

Valterra Platinum Ltd.: Twickenham Platinum Mine

Environmental Audit Report contemplated in Regulation 34 of the EIA Regulations, 2014 published in terms of the NEMA

Report date: 9 October 2025
Reference No.: LP 30/5/1/2/3/2/1/89 EM



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Table of Contents

1.

Introduction

1

2.

Regulatory Requirements for Auditing and Reporting

2

3.

Objectives of the environmental audit

3

4.

Scope and purpose the environmental audit

4

5.

Methodology adopted for the environmental audit.....

4

6.

Environmental audit

7

7.

Discussion of results

70

8.

Conclusion

73

9.

Disclaimer.....

74

10.

Declaration of independence

74



1. Introduction

Twickenham Platinum Mine ("TPM") is operated on the Eastern Limb of the Bushveld Complex, approximately 35 km north-west of Burgersfort in the Sekhukhune District of the Limpopo Province on the farms Twickenham 114 KT, Hackney 116 KT, Mecklenburg 112 KT, Waterkop 113 KT, Surbiton 115 KT and Forest Hill 117 KT. TPM is expected to produce 160,000 ounces of refined platinum and 176,000 ounces of refined palladium at a steady-state production.

On the 6th of May 2013, the Department of Mineral and Petroleum Resources ("DMPR") previously known as the Department of Mineral Resources and Energy ("DMRE") issued a Directive to TPM requesting the approved Environmental Management Programmes ("EMPr") be consolidated into a single Consolidated EMPr in line with the Mineral and Petroleum Resources Development Act, 2002, (Act 28 of 2002) ("MPRDA"). The EMPrs that were consolidated are as follows:

- *Twickenham Platinum Mine: EMPr Vol. 1-3* (Report No. 287678/EMP-T, August 2002: Approved in January 2003);
- *Twickenham Platinum Mine: EMPr for Gravel, Sand, Soil and Clay Quarries* (Report dated September 2002: Approved January 2003);
- *Twickenham Platinum Mine: Amendment to the EMPr Vol. 1 - 2* (Report No. 313658/1, March 2003: Approved April 2003);
- *Twickenham Platinum Mine: EMPr Addendum for Borrow pits, Crusher and Concrete batch plants* (Report - Dated May 2003: Approved August 2003);
- *Twickenham Platinum Mine Addendum to the EMPr to include the Winze shafts:* (Report No. 313658/winze, May 2003: Approved October 2005);
- *Twickenham Platinum Mine: EMPr for the ongoing prospecting at TPM* (Report No. 0067699, July 2007); and
- *Rustenburg Platinum Mines Limited – Twickenham Platinum Mine: Environmental Impact Assessment Report and Environmental Management Programme in Support of the Application for a Mining Right* (Report No. ENV-EMP01-TPM, June 2010).

The *Twickenham Platinum Mine: Consolidated Environmental Management Programme ("EMP") – Final Report*, (DMR reference number: LP30/5/1/2/3/2/1 (89) EM) was approved by the DMPR previously known as the DMRE, on 13 July 2017.

In September 2013, an amendment to the TPM EMPr that aligned with the MPRDA Regulations was submitted to the DMR, which included the mining of Pashaskraal and De Kamp farms. This EMPr was approved in December 2013 and did not form part of the EMPr consolidation.

From early January 2016, TPM was placed under care and maintenance. No mining is taking place, with the activities on site limited to surface infrastructure maintenance, administration, groundwater pumping and underground electrical repair.



On the 8th of May Anglo American Platinum Limited informed the DMPR that the Anglo American plc shareholders voted in favour of the company's demerger of its majority interested in Anglo American Platinum at its AGM on 30th April 2025. Therefore, the name change is as follows - Rustenburg Platinum Mines Limited ("RPM") which is the wholly owned subsidiary of Valterra Platinum, owns and operates Twickenham Platinum Mine.

The EMPr still refers to Anglo American Platinum Limited because of the recent demerger, Therefore, necessary amendments will be made.

2. Regulatory Requirements for Auditing and Reporting

In terms of section 24N of the National Environmental Management Act 107 of 1998 ("NEMA") the holder of an environmental authorisation "*must manage all environmental impacts in accordance with his or her approved environmental management programme*" and "*monitor and audit compliance with the requirements of the environmental management programme*".

Regulation 34 of the Environmental Impact Assessment ("EIA") Regulations (GN R982 of 4 December 2014 as amended) provides as follows "*Auditing of compliance with environmental authorisation, environmental management programme and closure plan*:"

- 34 (1) *The holder of an environmental authorisation must, for the period during which the environmental authorisation, EMPr, and the closure plan in the case of a closure activity, remain valid-*
- (a) *ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and the closure plan in the case of a closure activity, is audited; and*
 - (b) *submit an environmental audit report to the relevant competent authority.*
- (2) *The environmental audit report contemplated in sub regulation (1) must-*
- (a) *be prepared by an independent person with the relevant environmental auditing expertise;*
 - (b) *provide verifiable findings, in a structured and systematic manner, on-*
 - (i) *the level of performance against and compliance of an organisation or project with the provisions of the requisite environmental authorisation, EMPr and the closure plan in the case of a closure activity; and*
 - (ii) *the ability of the measures contained in the EMPr and closure plan to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;*
 - (c) *contain the information set out in Appendix 7; and*
 - (d) *be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.*
- (3) *The environmental audit report contemplated in sub regulation (1) must determine-*
- (a) *the ability of the EMPr, and the closure plan in the case of a closure activity, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently*



- provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and*
- (b) *the level of compliance with the provisions of environmental authorisation, EMPr or closure plan.*
- (4) *Where the findings of the environmental audit report contemplated in sub regulation (1) indicate-*
- (a) *insufficient mitigation of environmental impacts associated with the undertaking of the activity; or*
- (b) *insufficient levels of compliance with the environmental authorisation or EMPr or closure plan;*
- the holder must, when submitting the environmental audit report to the competent authority in terms of sub regulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.*
- (5) *When submitting recommendation in terms of sub regulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr or closure plan, to the attention of potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity and the competent authority, for approval by the competent authority.*
- (6) *Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available-*
- (a) *to anyone on request; and*
- (b) *on a publicly accessible website, where the holder has such a website.*
- (7) *An environmental audit report must contain all information set out in Appendix 7 to these Regulations.”*

3. Objectives of the environmental audit

The objectives of this Regulation 34 audit are to determine TPM's compliance with the EMPrs to:

- (a) report on-
- (i) the level of compliance with the commitments and conditions of the EMPrs; and
- (ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPrs, achieve the objectives and outcomes of the EMPrs.
- (b) identify and assess any new impacts and risks as a result of undertaking the activity;
- (c) evaluate the effectiveness of the EMPrs;
- (d) identify shortcomings in the EMPrs; and
- (e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPrs.



4. Scope and purpose of the environmental audit

The purpose of the audit is to determine the level of compliance with the provisions of the EMPs as well as for the purpose of determining the ability of the measures contained in the EMPs to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis and to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility.

TPM is operating in accordance with the following EMPs:

- *Twickenham Platinum Mine: Consolidated Environmental Management Programme (EMP) – Final Report*, dated August 2014 (DMR reference number: LP30/5/1/2/3/2/1 (89) EM); and
- *Pashaskraal and De Kamp amendment to the Twickenham Platinum Mine Environmental Management Programme*, dated September 2013 (DMR reference number: LP30/5/1/2/2/89 (MR).

An audit has been undertaken in respect of the above-mentioned EMPs as required in terms of the legislative framework referred to above. This Regulation 34 audit report accordingly serves the purpose of fulfilling the requirements of the NEMA and the EMP approvals.

The audit review period for this Regulation 34 audit is from 30 June 2024 to 21 May 2025.

5. Methodology adopted for the environmental audit

The audit was conducted by reviewing and abstracting the commitments (management and mitigation measures) and conditions from the EMPs including it in the commitment tables as contained in Chapter 6 of this audit report.

In addition to assessing the compliance to commitments and conditions, the adequacy of the information was also assessed through evaluating site activities and verifying such against the descriptions and risk assessment provided in the EMPs, and whether location specific risks and the necessary specialist assessments had been considered.

5.1. Audit team

Team Member	Company	Responsibilities
Nirvasha Rajdeo	Shangoni Management Services (Pty) Ltd	Desktop documentation review, and compilation of report and site verification.
Lesley Keay	Shangoni Management Services (Pty) Ltd	Site verification.
Jan Nel	Shangoni Management Services (Pty) Ltd	Technical and quality reviewer.



Lesley van Graan

Lesley is a Senior environmental consultant at Shangoni that holds a M.Sc. in Environmental Science with Aquatic Ecosystem Health from the North-West University and has 4 years' experience in the Environmental Consulting field. During this time, she gains a vast understanding of the National Environmental Management Act, National Water Act, and associated legislations. Lesley has gained experience in report writing that includes Environmental Impact Assessments, Basic Assessments, Environmental Management Programmes reports and Amendment thereof and Integrated Water Use Licence Applications for projects related to Renewable Energy, Non- mining as well as Mining.

Lesley also has also gained 4 years of experience in conducting Environmental Audits, such as Water Use Licence Audits, Environmental Authorisation audits, Environmental Management Programme Performance Assessment audit and Atmospheric Emissions Licence audits. To date she has completed more than 70 audit reports. She also has 2 years' experience in Water Quality Assessment.

Nirvasha Rajdeo

Nirvasha is a qualified Environmental Scientist (BSc. Hons) with 6 years' experience in the environmental field. She is currently employed as an Environmental Consultant within the Environmental Authorisation Department at Shangoni. Her key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering and mining-based projects and ensuring compliance to legislation and guidelines; the identification of environmental management solutions and mitigation/risk minimising measures; Water Use License processes and compliance auditing and in heading IWWMP and Water balance updates. Extensive industry experience was gained during her employment as an Environmental Consultant and Environmental Control Officer during 2019-2023. Her capabilities to date have permitted for the growth and understanding regarding the fundamentals around the National Environmental Management Act and the National Water Act. These overarching legislations have also allowed for the experience in reporting and auditing management which includes Renewable Energy (EMPr/EA/WUL) Audits, Scoping Reports, Environmental Impact Assessments (EIA), Basic Assessment Reports, Water Use Licence Applications (WULA), Technical Reports and Environmental Management Programme Reports (EMPr).

Jan Nel

Jan is the Operations Director at Shangoni and holds a Master's Degree in Environmental Management. He has been actively involved in environmental management for the past 29 years focussing on the mining industry in providing assistance with EMP Compliance, Environmental Impact Assessments (EIA), Financial Provision Calculations, Closure Plans, Rehabilitation Plans, Environmental Management Programme Reports (EMP) and EMP compliance Assessments. He is furthermore experienced in environmental management through third party certification audits as well as Environmental Management System (EMS) implementation and has more than 10,000 audit hours. Jan is also involved in TC 207 local in South Africa and the International ISO TC207 committee as well as



the Strategic leadership Group of ISO TC207 focussing on international trends in environmental management. Jan represents Shangoni on the board of Shangoni Laboratory services.

5.2. Audit execution

This audit comprised of:

- A site visit undertaken, on the 21st May 2025, for site observation purposes.
- Interviews conducted with relevant mine personnel and where relevant contract personnel for the purpose of assessing documented evidence of compliance with the auditing criteria.
- The compilation of a photographic record of the areas visited during the site audit, which reflected the state of the environment and operations at the time of the site visit.

5.3. Rating of findings

Compliance category	
Condition/mitigation measure/commitment has been achieved with evidence provided in the form of a document or site verification.	 Compliant
A statement made on a subjective basis (based on isolated instances noted) where deviation to the compliance requirements where noted. These instances do not pose a material risk to the organisations ability to demonstrate compliance. Such findings require action to ensure full compliance. Observation findings are further raised in instances where compliance cannot be assessed as the condition, commitment and/or mitigation measure is incomplete. In such instances, further consultation with the Competent Authority is required.	 Observation
The failure to comply with, or fulfil the requirements of an applicable condition, commitment and/or mitigation measure.	 Non-Compliant
The condition, commitment and/or mitigation measure is not applicable. A "Not applicable" finding is also noted in event where: • The condition, commitment and/or mitigation measure is not yet relevant but may still be relevant for future activities; or • The condition, commitment and/or mitigation measure relates to an activity / action / requirement that falls outside of the period applicable to this audit.	 Not Applicable
The condition, commitment and/or mitigation measure that does not require any specific action.	 Noted

5.4. Assumptions, uncertainties and gaps in knowledge

Although all reasonable attempts were made to verify comments made during interviews held through further record/documentation assessments, it is assumed that such comments provided are a true and



accurate reflection, unless otherwise indicated in the report. In an event where insufficient information was provided to support compliance, the auditors' general approach was to indicate that such commitment could not be verified. Such detail is provided in Chapter 6 of this report.

Observations made represent the *status quo*, although where applicable and supported through records and interviews, commitments for further actions planned by the mine have been considered.

6. Environmental audit

The content of this Chapter aims to indicate the mitigations measures and conditions that were provided for within the approved EMPs to minimise the significance of the impacts identified, and to indicate the progress made by the operation regarding the implementation of- and compliance to- the mitigation measures and conditions. Objective evidence as requested and reviewed, in conjunction with observations made during the site audit, were used to determine the operation's implementation of- and compliance to- the mitigation measures and conditions.



6.1. Twickenham Platinum Mine: Consolidated Environmental Management Programme (“EMP”) – Final Report, (DMR reference number: LP30/5/1/2/3/2/1 (89) EM)

EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
Construction Phase					
C1	Activity: Construction of the Tailings Storage Facility and Associated Infrastructure (Return Water Dam and Pipeline Servitude)				
C1.1	Biophysical				
C1.1.1	Geology	To minimize the sterilization of minerals	The placement of the Tailings Storage Facility was guided by the location of the chrome reserves located on Mecklenburg and Waterkop farms.	Construction of the Tailings Storage Facility (“TSF”) and associated infrastructure has not yet commenced. Furthermore, TPM is currently under care and maintenance with no mining or processing activities taking place. These commitments are not yet applicable.	N/A
			The extent of the chrome reserve has been determined via prospecting and the extent overlain onto the infrastructure map. The mining of these reserves has commenced.		N/A
C1.1.2	Soils, land capability and land use	To remove and store soil to enable its reuse for rehabilitation	Soil for the purpose of rehabilitation will be stripped from cleared areas that can be rehabilitated soon after construction activities have been completed.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Usable soil will be stripped and stored with as little compaction as possible.		N/A
			Stockpile areas will have their soil stripped to conserve the seed bank.		N/A
			Single handing will be practiced where possible.		N/A
			Stockpiles that are likely to remain undisturbed for 12 months or more will be revegetated.		N/A
			Usable soil will be respread with as little compaction as possible.		N/A
			Land to which soil has been applied will be revegetated.		N/A
			Construction of water management infrastructure will commence prior to the Tailings Storage Facility to prevent soil erosion.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
C1.1.3		To facilitate the communities' current use of resources for as long as possible prior to the loss of the resource to the Mine	The footprint extent of the project has been designed to where possible, only impact on the Tailings Storage Facility and associated infrastructure.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Minimize the area that can be potentially impacted on (eroded, compacted, sterilized or de-nitrified).		N/A
			The integrated development plan will include that: - The parties affected by land take be identified in a consultative and transparent process; and - Compensation for agricultural and grazing land take (where applicable) will be negotiated with the tribal authority affected party and representative from the Department of Agriculture.		N/A
C1.1.4	Biodiversity	To demonstrate active stewardship of land and biodiversity To avoid the damage or loss of plants and where not possible to ensure the conservation of representative habitats	The necessary permits will be obtained before any clearing of the site takes place.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Plants that are to be translocated for conservation purposes will be removed under the guidance of a recognized taxonomist/ecologist and planted in a conservation area of similar habitat.		N/A
			Extensive use of environmental and ecology societies will be used, such as Operation Wildflower to assist with the removal of plants for conservation purposes.		N/A
			Plants that are to be removed for rehabilitation purposes will be removed and replanted in a nursery under the guidance of a recognized landscaper. The mine will be responsible for the operation of the nursery until such time as rehabilitation has been completed.		N/A
			Communities will be given due notice prior to site clearing to clear plants of value to the communities such as trees and bushes for wood, medicinal plants and fruit bearing plants.		N/A
			Rehabilitation will take place where required.		N/A
C1.1.5	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during construction. To ensure that communities have continued access to water to meet the requirement of	Construction of water management infrastructure will commence prior to the Tailings Storage Facility.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Drivers (mine and contractors) will be trained on how to deal with accidents involving ore, concentrate, hydrocarbons and other potential contaminants.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		households in the pre-mining environment			
C1.1.6	Ground Water	To avoid or where not possible, minimize and remedy pollution of water during construction.	Monitoring of groundwater from monitoring boreholes. Should the monitoring programme indicate that groundwater quality is contaminated, alternative water supplies to groundwater users will be assessed.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
		To minimize seepage from residue facilities.	A leak/spill procedure will be implemented for all possible areas of leak/spillage.		N/A
		To ensure that communities have continued access to water to meet the requirement of households in the pre-mining environment	The mine will implement an emergency management plan to clear up any spillages that occur outside of bunded areas.		N/A
C1.1.7	Air Quality	To minimize the amount of dry material susceptible to wind erosion. To minimize the entrainment potential of dust. To respond with corrective action to public complaints about dust related health and nuisance impacts	The area cleared for construction will be limited to the minimum area safe for construction activities.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Areas of linear infrastructure (e.g. roads and pipeline servitude) will be cleared, constructed and rehabilitated progressively to minimize the exposure of cleared areas.		N/A
			A dust monitoring programme will be implemented to monitor the impacts from dust.		N/A
			Dust suppression will be undertaken of the service roads and Tailings Facility where required.		N/A
			Dust suppression will be undertaken using process water.		N/A
			A strict speed of 40 km per hour will be enforced during the construction phase. The objective of this measure would be to reduce emissions by 20% from unpaved roads which are a significant source during this phase of the development.		N/A
C1.1.8	Noise	To prevent or minimize adverse impacts from construction.	Construction activities will be confined to daylight hours.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
		To respond with corrective action to	Road construction and blasting activities will be limited to daylight hours.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		public complaints about noise	Communities within proximity to the TSF and pipeline will be consulted prior to scheduling of particularly noisy activities.		N/A
			Regular maintenance of equipment and vehicles will be undertaken.		N/A
			A noise monitoring programme will be implemented prior to construction to establish a baseline and will continue to be implemented.		N/A
C1.1.9	Visual	To reduce complaints on visual impacts.	Buildings and structures painted in neutral colours.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
C1.1.10	Traffic and transportation	To minimize/ prevent road accidents	Construction activities will be confined to daylight hours.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Sign post warnings for construction vehicles.		N/A
			The entrance off the R37 will be controlled to limit vehicle access.		N/A
			A maximum speed limit of 40 km per hour will be implemented.		N/A
			A traffic control plan will be undertaken prior to construction to further assess and quantify the impacts of increased traffic volumes.	Construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable.	N/A
C1.2	Socio-Economic				
C1.2.1	Socio-Economic	To enable households to maintain current levels of livelihood	The completion of a Social Economic Impact Assessment (“SIA”) prior to construction of the TSF.	Construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable, however, TPM takes note of this management measure and that it should be implemented/ undertaken prior to construction of the TSF. This commitment is not yet applicable.	N/A
			The completion of a Social Management Plan (“SMP”) prior to construction of the TSF.	TPM developed the <i>Social Management Plan (TWP-ALL-ESR-PRO-000)</i> that is dated 15 September 2017. The <i>Twickenham Mine SLP 1 & 2 Update</i> dated 28 February 2024 was also provided as evidence for review.	✓
			The completion of a Resettlement Action Plan prior to construction of the TSF.	<i>Anglo Platinum Resettlement and Integrated Development action plan</i> (“RAP”) now known as Valterra Platinum, was developed by Naledi Development CC, dated April 2002 and an addendum to the RAP was compiled by Synergy Global, dated July 2013.	✓



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
C1.2.2	Socio-Economic	To facilitate continued movement around the site along routes that are as close as possible to existing movement networks. To ensure that individuals do not travel any further than they do prior to the Mine development.	Where access paths are removed completely e.g. those affected by the tailings dam, the mine will provide access routes between the affected communities and activities based on the following principles: • Consultation with the affected communities. Routes will be maintained for the duration of construction of the TSF.	Construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable.	N/A
C1.2.3	Socio-Economic	To minimize communities' negatives experiences of the operation mine's visual, auditory impacts and increased levels of activity.	The completion of a Social Economic Impact Assessment ("SIA") prior to construction of the TSF.	A SIA has not yet been developed, however, the construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable. Refer to discussion under impact reference number C1.2.1 above.	N/A
			The completion of a Social Management Plan ("SMP") prior to construction of the TSF.	Refer to discussion under impact reference number C1.2.1 above regarding the development of the SMP.	✓
			If required, a Resettlement Action Plan ("RAP") and Livelihood Restoration Plan ("LRP") will be undertaken for the TSF and associated infrastructure prior to commencement of construction	<i>Anglo Platinum Resettlement and Integrated Development action plan</i> ("RAP"), now known as Valterra Platinum, was developed by Naledi Development CC dated April 2002 and an addendum to the RAP was compiled by Synergy Global, dated July 2013.	✓
C1.2.4	Socio-Economic	To prevent public injury or death as a result of the Mine's construction.	The mine will implement the standard safety measures as stipulated in the Mine, Health and Safety Act.	Construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable.	N/A
			Community access to construction areas will be strictly controlled using fencing/warning tape and warning signs. The mine will implement ongoing safety education programme at community interface meetings.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			All mine employees and contractors will be briefed about appropriate road safety measures. Appropriate road signage will be erected along the length of all access, maintenance and haulage roads.		N/A
			The mine will enforce traffic control measures including speed bumps and the reduction of vehicle speeds to maximum of 40 km per hour along all roads on or providing access to the mine. Penalties and disciplinary actions will be imposed on employees and contractors for non-compliance with safety measures.		N/A
			The mine will temporarily fence the construction area for safety reasons Community access to construction areas will be strictly controlled using fencing/warning tape and warning signs.		N/A
			The mine will implement ongoing safety education programme at community interface meetings.		N/A
					N/A

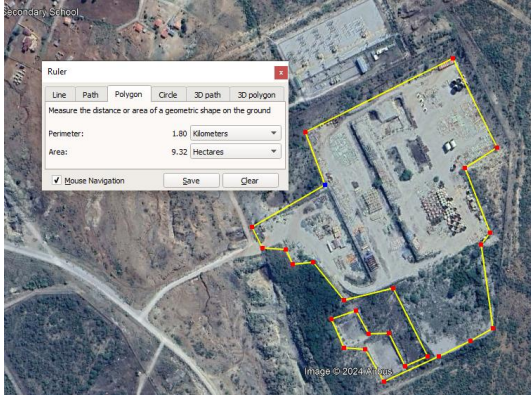


EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			All mine employees and contractors will be briefed about appropriate road safety measures.		
			Appropriate road signage will be erected along the length of all access, maintenance and haulage roads.		N/A
			The mine will enforce traffic control measures including speed bumps and the reduction of vehicle speeds to maximum of 40 km per hour along all roads on or providing access to the mine.		
			Penalties and disciplinary actions will be imposed on employees and contractors for non-compliance with safety measures.		N/A
C1.2.5	Socio-Economic	To enhance benefits from the development of the Mine. To maximize opportunities for local residents. To facilitate employment of local labour on the Mine. To avoid creating unrealistic expectations.	Recruitment will be done through existing HR Recruitment policies and procedures as agreed with the local Community Engagement Forum.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			Local contractors will be considered first except where specialist skills are not available locally.		
			Criteria for awarding contractors (specialist) will favour contractors who maximize local employment.		N/A
			Equitable distribution of jobs across the villages on the farms affected by surface infrastructure will be emphasized.		
			The duration of jobs will be made clear in the recruitment process to avoid creating undue expectations.		N/A
			Recruitment will be done through existing HR Recruitment policies and procedures as agreed with the local Community Engagement Forum.		
			Local contractors will be considered first except where specialist skills are not available locally.		N/A
C1.2.6	Socio-Economic	To facilitate the communities' current use of resources for as long as possible prior to the loss of the resource to the Mine	The mine has confirmed mineral rights ownership on Mecklenburg and Waterkop farms before construction of the TSF to obtain agreement from the relevant parties with respect to the sterilization of mineral resources on those farms.	TPM takes note of this condition. No specific mitigation measure is provided.	
			The Mine negotiated corrective actions in 2002 with the affected communities with respect to the loss of land.		
			If required, a Resettlement Action Plan ("RAP") and Livelihood Restoration Plan ("LRP") will be undertaken for the TSF and associated infrastructure prior to commencement of construction.	Refer to discussion under impact reference number C1.2.3 above for the RAP as the LRP forms part of the RAP report	
C1.2.7	Socio-Economic	To support systems currently in place to control influx.	Compilation of an Influx Management Plan as part of the SIA and SMP process.	A review of the SIA and the SMP confirmed that an Influx Management Plan ("IMP") was not developed as part of the processes. Mine personnel confirmed that an IMP will be developed in the near future. As the commitment does not specify a timeframe within which the IMP must be	N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		To prevent the introduction of social pathologies		compiled and as construction has not yet commenced (and as condition should be met at such time), a “Not Applicable” finding is recorded for this condition.	
			The Mine will support tribal authorities and local municipality in controlling influx of people into the area by: - Adhering to policies which will facilitate the recruitment of local labour; - Notifying the tribal authorities and local authorities of incidence of squatting on the surface lease area or in the vicinity and assisting in the removals of squatters; Encouraging and facilitating the provision of offsite housing of “non-local employees.	Construction of the TSF and associated infrastructure has not yet commenced. This commitment is not yet applicable.	N/A
			The Mine will support tribal authorities in controlling influx of people into the area and will support and facilitate community policing forums.	Construction of the TSF and associated infrastructure has not yet commenced. These commitments are not yet applicable.	N/A
			The Mine will support tribal authorities in controlling influx of people into the area and will support and facilitate community policing forums.		N/A
C1.3	Cultural Heritage				
C1.3.1	Cultural heritage resources	To respect the culture and heritage of the people in the area. To avoid disturbance of sites and activities of cultural significance and where not possible to determine mitigation in consultation with local communities	Some cultural sites were identified on a portion in the TSF footprint, therefore prior to construction, a permit will need to be submitted to SAHRA and will be relocated if necessary.	Construction of the TSF and associated infrastructure has not yet commenced. From a review of the report <i>A Report on a Cultural Heritage Impact Assessment for a Proposed New Tailings Dam and Pipeline at the Twickenham Mine, Close to Burgersfort, Limpopo Province</i> , dated July 2013 and prepared by Archaetnos Culture & Cultural Resource Consultants, it was confirmed that there are no cultural sites at the proposed TSF site. These commitments remain applicable for construction phase should any possible sites be discovered.	N/A
			Where it is possible the location of surface infrastructure will be altered to avoid the disturbance of graves.		N/A
			At present the significance of cairns found on site is undetermined. Further work will be undertaken by the mine to determine their significance and mitigation measures will be implemented.		N/A
			Where it is necessary to exhume and re-inter graves the mine will apply for the necessary permissions from SAHRA.		N/A
			The mine will adhere to the requirements as laid out in the National Heritage Resources Act (No 25 of 1999).		N/A
			Due respect will be given to the customs and beliefs of the affected relatives, and where requested exhumations will be conducted in the presence of the relatives or community representatives.		N/A
			Exhumations under the Human Tissues Act will be conducted under the supervision of an undertaker or specialist.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Exhumations conducted under the National Heritage Resources Act will be conducted under the supervision of a registered archaeologist		N/A
C2	Activity: Construction of the Concentrator Plant				
C2.1	Biophysical				
C2.1.1	Soils, land capability and land use	To remove and store soil to enable its reuse for rehabilitation	Construction of water management infrastructure will commence prior to construction of the Concentrator Plant to prevent soil erosion.	Construction of the Concentrator Plant commenced in 2014, but the extent of construction was limited to the terraces and foundations on which the Concentrator Plant is to be constructed. Construction activities have ceased with no construction currently taking place. Site observations and interviews with TPM personnel confirmed that the upstream clean water diversion has been constructed to divert clean surface water runoff around the Concentrator Plant area.	✓
			Land to which soil has been applied will be revegetated.	No rehabilitation, including placement of soil, has taken place at the Concentrator Plant. Therefore, this commitment is not yet applicable.	N/A
C2.1.2	Soils, land capability and land use	To prevent the unnecessary use of arable land by the Mine.	The footprint of the Concentrator Plant is maximum 35 ha and therefore will impact on a limited area.	The current Concentrator Plant footprint area is approximately 15 ha, less than the 35 ha as stipulated in this condition (as verified with aerial imagery). 	✓
			A recognized ecologist/taxonomist will survey the marked-out surface infrastructure in detail prior to further clearing to identify plants (number and location) ahead of clearing for purposes of the permit applications.	A review of the report <i>Biodiversity Action Plan ("BAP") within the Twickenham Mining Rights Area</i> , dated June 2013 and prepared by Scientific Aquatic Services, confirmed that a recognised ecologist surveyed the area marked-out for surface infrastructure.	✓
		To facilitate the communities' current use of resources for as long as possible prior to the loss of the resource to the Mine	The necessary permits will be obtained before any further clearing of the site takes place.	The study mentioned above indicated that the habitat unit is likely to have a high ecological functionality and habitat integrity. Suitable habitat for Red Data List ("RDL") floral species, such as <i>Euphorbia sekukuniensis</i> and <i>Euphorbia barnardii</i> can occur within this habitat unit but was not observed during the site assessment that was conducted in April 2013. TPM indicated that no plants were identified that would require relocation, during the construction phase of the Concentrator Plant.	N/A
			Extensive use of environmental and ecology societies will be used, such as Operation Wildflower to assist with the removal of plants for conservation purposes.		N/A
			Communities will be given due notice prior to site clearing to clear plants of value to the communities such as trees and bushes for wood, medicinal plants and fruit bearing plants.	Since the TPM is currently in care and maintenance no vegetation clearance was noted during the site walk about.	N/A
			Rehabilitation will take place where required.	To date, no rehabilitation has taken place at the Concentrator Plant. As previously described, the construction of the Concentrator Plant is not yet complete. Rehabilitation at the Concentrator Plant will take place post-construction and during the closure phase.	N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
C2.1.3	Biophysical	To demonstrate active stewardship of land and biodiversity. To avoid the damage or loss of plants and where not possible to ensure the conservation of representative habitats	The surface infrastructure layout will be revised where possible to avoid the damage or loss of plants that cannot be translocated.	As described above, no species that required removal and relocation were identified prior to the commencement of site clearance.	N/A
			The biodiversity specialists surveyed the marked-out surface infrastructure in detail prior to clearing to identify plants (number and location) ahead of further clearing for purposes of the permit applications. The necessary permits will be obtained before any clearing of the site takes place.	Refer to discussion under impact reference number C2.1.2 above. No species of conservation concern, that required relocation, were identified.	✓
			Plants that are to be translocated for conservation purposes will be removed under the guidance of a recognized taxonomist/ecologist and planted in a conservation area of similar habitat.	Refer to discussion under impact reference number C2.1.2 above.	N/A
			Plants that are to be removed for rehabilitation purposes will be removed and replanted in a nursery under the guidance of a recognized landscaper. The mine will be responsible for the operation of the nursery until such time as rehabilitation has been completed.	From site observations as well as discussions with mine personnel, it was noted that a small nursery was established under the guidance of a landscaper.  <i>Nursery</i>	✓
			Extensive use of environmental and ecology societies will be used, such as Operation Wildflower to assist with the removal of plants for conservation purposes.	Refer to discussion under impact reference number C2.1.2 above.	N/A
			Communities will be given due notice prior to site clearing to clear plants of value to the communities such as trees and bushes for wood, medicinal plants and fruit bearing plants.	Since the TPM is currently in care and maintenance no vegetation clearance was noted during the site walk about.	N/A
			Rehabilitation will take place where required.	Refer to discussion under impact reference number C2.1.2 above.	N/A
C2.1.4	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during construction.	Construction of water management infrastructure will commence prior to the Concentrator Plant.	Construction of the Concentrator Plant commenced in 2014, but the extent of construction was limited to the terraces and foundations on which the Concentrator Plant is to be constructed. Construction activities have ceased with no construction currently taking place. Site observations confirmed that the upstream clean water diversion has been constructed to divert clean surface water runoff around the Concentrator Plant area.	✓
		To ensure that communities have continued access to water to meet the requirement of households in the	Storm water containment will be planned and constructed for the Concentrator Plant as per the Storm Water Management Plan in the IWWMP (Appendix D).	As per the Storm Water Management Plan ("SWMP"), compiled by SRK Consulting and dated July 2013, it was noted that storm water containment facilities were planned for construction for the Concentrator Plant. Construction of the Concentrator Plant commenced in 2014. It is noted that the Concentrator Plant has not yet been constructed, but rather only the terraces and foundation on which the Concentrator Plant is to be constructed. Construction activities have ceased with no construction currently taking place. Construction of the storm water containment facilities has not yet commenced, and a compliant finding is noted as there are no timeframes for implementation of the EMPr commitment.	✓



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		pre-mining environment	The storm water plan will be included in the current Twickenham Integrated Water and Waste Management Plan (IWWMP).	From a review of the IWWMP for TPM, compiled by EnviroGistics and dated April 2025, it was noted that a SWMP (as mentioned above) was included as annexure 5 to the IWWMP. Twickenham mine IWWMP Update 2024/2025 Departmental Ref: 23/2/8571/5/1 Project Ref: 2024/4 Version: Final ENVIROGISTICS (PTY) LTD APRIL 2024 Table 49: Dams with large salt balance errors.....127 Table 50: Reduction in water demand as the mine plan has progressed 132 Table 51: Range of groundwater ingress volumes.....136 Table 52: Process Water Incidents.....139 Table 53: Water quantity monitoring program for compliance with the WUL and Regulation 704.....146 Table 54a: Key stakeholders and issues [AAP (SEP), 2022].....149 Table 55b: Key stakeholders and issues [AAP (SEP), 2022].....150 Table 56: Risk Assessment (IWWMP 2023, updated risks/management measures for 2024 presented in green) 155 Table 57: BPGs applicable to the TPM operations.....158 Table 58: Management measures proposed to mitigate the potential impacts.....161 Table 59: Action Plan 166 List of Annexures Annexure 1: Master Plan Annexure 2: RSIP Annexure 3: WUL Annexure 4: WUL Amendment Annexure 5: SWMP Annexure 6: Annual Water Monitoring Report Annexure 7: Biomonitoring Report Annexure 8: 2019 Groundwater Report Annexure 9: Salt Balance SWMP under annexure 5 	
C2.1.5	Groundwater	To minimize the impact of loss of resources on the communities.	Design of the plant area will include bunding and concreting to ensure spillages during construction are contained within the bunded area.	The design for the plant area included concreting and bunding around certain infrastructure. However, as previously described, the construction of the Concentrator Plant has ceased with no activities undertaken at the area. No spillages were noted during the site inspection.  Bunding at workshop at Hackney Shaft within the plant area  Bunding at the Oil Bay at Twickenham Shaft within the plant area 	
			Storm water containment will be planned and constructed for the Concentrator plant as per the Storm Water Management Plan. The Storm Water Plan is included in the current Twickenham IWWMP (Appendix D).	Refer to discussion under impact reference number C2.1.4 above.	
		To ensure that communities have continued access to water to meet the requirements of households in the pre-mining environment	Monitoring of surface water and groundwater from monitoring boreholes.	From a review of the monthly water quality monitoring reports (<i>Twickenham Mine & Occupational Hygiene Water Quality Monitoring Report January 2024 to April 2025</i>) compiled by Aquatico, it was noted that monthly surface water monitoring and quarterly groundwater monitoring are undertaken.	
			Should the monitoring programme indicate that surface water or groundwater quality is contaminated during construction, alternative water supplies for identified water users will be assessed.	As previously described, no construction activities are undertaken at the Concentrator Plant and no impact as a result of construction activities is expected. There are currently no impacts to surface water and groundwater quality hence no alternative surface water supplies were assessed.	N/A
			A leak/spill procedure will be devised and implemented for all possible areas of leak/spillage within the construction site.	An <i>Emergency Preparedness and Response (TWI-MIN-SHE-PRO-0010)</i> and a <i>Hazardous Identification and Assessment of Risks and Opportunities Procedure (TWI-MIN-SHE-PRO-0002)</i> have been developed and implemented. These procedures include actions to be implemented to prevent pollution resulting from spillages and actions to be implemented during a leak/spill	
			The mine will implement an emergency management plan/procedure to clear up any spillages that occur outside of bunded areas.		



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating																																			
				(emergency management plan). No spillages were noted during the site audit outside of bunded areas.  AngloAmerican PLATINUM TWICKENHAM PLATINUM MINE Emergency Preparedness and Response VERSION: 6.0 LAST REVISION DATE: 07-06-2022 FIRST IMPLEMENTATION DATE: 24-06-2009 REFERENCE NUMBER: TWI-MIN-SHE-PRO-0010 This Document was crafted in accordance with ISO 45001:2018 and ISO 14001:2015 <table border="1"> <thead> <tr> <th></th><th>NAME</th><th>POSITION</th><th>SIGNATURE</th><th>DATE</th></tr> </thead> <tbody> <tr> <td>AUTHOR:</td><td>B le Roux</td><td>Ventilation Engineer</td><td></td><td>09/06/2022</td></tr> <tr> <td>REVIEWED BY:</td><td>I Mampuru</td><td>Safety Officer</td><td></td><td>09/06/22</td></tr> <tr> <td>REVIEWED BY:</td><td>A Wiskel</td><td>NUM Representative</td><td></td><td>09/06/22</td></tr> <tr> <td>REVIEWED BY:</td><td>Z Mmutle</td><td>AACU Representative</td><td></td><td>09/06/22</td></tr> <tr> <td>RECOMMENDED BY:</td><td>C de Wit</td><td>Chief Safety Officer</td><td></td><td>09/06/2022</td></tr> <tr> <td>APPROVED BY:</td><td>F Veltman</td><td>Mine Manager</td><td></td><td>09/06/22</td></tr> </tbody> </table> <i>Emergency response procedure TWI-MIN-SHE-PRO-0010</i>		NAME	POSITION	SIGNATURE	DATE	AUTHOR:	B le Roux	Ventilation Engineer		09/06/2022	REVIEWED BY:	I Mampuru	Safety Officer		09/06/22	REVIEWED BY:	A Wiskel	NUM Representative		09/06/22	REVIEWED BY:	Z Mmutle	AACU Representative		09/06/22	RECOMMENDED BY:	C de Wit	Chief Safety Officer		09/06/2022	APPROVED BY:	F Veltman	Mine Manager		09/06/22
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			Ore stockpile area will be prepared from compacted earth to minimize seepage. These pads will have collection drains to separate clean and dirty water. Ore stockpiles will be managed to minimize the tonnages and permanence of stockpiles for economic reasons to minimize the potential for oxidization.	No ore stockpiling is currently taking place at the Concentrator Plant as the Concentrator Plant is not constructed. This commitment is not yet applicable. N/A																																			
C2.1.6	Air Quality	To minimize the amount of dry material susceptible to wind erosion.	A dust monitoring programme will be implemented to monitor the impacts from dust.	A dust fallout monitoring programme is implemented at TPM. No construction activities are undertaken at the Concentrator Plant, therefore, no dust impacts are expected. Dust fallout monitoring at TPM is conducted monthly by Aquatico. An annual report is compiled as per the cited report <i>Twickenham Mine Dust Fall Out Monitoring Report January to December 2024 and the January to March 2025 report</i>. Three dust fallout monitoring points are located within proximity to the Concentrator Plant area (TPM13, TPM14 and TMP15). ✓																																			
		To minimize the entrainment potential of dust.	Dust suppression will be undertaken using process water.	No dust suppression is undertaken at the Concentrator Plant as no activities are taking place. This commitment is not yet applicable. N/A																																			
		To respond with corrective action to public complaints about dust related health and nuisance impacts.	The area cleared for construction will be limited to the minimum area safe for construction activities.	Site observations confirmed that the area that was cleared for construction was limited to the Concentrator Plant footprint. Reference may be made to the google earth image above under condition C2.1.2. ✓																																			
			Only the immediate footprint of the area will be cleared.	The area that was cleared for construction was limited to the Concentrator Plant footprint as confirmed during site observations. Reference may be made to the google earth image above under condition C2.1.2. ✓																																			



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Movement of vehicles on site will be confined to the construction area.	No construction activities are currently undertaken at the Concentrator Plant. No vehicles are allowed to enter the Concentrator Plant area as the site is fenced off with strict access control implemented.	N/A
			A strict speed of 40 km per hour will be enforced during the construction phase. The objective of this measure would be to reduce emissions by 20% from unpaved roads which are a significant source during this phase of the development.	No construction activities are currently undertaken at the Concentrator Plant. Therefore, this commitment is not yet applicable. TPM does, however, implement the <i>Anglo Way</i> , now known as Valterra Platinum, speed limit of 40 km/h across all areas of the mine.	N/A
C2.1.7	Noise	To prevent or minimize adverse impacts from construction. To adhere to World Bank principles. To respond with corrective action to public complaints about noise	Construction activities will be confined to daylight hours.	No construction activities are currently undertaken at the Concentrator Plant. Therefore, these commitments are not yet applicable.	N/A
			A noise monitoring programme will be implemented at the communities directly adjacent to the Concentrator site prior to construction and will be continued during operations.		N/A
			Construction vehicles will be serviced at regular intervals to minimise noise generation.		N/A
			Placement of a noise dissipation barrier (berm or tree) between the Concentrator Plant and affected communities.		N/A
C2.1.8	Visual	To minimize the visual impact of the Concentrator Plant.	The Concentrator will be shielded from residential areas and roads and villages by means of vegetation or berms and maintaining existing vegetation along the boundary of the proposed Concentrator.	Construction of the Concentrator Plant commenced in 2014, but the extent of construction was limited to the terraces and foundations on which the Concentrator Plant is to be constructed. No, measures (i.e. berms or vegetation) have been implemented at the Concentrator Plant to shield the residential areas and villages from the Concentrator Plant. Notwithstanding the aforesaid, according to TPM personnel this condition is not practical as placing berms around the Concentrator Plant will have an impact on the natural drainage lines. Furthermore, borrow pits will have to be excavated in order to source material to construct the berms, which in turn will create a significant impact elsewhere. The berms will have to be more than 40 meters high to conceal the Concentrator Plant from the adjacent communities, which is not practical. Local communities and artisanal miners have further encroached on the Concentrator Plant area resulting in difficulties in constructing such visual berm. As per communication with the TPM it is noted that an application for an amendment of this condition through the Regulation 34 process will be undertaken. Site observation confirmed that natural vegetation was left intact along the boundary of the Concentrator Plant area. As previously noted, it has been described that, illegal chrome mining is currently taking place along the boundary fence of the Concentrator Plant, thereby removing the natural vegetation and creating stockpiles of soil and material. Proof of notification to the DMR of such illegal mining activities was provided for review.	N/A
C2.1.9	Traffic and Transportation	To minimize / prevent road accidents.	Construction activities will be confined to daylight hours.	No construction activities are currently undertaken at the Concentrator Plant. Therefore, these commitments are not yet applicable.	N/A
			Signpost warnings for construction vehicles.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			A maximum speed limit of 40 km per hour will be implemented.		N/A
			A traffic control plan will be undertaken prior to construction to further assess and quantify the impacts of increased traffic volumes.	A <i>Traffic Impact Study</i> was compiled by Aurecon dated September 2012 and this was completed after the construction phase commenced. No activities are currently taking place at the Concentrator Plant and there is currently no impact on traffic, therefore, there has not been a need to develop a traffic control plan. Therefore an “Not Applicable” finding was recorded. However, when the construction phase commences again, a traffic control plan will be implemented prior to construction. Further to this a <i>Site Traffic and Journey Management Plan TWI-EPR-ENG-PRO-2846</i> last revised 02 August 2022, was provided to the auditor and is implemented on the mine to provide guidelines and eliminate the hazards and risks associated with travelling / movements on site and assist Twickenham Mine in meeting the requirements of the Mines Health and Safety Act and Regulations.	N/A
Operational Phase					
O1	Activity: Underground Mining and the Operation of Twickenham Shafts and Associated Infrastructure (Ventilation Shafts, Rock Dumps, Workshops, Offices and Associated Buildings and Water Management Infrastructure)				
O1.1	Biophysical				



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
O1.1.1	Soils, land capability and land use	To prevent and minimize soil erosion	Storm water management measures in place. Refer to storm water management plan in the IWWMP.	TPM has implemented storm water management measures as observed during the site audit and as per <i>The Twickenham Platinum Mine Surface Water Specialist Report</i>, dated November 2017 and prepared by SRK Consulting. Site observations and a review of the report <i>The Twickenham Platinum Mine Surface Water Specialist Report</i>, dated November 2017 and prepared by SRK Consulting, confirmed that not all of the required storm water management structures are currently in place such as the storm water cut-off drains with diversion berms at Hackney Shaft and Twickenham Shaft Waste Rock Dump, which has not been constructed. According to the 2024/2025 IWWMP which was provided for review, Focus at TPM during 2022-2024 has been on completing the surface flood management plan study followed by a trade-off study and associated designs (in progress) for the most appropriate stormwater control measures for the C&M phase, planning for passive treatment of excess water prior to discharge, installation of new meters where required, alien vegetation control and ongoing maintenance of stormwater management facilities including debris, vegetation and sediment removal from dams, channels, and culverts. At the time of the 2023 IWWMP update, the trade-off studies have been completed, final designs for the denitrification treatment process, conceptual designs (pre-feasibility designs) were finalised for the storm water management systems (SWMS) and an EAP has been appointed to conduct the required Environmental Authorisation Processes and WULA in terms of the NEMA and the NWA respectively. This process was however not completed pending further amendments to the plans. The status in the 2024 IWWMP update is that the final designs have been concluded for the stormwater infrastructure. Proposals to undertake the environmental authorisation processes for the project have been obtained and are currently considered by procurement. All storm water management plans are not in place as per the IWWMP.  Hackney Shaft Stormwater Dam  Twickenham Shaft Stormwater Dam  Affected Water Dam at Mopetsi camp	
			The Storm Water Management Plan for the shaft complex is included and managed as per the current Twickenham IWWMP and an audit of the IWWMP commitments is undertaken on an annual basis.	The commitments within the IWWMP are reviewed and updated annually by an external consultant EnviroGistics and by the operation as confirmed by review of the <i>Twickenham Platinum Mine Integrated Water and Waste Management Plan Update 2024/2025</i>, dated April 2025 and compiled by EnviroGistics.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				The current SWMP is noted to be included and managed as per the current Twickenham IWWMP. It is noted that in the 2024/2025 IWWMP it is stated that, “No audits against the IWWMP have been conducted but performance progress is reported on in the annual updates of the IWWMP and the operational action plans presented in section 6.6 (of the IWWMP). As the operational action plans include the applicable actions from the WUL audit recommendations a separate audit is not considered necessary.” Performance progress was noted in the action plan of the 2024/2025 IWWMP.	
			Surface water monitoring to detect Total Dissolved Solids (“TDS”).	From a review of the <i>Twickenham Mine & Occupational Hygiene Water Quality Monitoring Report</i> , dated April 2025 and compiled by Aquatico, it was noted that TDS is measured as part of the monthly surface water monitoring protocol.	
O1.1.2	Soils, land capability and land use	To prevent and minimize soil erosion	Runoff from workshops, offices and waste rock dumps (“WRD”) will be contained in water management facilities.	Runoff from the workshop area is collected in a sump that is fitted with an oil separator. Site observations confirmed that the sump and oil separator are operational, and water / oil levels are well within the capacity of the facilities. As discussed under impact reference number O1.1.1 above, water runoff from the Twickenham WRD, the Hackney WRD and the office at Twickenham is not collected in water management facilities. Not all the storm water management measures have been implemented, including the construction of water collection facilities at the WRD and affected water canals at the shaft complex. According to the 2023/2024 IWWMP which was provided for review, at this time the trade-off studies have been completed, final designs for the denitrification treatment process, conceptual designs (pre-feasibility designs) have been finalised for the stormwater management systems and quotes are currently being acquired to appoint an Environmental Assessment Practitioner to conduct the required Environmental Authorisation Processes and Water Use Licence Applications in terms of the National Environmental Management Act and the National Water Act respectively. The commitments are included in the 2023/2024 IWWMP report. Storm water management measures are not in place however the relevant plans are in place to rectify storm water management issues. Reference may also be made to condition O1.1.1 above.  Sump and separator located at the Hackney Shaft workshops	
			The Storm Water Management Plan is included and managed as per the current Twickenham IWWMP and an update of the IWWMP commitments is undertaken on an annual basis	As previously described above under condition C2.1.4, a summary of the SWMP is included as an annexure to the IWWMP with the commitments of the IWWMP reviewed and updated annually.	
			Spill kits will be provided on site for ad hoc spill clearing.	Site observations confirmed that spill kits are provided at various areas for <i>ad hoc</i> spill clearing. Furthermore, TPM has developed a <i>Hazardous Materials Management Procedure (TWI-MIN-ENV-STD-0005)</i> for the clean-up of spillages.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating																																																													
				 	Spill kit observed at the Hackney Shaft workshop Oil spill kit observed at the Central Sewage Treatment Plant																																																												
			The leak/spill procedure is implemented for all possible areas of leak/spillage within the site.	An <i>Emergency Preparedness and Response (TWI-MIN-SHE-PRO-0010)</i>, refer to condition C2.1.5 above for evidence of this procedure, and a <i>Hazardous Materials Management Standard (TWI-MIN-ENV-STD-0005)</i> have been developed. These procedures include actions to be implemented to prevent pollution resulting from spillages and actions to be implemented during a leak/spill (emergency management plan). Spillages were noted within bunded areas however these were being cleaned at the time of the site visit. OPERATIONAL STANDARD TWICKENHAM PLATINUM MINE HAZARDOUS MATERIAL MANAGEMENT STANDARD VERSION: 6.6 LAST REVISION DATE: 2024-12-12 FIRST IMPLEMENTATION DATE: 2009-06-07 REFERENCE NUMBER: TWI-MIN-ENV-STD-0005 <table><tr><th></th><th>NAME</th><th>POSITION</th><th>SIGNATURE</th><th>DATE</th></tr><tr><td>AUTHOR:</td><td>Idah Mamphidi</td><td>Environmental Officer</td><td><i>Idah Mamphidi</i></td><td>17/12/2024</td></tr><tr><td>REVIEWED BY:</td><td colspan="4">Review Committee</td></tr><tr><td>REVIEWED BY:</td><td>Kabali Mkhale</td><td>Engineering Competent Person</td><td><i>Kabali Mkhale</i></td><td>17/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Leonard Mafela</td><td>Electrical Foreman</td><td><i>L. Mafela</i></td><td>17/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Zacharia Mkhale</td><td>AMCU</td><td><i>ZM Mkhale</i></td><td>17/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Mabu Mabu</td><td>NUM</td><td><i>Mabu Mabu</i></td><td>18/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Isiah Mampuru</td><td>Safety Officer</td><td><i>M. I. Mampuru</i></td><td>18/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Victor Matsemela</td><td>Senior Shift Supervisor</td><td><i>V. Matsemela</i></td><td>18/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Christo de Wit</td><td>Chief Safety Officer</td><td><i>Christo de Wit</i></td><td>13/12/2024</td></tr><tr><td>REVIEWED BY:</td><td>Brahm Le Roux</td><td>Chief Ventilation Engineer</td><td><i>Brahm Le Roux</i></td><td>18/12/2024</td></tr><tr><td>APPROVED BY:</td><td>Johan Rheeder</td><td>Mine Manager</td><td><i>Johan Rheeder</i></td><td>18/12/2024</td></tr></table> Hazardous Materials Management Standard TWI-MIN-ENV-STD-0005		NAME	POSITION	SIGNATURE	DATE	AUTHOR:	Idah Mamphidi	Environmental Officer	<i>Idah Mamphidi</i>	17/12/2024	REVIEWED BY:	Review Committee				REVIEWED BY:	Kabali Mkhale	Engineering Competent Person	<i>Kabali Mkhale</i>	17/12/2024	REVIEWED BY:	Leonard Mafela	Electrical Foreman	<i>L. Mafela</i>	17/12/2024	REVIEWED BY:	Zacharia Mkhale	AMCU	<i>ZM Mkhale</i>	17/12/2024	REVIEWED BY:	Mabu Mabu	NUM	<i>Mabu Mabu</i>	18/12/2024	REVIEWED BY:	Isiah Mampuru	Safety Officer	<i>M. I. Mampuru</i>	18/12/2024	REVIEWED BY:	Victor Matsemela	Senior Shift Supervisor	<i>V. Matsemela</i>	18/12/2024	REVIEWED BY:	Christo de Wit	Chief Safety Officer	<i>Christo de Wit</i>	13/12/2024	REVIEWED BY:	Brahm Le Roux	Chief Ventilation Engineer	<i>Brahm Le Roux</i>	18/12/2024	APPROVED BY:	Johan Rheeder	Mine Manager	<i>Johan Rheeder</i>	18/12/2024	
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REVIEWED BY:	Kabali Mkhale	Engineering Competent Person	<i>Kabali Mkhale</i>	17/12/2024																																																													
REVIEWED BY:	Leonard Mafela	Electrical Foreman	<i>L. Mafela</i>	17/12/2024																																																													
REVIEWED BY:	Zacharia Mkhale	AMCU	<i>ZM Mkhale</i>	17/12/2024																																																													
REVIEWED BY:	Mabu Mabu	NUM	<i>Mabu Mabu</i>	18/12/2024																																																													
REVIEWED BY:	Isiah Mampuru	Safety Officer	<i>M. I. Mampuru</i>	18/12/2024																																																													
REVIEWED BY:	Victor Matsemela	Senior Shift Supervisor	<i>V. Matsemela</i>	18/12/2024																																																													
REVIEWED BY:	Christo de Wit	Chief Safety Officer	<i>Christo de Wit</i>	13/12/2024																																																													
REVIEWED BY:	Brahm Le Roux	Chief Ventilation Engineer	<i>Brahm Le Roux</i>	18/12/2024																																																													
APPROVED BY:	Johan Rheeder	Mine Manager	<i>Johan Rheeder</i>	18/12/2024																																																													



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating																																	
O1.1.3	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during operation. To minimize seepage from waste rock dumps	The waste rock dump will be managed as per the Waste Management Plan/ Procedure.	The waste rock dumps are managed according to the <i>WRD Operating Manual and the WRD Mandatory Code of Practice</i> . Mine personnel indicated that waste rock is continuously being crushed by the mobile crushing plant for use as construction material in future SLP/community projects.																																	
			Clean water must be diverted around the Twickenham and Hackney rock dumps and dirty water runoff from the rock dumps to be diverted to the storm water dam.	Refer to discussion under impact reference number O1.1.1 above. Effective clean and affected water management measures have not been implemented at the Twickenham and Hackney Shaft WRDs. Measures are however in place to rectify the storm water management issue.																																	
			The storm water dam has been designed to accommodate a 1:50 year flood event and therefore expected that the risk of spilling will be less than 2% in any one year.	No specific mitigation measure is provided. TPM takes note of this condition.																																	
			Monitoring of adjacent watercourses as per the monitoring procedure.	From a review of the water quality reports compiled by Aquatico, it was noted that monitoring is undertaken at the Motse River. The following surface water monitoring points are sampled to assess the potential impact of TPM on the surface water quality: Receiving Environment Water - TSW01 – Motse River upstream; - TSW02 – Motse River downstream; - TSW03 – Motse River midstream; - TSW04 – Motse River diversion to community vegetable garden; - TSW05 – Serafa Spring; - HA01 - Hackney Shaft Discharge Drain; - Lower - Choke Motse Rive Agricultural Dam; - Upper - Choke Moopetsi River Spring; - MK01 - Mokgotshane Upstream; - MK02 - Mokgothane Downstream; and SO1 - Twickenham Shaft Discharge Drain.																																	
			Should the monitoring programme indicate that surface water quality is affected, the impacts of this point source will be investigated, and a temporary / alternative water supply will be assessed for current identified water users.	The point sources of pollution are as follows: HA01, S01, MK02, CSP, HSCD, MCSW, CSMP, The following exceedances in terms of the IWUL surface water qualities were identified in the most recent complete water quality monitoring report, Valterra Platinum Twickenham Platinum Mine Annual Water Quality Assessment Report January to December 2024, dated January 2025 and the Twickenham Mine & Occupational Hygiene Water Quality Monitoring Report, dated April 2025 compiled by Aquatico: The following surface water quality points are noted: <table><tr><th colspan="5">Surface Water</th></tr><tr><th colspan="5">Receiving Environment Water</th></tr><tr><th>Locality</th><th>Description</th><th>Sampling Frequency</th><th colspan="2">Coordinates</th></tr><tr><td>TSW 01</td><td>Motse River upstream</td><td rowspan="4">Monthly</td><td>-24.47627</td><td>30.03131</td></tr><tr><td>TSW 02</td><td>Motse River downstream</td><td>-24.41126</td><td>30.07542</td></tr><tr><td>TSW 03</td><td>Motse River midstream</td><td>-24.42206</td><td>30.06139</td></tr><tr><td>TSW 04</td><td>Motse River diversion to community vegetable garden</td><td>-24.41524</td><td>30.06986</td></tr></table>				Surface Water					Receiving Environment Water					Locality	Description	Sampling Frequency	Coordinates		TSW 01	Motse River upstream	Monthly	-24.47627	30.03131	TSW 02	Motse River downstream	-24.41126	30.07542	TSW 03	Motse River midstream	-24.42206	30.06139	TSW 04	Motse River diversion to community vegetable garden
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EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating					
				TSW 05	Serafa Spring		-24.40922	30.03225	
				SO1	Twickenham Shaft Discharge Drain		-24.42093	30.02724	
				HA01	Hackney Shaft Discharge Drain		-24.45144	30.05654	
				Lower Choke	Motse River Agricultural dam		-24.41548	30.07017	
				Upper Choke	Moopetsi River spring		-24.42280	30.07140	
				MK01	Mokgotshane Upstream		-24.39654	30.00804	
				MK02	Mokgothane Downstream		-24.43256	30.04355	
				Twickenham Shaft Surface Water					
				*DWD	Twickenham shaft dirty water dam	Monthly	-24.41772	30.02408	
				*RWD	Twickenham raw water dam		-24.41308	30.02656	
				*TSCM	Twickenham Shaft Clarifier Manhole		-24.41781	30.07480	
				Hackney Shaft Surface Water					
				*SWD	Hackney shaft storm water dam	Monthly	-24.45492	30.05779	
				*HSCD	Hackney shaft clarifier dam		-24.45491	30.05779	
				Mopetsi Camp Sewage Water					
				MCSW	Mopetsi camp sewage water treated effluent	Monthly	-24.42676	30.07481	
				MCSW IN	Mopetsi camp sewage water (Untreated inlet)		-24.42677	30.07478	
				Twickenham Shaft Sewage Water					
				CSP	Central sewage plant (Treated sewage)	Monthly	-24.41984	30.03344	
				CSP IN	Central sewage plant (Untreated sewage)		-24.41984	30.03343	
				CSMP	Central Effluent Maturation Pond		-24.41844	30.03422	
				*Process Water					
				<u>January – December 2024</u>					
				Process water (Better known as affected water):					
				The average water quality at the Hackney shaft clarifier dam (HSCD exceeded the license conditions stipulated in the WUL (Appendix VI Section 3.1) in terms of Magnesium (Mg) and Nitrate (NO3-N). The Hackney Shaft Clarifier Dam (HSCD) exceeded the WUL (Appendix VI Section 3.1) in terms of the average Nitrate (NO3-N) concentrations.					
				<i>The magnesium and chloride concentrations of HSCD should be closely monitored as it showed several exceedances during 2024, while the sulphate concentration of RWD should be closely monitored due to several exceedances during 2024.</i>					
				<i>It is suggested that the process water be contained at all times, putting measures in place to prevent discharge into the receiving environment where the water may be used by livestock, for</i>					



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating
				<i>irrigation and for domestic purposes. The process water quality, if discharged into the receiving environment may have a detrimental effect on the aquatic ecosystem. The process water containment facilities should be checked on a regular basis to ensure that there is no seepage into the groundwater.</i> Sewage water: • Low to elevated Faecal Coliforms and Total coliforms were detected during the other months of the annual period, classifying the water as Good (class 1) to Unacceptable (class 4) and • Thus, the treatment process did not function optimally during the months when high to elevated <i>E. coli</i> and Total Coliforms were detected. Central Sewage Maturation Pond: • Low to elevated <i>E. coli</i> and total coliforms were detected at the Central Sewage Maturation Pond during the annual period, the water can be classified as Ideal (class 0) to Unacceptable (class 4). <i>It is recommended that the sewage water be contained and not discharged into the receiving environment or used for domestic purposes as the system may not function from time to time.</i> Motse River water: • The average EC levels as well as the TDS and Mg concentrations exceeded the WUL (Appendix VI Section 5.1 limits) at most of the localities during the annual period from January to December 2024 and • The average EC levels as well as the average Total Alkalinity and NO₃-N exceeded the WUL (Appendix IV Section 3.3) at HA01 and SO1 sampling localities during the annual period. The average SS exceeded the WUL (Appendix IV Section 3.3) at HA01, SO1 and MK02 during the annual period. <i>The magnesium concentration should be monitored as magnesium concentrations above 100 mg/l may cause health effects in sensitive groups. The nitrate concentration of HA01 and SO1 should be closely monitored as the nitrate concentrations detected at HA01 and SO1 can cause health possible chronic risk to some babies.</i> <i>None of the average values for the tested chemical variables exceeded the SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle limit at any of the receiving environment sampling localities. There should be no risk to cattle drinking from the rivers / streams.</i> Drinking water: The average EC levels as well as the average Mg concentration exceeded the MHSA at some of the drinking water localities during the annual period. April 2025 Process water (Better known as affected water): • At RWD during April 2025, the K, Cl and SO4 concentrations exceeded the WUL (Quality of Waste to be Disposed into waste disposal facilities Appendix VII Section 3.1) and • The recorded SO4 also exceeded at DWD, while the Cl exceeded the stipulated limits at HSCD, Sewage water: MCSW (Mopetsi Sewage Plant) • Raised <i>E. coli</i> and total coliforms were detected during April 2025 and • This indicates that the Mopetsi sewage plant was not operating efficiently in terms of bacteriological content during that period. CSP (Central Sewage Plant) • No <i>E. coli</i> and very high total coliforms were detected during April 2025 at CSP and



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating
				- This suggests that the Central Sewage plant was not operating efficiently in terms of bacteriological content during April 2025. Central Sewage Maturation Pond: - Very high E. coli and total coliforms were detected during April 2025 at CSM and - This suggests that the Central Effluent Maturation Pond was not operating efficiently in terms of bacteriological content during April 2025. Chemical variables: - The majority of the tested chemical variables exceeded the Quality of Waste Water to be disposed of Appendix VI Section 3.1 at MCSW during April 2025, except for the recorded Mg and - This indicates that the wastewater from CSP does meet the required standards in terms of chemical composition, indicating that the water can safely be disposed of into the environment. Overall, the presence of harmful bacteria demonstrates ineffective operation and management of the wastewater treatment facilities in April 2025. Drinking Water: - The EC levels exceeded the Mine Health and Safety Act at MODW, MCBDW, JoJo Tank Mopetsi Camp and Mopetsi Reservoir during April 2025, - Raised Mg was also noted at MCBDW, MODW, JoJo Tank Mopetsi Camp and Mopetsi Reservoir, exceeding the stipulated limits and - High Cr and Cr⁶⁺ concentrations were detected in MODW and JoJo Tank Mopetsi Camp. Surface Water (Rivers/Streams): Exceedance of Environmental Limits: - Some chemical variables tested exceeded the Receiving Environment Appendix VI Section 5.1 limits during April 2025. - Exceedances include EC, TDS and Mg at some locations and - HA01 and SO1 exceed the Receiving Environment Appendix IV Section 3.3 limits for EC levels, TDS, Mg, Cl, NO3 and SO4 (SO1) concentration during April 2025. Nitrate Concentration: - Nitrate concentration slightly decreased from March 2025 to April 2025 at the majority of the localities, - NO³-N concentrations exceeding 10 mg/l may lead to algal blooms, and concentration over 40 mg/l pose high health risks, especially for infants, and may cause mucous membrane irritation in adults, according to SAWQG (South African Water Quality Guidelines) from 1996. Overall, the water quality across the sampled localities varies, with several exceeding environmental limits and showing improving levels of nitrate concentration, which could still have adverse effects on both aquatic ecosystems and human health. From discussions with TPM personnel, it was noted that all impacts are investigated, and an alternative water supply is being assessed. TPM personnel further indicated that a special focus group was established in the area to discuss water quality issues. The focus group includes stakeholders from various mines, the Department Human Settlements, Water and Sanitation (“DWS”) and community leaders. It has been noted that there is illegal mining activities occurring onsite which impacts on the water quality of the Motse River. Due to the exceedances in some of the above parameters (Total Hardness, Electrical Conductivity levels, Mg and Total Dissolved Solids, Chlorine, Sulfate, Nitrate) an “Observation” finding is recorded. It is further recommended that this condition be amended to ensure that TPM remains compliant and should state the following: If the monitoring programme indicates surface water quality impacts, the point source will be investigated to confirm whether Twickenham Platinum Mine activities are responsible for the

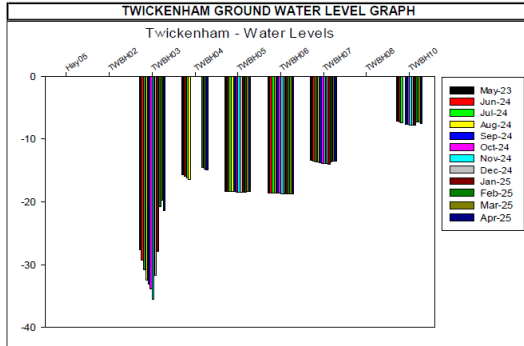


EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				impacts, and should mine activities be the point source a temporary / alternative water supply will be assessed for current identified water users.	
O1.1.4	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during construction, operation and post closure. To prevent public injury or death as a result of the Mine's operation. To prevent damage to or loss of infrastructure	Storm water will be diverted around the infrastructure directly towards natural watercourses.	TPM has implemented several storm water management measures as observed during the site audit and as per <i>The Twickenham Platinum Mine Surface Water Specialist Report</i>, dated November 2017 and prepared by SRK Consulting. Refer to discussion under impact reference number O1.1.1 above. Clean and affected water management measures have not been implemented at the Twickenham and Hackney Shaft WRDs. As stated above, measures are however in place to rectify storm water management issue, as such an "Observation" finding is recorded for this condition.	
			Energy dissipaters have been constructed to slow down the speed of water and reduce erosion at the concentrated discharge points.	Erosion protection measures were implemented at the internal shaft storm water trenches. The aim of such measures is to prevent erosion and to minimise siltation of storm water dams. No erosion concerns were noted during the site observations at Twickenham Shaft or Hackney Shaft.	
			Storm water runoff within the complex will be diverted to the storm water dam.	Site observations confirmed that TPM has implemented storm water management measures within the complex to divert water towards the storm water dams. According to the 2024/2025 IWWMP: During C&M focus has been on monthly inspections and maintenance of existing infrastructure, largely clearing of accumulated debris and vegetation in channels and dams during 2021. The SWMP for the mine area, based on a Regulation GN704 audit conducted in June 2017, supported the WULA, and is presented in Appendix 5. Implementation of stormwater measures associated with engineering works that have been deferred during C&M will be delayed correspondingly resulting in non-compliance to the stormwater related WUL conditions. A surface flood management plan study has been completed (EkoSource Insight, 2021 and 2022) to assess the stormwater protection requirements at the mine areas to identify priorities during C&M and the LoM requirements. A trade-off study to identify the most appropriate measures during C&M, followed by the design of the selected measures is in progress to support the SWMP which caters to the following: - Clean stormwater cut-off drains and deflection berms at the shafts and concentrator to direct clean runoff to the natural watercourse. The drains can accommodate a 1:50-year storm event and the deflection berms will deflect a 1:100-year storm event, - Stormwater run-off from the main access road is directed toward the natural watercourses by stone-pitched side drains. The existing stormwater culverts under the road can accommodate a 1:20-year storm event, - Stormwater run-off on the intershaft road is handled on the surface with culverts positioned at natural crossings. The existing culverts at the two main watercourse crossings are capable of handling the 1:100-year storm event, - Due to the high erosion potential of the TPM area, energy dissipation and erosion controls are required at all channel outlets and along the earth sections of the Hackney Shaft alteration (refer to the RSIP in Appendix B for details). The usual practice for energy dissipation is channel widening at the channel outlet to a width three times the bottom width of the channel outlet. Armorflex, gabions, or rock cladding are in use at TPM, - Dirty and clean water drains are kept separate. Areas such as workshops, diesel storage bays, bank areas, conveyor routes, rock dumps, wash-down areas, silos, and the tip area are regarded as dirty. To manage the dirty water a network of concrete lined "V" drains and pipe culverts that gravitate towards a concrete-lined silt trap and an HDPE-lined SWD situated at the lowest point of the site. The silt trap is split into two compartments for cleaning purposes. A ramp provides access to vehicles to remove the silt and deposit the material on the conveyor belt for processing. An oil trap is positioned at the workshop and wash bay area to extract oil spillage from the water, and - The SWDs and associated silt trap(s) have been sized to accommodate at least a 1:50-year storm event. Precautions will be taken to ensure that no overflow occurs into the natural watercourses. This includes keeping the dam water level low by optimising water reuse	

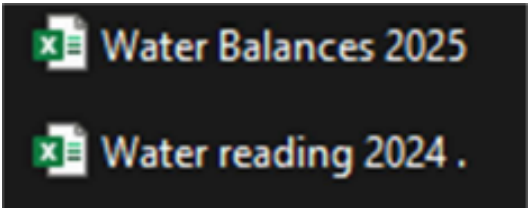


EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating																																									
				through transfer of water to the mine service water tank via the clarifier. Hydrants positioned around the perimeter of the SWD allow for washing down and maintenance of the dam.																																									
			Regular maintenance of the surface water management infrastructure will take place and silt traps will be maintained and cleared.	Evidence of maintenance was noted at the trenches within the shaft complexes. No concerns regarding the maintenance of existing surface water management infrastructure were noted at Twickenham Shaft Complex. Concerns regarding the vegetation overgrowth were noted at the Hackney Shaft Stormwater Dam and the Twickenham Stormwater Dam. According to mine personnel and as per site observations, the dam was cleared and desilted in November 2021. Excessive vegetation growth was noted on the side slopes of the Hackney Shaft stormwater dam as well as the clean water trench, however, as such a “Non-Compliant” is recorded for this condition. Reference may be made to condition O1.1.1 for evidence of the Hackney stormwater dam consisting of overgrown weeds.  Vegetation growth in the clean water trench at Hackney shaft																																									
O1.1.5	Groundwater	To minimize the impact of loss of resources on the communities. To ensure that communities have continued access to water to meet the requirements of households in the pre-mining environment	Monitoring water levels from monitoring boreholes as per the monitoring programme.	From a review of the <i>Anglo Platinum Twickenham Platinum Mine Annual Water Quality Assessment Report January to December 2024 and April 2025</i>, now known as Valterra Platinum, compiled by Aquatico, it was confirmed that currently 18 groundwater localities are being monitored on a quarterly frequency (water levels taken monthly) and included in the water monitoring reports for TPM. The groundwater monitoring boreholes and localities may be found in the table below. <table><tr><th colspan="5">Groundwater</th></tr><tr><th colspan="5">Receiving Environment Water</th></tr><tr><th>Locality</th><th>Description</th><th>Sampling Frequency</th><th colspan="2">Coordinates</th></tr><tr><td>HAY 05</td><td>Monitoring borehole east of Hackney shaft</td><td rowspan="5">Quarterly</td><td>-24.462</td><td>30.050</td></tr><tr><td>TWBH 02</td><td>Rest Water level borehole north-west of Twickenham shaft</td><td>-24.403</td><td>30.018</td></tr><tr><td>TWBH 03</td><td>Monitoring borehole south-east of Twickenham plant area</td><td>-24.408</td><td>30.034</td></tr><tr><td>TWBH 04</td><td>Monitoring borehole south of Twickenham plant area</td><td>-24.408</td><td>30.028</td></tr><tr><td>TWBH 05</td><td>Monitoring borehole south-west of Twickenham shaft</td><td>-24.416</td><td>30.021</td></tr></table>					Groundwater					Receiving Environment Water					Locality	Description	Sampling Frequency	Coordinates		HAY 05	Monitoring borehole east of Hackney shaft	Quarterly	-24.462	30.050	TWBH 02	Rest Water level borehole north-west of Twickenham shaft	-24.403	30.018	TWBH 03	Monitoring borehole south-east of Twickenham plant area	-24.408	30.034	TWBH 04	Monitoring borehole south of Twickenham plant area	-24.408	30.028	TWBH 05	Monitoring borehole south-west of Twickenham shaft	-24.416	30.021	
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EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating						
				TWBH 06	Monitoring borehole south of Twickenham shaft		-24.419	30.025		
				TWBH 07	Rest water level borehole		-24.427	30.025		
				TWBH 08	Rest water level borehole		-24.436	30.043		
				TWBH 10	Monitoring borehole north of Hackney shaft		-24.453	30.058		
				TWBH 11	Monitoring borehole south of Hackney shaft		-24.467	30.059		
				TWBH 12	Twickenham waste rock dump		-24.414	30.018		
				TWICKENHAM GROUND WATER LEVEL GRAPH Twickenham - Water Levels  Ground water level monitoring at TPM						
			In the event that a decrease in water supply is identified, the impacts of this point source will be investigated, and a temporary / alternative water supply will be assessed for current identified water users.	As described above, mining activities have ceased and TPM is currently in care and maintenance. A hydrocensus was undertaken by Aqua Earth in 2017 (<i>Anglo American Platinum Twickenham Mine Hydrocensus 2017</i>), now known as Valterra Platinum. The main aim of this investigation was to collect groundwater information that will assist TPM in having sufficient background information to assess possible impacts on community water supply boreholes. A further geohydrological modelling assessment was undertaken in 2018 by Groundwater Monitoring Services cc. From a review of the report titled <i>Ground Water Resource Characterisation and Liability Assessment – Executive Summary Report</i> , compiled by Groundwater Monitoring Services and dated February 2019, it was noted that alternative water supplies may have to be considered at some time in future.						
			Mine planning will take into consideration geological features which may be preferential pathways for groundwater flow.	The hydrogeological investigations in the area indicate that significant groundwater inflows are only likely to occur along the water bearing fracture zones and dolerite dykes contacts that cut across the UG2 seam, (SRK Report 287678/Ground Water, 2001). Blow yields reported for boreholes drilled off these lineaments, both in the DWAF study (Botha et al., 2001) and ground water investigation (SRK Report 287678/Ground Water, 2001), were found to be minimal. A hydrocensus was also undertaken by Aqua Earth in 2017 (<i>Anglo American Platinum Twickenham Mine Hydrocensus 2017</i>), now known as Valterra Platinum. A further ground water resource characterisation and liability assessment was undertaken in 2018 by Groundwater Monitoring Services cc. It can be concluded that mine planning is considering the geological features that may be preferential pathways for groundwater flow.						
			Volumes of water removed from the underground workings will be monitored as per the water balance.	Water abstracted from underground is metered by means of a flow meter. Flow meter readings are recorded daily. Flow meter records were made available for review. The daily water readings are recorded with the total monthly volumes of abstraction captured on the Environmental Management System (“EMS”) known as Isometrix. The volumes are also captured on the <i>Twickenham Mine Water Balance Sheet/Water Balances 2025/Water reading 2024</i> for the months of February 2024 – February 2025 excel spreadsheet as provided for review.						



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				 <i>Flow meter at Hackney Shaft</i>  <i>Flow meter at Twickenham Shaft</i>  <i>Flow meter at Mopetsi Camp Sewerage Treatment Plant</i>  <i>Water balance excel sheets</i>	
			The water balance will be updated on an annual basis and submitted to the Department of Water and Sanitation for comment.	The water balance for TPM was updated in 2024 and included in the <i>Twickenham Platinum Mine Integrated Water and Waste Management Plan: Annual Update</i>, dated April 2024 and compiled by EnviroGistics. Furthermore, <i>Twickenham Mine Water Balance Sheet/Water Balances 2025/Water reading 2024 for the months of February 2024 – February 2025</i> was provided as evidence for review. Proof of submission of the water balance was provided for review and was submitted to the department on the 15 April 2024.	

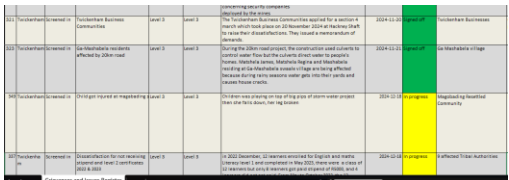


EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating									
				EXTERNAL PLATINUM ANGLO AMERICAN PLATINUM LIMITED Rustenburg Platinum Mine Twickenham Mine D4228 Hackney Road Draaiop 1129 South Africa Regional Head Department of Water and Sanitation DWS TPA Building Corner Shurinck and Rossouw Street Lydenburg 1200 25 April 2025 Attention: Provincial Head Anglo American Platinum – Twickenham Platinum Mine – Water Use Licence Number: 06/B71E/ABCEFGJ/9562 File Number: 27/2/2B571/5/1 This submission is made in accordance with commitments contained in the WUL as follows: <table><tr><th>Reference Number</th><th>Submission Requirement</th><th>Report Name (s)/ Location</th></tr><tr><td>Water Use Licence: 06/B71E/ABCEFGJ/9562)</td><td>Appendix VII Requirement 12.1 and Requirement 6.1,</td><td>IWWMP and RSIP 2024/2025, 2024 Annual Water and Mass Balances</td></tr><tr><td>File No: 27/2/2B571/5/1</td><td>Appendix IV Requirement 9(i)</td><td></td></tr></table> Please direct any queries you may have on these submissions to Idah Mamphiden or idah.mamphiden@angloamerican.com or 078 992 0905/013 231 9167. Yours in Safety, Health and Environment Mine Manager: AAP Twickenham Mine John Rheador www.angloamericanplatinum.com A member of the Anglo American plc group Anglo American Platinum Limited Registered Office: 15 Lombard Street, Johannesburg, 2001, P.O. Box 60775, Midrand, 2007 South Africa. T +27 (0) 11 3181111 F +27 (0) 11 3181111. Company Secretary: Mr. John Rheador, Registered Director: Mr. John Rheador. Directors: Mr. Michael Chabanele, Mr. Stephen Linder, Mr. Robert van der Merwe, Mr. Johan de Klerk, Mr. David C. Miller, Mr. Walter Chabanele, Mr. Christoffel "Pietie" van der Merwe, Mr. Johannes "Jojo" van der Merwe, Mr. Johannes "Jojo" van der Merwe, Mr. Johannes "Jojo" van der Merwe Proof of submission of annual water balance update and IWWMP/RSIP to the Department of Water and Sanitation	Reference Number	Submission Requirement	Report Name (s)/ Location	Water Use Licence: 06/B71E/ABCEFGJ/9562)	Appendix VII Requirement 12.1 and Requirement 6.1,	IWWMP and RSIP 2024/2025, 2024 Annual Water and Mass Balances	File No: 27/2/2B571/5/1	Appendix IV Requirement 9(i)	
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File No: 27/2/2B571/5/1	Appendix IV Requirement 9(i)												
O1.1.6	Groundwater	To minimize / prevent contamination of water resources	A groundwater monitoring plan is in place.	Reference to be made to condition O1.1.5 for evidence. Groundwater quality and level monitoring is undertaken quarterly and monthly respectively, as required by the IWUL for TPM, and as per the cited water monitoring reports compiled by <i>Anglo Platinum Twickenham Platinum Mine Annual Water Quality Assessment Report January to December 2024 and April 2025</i> , now known as Valterra Platinum, compiled by Aquatico.									
			Should the monitoring programme indicate that the groundwater quality has been impacted upon, the impacts of this point source will be investigated, and a temporary/ alternative water supply will be assessed for current identified water users. Remediation of the spills will be investigated.	The point sources of pollution are as follows: TWBH05, TWBH06, TWBH10, TWBH11, TWBH13, TWBH14, TWBH15, TWBH21, TWBH27 and TWBH31. Four boreholes namely, TWBH27, TWBH28, and TWBH57 were added to the monitoring programme. A review of the <i>Anglo Platinum Twickenham Platinum Mine Annual Water Quality Assessment Report January to December 2024</i>, now known as Valterra Platinum, prepared by Aquatico indicated that: Twickenham Shaft Groundwater Qualities: - Eight of the ten listed boreholes were sampled during the evaluation period, - Monitoring information shows that groundwater qualities varied from good to poor during the evaluation period if compared with drinking water standards (SANS 241:2015), - High nitrate concentrations were measured in TWBH27 and high ammonium concentrations in TWBH05. It is expected that the high levels of nitrate contamination were due to the nitrate-based explosive used for blasting and leach into the groundwater surrounding the shaft and waste rock dump, - High concentrations measured in TWBH27 indicates that the waste rock dump is likely a source of contamination to the surrounding groundwater environment, - Groundwater is dominated by magnesium cations, while bicarbonate alkalinity is the dominant anion in groundwater that has remained largely unaffected by the mining activities and - On the other hand, it clearly indicates adverse effects on three of the boreholes (TWBH06, TWBH13 and TWBH27), where chloride and nitrate are the dominant anions where impacts are discernible. Hackney Shaft Groundwater Qualities: - Four of the seven listed boreholes were sampled during the evaluation period,									



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				- Monitoring information shows that groundwater qualities in the Hackney area were generally poor during the past monitoring year if compared with drinking water standards (SANS 241:2015), - The drinking water limit for nitrate was exceeded in all boreholes at some point, with the highest concentrations having been measured in TWBH11, TWBH15 and TWBH31, - The nitrate measured in TWBH11 may possibly originate from sewage effluent, - Boreholes TWBH10, TWBH15 and TWBH31 are most likely to be affected by poor quality leachate originating from the waste rock dump, which is situated nearby in the general upgradient groundwater flow direction, - The drinking water limit for sodium was exceeded in monitoring borehole TWBH10, which is situated approximately 260 m downgradient from TWBH15 and the waste rock dump. This may be attributed to the waste rock dump, however, why only it was affected and not boreholes TWBH10 and TWBH31, is unclear, - Groundwater is dominated by magnesium/sodium cations, while bicarbonate alkalinity is the dominant anion. This combination of ions is generally indicative of overall good groundwater quality conditions, which is somewhat misleading given the mostly high groundwater nitrate content and - Borehole TWBH31 plots mostly in Field 8 of the EDD, indicative of its dominance by high nitrate concentration. Moopetsi Sewage Treatment Facility Groundwater Qualities: - A single borehole was sampled during the evaluation period, - Monitoring information shows that the groundwater quality remained mostly good during the evaluation period if compared with drinking water standards (SANS 241:2015), - The drinking water limit for manganese was, however, exceeded in borehole TWBH14, this exceedance is not believed to be a result of impacts from the facility as manganese contamination is not commonly associated with such a facility and - Groundwater is dominated by magnesium cations and bicarbonate alkalinity on the anion side, which is characteristic of overall good groundwater quality conditions. Alternative water supply sources are currently assessed and investigated. It has also been noted that there is illegal mining activities occurring onsite which impacts on the water quality of the Motse River. Due to the high exceedances in nitrate concentrations a “Non-Compliant” finding is recorded for this condition. To ensure that the mine remains compliant it is recommended this condition be amended to state the following: If the monitoring programme indicates groundwater quality impacts, the point source will be investigated to confirm whether Twickenham Platinum Mine activities are responsible for the impacts, and should mine activities be the point source a temporary / alternative water supply will be assessed for the provision of water where it has been confirmed that mining activities have impacted domestic boreholes.	
			The rock dump will be managed as per the Waste Management Plan/ Procedure	As discussed under impact reference number O1.1.3 above, the waste rock dumps are managed according to the <i>WRD Operating Manual and the WRD Mandatory Code of Practice</i> .	
O1.1.7	Noise	To prevent or minimize adverse impacts arising from operations.	Enclose all major noise sources in purpose designed industrial buildings.	Since TPM is in care and maintenance there is limited noise generation onsite. Site observations confirmed that any major noise sources are enclosed, with hackney being the only mine that most mine personnel report to. Furthermore, limited noise generating activities are currently being undertaken at TPM.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating
			Measures will be taken to silence ventilation fan exhausts and intakes.	Site observations and discussions with mine personnel revealed that the ventilation shafts are fitted with silencers/dampners to decrease the level of noise generated.
			All complaints raised by stakeholders will be captured and responded to as part of a grievance mechanism.	All complaints received by TPM are recorded as “<i>Social Incidents</i>”. Incidents are managed in terms of the <i>Issues and Incident Management Procedure (MS-CA-CTY-PRO-0002)</i>. The latest <i>Grievances and Issues Register</i> was provided as evidence for review. It was confirmed that some complaints / grievances were received from stakeholders and the surrounding community by TPM. Some have been resolved whilst others are currently still in progress.  <i>Grievances and Issues Register</i>
O1.1.8	Traffic and Transportation	To manage traffic volumes on the roads during operations.	Tarring, upgrading and maintenance of internal and local road networks within the Twickenham project area.	The main road between Hackney Shaft and Twickenham Shaft is a tarred road. The road is not well maintained with a number of potholes noted. According to TPM personnel, the road between Mopetsi Camp and Twickenham shaft was handed over to the Local Municipality. The operation no longer has jurisdiction over the road. The D4220 road, which is an approximately 16km road, is currently being upgraded. As per correspondence with TPM officials, it is noted that this is a community project. Once the road has been tarred it will be handed over to the community. To ensure that the mine maintains compliance under care and maintenance it is recommended that this condition be amended to state the following: During the operational phase the mine must ensure that internal and local road networks within the Twickenham project area are well maintained by tarring and upgrading.
			An internal traffic control plan will be undertaken to further assess and quantify the impacts of increased traffic volumes during mining operations.	A Traffic Impact Study was compiled by Aurecon, dated September 2012. Refer also to previous discussions regarding TPM having been placed under care and maintenance. Therefore, no traffic congestion is expected as limited activities are currently being undertaken at TPM. Further to this a <i>Site Traffic and Journey Management Plan TWI-EPR-ENG-PRO-2846</i> last revised 02 August 2022, was provided to the auditor and is implemented on the mine to provide guidelines and eliminate the hazards and risks associated with travelling / movements on site and assist Twickenham Min in meeting the requirements of the Mines Health and Safety Act and Regulations.
O1.2	Socio-Economic			
O1.2.1	Socio-Economic	To facilitate continued movement around the site along routes that are as close as possible to existing movement networks. To ensure that individuals do not travel any further than they do prior to the Mine development.	Where access paths are removed completely, the mine will provide access routes between the affected communities and activities based on the following principles: • Consultation with the affected communities; • Shortest possible alternative routes; • Accessibility to vehicular traffic, elderly people and animals; • Routes will be graded before construction of mine infrastructure is started; • Routes will be aligned to be least disruptive to community activities; and Routes will avoid as far as possible land of agricultural potential.	It was confirmed by TPM personnel that access paths are provided between the communities and main access routes. Site observations further confirmed that access paths are provided between the communities and the main access route. Further to this a <i>Site Traffic and Journey Management Plan TWI-EPR-ENG-PRO-2846</i> last revised 02 August 2022, was provided to the auditor and is implemented on the mine to provide guidelines and eliminate the hazards and risks associated with travelling / movements on site and assist Twickenham Mine in meeting the requirements of the Mines Health and Safety Act and Regulations.



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
O1.2.3	Socio-Economic	To minimize communities' negatives experiences of the operation mine's visual, auditory impacts and increased levels of activity.	Visual barriers such as soil berms or vegetation berms will be constructed to mitigate the view of the Twickenham Operations.	No measures (i.e. berms or vegetation) have been implemented at TPM to shield the residential areas and villages from the operational areas. According to TPM personnel this condition is not practical as placing berms around the shaft area will have an impact on the natural drainage lines. Furthermore, borrow pits will have to be excavated in order to source material to construct the berms, which in turn will create a significant impact elsewhere. The berms will have to be more than 40 meters high to conceal the infrastructure from the adjacent communities, which is not practical. It has been noted that this site is not conspicuous and is hidden mostly from the road. It is recommended that this condition should be amended to state that TPM should maintain its current operations and infrastructure so as to not be a visual obstruction. To ensure that the mine maintains compliance under care and maintenance it is recommended that this condition be amended to state the following: Twickenham Platinum Mine should ensure that visual impacts as a result of mining related activities are limited and well maintained during the operational phase. The visual impact of all shafts and related mining activities should remain low.	
O1.2.4	Socio-Economic	To prevent public injury or death as a result of the Mine's operation.	The mine will implement the standard safety measures as stipulated in the Mine, Health and Safety Act.	TPM is required by South African Legislation to conform to the requirements of the Mine, Health and Safety Act, 1996 (Act No. 29 of 1996). No evidence to the contrary was identified.	
			Community access to operation areas will be strictly controlled using fencing/warning tape and warning signs.	Fencing and access control have been implemented around the shaft area with access to the general community strictly prohibited. No concerns in this regard were identified.   <i>Access control within Hackney Shaft</i>  <i>Fencing around Central Sewage plant</i>	
			The mine will implement ongoing safety education programme at existing community forums.	The monthly CEF meetings were utilised as a means of allowing community members to raise any concerns, and also utilised to inform the community regarding the current operations and developments of the project and to further raise awareness regarding safety principles TPM has established the Community Engagement Forum ("CEF"). Monthly meetings are undertaken. Evidence of the latest meeting minutes and the agenda was provided for this review period.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				 Example of road signage at Hackney Shaft	
			Penalties and disciplinary actions will be imposed on employees and contractors for non-compliance with safety measures.	Valterra Platinum has implemented the <i>Anglo Disciplinary Code (Platinum revises behavioural procedure)</i> , now known as Valterra Platinum, that is followed by TPM. All employees and contractors of TPM are required to abide by the disciplinary and safety standards of TPM. In the event that any standards or procedures are not adhered to, the matter is handled in terms of the Disciplinary Code. No concerns regarding penalties and disciplinary actions were noted during the review period.	
			A traffic control plan will be undertaken to further assess and quantify the impacts of increased traffic volumes during mining operations.	A Traffic Impact Study was compiled by Aurecon dated September 2012. The impact of increased traffic within the vicinity of the mining area was assessed and quantified within this study. In addition, a Standard Operating Procedure <i>Site Traffic and Journey Management Plan (Reference Number: TWI-EPR-ENG-PRO-2846)</i>, dated 2019 Refer also to previous discussions regarding TPM having been placed under care and maintenance. Therefore, no traffic congestion is expected as limited activities are currently being undertaken at TPM. Further to this a <i>Site Traffic and Journey Management Plan TWI-EPR-ENG-PRO-2846</i> last revised 02 August 2022, was provided to the auditor and is implemented on the mine to provide guidelines and eliminate the hazards and risks associated with travelling / movements on site and assist Twickenham Min in meeting the requirements of the Mines Health and Safety Act and Regulations.	
O1.2.5	Socio-Economic	To manage Anglo Platinum's cumulative impact on the region resulting from the Mine	The management of the cumulative social and economic impacts which the mining developments may have on the area will be critical in minimizing negative impacts and enhancing positive impacts and will require the participation of all stakeholders including the mines, local and provincial government, communities, and specialist interest groups in the development of a strategy for the Eastern Limb	As discussed above, TPM has established the CEF that consists of regional mines, tribal authorities, community members and government bodies. Refer to more detail under impact reference number O1.1.3 above.	
			Twickenham Platinum Mine will participate and contribute to a government lead initiative to address the cumulative impacts of development of the Eastern Limb.		
			Participate in regional forums		
O1.2.6	Socio-Economic	To enhance benefits from the development of the Mine.	Where possible, Twickenham Platinum Mine will facilitate the recruitment of local labour.	In accordance with the <i>Twickenham Platinum Mine Social and Labour Plan</i> (dated 2016-2020), preference is given to the employment of local residents in the project area. The following employment figures were provided by TPM: - Total employees – 166 - Local – 96 - Non-local – 70	
		To maximize opportunities for local residents.	The mine will commission a skills assessment of the local community to maximize opportunities for local residents.		



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		To facilitate employment of local labour on the Mine.	Recruitment will be done through existing HR Recruitment policies and procedures as agreed with the local Community Engagement Forum.	- Total contractors – 658 - Local – 340 - Non-local - 318	
		To avoid creating unrealistic expectations	Local contractors will be considered first except where specialist skills are not available locally	The CEF is also utilised to discuss the recruitment policy of TPM with the local community. Further, all contractors (in accordance with the TPM SLP) are required to ensure that local residents are trained to perform their required tasks and will be required to provide full details of training interventions, which will be implemented.	
			Equitable distribution of jobs across the villages on the farms affected by surface infrastructure will be emphasized.	The February 2024 update was provided to the auditor for review and indicates that the 20 km road (D4220 road) is still in the process of being upgraded. The project is at 54% completion. The social labour plan 1 project appointed 10 community members, 10 community leaders and 140 jobs were created.	
			The duration of jobs will be made clear in the recruitment process to avoid creating undue expectations.		
O1.2.7	Socio-Economic	To prevent or minimize negative impacts resulting from the operation of the Mine.	The mine will implement management commitments with respect to noise, dust, safety, blasting and vibrations and other activities.	Refer to various discussions under O1.1.7 regarding noise. Dust monitoring is conducted at TPM. According to the <i>Twickenham Mine Dust Fall Out Monitoring Report from January to December 2024 and March 2025</i> prepared by Aquatico Scientific and the all the sampling localities classified as residential stands recorded dust fall-out rates within the residential limit. All the sampling localities classified as Non-residential localities recorded dust fall-out rates within the Industrial Limit. Since the TPM is currently in care and maintenance and since there are no mining acitvites currently taking place safety risks are reduced. Nonetheless, mine personnel and visitors are still expected to adhere to all safety signage on the mine as well as ensure that personal protective equipment is worn. According to TPM personnel no vibration monitoring is currently measured as no mining activity is taking place hence the portion of the condition referring to vibration monitors does not apply in this case. There is no blasting currently taking pace at TPM. Reference to be made to condition O1.1.7 above. It should be noted that no mining activities are taking place at the Twickenham Shaft Complex. Subsidence monitoring is undertaken by TPM.	
O1.2.8	Socio-Economic	To facilitate the management of conflicts to the benefit of the communities and the Mine	Facilitate management of conflicts by developing a transparent and democratically elected forum including the mine, tribal authorities, local authorities and other parties will be constituted for the purposes of discussing resettlement and land take issues and other benefits that may accrue from the project.	The CEF is managed by the TPM Social Development and Performance Manager and the social team. Further, the community members and tribal authorities elect community board members for the CEF, with the latest election taking place in future. Evidence of the latest meeting minutes and the agenda was provided for this review period. Refer to condition O1.2.4 above for the evidence.	
O1.2.9	Socio-Economic	To support systems currently in place to control influx.	The Mine will support tribal authorities in controlling influx of people into the area by: - Adhering to policies which will facilitate the recruitment of local labour; - Notifying the tribal authorities and local authorities of incidence of squatting on the surface lease area or in the vicinity and assisting in the removals of squatters; Encouraging and facilitating the provision of offsite housing of “non-local employees	Support to the community and the tribal authorities is provided as part of the CEF. Further, in accordance to the TPM SLP, preference is given to the employment of local residents and no recruitment takes place at the gate of TPM. Evidence of the latest meeting minutes and the agenda was provided for this review period. Refer to condition O1.2.4 above for the evidence.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			The Mine will support tribal authorities in controlling influx of people into the area and will support and facilitate community policing forums.		
			The Mine will implement an HIV/AIDS awareness campaign targeting construction workers, employees and surrounding communities.	An HIV/AIDs awareness campaign has been initiated by TPM. TPM provides unlimited HIV testing, treatment, counselling and support at any of the Platinum Health Facilities.	
O2	Activity: Operation of the Sewage Treatment Plants				
O2.1	Biophysical				
O2.1.1	Soils, land capability and land use	To prevent soil contamination.	Sludge will be disposed in dry beds within designated dirty water areas and will be removed by a licensed waste contractor.	Sludge from the sewage treatment plants are disposed of in drying beds before being removed by an external contractor A-Thermal retort Technologies. Safe disposal certificates for this review period was provided for review.  Sludge drying beds at Central Sewage Plant  Thermal Destruction Certificate Number: 085190	
			An inspection and maintenance plan will be implemented to ensure that the sewage treatment plant always operates within specifications.	The sewage treatment plants are managed and operated by TPM. TPM further indicated that inspections are undertaken daily at both the sewage treatment plants. Records of inspections were provided for review. Maintenance is scheduled utilising the system SAP. A process engineer is based at TPM for the maintenance of the Central Sewage Treatment Plant and the Mopetsi Camp Water treatment Facility.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			All spills will be captured and remediated as per the Emergency Preparedness and Response Plan/ Procedure.	Spills at the sewage treatment plants are reported and managed according to the <i>Issues and Incidents Management Procedure</i> , (MS-CA-CTY-PRO-0002) and logged on Isometrix. Incidents are also assigned to a person for corrective action as per the <i>Incident Non-conformity and Corrective Action Procedure</i> (reference number TWI-MIN-SHE-PRO- 0013) last reviewed 16/06/2021. According to the excel report extracted, no incidents that require reporting occurred during the audit assessment period.	
			Management of sewage effluent will be in accordance with the Waste Management Plan/ Procedure.	Site observations confirmed that management of sewage effluent is aligned with the TPM <i>Waste Management Standard Operating Procedure</i> , revised 15/09/2020 that includes instructions on waste management, storage and transportation to avoid pollution risks.	
O2.1.2	Surface water	To avoid or where not possible, minimize and remedy pollution of water during operation.	Implementation of the Storm Water Management Plan	The <i>Twickenham Platinum Mine Surface Water Specialist Report</i>, dated November 2017, prepared by SRK Consulting (attached as annexure to the Consolidated EMPr) indicates that: The design of the works is such that storm water runoff will not enter the treatment plant systems apart from rainfall falling directly on open tanks. Sewage Plants have been constructed with bund walls and concrete structures with minimal to no impact on surface water run-off. This was verified onsite during the review period.  <i>Bund walls at sewage treatment plant at Mopetsi Camp</i>	
			The reticulation system will be maintained.	Regular maintenance on the reticulation is undertaken and maintenance is scheduled on SAP. No concerns regarding the operation of the reticulation systems were noted.	
		To minimize seepage from the Sewage Treatment Plant	Sludge will be disposed in dry beds within designated dirty water areas and will be removed by a licensed waste contractor.	Refer to discussion under impact reference number O2.1.1 above. Sludge from the sewage treatment plants are disposed of in drying beds before being removed by an external contractor A-Thermal retort Technologies. Safe disposal certificates for 2023 were provided.	
			An inspection and maintenance plan will be implemented to ensure that the sewage treatment plant always operates within specifications.	Refer to discussion under impact reference number O2.1.1 above.	
			The surface and groundwater water quality monitoring programme has been implemented to detect any impacts.	From a review of the <i>Water Quality Assessment Report, January to December 2024 and April 2025</i>, compiled by Aquatico, it was noted that surface and ground water quality monitoring is undertaken. The following water monitoring points are sampled at the sewage treatment plants: - TWBH14 – (Groundwater) downgradient Mopetsi sewage effluent; - MCSW – (Effluent) Mopetsi camp sewage water treated effluent; - MCSW IN – (Effluent) Mopetsi camp sewage water (untreated inlet); - TWBH13 – (Groundwater) downgradient borehole at Central Sewage plant; - CSP – (Effluent) Central sewage plant (treated sewage); - CSP IN – (Effluent) - Central sewage plant (untreated sewage);	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
				- CSMP - Central Effluent Maturation Pond and - TWBH57 - Downgradient of sewage plant and TWBH13.	
			The sewage effluent will be treated in the sewage treatment plant to acceptable effluent standards.	A review of the <i>Anglo Platinum Twickenham Platinum Mine Annual Water Quality Assessment Report April 2024</i>, now known as Valterra Platinum, compiled by Aquatico, confirmed that sewage effluent is treated, but: - At RWD during April 2025, the K, Cl and SO4 concentrations exceeded the WUL (Quality of Waste to be Disposed into waste disposal facilities Appendix VII Section 3.1) and - The recorded SO4 also exceeded at DWD, while the Cl exceeded the stipulated limits at HSCD, Sewage water: MCSW (Mopetsi Sewage Plant) - Raised E. coli and total coliforms were detected during April 2025 and - This indicates that the Mopetsi sewage plant was not operating efficiently in terms of bacteriological content during that period. CSP (Central Sewage Plant) - No E. coli and very high total coliforms were detected during April 2025 at CSP and - This suggests that the Central Sewage plant was not operating efficiently in terms of bacteriological content during April 2025. Central Sewage Maturation Pond: - Very high E. coli and total coliforms were detected during April 2025 at CSM and - This suggests that the Central Effluent Maturation Pond was not operating efficiently in terms of bacteriological content during April 2025. Chemical variables: - The majority of the tested chemical variables exceeded the Quality of Waste Water to be disposed of Appendix VI Section 3.1 at MCSW during April 2025, except for the recorded Mg and - This indicates that the wastewater from CSP does meet the required standards in terms of chemical composition, indicating that the water can safely be disposed of into the environment. Overall, the presence of harmful bacteria demonstrates ineffective operation and management of the wastewater treatment facilities in April 2025. The exceedance of several chemical variables indicated ineffective operations and management of both wastewater treatment facilities.	
O3	Activity: Mopetsi and Serafa camps during operations				
O3.1	Biophysical				
O3.1.1	Soils, land capability and land use	To prevent and limit spills/leakages	An inspection and maintenance plan will be implemented to ensure that the camps operate within specifications.	The Serafa Camp is currently not in use and has been demolished. A contractor is currently in the process of maintaining the vegetation at Mopetsi Camp.	

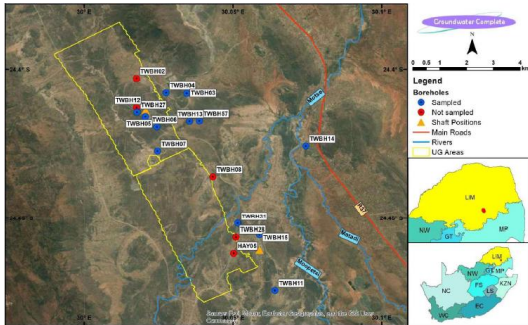


EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating		
		causing soil contamination.			Location of former Serafa Camp	
			Regular cleaning and maintenance of drains and storm water control facilities.	There are no storm water management drains and storm water control facilities at the Mopetsi Camp. TPM indicated that road culverts outside the camps are inspected and cleaned (if necessary) every three months. No concerns with maintenance at the camps were noted.		
			Containment and management of spillage.	From discussion with TPM personnel, it was noted that no activities are undertaken at the Mopetsi Camp that may result in spillages and pollution of a water resource, therefore, no spill kits are located at Mopetsi Camp. These commitments are not applicable.		
			Spill kits will be provided on site for ad hoc spill clearing.			
			All waste management will be handled as per the Waste Management Plan / Procedure.	The following management measures for waste management at Mopetsi Camp are included in the Waste Management Strategy, dated August 2017: - Food / catering waste is collected in Green Bins and taken to the Burgersfort Landfill Site by Bauba Marumo. - Domestic waste is collected in Green Bins and taken to the Burgersfort Landfill Site by Bauba Marumo. - Garden waste is no longer collected in sacks, bins or skips and taken to the Burgersfort Landfill Site, but rather collected and treated at the waste rock dump to use for composting purposes. Site observations reflected that management of general waste at the Mopetsi Camp is aligned with the <i>Waste Management Strategy</i> for TPM. TPM is also managed by the <i>Waste Management Procedure TWI-MIN-ENV-PRO-004</i>, last revision date 11 March 2024.		
O3.1.2	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during operations.	Implementation of the Storm Water Management Plan	No storm water management measures for the Mopetsi and Serafa camps are included in the <i>Twickenham Platinum Mine Surface Water Specialist Report</i> , dated Noveber 2017, prepared by SRK Consulting. This commitment is not applicable. It should be noted that these areas are considered clean areas; the need for storm water diversion structures for accommodation facilities is not necessary as there will be no significant impact on clean surface water runoff.		
		To ensure that communities and camps have continued access to water that meets drinking water	An inspection and maintenance plan will be implemented to ensure that the camps always operate within specifications.	Refer to discussion under impact reference number O3.1.1 above.		
			The surface water quality monitoring programme has been implemented to detect any impacts.	Refer to discussion under impact reference number O2.1.2 above.		



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		requirements and standards.	All runoff and spills will be collected in a sump from which water will be flow into the pollution control facilities.	The areas at the camps are considered clean water areas and no pollution control facilities are applicable.	N/A
			All chemicals will be stored in a dedicated bunded area, where any spills will be contained.	No chemicals are stored at the Mopetsi or Serafa camp. Therefore, this commitment is not yet applicable.	N/A
			All waste management will be handled as per the Waste Management Plan / Procedure.	Refer to discussion under impact reference number O3.1.1 above.	✓
O3.2	Cultural Heritage				
O3.2.1	Cultural Heritage Resources	To respect the culture and heritage of the people in the area. To avoid disturbance of sites and activities of cultural significance and where not possible to determine mitigation in consultation with local communities.	The mine will ensure that no activities intrude on the area within a radius agreed to by the communities and tribal authorities to allow community access to and privacy within the area identified as cultural significance of the Serafa Spring. The mine will implement an education programme for construction staff and all operations staff to ensure that staff are aware of the respect and cultural significance of the cultural sites. The mine has provided access to the Sounding Stones.	No mining activities intrude on the Serafa Spring area and the surrounding communities have full access to the Serafa Spring. As per communication with TPM officials it is noted that the increased algal growth is not as a result of mining activities since all mining activities have stopped.  Serafa Spring	✓ ✓ ✓
O4	Activity: Operation of linear infrastructure (haul roads, access roads, powerlines and pipelines)				
O4.1	Biophysical				
O4.1.1	Soils, land capability and land use	To minimize spillage from vehicles.	An inspection and maintenance plan will be implemented to ensure that the ore transportation operate within specifications.	TPM personnel confirmed that daily inspections are undertaken on linear infrastructure. Furthermore, maintenance of linear infrastructure is scheduled on SAP.	✓
			No servicing of the haul trucks on site.	TPM indicated that haul trucks are not serviced on site. Site observations did not reveal any concerns in this regard. Refer also to previous discussions regarding TPM currently placed under care and maintenance.	✓



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Regular cleaning and maintenance of drains and storm water control facilities.	No concerns regarding cleaning and maintenance of storm water control facilities, specifically associated with linear activities, were noted.	
			Containment and management of spillage.	An <i>Emergency Preparedness and Response (TWI-MIN-SHE-PRO-0010)</i> refer to condition C2.1.5 above for evidence of this procedure and O.1.1.2 for the <i>Hazardous Materials Management Procedure (TWI-MIN-ENV-STD-0005)</i> have been developed. These procedures include actions to be implemented to prevent pollution resulting from spillages and actions to be implemented during a leak/spill (emergency management plan). No spillages were noted outside bunded areas.	
			Spill kits will be provided on site for ad hoc spill clearing.	Site observations confirmed that spill kits are provided at various areas for <i>ad hoc</i> spill clearing. Furthermore, TPM has developed an <i>Emergency Preparedness and Response (TWI-MIN-SHE-PRO-0010)</i> and a <i>Hazardous Materials Management Procedure (TWI-MIN-ENV-STD-0005)</i> for the clean-up of spillages. Reference to be made to condition O1.1.2 for evidence of spill kits.	
O4.1.2	Surface water	To minimize contamination of water by vehicles.	Drivers (both mine and contractors) will be trained on how to deal with accidents involving ore, concentrate, hydrocarbons and other potential contaminants.	All employees and contractors of TPM are required to undertake a mandatory induction on an annual basis as well as after returning to work from a leave of absence. Further, training is conducted as per the <i>Competence, Training and Awareness Procedure (TWI-MIN-SHE-PRO-0016)</i> . Hydrocarbon spill management is included in the training.	
			Emergency action plans / procedures will be drawn up to deal with spills on the road to minimize the impact on water quality.	An <i>Emergency Preparedness and Response (TWI-MIN-SHE-PRO-0010)</i> and a <i>Hazardous Materials Management Procedure (TWI-MIN-ENV-STD-0005)</i> have been developed.	
			Attenuation of storm flows using energy dissipation measures will be implemented to reduce the risk of erosion of watercourses.	Gabions were installed at the Motse River road crossings to minimise erosion on the banks during heavy rainfall events. Culverts were installed at the Concentrator plant access road to also minimise the risk of erosion. No issues regarding erosion was noted at any of the rover road corssings during this audit period.  Motse River tributary crossing	
			A water monitoring plan in the IWWMP is implemented downstream of all watercourse crossings to detect any impacts.	From a review of the <i>Twickenham Mine & Occupational Hygiene Water Quality Monitoring Report April 2025</i>, compiled by Aquatico and the <i>Anglo American Platinum: Rustenburg Platinum Mines Twickenham Integrated Water and Waste Management Plan Update 2024/2025</i>, now known as Valterra Platinum, (Section 5.7 of the 2025 IWWMP) compiled by EnviroGistics, it was noted that monitoring is implemented downstream of watercourse crossings. Refer to the image below for reference.  Monitoring boreholes (Red - Not sampled, Blue – Sampled) downstream of river crossing	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
O4.1.3	Air Quality	To reduce the emissions from the road network by approximately 50% by reducing the silt loading of the road.	Maintenance of the new tarred road.	The main road between Hackney Shaft and Twickenham Shaft is a tarred road. The road is not well maintained with a number of potholes noted. According to TPM personnel the road between Mopetsi and Twickenham shaft has been handed over to the Local Municipality. The operation no longer has jurisdiction over the road.	N/A
			Speed limits as stipulated for safely management will be enforced with an additional objective of managing the generation of dust along the main access road.	Site observations confirmed that the main access road is tarred thus limiting dust. However, signs are placed along the road warning vehicles of the speed limits.	✓
		To respond with corrective action to public complaints about dust related health and nuisance impacts.	A traffic control plan will be undertaken to further assess and quantify the impacts of increased traffic volumes during mining operations.	A Traffic Impact Study was compiled by Aurecon dated September 2012. The impact of increased traffic within the vicinity of the mining area was assessed and quantified within this study. Refer also to previous discussions regarding TPM having been placed under care and maintenance. Therefore, no traffic congestion is expected as limited activities are currently being undertaken at TPM. Further to this a <i>Site Traffic and Journey Management Plan TWI-EPR-ENG-PRO-2846</i> last revised 02 August 2022, was provided to the auditor and is implemented on the mine to provide guidelines and eliminate the hazards and risks associated with travelling / movements on site and assist Twickenham Min in meeting the requirements of the Mines Health and Safety Act and Regulations.	✓
O4.1.4	Noise	To prevent or minimize adverse impacts arising from vehicles.	Regular servicing and maintenance of vehicles.	The maintenance of all mine vehicles, machinery and equipment is conducted on site at the respective workshops. The servicing schedule and job cards for the maintenance of machinery and equipment were cited during the audit process. All maintenance is scheduled on SAP.	✓
			A traffic control plan will be undertaken to further assess and quantify the impacts of increased traffic volumes during mining operations.	Reference may be made to condition O4.1.3.	✓
			Maintenance of the new tarred road.	The main road between Hackney Shaft and Twickenham Shaft is a tarred road. The road is not well maintained with a number of potholes noted. According to TPM personnel the road between Mopetsi and Twickenham shaft has been handed over to the Local Municipality. The operation no longer has jurisdiction over the road.	N/A
O.5	Activity: Operations of the Tailings Storage Facility and Associated Infrastructure (Return Water Dam and Pipeline Servitude)				
O5.1	Biophysical				
O5.1.1	Soils, land capability and land use	To prevent and minimize soil contamination.	Monitoring will be implemented downstream of all pipeline watercourse crossings to detect any impacts.	Construction of the TSF and associated infrastructure is yet to commence. These commitments are not yet applicable.	N/A
			A leak/spill procedure will be devised and implemented for all possible areas of leak/spillage.		N/A
			An inspection and maintenance plan will be implemented to ensure that the Tailings Storage Facility and pipelines always operate within specifications.		N/A
			Storm water containment is planned for the Tailings Storage Facility as per the Storm Water Management Plan in the IWWMP.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Continuous rehabilitation on tailings walls during operation.		N/A
O5.1.3	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during operations	Monitoring will be implemented downstream of all pipeline watercourse crossings to detect any impacts.	Construction of the TSF and associated infrastructure is yet to commence. These commitments are not yet applicable.	N/A
			A leak/spill detection procedure will be devised and implemented for all possible areas of leak/spillage.		N/A
			An inspection and maintenance plan will be implemented to ensure that the Tailings Storage Facility and pipelines always operate within specifications.		N/A
			Storm water containment is planned for the Tailings Storage Facility as per the Storm Water Management Plan in the IWWMP.		N/A
			Continuous rehabilitation on tailings walls during operation.		N/A
O5.1.4	Ground Water	To minimize the impact of loss of resources on the communities.	Monitoring of water levels in monitoring boreholes as per the groundwater monitoring programme.	Construction of the TSF and associated infrastructure is yet to commence. These commitments are not yet applicable.	N/A
		To ensure that communities have continued access to water to meet the requirements of households in the pre-mining environment.	Should the groundwater monitoring programme indicate that groundwater resources have been affected by dewatering, temporary/ alternative supply of water will be made available to the identified current water users.		N/A
			A leak/spill procedure will be devised and implemented for all possible areas of leak/spillage		N/A
O5.1.5	Ground Water	To minimize/ prevent contamination of water resources	The tailings dam will be designed to contain a 1:50 year storm event and 800 mm freeboard and operation of the tailings dam will be in accordance with the Mandatory Code of Practice.	Construction of the TSF and associated infrastructure is yet to commence. These commitments are not yet applicable.	N/A
			In situ compaction of clay materials found on the tailings dam site will be undertaken to minimize the potential for seepage from the tailings dam.		N/A
			Monitoring of monitoring boreholes on a quarterly basis.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Should the monitoring programme indicate that groundwater quality is affected, temporary/ alternative water supplies for identified current water users will be assessed.		N/A
O5.1.6	Air Quality	To minimize the amount of dry material susceptible to wind erosion.	Vegetation of the sides of the tailings dam wall to reduce surface erosion.	Construction of the TSF and associated infrastructure is yet to commence. This commitment is not yet applicable.	N/A
		To minimize the entrainment potential of dust.	A dust monitoring programme is in place.		N/A
		To respond with corrective action to public complaints about dust related health and nuisance impacts.		Construction of the TSF and associated infrastructure is yet to commence. These commitments are not yet applicable.	N/A
			Dust suppression will be undertaken of the service roads.		N/A
O5.1.7	Visual	To minimize the visual impact of the Tailings Storage Facility.	Rehabilitation and vegetation of tailings walls according to the Tailings Rehabilitation/ Maintenance Plan.	Construction of the TSF and associated infrastructure is yet to commence. This commitment is not yet applicable.	N/A
O6	Activity: Operations of the Concentrator Plant				
O6.1	Biophysical				
O6.1.1	Soils, land capability and land use.	To prevent and minimize soil contamination.	Monitoring will be implemented downstream of all watercourses to identify impacts.	Construction of the Concentrator Plant is not yet complete and ceased after the construction of the pads and terraces. These commitments are not yet applicable.	N/A
			A leak/spill detection plan will be devised and implemented for all possible areas of leak/spillage.		N/A
			An inspection and maintenance plan will be implemented to ensure that the Concentrator Plant always operates within specifications.		N/A
			Storm water containment is planned for the Concentrator as per the Storm Water Management Plan in the IWWMP		N/A
O6.1.2	Surface Water	To avoid or where not possible, minimize and remedy pollution of water during operations.	Monitoring will be implemented downstream of all watercourses to identify impacts.	Construction of the Concentrator Plant is not yet complete and ceased after the construction of the pads and terraces. These commitments are not yet applicable.	N/A
		To ensure that communities have continued access to	An inspection and maintenance plan will be implemented to ensure that the Concentrator Plant operates within specifications.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
		water to meet the requirements of households in the pre-mining environment.	Storm water containment is planned for the Concentrator Plant as per the Storm Water Management Plan in the IWWMP.		
O6.1.3	Noise	To prevent or minimize adverse impacts arising from operations. To respond with corrective action to public complaints about noise.	Undertake regular maintenance and servicing of equipment to reduce noise levels.	Construction of the Concentrator Plant is not yet complete and ceased after the construction of the pads and terraces. These commitments are not yet applicable.	
			Noise and vibration monitors are placed at strategic points around the existing infrastructure and underground operations at TPM. These are managed by an independent noise and vibration specialist.		
			Monitoring reports are sent to the mine on a monthly basis.		
			Maintenance of the noise dissipation barrier (berm or tree) between the Concentrator Plant and affected communities.		
O6.1.4	Visual	To minimize the visual impact of the Concentrator Plant.	Maintenance of the noise, visual and dust dissipation barrier (berm or tree) between the Concentrator Plant and affected community	Construction of the Concentrator Plant is not yet complete and ceased after the construction of the pads and terraces. This commitment is not yet applicable.	
D1	Activity: Decommissioning and Closure of Twickenham Platinum Mine				
D1.1	Biophysical				
D1.1.1	Soils, land capability and land use	To prevent and minimize soil contamination.	Compilation/ update of a detailed Closure Management Plan.	A decomissioning, rehabilitation and closure plan was compiled for TPM by WSP in December 2024. A report, <i>Anglo American Platinum Limited Preliminary Rehabilitation, Decommissioning and Mine Closure Plan for Twickenham Complex</i> , now known as Valterra Platinum, dated December 2024.	



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
					2024 Preliminary Rehabilitation, Decommissioning and Mine Closure Plan
			Contaminated soils will be remediated or removed off site where required.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. These commitments are not yet applicable.	N/A
			The demolition or removal of infrastructure.		N/A
			Rehabilitation and vegetation of tailings walls.		N/A
D1.1.2	Groundwater	To minimise contamination of groundwater resources.	Identify or delineate diffuse sources and remediate where possible.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. These commitments are not yet applicable.	N/A
			Compilation/ update of a detailed Closure Management Plan.		N/A
			The demolition or removal of infrastructure.		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Post closure groundwater and surface water monitoring.		N/A
D1.1.3	Groundwater	To avoid or where not possible, minimize and remedy pollution of water during decommissioning and closure. To ensure that communities have continued access to water to meet the requirement of households in the pre-mining environment.	Backfill and sealing of shaft complex.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. These commitments are not yet applicable.	N/A
			Prior to closure, plans will be implemented to address issues of ARD and decant from the mine workings.		N/A
			The groundwater monitoring programme (water quality) will continue during decommissioning and post closure until it can be demonstrated that the potential for ARD generation is low.		N/A
D1.1.4	Air Quality	To minimize the amount of dry material susceptible to wind erosion.	Rehabilitation and revegetation of infrastructure areas post-demolition and removal.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. These commitments are not yet applicable.	N/A
			Regular inspection of vegetation establishment.		N/A
			Compilation/ update of a detailed Closure Management Plan.	Reference may be made to condition D1.1.1 for compliance to this condition.	✓
			Post-closure dust monitoring	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. This commitment is not yet applicable.	N/A
D1.1.5	Air Quality	To minimize the entrainment potential of dust. To respond with corrective action to public complaints about dust related health and nuisance impacts.	Capture all complaints.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. This commitment is not yet applicable.	N/A
D1.1.6	Noise	To minimize noise pollution	Demolition activities will be confined to daylight hours	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. These commitments are not yet applicable.	N/A
			A noise monitoring programme will be implemented prior to demolition		N/A



EMPr Ref	Aspect	Management Objectives	Management Measure	Compliance review and rating	
			Demolition vehicles and machinery will be serviced at regular intervals to minimize noise generation.		
D1.2	Socio-Economic				
D1.2.1	Socio-Economic	To minimize the reversal of benefits that have accrued through the life of mine	The mine will commission a socio-economic investigation of the impact of mine closure at least 15 years in advance of the event to estimate short term, medium term and long terms impacts of mine closure. The recommendations of the study will be implemented.	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. This commitment is not yet applicable.	
			The socio-economic investigation will consider: • Number of employees to be retrenched; • Number of employees and methods of absorption into other enterprises; • Spin off industries that will be affected; • Impacts on the economy; • Social impacts; Mitigations measures	TPM is currently in the operational phase (under care and maintenance). Decommissioning and closure have not yet commenced. TPM is aware of and understands this commitment.	

6.2. Pashaskraal and De Kamp amendment to the Twickenham Platinum Mine Environmental Management Programme, dated September 2013 (DMR reference number: LP30/5/1/2/2/89 (MR))

Aspect	Impacts	Management Measure	Compliance review and rating	
Pashaskraal Mining Operations: Management Measures for the Construction Phase				
Activity: Infrastructure Construction – Ventilation Shafts, Access Portal and Conveyor Route				
Biophysical				
Biodiversity	Loss and fragmentation of important habitats	The Mine will ensure that there is adequate in situ conservation of all habitat types within the vicinity of the mine by fencing of areas representative of these habitats. These areas will be identified in collaboration with a recognised taxonomist or ecologist for this region, and a representative from DEA.	The Pashaskraal and De Kamp projects have not yet commenced hence no activities have commenced. These conditions are currently not applicable.	
		Subject to the lead of the provincial authorities, the Mine will, in consultation with the communities and relevant authorities, consider methods of supporting the conservation habitats containing red data, endemic, vulnerable and threatened plant species.		
Biodiversity	Loss of plant diversity (important plant populations)	The surface infrastructure layout will be revised where possible to avoid the damage or loss of plants that cannot be translocated.	The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.	
		A recognised ecologist/taxonomist will survey the marked-out surface infrastructure in detail prior to clearing to identify plants (numbers and location) ahead of clearing for purposes of the permit applications.		
		The necessary permits will be obtained before any clearing of the site takes place.		



Aspect	Impacts	Management Measure	Compliance review and rating
		Plants that are to be translocated for conservation purposes will be removed under the guidance of a recognised taxonomist/ecologist and planted in a conservation area of similar habitat.	
		Plants that are to be removed for rehabilitation purposes will be removed and replanted in a nursery under the guidance of a recognised landscaper. The mine will be responsible for the operation of the nursery until such time as rehabilitation has been completed.	
		Extensive use of environmental and ecology societies will be used, such as Operation Wildflower to assist with the removal of plants for conservation purposes.	
		Communities will be given due notice prior to site clearing to clear plants of value to the communities such as trees and bushes for wood, medicinal plants and fruit bearing plants.	
		Rehabilitation will take place as per principles	
Biodiversity	Risk of losing unknown biodiversity	An early summer survey was conducted by Mr Pieter Winter during November 2001.	
		Findings from the summer survey will be addressed in a similar manner to commitments.	
Water	Temporary loss of use of surface water resources due to increased erosion and silt loading during construction	Clean water diversions will be constructed in accordance with Regulation 704 prior to clearing areas for new infrastructure.	
		Dirty water that is generated will be contained and settlement will be allowed to take place.	
		Construction contracts will include specifications which make contractors aware of the necessity to prevent spillages by the implementation of good housekeeping practices	
		Contractors will be liable for environmental damages caused by spillages.	
		Clearing of vegetation will be limited to the minimum area safe for construction and operation.	
		Areas disturbed by construction activities will be rehabilitated immediately on completion of construction of each area.	
Water	Increased potential for flooding and damage to infrastructure and loss of life as a result	Stormwater for road drainage will be designed in accordance with the National Transport Commission "Road Drainage Manual" and "Guidelines for Engineering Services and amenities".	
		Stormwater runoff will be handled on surface and directed towards natural watercourses.	
		Stormwater culverts will be designed and constructed to accommodate the 1:20 year storm event.	
		Regular maintenance of surface water management infrastructure will take place and silt build ups removed.	
		Energy dissipaters will be constructed at points where there are concentrated discharges of water to the environment that could cause significant erosion and within water channels to slow the speed of water and (for example in the storm water drains around the tailings dam).	
Noise	Disturbance due to increased ambient	Construction activities generating output levels of 85 dBA or more in built up areas, will be confined to the hours of 08h00 to 17h00 Mondays to Fridays. Built up areas will be	

N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating
	noise levels during construction	defined as areas within an audible distance of residents whether urban, peri-urban or rural. Road construction and blasting activities will be limited to daylight hours. The scheduling of particularly noisy activities will be negotiated with communities if these will take place within proximity of households. Communities will be warned in advance of imminent noisy events including procedures and schedules for these events Regular maintenance of equipment and vehicles will be undertaken. A noise monitoring programme will be implemented prior to construction to establish a baseline and will continue to be implemented.	
Air Quality	Increased generation of dust during construction affecting the health of communities	The area cleared for construction will be limited to the minimum area safe for construction and operation activities. Areas of linear infrastructure (e.g. roads and conveyor servitude) will be cleared, constructed and rehabilitated progressively to minimise the exposure of cleared areas. Dust suppression will be undertaken using raw water or commercial dust suppressants. A strict speed of 40 km per hour will be enforced during the construction phase. The objective of this measure would be to reduce emissions by 20% from unpaved roads which are a significant source during this phase of the development. A dust monitoring programme will be implemented to monitor the impacts from dust. General dust management and housekeeping protocols Mine employees will be encouraged to access the mine site using the main access road and other roads developed for the mine rather than existing surrounding gravel roads. Temporary ore stockpiles will be watered with waste or raw water to minimise the generation of dust. A spill contingency and management plan will be drawn up to manage possible spillages of ore from the overland conveyor system. Housekeeping procedures with respect to dust control in operational areas will be implemented to reduce fugitive dust emissions. A dust complaint register will be developed to manage complaints relating to impacts on the communities. Protocols for all complaints registers.	
Soils, capability and land use	Loss of soil resources due to surface disturbance during construction and operation	Soil for the purpose of rehabilitation will be stripped from cleared areas that can be rehabilitated soon after construction activities have been completed. This soil will be stockpiled and stored using the following conservation principles: Usable soil will be stripped and stored with as little compaction as possible; Stockpile areas will have their soil stripped to conserve the seed bank;	N/A N/A N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating
		Single handling will be practised where possible;	N/A
		Stockpiles that are likely to remain undisturbed for 12 months or more will be revegetated;	N/A
		Usable soil will be respread with as little compaction as possible;	N/A
		Land to which soil has been applied will be revegetated.	N/A
Soils, capability and land use	Increased soil erosion as a result of construction and operation activities	A minimum area will be cleared that is safe for construction and operation activities.	N/A
		Vegetation will be re-established timeously to stabilise cleared sites and prevent erosion. Rehabilitation will be progressive throughout the life of mine and will commence as soon as the disturbing activity has ceased.	N/A
		Roads that are to be constructed as part of the mine will be constructed to minimise erosion. Storm water management commitments.	N/A
Vibration and blasting	Damage to buildings and life as a result of blasting vibration	When the mining gets close to the 500 m distance from a development, then a house survey will be undertaken to assess the condition of these structures. Similarly water reservoirs and other structures will also be assessed as part of this survey.	N/A
		A suitable blast design will be developed taking account of the various conditions on site. This will include direction of mining, blasting of stopes or tunnels or other infrastructure, geological structure and buildings and structures on surface.	N/A
		The code of practice for blast design will be submitted to the DMPR for approval. Once approval has been granted then relevant meetings will be set up with the community to inform them of the proposed activities and programme of activities.	N/A
		A suitable blast monitoring system will be instituted, together with benchmarking of the blast design. For a specific blast design, the blast monitoring will take place on six monthly intervals.	N/A
		If further surveys of buildings and structures are required, then these will be implemented.	N/A
The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMP could not be assessed.			



Aspect	Impacts	Management Measure	Compliance review and rating
		Complaints with respect to cracking and damage to structures will be registered via the complaints register. Negotiations and compensation for damage will be undertaken in agreement with the affected party.	N/A
		Where there is blasting within 500 m residences will be temporarily vacated.	N/A
		The relevant safety precautions relating to blasting will be implemented as per the Mine Health and Safety Act including the sounding of warning sirens.	N/A
Socio-economic	Loss of livelihoods as a result of land take	The mine will identify in consultation with the affected parties replacement land outside the project area before construction starts.	N/A
		Land will be identified on the basis of: proximity to households and field for field compensation or improved quality of available land.	N/A
		The mine will facilitate opportunities for the commercialisation of livestock production.	N/A
		Management commitments for the loss of land bearing fruits and medicinal plants	N/A
Socio-economic	Disruption of social networks and access	The location of underpasses/overpasses to allow for east-west access over the surface conveyor routes will be identified in consultation with the communities to ensure that existing paths and access routes are maintained.	N/A
		In conjunction with the communities the number of underpasses/overpasses will be determined to manage east-west access over the surface conveyor servitude.	N/A
		Where access paths are removed completely e.g. those affected by the tailings dam, the mine will provide access routes between the affected communities and activities based on the following principles:	N/A
		Consultation with the affected communities;	N/A
		Shortest possible alternative routes;	N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating
		Accessibility to vehicular traffic, elderly people and animals;	N/A
		Routes will be graded before construction of mine infrastructure is started;	N/A
		Routes will be aligned to be least disruptive to community activities;	N/A
		Routes will avoid as far as possible land take of land of agricultural potential.	N/A
Socio-economic	Cumulative impacts to the Eastern Limb due to development in the region	Pashaskraal will participate and contribute to a government lead initiative to address the cumulative impacts of development of the Eastern Limb.	N/A
		Pashaskraal operation will facilitate the recruitment of local labour by implementing the following:	N/A
		The mine will commission a skills assessment of the local community to maximise opportunities for local residents.	N/A
		A local employment policy will be developed in a transparent process of consultation with representatives from the communities, tribal authorities, local authorities and the mine.	N/A
Socio-economic	Improved economic and job opportunities	A representative recruitment office will be established to facilitate employment of local labour.	N/A
		Criteria for awarding contractors will favour contractors who maximise local employment.	N/A
		Equitable distribution of jobs across the villages on the farms affected by surface infrastructure will be emphasised.	N/A
		The duration of jobs will be made clear in the recruitment process to avoid creating undue expectations.	N/A



Aspect	Impacts	Management Measure	Compliance review and rating
Socio-economic	Increased influences for power struggles and conflict	A transparent and democratically elected forum including the mine, tribal authorities, local authorities and other parties will be constituted for the purposes of discussing resettlement and land take issues and other benefits that may accrue from the project	N/A
Socio-economic	Disruption of community life during construction and operation	The mine will implement management commitments with respect to noise, dust, safety, blasting and vibrations and other activities as documented in this chapter.	N/A
Socio-economic	Loss of land and resources due to sterilisation of land	Management commitments for the resettlement of households and land take of agricultural land.	N/A
		The Mine will as part of the integrated development plan, negotiate corrective actions with the affected communities with respect to the loss of land and resources.	N/A
		The mine will confirm mineral rights ownership on Mecklenburg and Waterkop farms before construction of the mine to obtain agreement from the relevant parties with respect to the sterilisation of mineral resources on those farms	N/A
Socio-economic	Pressure on resources, infrastructure and services and the introduction of social pathologies due to influx of people into the area	The Mine will support tribal authorities in controlling influx of people into the area by:	N/A
		Adhering to policies which will facilitate the recruitment of local labour;	N/A
		Notifying the tribal authorities and local authorities of incidence of squatting on the surface lease area or in the vicinity and assisting in the removals of squatters;	N/A
		Encouraging and facilitating the provision of off-site housing of “non-local employees”;	N/A
		The Mine will implement an HIV/AIDS awareness campaign targeting construction workers, employees and surrounding communities.	N/A
		The campaign will be supported with the ongoing distribution of condoms to the above parties.	N/A
		The Mine will support and facilitate community policing forums	N/A

Archaeological and Cultural Heritage



Aspect	Impacts	Management Measure	Compliance review and rating
Archaeology	Disturbance of MSA and LSA stone tools Disturbance of graves and cemeteries	None required	N/A
		Pashaskraal will undertake the following:	N/A
		Where it is possible the location of surface infrastructure will be altered to avoid the disturbance of graves.	N/A
		At present the significance of cairns found on site is undetermined. Further work will be undertaken by the mine to determine their significance and mitigation measures will be implemented.	N/A
		Where it is necessary to exhume and re-inter graves the mine will apply for the necessary permissions	N/A
		The mine will adhere to the requirements as laid out in the Human Tissues Act (No 65 of 1983) and the National Heritage Resources Act (No 25 of 1999).	N/A
		Due respect will be given to the customs and beliefs of the affected relatives, and where requested exhumations will be conducted in the presence of the relatives or community representatives.	N/A
		Exhumations under the Human Tissues Act will be conducted under the supervision of an undertaker or specialist	N/A
		Exhumations conducted under the National Heritage Resources Act will be conducted under the supervision of an archaeologist.	N/A
Archaeology	Disturbance of graves and cemeteries	Pashaskraal will undertake the following:	N/A
		Where it is possible the location of surface infrastructure will be altered to avoid the disturbance of graves.	N/A
		At present the significance of cairns found on site is undetermined. Further work will be undertaken by the mine to determine their significance and mitigation measures will be implemented.	N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating		
		Where it is necessary to exhume and re-inter graves the mine will apply for the necessary permissions		N/A	
		The mine will adhere to the requirements as laid out in the Human Tissues Act (No 65 of 1983) and the National Heritage Resources Act (No 25 of 1999).		N/A	
		Due respect will be given to the customs and beliefs of the affected relatives, and where requested exhumations will be conducted in the presence of the relatives or community representatives.		N/A	
		Exhumations under the Human Tissues Act will be conducted under the supervision of an undertaker or specialist		N/A	
		Exhumations conducted under the National Heritage Resources Act will be conducted under the supervision of an archaeologist.		N/A	
Archaeology	Disturbance and loss of areas of cultural heritage	Pashaskraal will implement the following commitments:		N/A	
		The mine will enter into negotiations with the headman of Ga- Mampa and the head of the initiation school prior to bulk sampling and construction with respect to the possibility of relocating future initiation schools at the Pashaskraal shaft area.		N/A	
		The mine will implement an education programme for construction staff and all operations staff to ensure that staff are aware of and respect the cultural significance of the cultural sites.		N/A	
Operational Phase					
Activity: Underground Mining at Pashaskraal					
Biodiversity	Loss or disturbance of fauna populations and their migration paths.	None required.	The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.	N/A	
Water	Loss of community access to ground water resources due to dewatering of the aquifer system	Monitoring of water levels in surrounding boreholes will form part of a greater Pashaskraal groundwater monitoring programme. Principles for a such a monitoring programme.	The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.	N/A	
		Every effort will be made to avoid mining through the linear fracture zones by, for example, avoiding the water bearing fracture zones to a depth of 120 m.		N/A	
		Pashaskraal will take measures to ensure that the maximum volume of water that pumped from the shafts is: 630m³/d for the Pashaskraal shaft and Serafa hill mining complex		N/A	



Aspect	Impacts	Management Measure	Compliance review and rating
		An alternative supply of water will be made available to the affected communities should pumping exceed the maximum allowable limits, and the ground water monitoring programme indicates that ground water resources have been affected by dewatering	N/A
Water	Reduced water quality and “fitness for human consumption” relating to contamination from diffuse sources	Waste rock dumps and the solid waste disposal site will be positioned to avoid being located on water bearing lineaments.	N/A
		TPM will develop and adhere to a waste management protocol which will be developed by mine management. The principles of such a protocol are outlined in Section 6.14.	N/A
		Surface water runoff will be diverted around waste rock dumps and the waste disposal site.	N/A
		The potential for ARD generation from the waste rock and tailings dam will be investigated. The results will be submitted to the DMPR, and the recommendations will become management commitments.	N/A
		The potential for leachate from the waste rock dumps will be assessed and appropriate management measures implemented to minimise seepage.	N/A
		Monitoring of water quality in boreholes down grade of diffuse sources (tailings dam, waste rock dumps and waste disposal site) will form part of a greater Pashaskraal ground water monitoring programme. Principles for such a monitoring programme are detailed in Section 6.11.	N/A
		Should the monitoring programme indicate that ground water quality has been affected, an alternative water supply will be provided to the affected communities.	N/A
		The tailings dam will be designed to contain a 1:50 year storm event and 800 mm freeboard (Regulation 704).	N/A
		Operation of the tailings dam will be in accordance with the Mandatory Code of Practice (DMPR 16/3/2/5-A1).	N/A
		Management procedures will be established and implemented to ensure pollution prevention continues after closure of the mine.	N/A
		In situ compaction of clay materials found on the tailings dam site will be undertaken to minimise the potential for seepage from the tailings dam.	N/A



Aspect	Impacts	Management Measure	Compliance review and rating
Water	Loss of ground water resources due to contamination from ARD following the flooding of the mine workings	Neutral rock will be used to backfill the void.	N/A
		The ARD potential of waste rock and the potential for surface water and ground water contamination will be confirmed prior to construction.	N/A
		Prior to closure, plans will be implemented to address issues of ARD and decant from the mine workings after closure of the mine.	N/A
		The ground water monitoring programme (water quality) will continue during decommissioning and post closure until it can be demonstrated that the potential for ARD generation is low.	N/A
Water	Contamination of storm water and surface water	Surface Conveyors	The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.
		The belt design will be such that spillages from the belt will be minimised.	
		Drivers (mine and contractors) will be trained on how to deal with accidents involving ore, concentrate, hydrocarbons and other potential contaminants.	
		Emergency action plans will be drawn up to deal with spillages on the roads (mine and off site).	
		Storm flows will be attenuated using catch pits and energy dissipation to reduce the risk of erosion of water courses.	
		Roads	The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed. As such, a "Not Applicable" is recorded for these conditions.
		Drivers (both mine and contractors) will be trained on how to deal with accidents involving ore, concentrate, hydrocarbons and other potential contaminants.	
		Emergency action plans will be drawn up to deal with spills on the road to minimise the impact on water quality.	
		Attenuation of storm flows using catch pits and energy dissipation will be implemented to reduce the risk of erosion of watercourses.	
Water	Loss of ground water and surface water resources due to contamination and	The design of the plant area will include bunding and concreting to ensure that spillages are contained within the bunded area.	N/A



Aspect	Impacts	Management Measure	Compliance review and rating
	increased salinity from accidental point source discharges	Spillages within the reagent area will be pumped back to the tank or disposed of to the tailings dump.	N/A
		Spillages within the make-up areas will be pumped to the final tails disposal chamber and then to the tailings dam.	N/A
		Ore stockpile pads will be prepared from compacted earth to minimise seepage. These pads will have collection drains to separate clean and dirty water.	N/A
		Ore stockpiles will be managed to minimise the tonnages and permanence of stockpiles for economic reasons to minimise the potential for oxidization.	N/A
		Storm water containment will be planned and constructed for the processing plant and all other infrastructure units.	N/A
		Monitoring of water quality in boreholes down grade of the plant area and of surface water.	N/A
		A leak/spill detection plan will be devised and implemented for all possible areas of leak/spillage (specifically the shafts and concentrator plant).	N/A
		The mine will implement an emergency management plan to clear up any spillages that occur outside of bunded areas.	N/A
Water	Increased potential for flooding and damage to infrastructure and loss of life as a result.	Stormwater for road drainage will be designed in accordance with the National Transport Commission “Road Drainage Manual” and “Guidelines for Engineering Services and amenities”.	N/A
		Stormwater runoff will be handled on surface and directed towards natural watercourses.	N/A
		Stormwater culverts will be designed and constructed to accommodate the 1:20 year storm event.	N/A
		Regular maintenance of surface water management infrastructure will take place and silt build ups removed.	N/A



Aspect	Impacts	Management Measure	Compliance review and rating
		Energy dissipaters will be constructed at points where there are concentrated discharges of water to the environment that could cause significant erosion and within water channels to slow the speed of water and (for example in the storm water drains around the tailings dam).	N/A
Noise	Disturbance to communities due to increased ambient noise levels during operation during the day and night	The mine will fully enclose all major noise sources in purpose designed industrial buildings.	N/A
		Measures will be taken to silence ventilation fan exhausts and intakes.	N/A
		Noise from the surface conveyor system will be reduced using specially machined idlers as necessary.	N/A
		Vehicles will be maintained in good condition.	N/A
		Construction activities generating output levels of 85 dBA or more in built up areas, will be confined to the hours of 08h00 to 17h00 Mondays to Fridays.	N/A
		Where it is impossible to mitigate future ambient noise levels to below a change in 7dB, affected communities will be consulted to determine mitigation measures.	N/A
		Ambient noise levels will be monitored.	N/A
		The mine will fully enclose all major noise sources in purpose designed industrial buildings.	N/A
		The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.	
Soils, land and capability land use	Loss of soil resources due to surface disturbance during construction and operation	Soil for the purpose of rehabilitation will be stripped from cleared areas that can be rehabilitated soon after construction activities have been completed. This soil will be stockpiled and stored using the following conservation principles:	N/A
		Usable soil will be stripped and stored with as little compaction as possible;	N/A
		Stockpile areas will have their soil stripped to conserve the seed bank;	N/A
The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.			



Aspect	Impacts	Management Measure	Compliance review and rating
		Single handling will be practised where possible;	N/A
		Stockpiles that are likely to remain undisturbed for 12 months of more will be revegetated;	N/A
		Usable soil will be respread will as little compaction as possible;	N/A
		Land to which soil has been applied will be revegetated.	N/A
Soils, capability land use	Increased soil erosion as a result of construction and operation activities	A minimum area will be cleared that is safe for construction and operation activities.	N/A
		Vegetation will be re-established timeously to stabilise cleared sites and prevent erosion. Rehabilitation will be progressive throughout the life of mine and will commence as soon as the disturbing activity has ceased.	N/A
		Roads that are to be constructed as part of the mine will be constructed to minimise erosion. Storm water management commitments.	N/A
Vibration blasting	Damage to property and life due to surface subsidence related to shallow undermining	When the mining approaches the residential areas where there is shallow undermining, then Pashaskraal will undertake a detailed design of the long-term pillars and spans for the particular site. The pillar and span design will be such that no long-term settlements will take place, which will cause damage to any property. At the same time a detailed assessment will be made of the condition of the various houses and structures that may be affected in the design area. These structures will be taken account of in the shallow undermining design.	N/A
		The code of practice for the mine design will be submitted to the DMPR for their approval. Once the approval has been obtained, then relevant meetings will be held with the community advising then of the programme of activities and the consequences of these activities.	N/A
		During mining the effects of mining will be monitored as a check for the design on a six-monthly basis.	N/A
		A further survey of the houses and structures will be done and remedial action will be taken if required	N/A
Social			



Aspect	Impacts	Management Measure	Compliance review and rating
Socio-economic	Disruption of social networks and access	The location of underpasses/overpasses to allow for east-west access over the surface conveyor routes will be identified in consultation with the communities to ensure that existing paths and access routes are maintained.	N/A
		In conjunction with the communities the number of underpasses/overpasses will be determined to manage east-west access over the surface conveyor servitude.	N/A
		Where access paths are removed completely e.g. those affected by the tailings dam, the mine will provide access routes between the affected communities and activities based on the following principles:	N/A
		Consultation with the affected communities;	N/A
		Shortest possible alternative routes;	N/A
		Accessibility to vehicular traffic, elderly people and animals;	N/A
		Routes will be graded before construction of mine infrastructure is started;	N/A
		Routes will be aligned to be least disruptive to community activities;	N/A
		Routes will avoid as far as possible land take of land of agricultural potential.	N/A
Socio-economic	Disruptions to “sense of place” experienced by residents	Visual barriers such as soil berms or vegetation berms will be constructed to mitigate the view of the mine in consultation with the affected parties. These berms will be located in consultation with the affected communities or households and will be constructed during the operation phase of the mine once the impact has been defined.	N/A
		Management commitments relating to noise, dust, safety, blasting vibrations, awareness and training of labour, and rehabilitation will be implemented to assist in the mitigation of changes to sense of place.	N/A
Socio-economic	Safety hazards in relation to construction and operation activities	The mine will implement the standard safety measures as stipulated in the Mine, Health and Safety Act.	N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating
		Community access to construction and operation areas will be strictly controlled using fencing/warning tape and warning signs.	N/A
		The mine will implement an ongoing safety education programme at schools, church groups and at large community meetings.	N/A
		All mine employees and contractors will be briefed about appropriate road safety measures.	N/A
		Appropriate road signage will be erected along the length of all access, maintenance and haulage roads.	N/A
		The mine will enforce traffic control measures including speed bumps and the reduction of vehicle speeds to a maximum of 30 kph along all roads on or providing access to the mine.	N/A
		Penalties and disciplinary actions will be imposed on employees and contractors for non-compliance with safety measures.	N/A
		The mine will fence all permanent surface infrastructure for safety reasons, however gates will be provided in consultation with the communities to ensure that access across the site is maintained.	N/A
Socio-economic	Cumulative impacts to the Eastern Limb due to development in the region	Pashaskraal will participate and contribute to a government lead initiative to address the cumulative impacts of development of the Eastern Limb.	N/A
Socio-economic	Improved economic and job opportunities	Pashaskraal will facilitate the recruitment of local labour by implementing the following:	N/A
		The mine will commission a skills assessment of the local community to maximise opportunities for local residents.	N/A
		A local employment policy will be developed in a transparent process of consultation with representatives from the communities, tribal authorities, local authorities and the mine.	N/A
		A representative recruitment office will be established to facilitate employment of local labour.	N/A



Aspect	Impacts	Management Measure	Compliance review and rating
		Criteria for awarding contractors will favour contractors who maximise local employment.	N/A
		Equitable distribution of jobs across the villages on the farms affected by surface infrastructure will be emphasised.	N/A
		The duration of jobs will be made clear in the recruitment process to avoid creating undue expectations.	N/A
Socio-economic	Increased influences for power struggles and conflict	A transparent and democratically elected forum including the mine, tribal authorities, local authorities and other parties will be constituted for the purposes of discussing resettlement and land take issues and other benefits that may accrue from the project.	N/A
	Disruption of community life during construction and operation	The mine will implement management commitments with respect to noise, dust, safety, blasting and vibrations and other activities as documented in this chapter.	N/A

Pashaskraal Mining Operations: Management Measures for Decommissioning and Closure

Activity: Removal and Rehabilitation of Shaft Infrastructure and Conveyor Route

Social

Socio-economic	Sustainability of livelihoods at mine closure	The mine will commission a socio-economic investigation of the impact of mine closure at least 15 years in advance of the event to estimate short term, medium term and long terms impacts of mine closure. The recommendations of the study will be implemented.	N/A
		The socio-economic investigation will consider:	N/A
		Number of employees to be retrenched;	N/A
		Number of employees and methods of absorption into other enterprises;	N/A
		Spin off industries that will be affected;	N/A
		Impacts on the economy;	N/A

The Pashaskraal and De Kamp projects have not yet commenced. Compliance to the commitments of this EMPr could not be assessed.



Aspect	Impacts	Management Measure	Compliance review and rating
Socio-economic		Social impacts;	N/A
		Mine closure will be considered as part of a strategy to address cumulative regional impacts.	N/A
	Increased influences for power struggles and conflict	A transparent and democratically elected forum including the mine, tribal authorities, local authorities and other parties will be constituted for the purposes of discussing resettlement and land take issues and other benefits that may accrue from the project.	N/A



7. Discussion of results

7.1. Adequacy and compliance to the consolidated EMPr

7.1.1 Adequacy of Consolidated EMPr

The adequacy assessment was conducted on the *Twickenham Platinum Mine: Consolidated Environmental Management Programme (EMP) – Final Report*, dated August 2014, approved 13 July 2017. This section of the environmental audit report provides a discussion on the ability of the consolidated EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis and sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility. The audit results identify inadequacies, with the EMPr sufficiently providing for the management and mitigation of environmental impacts as applicable:

- O1.1.3 – To ensure the relevance and context of this condition given the status of TPM this condition should be amended to also maintain good compliance during the Care and Maintenance phase. This condition is currently rated as an Observation since the context of the condition does not allow for illegal mining activity or external factors to take accountability for the pollution source.

This condition is stated as *Should the monitoring programme indicate that surface water quality is affected, the impacts of this point source will be investigated, and a temporary / alternative water supply will be assessed for current identified water users*, it is recommended the condition be amended to state, *If the monitoring programme indicates surface water quality impacts, the point source will be investigated to confirm whether Twickenham Platinum Mine activities are responsible for the impacts, and should mine activities be the point source a temporary / alternative water supply will be assessed for current identified water users.*

- O1.1.6 – To ensure the relevance and context of this condition given the status of TPM this condition should be amended to also maintain good compliance during the Care and Maintenance phase. This condition is currently rated as an Non-compliant since the context of the condition does not allow for illegal mining activity or external factors to take accountability for the pollution source.

This condition is stated as *Should the monitoring programme indicate that the groundwater quality has been impacted upon, the impacts of this point source will be investigated, and a temporary/ alternative water supply will be assessed for current identified water users. Remediation of the spills will be investigated*, it is recommended the condition be amended to state, *If the monitoring programme indicates groundwater quality impacts, the point source will be investigated to confirm whether Twickenham Platinum Mine activities are responsible for the impacts, and should mine activities be the point source a temporary / alternative water supply will be assessed for the*



provision of water where it has been confirmed that mining activities have impacted domestic boreholes.

- O1.1.7 - To ensure the relevance and context of this condition given the status of TPM this condition should be amended to also maintain good compliance during the Care and Maintenance phase. This condition is currently rated as an Observation since the context of the condition does not allow for applicability during Care and Maintenance.

The condition is currently stated as, *Noise and vibration monitors are placed at strategic points around the existing infrastructure and underground operations at TPM. These are managed by an independent noise and vibration specialist*, it is recommended the condition be amended to state, *Should mine activities generate noise posing a high / significant risk to surrounding areas the mine must ensure that noise and vibration monitors are placed at strategic points around the existing infrastructure and underground operations at TPM. These must be managed by an independent noise and vibration specialist.*

- O1.1.8 - To ensure the relevance and context of this condition given the status of TPM this condition should be amended to also maintain good compliance during the Care and Maintenance phase. This condition is currently rated as Not Applicable since the context of the condition does not allow for applicability during Care and Maintenance.

The condition is currently stated as, *Tarring, upgrading and maintenance of internal and local road networks within the Twickenham project area*, it is recommended the condition be amended to state, *During the operational phase the mine must ensure that internal and local road networks within the Twickenham project area are well maintained by tarring and upgrading.*

- O1.2.3 – To ensure the relevance and context of this condition given the status of TPM this condition should be amended to also maintain good compliance during the Care and Maintenance phase. This condition is currently rated as Non-compliant since the context of the condition is not relevant for TPM operations.

The condition is currently stated as, *Visual barriers such as soil berms or vegetation berms will be constructed to mitigate the view of the Twickenham Operations*, it is recommended the condition be amended to state, *Twickenham Platinum Mine should ensure that visual impacts as a result of mining related activities are limited and well maintained during the operational phase. The visual impact of all shafts and related mining activities should remain low.*

7.1.2 Compliance with the provisions of the Consolidated EMPr

Chapter 6 provides the non-compliances as recorded against the specific mitigation measures. A summary of the key concerns is provided below:



- O1.1.6 – Water quality standards exceeded WUL requirements, it has also been noted that there is illegal mining activities occurring onsite which impacts on the water quality of the Motse River. Due to the high exceedances in nitrate concentrations a “Non-Compliant” finding is recorded for this condition.

To ensure that the mine remains compliant it is recommended this condition be amended to state the following:

If the monitoring programme indicates groundwater quality impacts, the point source will be investigated to confirm whether Twickenham Platinum Mine activities are responsible for the impacts, and should mine activities be the point source a temporary / alternative water supply will be assessed for the provision of water where it has been confirmed that mining activities have impacted domestic boreholes.

- O1.2.3 - No measures (i.e. berms or vegetation) have been implemented at TPM to shield the residential areas and villages from the operational areas. According to TPM personnel this condition is not practical as placing berms around the shaft area will have an impact on the natural drainage lines. Furthermore, borrow pits will have to be excavated in order to source material to construct the berms, which in turn will create a significant impact elsewhere. The berms will have to be more than 40 meters high to conceal the infrastructure from the adjacent communities, which is not practical.

It has been noted that this site is not conspicuous and is hidden mostly from the road. It is recommended that this condition should be amended to state that TPM should maintain its current operations and infrastructure so as to not be a visual obstruction.

- O2.1.2 - Overall, the presence of harmful bacteria demonstrates ineffective operation and management of the wastewater treatment facilities in April 2025.

The exceedance of several chemical variables indicated ineffective operations and management of both wastewater treatment facilities.

7.2. Adequacy and compliance to the Pashaskraal and De Kamp Amendment EMPr

7.2.1 Adequacy of the Pashaskraal and De Kamp Amendment EMPr

The audit results found that no activities associated with the Pashaskraal and De Kamp EMPr amendment have yet commenced. A full adequacy assessment of the EMPr is not possible. However, a review of the EMPr commitments in relation to the proposed activities to be undertaken and identified potential risk associated with activities, revealed that should all commitments as per the EMPr, be implemented, this will limit, prevent and minimise the potential risks identified.

No matters regarding the adequacy of conditions within the Pashaskraal and De Kamp Amendment EMPr were noted during this audit period.



7.2.2 Compliance with the provisions of the Pashaskraal and De Kamp EMPr amendment

Chapter 6 provides compliance assessment against the specific mitigation measures. The audit results found that no activities associated with the Pashaskraal and De Kamp EMPr amendment have yet commenced, therefore, most commitments are “Not yet applicable” and have been noted as such.

No Non-Compliances were noted within the Pashaskraal and De Kamp Amendment EMPr during this audit period.

8. Conclusion

This environmental audit report was compiled to comply with the relevant legislative requirements of both the NEMA and the MPRDA and their respective regulations thereunder. It is the main purpose of this document to report on both the compliance with, and the appropriateness and adequacy of the EMPrs as applicable.

As provided in this audit report, TPM demonstrates a high level of compliance against the management commitments. Further thereto, no inadequacies of the EMPrs were identified, with the EMPrs sufficiently providing for the management of environmental impacts (as provided for in the EMPrs and as identified during the site inspection). Therefore, it is the auditor’s opinion, that the EMPrs do not require amendment at this stage.



9. Disclaimer

This report has been produced by Shangoni Management Services (Pty) Ltd., ("Shangoni") with the skill and care ordinarily exercised by a reasonable Environmental Consultant at the time the services were performed. Further, and in particular, the Services were performed by Shangoni taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources. None of the work performed during this project shall constitute or be represented as a legal opinion of any kind or nature but shall be a representation of the findings.

No warranties or guarantees, expressed or implied, are included in or intended by the report, except that it has been prepared in accordance with the current generally accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by professional consultants or firms that perform the same or similar services. Any reference to legislation in this report should not be perceived as a substitute for the provisions of such legislation. In the event of any inconsistency between this document and such legislation, the latter would prevail.

Whilst every endeavour has been made by the Shangoni to ensure that information provided is correct and relevant, this report is, of necessity, based on information that could reasonably have been sourced within the time period allocated to the assessment, and is, furthermore, of necessity, dependent on information provided by management and/or its representatives. It should, accordingly, not be assumed that all possible and applicable findings, observations and/or measures are included in this report as this report represents a sample of assessable parameters. As a subsequent event, should additional information become available, Shangoni reserves the right to amend its findings, observations, measures and executive summary.

10. Declaration of independence

Shangoni hereby declares that it is an independent auditor in that it has no business, financial, personal or other interest in this project in respect of which Shangoni is appointed. Furthermore, no circumstances exist that may compromise the objectivity of Shangoni, excluding fair remuneration for work performed in connection with this environmental audit.

**Report
compiled by:**

Name: Nirvasha Rajdeo
Date: 09/10/2025
Project Code: RUS-TWI-25-04-10

Nirvasha Rajdeo

**Report reviewed
by:**

Name: Jan Nel
Date: 09/10/2025
Project Code: RUS-TWI-25-04-10

Jan Nel

