the rehabilitated area will be left in place, e.g. storm diversion structures. Facilities that can be used by the farmer will be left subject to legal responsibilities and requirements. These facilities will devolve to the landowner, the maintenance becoming his responsibility. All unnecessary pipes will be removed.	**2**	The landscape has undergone a transformation, and now only a few access roads remain. The required title deeds for the respective land portions have been obtained. The process of transferring the land will be coordinated in accordance with a Service Level Agreement (SLA) or a Memorandum of Understanding (MoU) to ensure a smooth and efficient handover to the designated third parties.	None.

Ongoing seepage, control of rainwater.	6.2.3.2	These will be controlled by maintaining the associated structures.	**2**	The storm water controls constructed at the RSF were completed and are operational.	None.
Long term stability.	6.2.3.3	Re-vegetation and maintenance of the drainage structure will provide long term stability of the deposit. The side walls will be “battered” off to a suitable slope and contoured. However, stability analyses must be carried out by suitably qualified personnel on a long-term basis and any necessary remedial measures undertaken on a long-term maintenance basis. It must be ensured that the surface of the dam can carry farming machinery by suitably engineering the capping layer.	**2**	The RSF walls have been secured and have been vegetated with grass. Additionally, Knight Piesold has conducted geotechnical investigations and erosion assessments. The principal objective of the RSF rehabilitation project is to create a usable surface with the potential for future commercial purposes. Successful experimental plantings of Eucalyptus trees and Casuarina trees on the RSF have proven to be successful. Nonetheless, certain plots faced challenges, primarily related to competition from Phragmites and grasses. It is anticipated, however, that once the trees reach a certain height, they will no longer be affected by this competition.	None.
Final rehabilitation.	6.2.4	As stated earlier, should roads not be required for farming operations then they will be removed, contoured, backfilled and rehabilitated. No final void will remain, as it will be backfilled, contoured and revegetated.	**2**	The final void, often referred to as the "kidney," was filled, contoured, and landscaped with grass. As the ultimate step in the process, it was planted with Eucalyptus trees. A few of the dirt roads will be retained after closure to function as access roads.	None.

Residue dam.	6.2.4.1	This will be achieved as follows: •The upper 1m of the dam must be a mixture of sand and slime suitable for sugar cane cultivation. •Two to three years before mining operations cease, or earlier, a small area (1 ha) will be used to plant sugar cane. This can be used to evaluate which farming methods are the most effective for returning the larger parts of the residue dam back to optimum sugar cane carrying capacity. A local farmer will be contracted for this job. •Replace stored topsoil Unlike originally anticipated, the slimes don't lack a micro aggregate structure. The layered drying mechanism creates a structure that could be described as 'plates' or when dry, as 'blocky crumbly', with ample vertical cracks that would encourage root penetration, depending on the drying cycle and the position on the residue dam. On similar sized material on gold tailings deposit the structure has not been an impediment to plant roots. Planting of vegetation will control erosion and dust emissions. The CPC waste will have been dispersed in the stacked sand tailings, and the residue dam slimes according to NNR requirements. There will be no remaining stability problems as the areas will have been rehabilitated, with no erosion or dust control problems.	**2**	Eucalyptus trees have been planted in all the sugar cane areas, and Casuarina trees have been planted on the RSF. Established grass, shrub and tree species on the dryer East, South and North banks of the RSF is proof of a stabilized landform.	None.

Residue dam.	6.2.4.1 (continued)	The chemical analysis of the slimes indicates that the pH is slightly below optimum for most plants; including sugar cane and that there is a small amount of exchangeable aluminium present. This can be overcome by dishing in 1t per ha of dolomite lime about one month before planting. The phosphate level is very low (1mg/kg) and will have to be raised to about 10mg/kg before planting by the addition of 2t/ha of superphosphate. There appears to be no other constraint to growing either a grass/legume mixture for erosion control or sugar cane or eucalyptus on the slime. The cation exchange capacity is high enough to retain sufficient nutrients for good plant growth. The physical nature of the slime (as determined by its texture and water holding capacity and a knowledge of possible stratification resulting from hydraulic deposition methods) seems to compare favourably with the naturally occurring clayey stratified alluvium, soils in the flood plain. The water holding capacity and the availability of this water to plants is more than adequate to sustain a grass/legume mixture, sugar cane or eucalyptus trees under prevailing evaporation and rainfall.	**2**	Eucalyptus trees have been planted in all the sugar cane areas, and Casuarina trees have been planted on the RSF. Established grass, shrub and tree species on the dryer East, South and North banks of the RSF is proof of a stabilized landform.	None.

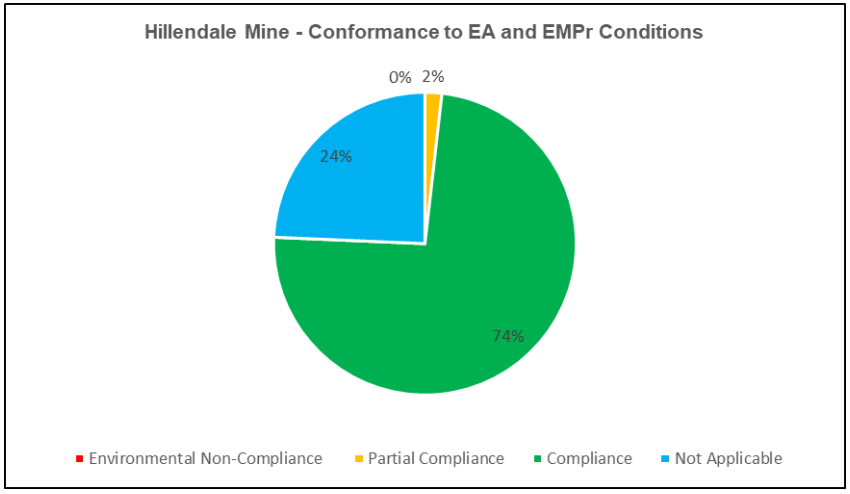
Final rehabilitation- haul ramps, road, final voids.	6.2.4.2	Should roads not be required for farming operations then they will be removed, contoured, backfilled and rehabilitated. No final void will remain, as it will be backfilled, contoured and revegetated.	**2**	The area has been extensively reshaped, with only a limited number of access roads remaining, which will be used for farming operations. All the contouring and soil placement work has been satisfactorily carried out, and the planting and seeding activities are now complete.	None.
Submission of information.	6.2.5	Submission of information. This will entail the following: - Water monitoring and submission of data; - Monitoring for NNR requirements; - Slope stability analysis; - Residue dam; and - Rehabilitated ground. All commitments made in Section 6.1 should also be adhered to.	**2**	The following reports have been submitted to the relevant authority: -EMPR Performance Assessment Report -Annual Environmental Monitoring Reports -Closure Trust Annual Financial Statement -External Financial Liability Assessment Report -Mine Closure Plan & Risk Report -The Residue Dam inspection reports are retained on record -NNR Reports are compiled as is required	None.

	6.2.6	The rehabilitated area will have to be maintained in terms of the following for a period of 3 years following decommissioning to closure: - Successful re-establishment of a commercial crop i.e. sugar cane. - Provision of fire breaks - Removal of alien and invasive plants and weeds - Prevention of poaching - Stability of the rehabilitated land, including slope stability and prevention of water erosion and dust emission - Maintenance of infrastructure such as clean water / dirty water diversions (while still applicable) and fencing (where relevant)	**2**	The UVS area exhibits stabilized vegetation cover, thanks to the successful Eucalyptus plantations in the southern and central regions, with full coverage of the south-facing slopes. In the inner regions of the RSF, there is evidence of an established raised wetland, characterized by the natural growth of reeds and brush vegetation. On the drier East, South, and North banks of the RSF, established grass, shrub, and tree species confirm the stability of the landform as documented in MCL-REP-130-21_22 (HD).	None.
		Compliant	**82**	**74%**	
		Partially compliant	**2**	**2%**	
		Non-Compliant	**0**	**0%**	
		Not Applicable	**27**	**24%**	
		Maximum Total	**111**	**100%**	

TRONOX KZN: HILLENDALE MINE: ENVIRONMENTAL LEGAL COMPLIANCE AUDIT REPORT
Compliance Checklist
Audit based on Document: Hillendale EMPR- Prepared by MSA Geoservices (Pty) Ltd, dated 27 July 2009

Site Inspection Number	**January 2024 - December 2024**
Date	**10-Apr-25**

Evaluation Criteria	Total conditions evaluated out of 110 auditable conditions	Audit Score %
Environmental Non-Compliance	0	0%
Partial Compliance	2	2%
Compliance	82	74%
Not Applicable	27	24%
Total	111	100%



APPENDIX 2 – PHOTOGRAPHIC EVIDENCE

	
Erosion on existing internal roads following recent rainfall events. Erosion preventative measures must be implemented on site and eroded areas rehabilitated.	Vegetation cover is well established on site and ongoing rehabilitation is taking place.
	
Old mining areas which have been shaped and rehabilitated to natural vegetation.	Maintenance of drainage infrastructure from mining areas is ongoing on site and all drains are well maintained and free flowing.
	
Eucalyptus tree trials which were undertaken as part of site rehabilitation are successfully growing on rehabilitated mining areas.	Grasslands on previously mined areas on site. The site is extensively grazed by community cattle and goats.

	
Footpaths of cattle and goats are resulting in some erosion on steep banks on site.	Drainage canal adjacent to a mined area which is suitably grassed and maintained.
	
The residue storage facility which is drying out and trees and natural vegetation is becoming well established.	Banks around the RSF are well maintained and no signs of erosion are visible on the embankments.

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]

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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 [Environmental 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/)

GILES CHURCHILL

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

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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