28 January 2026

NEMA Closure Costing Report for Mponeng Lower Compartment TSF at Harmony Gold mine

Environmental Impact Management Services (EIMS)

P291_**Mponeng lower NEMA Closure**

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LIST OF TERMS AND ABBREVIATIONS USED

Rehabilitation	The re-instatement of a disturbed area into a usable state (not necessarily its pre-mining state) as defined by broad land use and related performance objectives
Remediation	To assist in the rehabilitation process by enhancing the quality of an area through specific actions to improve especially bio-physical site conditions
Scheduled closure	Closure that happens at the planned date and/or time horizon
Unscheduled closure	Immediate closure of a site, representing decommissioning and rehabilitation of the site in its present state
Decommissioning	This involves the deconstruction/removal and/or transfer of surface infrastructure after cessation of operations and the initiation of general site rehabilitation
Care and maintenance	This involve the maintaining and corrective action as requires as well as conducting the required inspection and monitoring to demonstrate achievement of success of the implemented measures
Closure	This involves the application for a closure certificate and initiation of the transfer of on-going care and maintenance to third parties
Site relinquishment	Receipt of a closure certificate and handover to third parties for on-going care and maintenance, if required
Post-closure	The period of on-going care and maintenance, as per arrangement with third parties
Preliminary and	
Generals (P&Gs)	This is a key cost item which is directly related to whether third party contractors are applied for site rehabilitation. This cost item comprises both fixed and time-related charges. The former makes allowance for establishment (and de-establishment) of contractors on site, as well as covering their operational requirements for their offices (electricity/water/communications), latrines, etc. Time-related items make allowance for the running costs of the fixed charged items for the contract period
Contingencies	This allows for making reasonable Provision for possible oversights/omissions and possible work not foreseen at the time of compilation of the closure costs. Allowance of between 10 percent and 20 percent would usually be made based on the accuracy of the estimations. The South African Department of Mineral Resources Guideline (January 2005) requires an allowance of 10 percent

1. INTRODUCTION

MineLock Environmental Engineers (MineLock) was appointed by Environmental Impact Management Services (Pty) Ltd (EIMS) to develop the Closure costing for an Environmental Authorisation (Environmental Impact Assessment) and Water Use License of the lower compartment of the Mponeng TSF at Harmony Gold Mining Company Limited (Harmony).

The current Upper Compartment of the TSF is approaching the end of its operational life, with capacity expected to be exhausted by 2031. Similarly, the Savuka tailings facility has reached the end of its lifecycle and is undergoing a short-term extension of two years. Following this period, tailings from Savuka will need to be diverted to an alternative facility. The Lower Compartment has been identified as a viable solution to accommodate tailings until the Savuka end of life and thereafter accommodate tailings from the Mponeng plant.

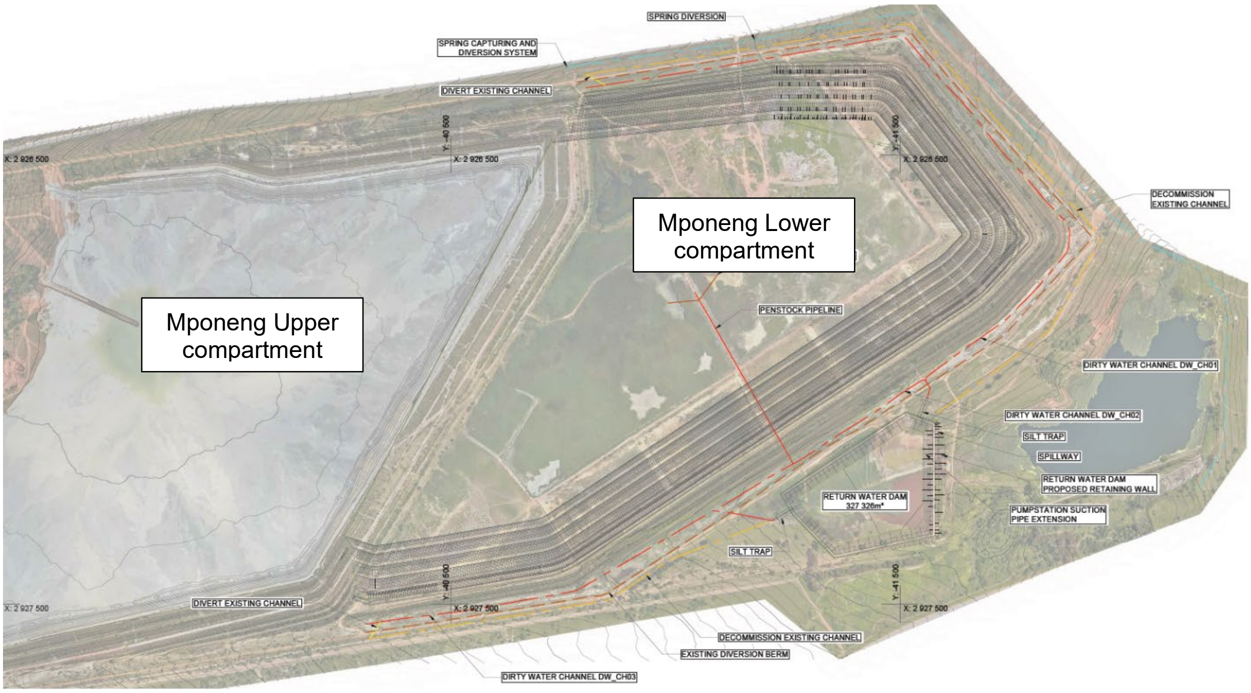

Figure 1: Mponeng TSF general layout

1.1 Scope of work

The Scope of Work for MineLock was identified as follows:

- Report with conceptual volumes and scheduled and unscheduled NEMA Closure Costing Specialist Services for an Environmental Authorisation (Environmental Impact Assessment) and Water Use License.

2. BATTERY LIMITS

The battery limits for this closure provision assessment are limited to the Mponeng Lower compartment TSF scheduled and unscheduled capping and rehabilitation only.

3. ASSUMPTIONS AND QUALIFICATIONS

The following assumptions and qualifications were made:

- Closure phase monitoring of 3 years was assumed;
- Post closure monitoring of groundwater quality was assumed to be annually for 50 years; and
- The costs for the closure-costing have been reported in present-day costs.

4. SUMMARY OF TSF PRELIMINARY DESIGN

Eco Elementum completed a pre-feasibility design and report of the Mponeng Lower Compartment which was utilised for this costing assessment.

The Mponeng Lower Compartment TSF will store approximately 43 Mt. It is anticipated to accommodate tailings deposition for a period of 10 years at a rate of 350 kilotonnes per month (ktpm). The end of life limiting factors considered were a rate of rise below 4 meters per annum and a final facility height of 60 meters, ensuring safe and sustainable deposition over the operational life of the facility.

The underflow material (coarse, dewatered tailings) is separated from the slurry by the hydrocyclones and deposited at the outer core. The overflow material (fine tailings and slurry water) is deposited in the basin.

The leachate collection system comprises a network of 110 mm and 160 mm perforated HDPE sub-soil drainage pipes installed within a graded gravel drainage layer, all enclosed in a geotextile separation fabric to prevent the migration of the tailings fines. Additionally, a toe blanket drain exists at the downstream toe of the facility, and a curtain drain is proposed to be constructed at the interface with the Mponeng Upper compartment.

At the upstream side of the footprint, two reverse filter packs are strategically positioned at the current existing spring and holding dam locations to serve as seepage interception points. These reverse filters comprise a thick waste rock layer with non-woven needle-punched geotextile encapsulating the drain. If the Lower Compartment footprint is dried out before construction works begin then the necessity of the filter packs will be reassessed.

All leachate drains discharge into trapezoidal concrete-lined channels within the existing paddocks. These channels will serve to collect and convey dirty water in a controlled manner, minimising seepage and preventing contamination of the surrounding environment. The channels will discharge into concrete silt traps before entering the RWD.

Supernatant water is decanted by a gravity penstock system through a flanged steel pipe encased in concrete. The penstock outfall pipe discharges water into the concrete-lined channels.

Contamination from the facility is expected to be relatively low as previous studies have shown very low seepage rates below/around the facility (mainly due to low permeability bedrock and artesian conditions). Additionally, unique geotechnical conditions are present at the site, including contaminated tailings below the level a liner can be safely stored, landfill waste and previously saturated zones, create a risk of differential settlement and localised weak zones affecting stability. These conditions hinder the safe and effective installation of an HDPE liner.

The proposed re-commissioning concept therefore comprises an unlined facility supported by a robust seepage control system, with the objective of maintaining global stability and limiting seepage impacts to an acceptable level during operation and post-closure.

This pre-feasibility design was submitted to DWS to support a performance-based motivation for an unlined re-commissioned facility on an existing tailings footprint, and to obtain feedback on the acceptability of this approach within the NWA / NEM:WA regulatory framework.

Although a motivation is being made for an unlined facility, costing will be completed for both a lined and unlined facility for comparative purposes.

The construction schedule for constructing the Lower compartment currently shows 12 months of construction time.

5. APPROACH TO COST DETERMINATION

Funds must be available at any time, equal to the sum of the actual costs of implementing the plans and reports for a period of 10 years (as per Section 7, Chapter 2 of the Financial Provisions Regulations). NEMA Financial Regulations specify a level of accuracy of ± 50 per cent for operations with more than 30 years from closure. Motivation must be provided to indicate the accuracy in the reported number and as accuracy improves, what actions resulted in an improvement in accuracy. The remainder of this section provides details on the proposed closure cost.

The closure cost has been calculated through the following steps:

- Review of supporting information and available Topographical Survey to inform the closure battery limits for Mponeng Lower TSF;
- Unit rates were verified for infrastructure dismantling and demolition as well as associated rehabilitation of disturbed areas;
- Unit rates were sourced from available precedents, inputs from specialists in the field, and experience;
- Rates were based on third-party contractor rates and not mining rates; and
- The verified unit rates were applied and associated quantities measured from the layout plans were itemised in the closure costing spreadsheets in spreadsheets to determine the closure costs that indicates the closure costing battery limits (mining domains).
- Quantities were determined from:
  - Topographical Aerial Survey; and
  - Supporting documentation.

6. UNIT RATES

Unit rates applied with the closure determination were obtained from MineLock's existing database. The database is compiled and updated in consultation with demolition practitioners and/or civil contractors. Site-specific unit rates sourced from local contractors were applied for load and haul, dozing as well as vegetation establishment. The build-up of key aggregated unit rates that are included in the applied rates table is outlined below.

6.1 Surface water monitoring

Allowance has been made to conduct the surface water monitoring at 5 monitoring points. If assumed that it would take at least one man-day of an independent specialist (including the preparation of the sampling equipment) to conduct the sampling at these points, this would equate to about R 17 970.00 per sampling event for professional fees and associated disbursements. If an additional allowance is made for sample analysis of R 1 690.00 per sample, this equates to an additional amount of R 4 780.00, totaling to **R 22 750.00** per event.

6.2 Groundwater monitoring

It has been assumed that 5 groundwater monitoring boreholes would be required to reflect post closure groundwater quality.

If it is assumed that one man-day would be required to conduct a monitoring event (including preparation, purging etc.) this would equate to about R **15 400.00** per sampling event for professional fees and associated disbursements. Allowance has also been made to conduct chemical sample analysis at R **5 280.00**/sample.

6.3 Rehabilitation monitoring

Biodiversity and soils (Landscape Function analysis) assessments (including mid-wet season) should be undertaken by a suitably qualified ecologist / botanist / soil scientist to monitor the rehabilitation progress. There should be confirmation that acceptable cover has been achieved in areas where natural vegetation is being re-established. ‘Acceptable cover’ means re-establishment of pioneer grass communities over the disturbed areas at a density similar to the surrounding undisturbed areas, non-eroding and free of invasive alien plants.

It was assumed that two man-days would be required to conduct the rehabilitation monitoring over the disturbed area. Assuming a consultant rate of R1100/hr, this would equate to R 17 600.00 per event for professional fees and associated disbursements. Hence, these costs amount to about **R 22 260.00** per event.

7. UNSCHEDULED CLOSURE COST DETERMINATION AND ALLOWANCES

The unscheduled closure allowances for the determination of the closure costs are reflected below. The spreadsheets detailing the closure costs are included in Appendix A. The sub-sections below are aligned to the spreadsheets and should be read in conjunction with these spreadsheets. Two alternatives were assessed during unscheduled closure, an unlined facility (Alternative A) as per Eco Elementum's design, and a lined facility (Alternative B) for comparative purposes.

7.1 Decommissioning and closure

For unscheduled closure, only infrastructure implemented within a year from the start of construction was considered. According to the design engineer at Eco Elementum, the construction of the Mponeng Lower compartment is planned to take a year, thus the earthworks, bottom liner system (Alternative B) and supporting infrastructure is to be decommissioned during unscheduled closure.

The following items were considered for the unscheduled closure costing:

- Removal of bottom barrier system (Alternative B only);
- Removal of underdrainage system;
- Demolition of all embankments;
- Rehabilitation of Mponeng Lower compartment area; and
- Decommissioning of Return water dam and supporting infrastructure.

The embankments and bottom liner system (Alternative B) designs as provided by Eco Elementum, Figure 2 and Figure 3, were incorporated into the unscheduled closure costing.

No allowance was made for post closure monitoring and annual rehabilitation as part of the unscheduled closure costing as no waste material has been deposited during this first year period.

Figure 2: Proposed inverted barrier system as designed by Eco Elementum

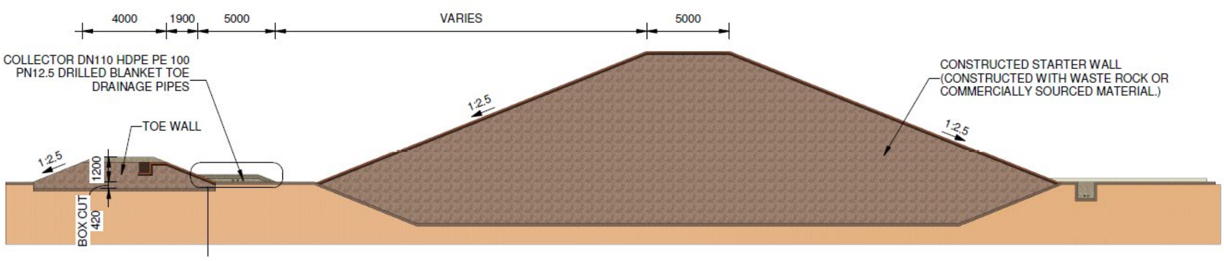

Figure 3: Typical starter wall section as designed by Eco Elementum

8. SCHEDULED CLOSURE COST DETERMINATION AND ALLOWANCES

The scheduled closure allowances for the determination of the closure costs are reflected below. The spreadsheets detailing the closure costs are included in Appendix A. The sub-sections below are aligned to the spreadsheets and should be read in conjunction with these spreadsheets.

8.1 Decommissioning and closure

8.1.1 Landform

The Mponeng Lower Compartment TSF as designed by Eco Elementum consists of five (5) benches to a final height of approximately 37 meters. The benches are designed to be at a slope of 1:2.5 which will ultimately be at an overall rehabilitated slope of 1:4. The final elevation of the TSF is designed to be a flat elevation with no slope added to the top of the TSF. All underdrainge systems are to drain out within the RWD as designed. It is assumed that sufficient topsoil and cover materials are available and can be sourced from borrow pits nearby if and where required for the capping system.

A landform dividing into four chutes is proposed to assist with shorter slopes and less cut to fill work. A cut to fill balance will be achieved with this alternative by utilising material from the side slopes to shape the flat basin for freedrainage. To achieve the final landform a cut to fill shaping exercise of the dried tailings material will be required. The slopes to be achieved ranges from between 1:100 to 1:150 with four valleys created in the Northern, Eastern and two in the Southern directions to divert the clean water from the facility.

8.1.2 Capping system

For the proposed landform a compliant Class C capping system is proposed catering for a worst case scenario as described in section 4 above. The cover system described in this report is conceptual. It is recommended that the following design process is followed in detail before closure:

- Taking into consideration all applicable design criteria and waste classification;
- Conducting a trade-off assessment of a compliant capping system versus an alternative system considering the seepage risks.
- Development of a capping composition that satisfy the regulatory requirements as well as the norms and standards (to NEMWA (Act 26 of 2014) and regulations R635 and R636 and the NEM:WA 2008 (CT No. 59 of 2008) and the associated regulations (R. 632, July 2015 as amended on 21 September 2018; R634, August 2013; R635);
- Considering the total tensile strain in geomembrane should this be a preferred option;
- Conducting an in detail veneer stability analysis as well as a detailed geotechnical investigation.
- Understanding in depth the geohydrological and hydrological aspects in and around the site. This includes an understanding of erosion risks and mitigation measures.

- Conduction a detailed soil source investigation as well as understanding the vegetation requirements.

Two details are proposed for the two types of slopes apparent on this facility:

Flat basin area

The conceptual design gave consideration to the requirements in terms of the amendment to NEMWA (Act 26 of 2014) and regulations R635 and R636 on the flat areas of the landform design of the TSF facility. The different aspects of the capping system are discussed below with Figure 4 as reference:

- The final TSF landform will be compacted with a Bomag roller 212D-0 (3 passes every 300 mm) on the flat areas to ensure final compaction and further limiting oxygen from entering;
- A 1.5 mm HDPE geomembrane will be placed directly on top of the fine tailings material;
- A 300mm subsoil clayey type layer from a specified borrow pit in the area. This material will assist with the composite effect of the barrier system and act as an additional protection layer since the placed and spread topsoil/growth medium layer will have to be loosened (ripped); and
- The 200 mm topsoil layer that will be adequately vegetated are place on top of the clay layer to act as a growth medium to further limit infiltration and prevent erosion.

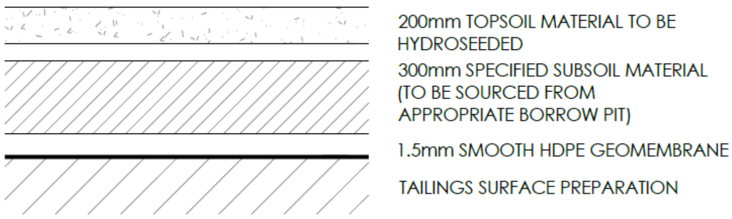

Figure 4: Proposed capping system for flat areas

Side slope areas

Given the 1:4 side slope of the facility, a strengthened capping system is proposed for the side slopes to achieve a water shedding cover system. The different aspects of the side slope capping system are discussed below with Figure 5 as reference:

- The final TSF landform will be compacted with a Bomag roller 212D-0 (3 passes every 300 mm) on the flat areas to ensure final compaction and further limiting oxygen from entering;
- A 350mm subsoil clayey type layer from a specified borrow pit in the area. This material will assist with the composite effect of the barrier system and act as an additional protection layer since the placed and spread topsoil/growth medium layer will have to be loosened (ripped); and
- The 200 mm topsoil layer that will be adequately vegetated are place on top of the clay layer to act as a growth medium to further limit infiltration and prevent erosion; and
- A coconut fibre woven mesh is to be placed on top of the topsoil material as erosion control

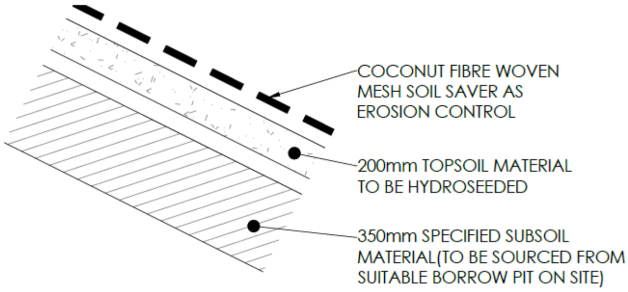

Figure 5: Proposed capping system for side slopes

8.1.3 Leachate management

Leachate will be managed with a network of existing designed subsoil drainage systems. The subsoil drainage system will flow into the proposed new return water dam as designed by Eco Elementum.

During operation the leachate water will flow into the concrete lined channels which flows into the return water dam. After the life of the facility, when rehabilitation will occur, the concrete channels will be removed and replaced with a clean water diversion dish. A cutoff trench will be installed at the toe of the facility to intercept the existing leachate pipes to still flow into the return water dam for monitoring purposes.

Figure 6 illustrates the location of the interception trench that will be used to intercept all contaminated seepage from the facility which will be collected in the return water dam. The trench is to be filled with 19mm washed stone, with a geocomposite drain attached to a wastex pipe to promote waterflow into the interception trench.

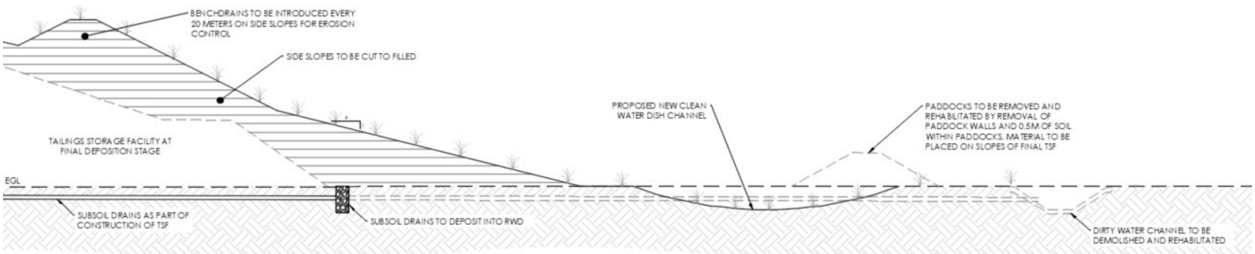

Figure 6: Detail of proposed stormwater infrastructure

8.1.4 Stormwater management

The dirty channels around the facility are to be removed and re-structured as a clean water dish with outlet structures in specified intervals. Benchdrains are introduced on the side slopes of the tailings facility to facilitate with water flow and erosion protection. Stormwater chutes are to be constructed on the side slopes of the TSF for safe water conveyance, and are to be sized accordingly.

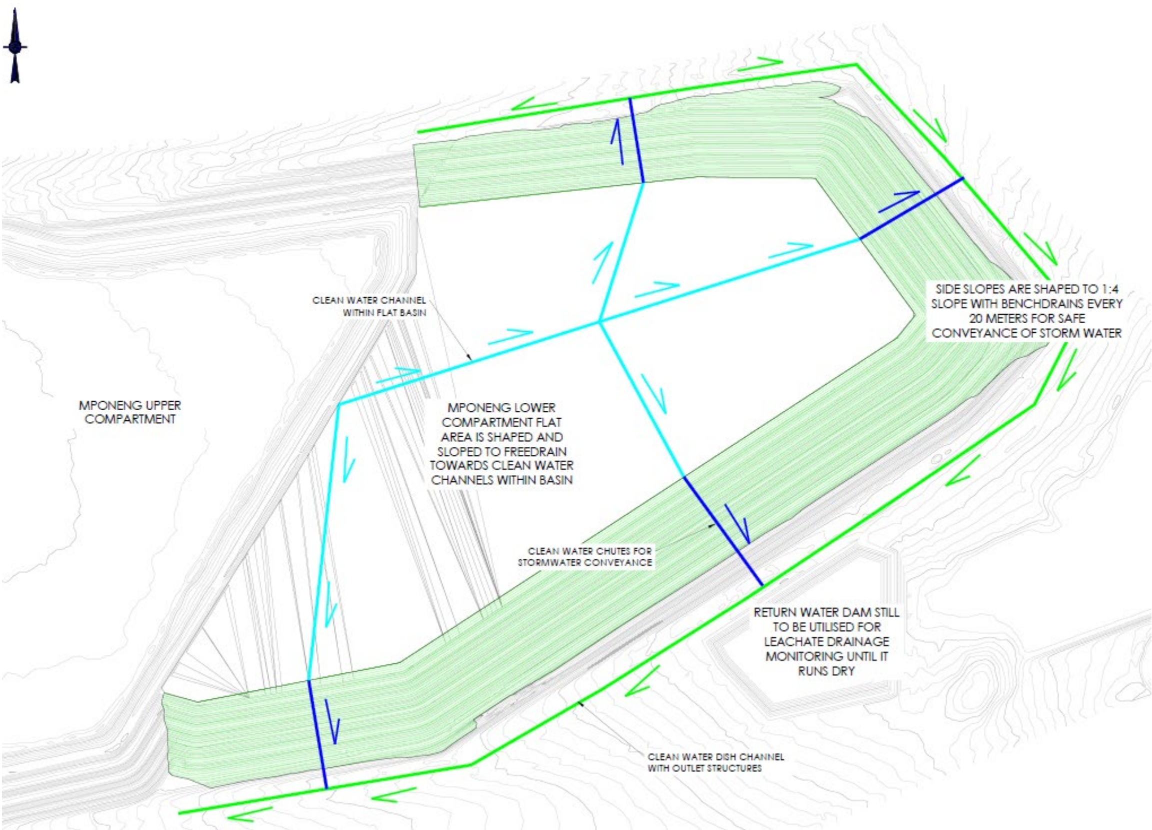

Figure 7: Storm water management for scheduled closure of Mponeng lower compartment

The proposed details for all the channels can be seen in Figure 8 to Figure 11. All design drawings can be seen in Appendix B:

- Clean water channels within the basin of the TSF are designed to be shaped into the landform design of the tailings facility, thus the channel is a v-shaped channel with side slopes of 1:150 to promote a flat and natural aesthetic. The channels are to be lined by the same capping system as proposed for the landform, and vegetated as per the specifications.

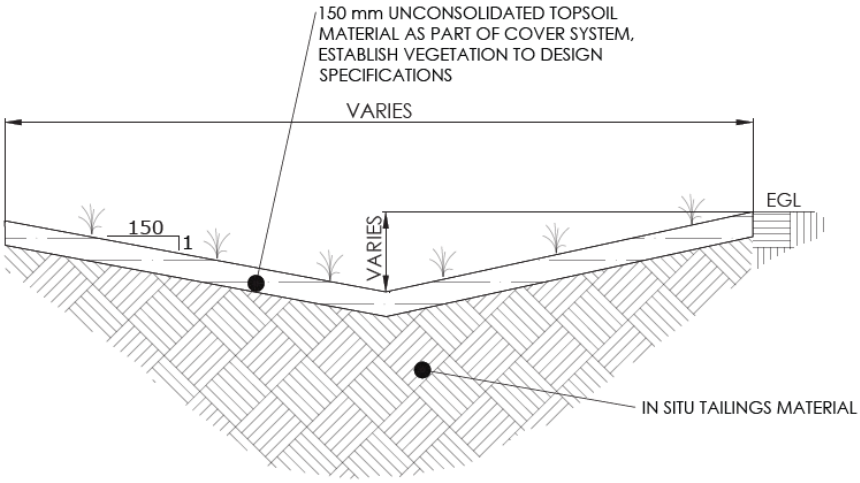

Figure 8: Typical detail of clean water channel within basin

- Clean water chutes are proposed to be concrete lined channels with stone pitching protruding from the concrete as erosion control measures for the steep side slopes of 1:4. The chutes are to be trapezoidal channels with side slopes of 1:3.

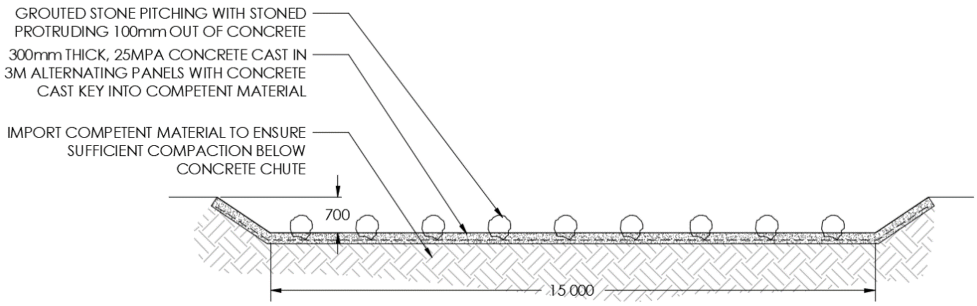

Figure 9: Typical detail of clean water chutes

- Clean water dish channel should be sized to accommodate all water from the TSF facility. The dish is designed to emulate the natural surroundings as closely as possible and to safely convey all clean stormwater away from the tailings facilities.

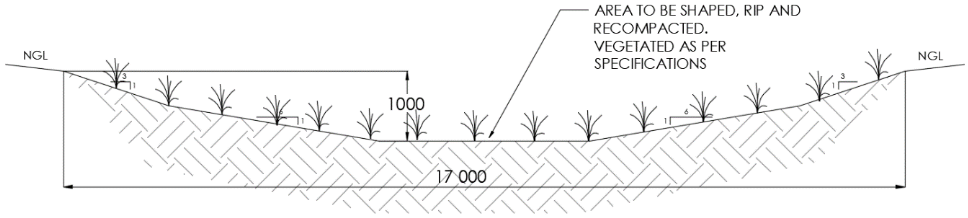

Figure 10: Typical detail of clean water dish channel

- Energy dissipating attenuation outlet structures are introduced in intervals along the alignment of the clean water dish channel to assist with the safe conveyance of stormwater during a storm event and to minimise erosion and scouring of the channel.
- Benchdrains are introduced every 20 meters on the 1:4 side slopes of the tailings facility as erosion control mechanisms during a storm event. The purpose of the benchdrains is to convey any and all stormwater along the slope towards the storm water chutes in a controlled manner to avoid erosion and scouring of the designed capping system.

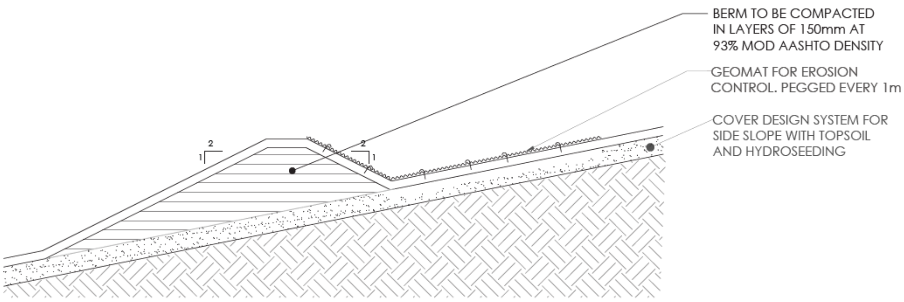

Figure 11: Typical detail of benchdrains

A vegetation specialist should be consulted during the detailed design phase of this capping and storm water system to specify the applicable vegetation to tie in to natural surrounding environment.

Seeding can be done by manual sowing, or mechanically using agricultural seeding equipment. All seeded areas need to be rolled to improve soil/seed contact.

8.1.5 Decommissioning and rehabilitation and closure phase monitoring

Allowance was made for the following:

- Air (Dust) monitoring at a monthly frequency for decommission phase and allowance was made for 6 months at closure phase.
- Groundwater quality analysis should be conducted on a quarterly basis and water level monitoring monthly
- Surface water monitoring should be at a quarterly frequency.
- Biodiversity and soils monitoring should be done (visually) on a monthly basis at decommissioning phase and annual vegetation and rehab survey at closure phase

8.1.6 Preliminary, general and contingencies

Allowance was made for 12% Preliminary and Generals as well as 10% of the total for infrastructure, mining areas and related aspects for contingencies as aligned to the DMR guidelines.

8.2 Post closure phase

8.2.1 Monitoring

The post closure phase will be from after closure phase with the allowance of surface water quality monitoring for 5 years and annual groundwater quality monitoring annually for the next 50 years.

9. CLOSURE COST DETERMINATION

This closure cost is based on 2025 values and will require annual reassessment, revision and escalation by the mine.

The closure liability is summarised in Table 1.

Table 1: Scheduled and Unscheduled costing

	UNSCHEDULED COSTS Alternative A – unlined TSF		UNSCHEDULED COSTS Alternative B – lined TSF		SCHEDULED COSTS	
HARMONY GOLD - MPONENG LOWER TSF CLOSURE						
Decommissioning	**R**	**6 199 375.50**	**R**	**6 199 375.50**	**R**	**6 199 375.50**
Infrastructural Area	R	6 199 375.50	R	6 199 375.50	R	6 199 375.50
Decommissioning of Tailings Storage Facility bottom liner system	**R**	**28 250 378.14**	**R**	**35 322 134.05**	**R**	**-**
Removal of bottom liner system	R	4 009 208.53	R	11 080 964.44	R	-
Demolition of embankments	R	3 707 636.43	R	3 707 636.43	R	-
Rehabilitation of TSF area	R	20 533 533.18	R	20 533 533.18	R	-
Closure of final filled Tailings Storage Facility	**R**	**-**	**R**	**-**	**R**	**208 408 122.43**
Shaping of final filled TSF	R	-	R	-	R	51 511 567.34
Capping of TSF	R	-	R	-	R	101 399 315.82
Stormwater Management Infrastructure	R	-	R	-	R	53 968 530.81

	UNSCHEDULED COSTS Alternative A – unlined TSF	UNSCHEDULED COSTS Alternative B – lined TSF	SCHEDULED COSTS
Closure Phase Monitoring	R -	R -	R 1 528 708.47
P&Gs and Contingencies	**R 7 578 945.80**	**R 9 134 732.10**	**R 47 213 649.55**
Annual Rehabilitation Costing	**R -**	**R -**	**R -**
Post Closure Phase	**R 3 589 207.83**	**R 3 589 207.83**	**R 4 553 059.86**
Monitoring	R -	R -	R 963 852.03
Rehabilitation of RWD	R 3 589 207.83	R 3 589 207.83	R 3 589 207.83
TOTAL	***R 45 617 907.27***	***R 54 245 449.49***	***R 266 374 207.35***

10. STATEMENTS OF INDEPENDENCE AND COMPETENCE

10.1 Statements of independence

MineLock is an independent international consultancy. Neither MineLock nor its staff have or have had, any interest in this project capable of affecting their ability to give an objective and unbiased opinion, and have and/or will not receive any pecuniary or other benefits in connection with the project, other than normal consulting fees.

10.2 Statements of competence

MineLock is based in Pretoria. This division is responsible for closure planning as well as the determination of decommissioning, rehabilitation and closure costs and liabilities for both mining and manufacturing-related industries.

The division has been involved with closure planning and costing projects for key clients throughout South Africa, utilising the South African Department of Mineral Resources' financial provision guideline (January, 2005), the NEMA GNR 1147 regulations as well as international good practice to ensure closure costs are country- and site-specific, market-related and appropriate for the site conditions.

All costing and liability estimations are guided and reviewed by Douglas Richards (senior environmental engineer), Director of MineLock Environmental Engineers (Pty) Ltd.

11. CONCLUSION

The financial provision for scheduled and unscheduled rehabilitation and closure for the Mponeng Lower compartment TSF at Harmony Gold Mining is documented in this report. Information was provided by the mine. Estimates / assumptions were made based on experience. The unit rates used in the closure costing were obtained from MineLock's database of recent third-party rates. The unit rates were adapted to reflect site specific conditions. The different alternatives should be discussed by the mine and action should be taken within the most feasible path.

12. REFERENCES

Department of Mineral Resources. (2005). *Guideline Document for The Evaluatuon of The Quantum of Closure-Related Financial Provision Provided by a Mine.*

Eco Elementum. (2025). *Mponeng Lower Compartment Tailings Storage Facility Pre-feasibility Study Report.* Pretoria.

Douglas Richards
Director

Is-Mari Kretschmer
Environmental Engineer

APPENDIX A
CLOSURE COSTING SPREADSHEET

MineLock Environmental Engineers

Closure Liability Assessment of
HARMONY GOLD - MPONENG LOWER TSF CLOSURE

	UNSCHEDULED COSTS Alternative A - unlined TSF	UNSCHEDULED COSTS Alternative B - lined TSF	SCHEDULED COSTS
HARMONY GOLD - MPONENG LOWER TSF CLOSURE			
Decommissioning	**R 6 199 375.50**	**R 6 199 375.50**	**R 6 199 375.50**
Infrastructural Area	R 6 199 375.50	R 6 199 375.50	R 6 199 375.50
Decommissioning of Tailings Storage Facility bottom liner system	**R 28 250 378.14**	**R 35 322 134.05**	**R -**
Removal of bottom liner system	R 4 009 208.53	R 11 080 964.44	R -
Demolition of embankments	R 3 707 636.43	R 3 707 636.43	R -
Rehabilitation of TSF area	R 20 533 533.18	R 20 533 533.18	R -
Closure of final filled Tailings Storage Facility	**R -**	**R -**	**R 208 408 122.43**
Shaping of final filled TSF	R -	R -	R 51 511 567.34
Capping of TSF	R -	R -	R 101 399 315.82
Stormwater Management Infrastructure	R -	R -	R 53 968 530.81
Closure Phase Monitoring	R -	R -	R 1 528 708.47
P&Gs and Contingencies	**R 7 578 945.80**	**R 9 134 732.10**	**R 47 213 649.55**
Annual Rehabilitation Costing	**R -**	**R -**	**R -**
Post Closure Phase	**R 3 589 207.83**	**R 3 589 207.83**	**R 4 553 059.86**
Monitoring	R -	R -	R 963 852.03
Rehabilitation of RWD	R 3 589 207.83	R 3 589 207.83	R 3 589 207.83
TOTAL	**R 45 617 907.27**	**R 54 245 449.49**	**R 266 374 207.35**

HARMONY GOLD - MPONENG LOWER TSF CLOSURE

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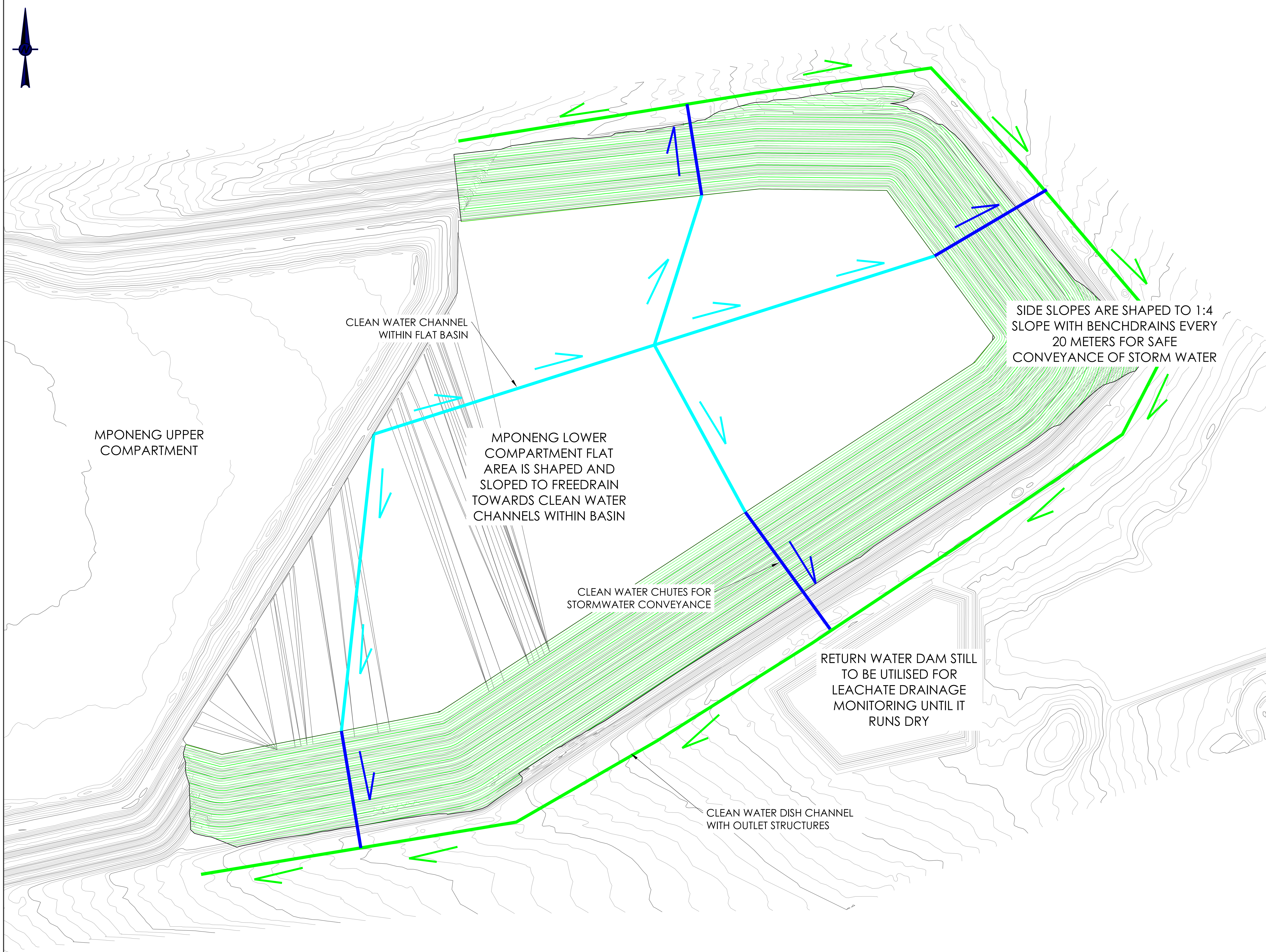
				UNSCHEDULED Closure Costing						UNSCHEDULED Closure Costing						SCHEDULED Closure Costing					
				Alternative A - unlined TSF						Alternative B - lined TSF											
Comments/Assumptions	Item No.	No.	Rehabilitation / Closure Action	Applicable	Unit Rate Code	Units	Quantity	Rate	Activity Cost	Applicable	Unit Rate Code	Units	Quantity	Rate	Activity Cost	Applicable	Unit Rate Code	Units	Quantity	Rate	Activity Cost
		1	**Decommissioning**						**R 6 199 375.50**						**R 6 199 375.50**						**R 6 199 375.50**
		1.1	**Infrastructural Area**						**R 6 199 375.50**						**R 6 199 375.50**						**R 6 199 375.50**
			Demolition of Silt Trap 01						**R 136 610.84**						**R 136 610.84**						**R 136 610.84**
Assuming a silt trap depth of 1 meter and concrete thickness of 250mm.	1.1.1		Concrete Footings (heavy concrete)	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57
Import material to fill silt trap gap, assuming depth of 1 meter	1.1.2		Import of subsoil material	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80
Import topsoil for footprint, 150 mm thick	1.1.3		Import of topsoil from on site borrow pit	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17
Revegetation of disturbed footprint	1.1.4		Establish vegetation - Hydroseeding	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30
			Demolition of Silt Trap 02						**R 136 610.84**						**R 136 610.84**						**R 136 610.84**
Assuming a silt trap depth of 1 meter and concrete thickness of 250mm.	1.1.5		Concrete Footings (heavy concrete)	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57	Yes	B1,4	/m³	58.75	R 1 679.01	R 98 641.57
Import material to fill silt trap gap, assuming depth of 1 meter	1.1.6		Import of subsoil material	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80	Yes	G1,8	/m³	570.61	R 55.04	R 31 407.80
Import topsoil for footprint, 150 mm thick	1.1.7		Import of topsoil from on site borrow pit	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17	Yes	G1,8	/m³	85.59	R 55.04	R 4 711.17
Revegetation of disturbed footprint	1.1.8		Establish vegetation - Hydroseeding	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30	Yes	I1,7	/ha	0.06	R 32 426.55	R 1 850.30
			Demolition of Spillway																		
Area was determined using Design Drawings, assuming concrete thickness of 250mm	1.1.9		Concrete Base (Medium concrete)	Yes	B1,2	/m³	69.94	R 995.45	**R 69 624.79**	Yes	B1,2	/m³	69.94	R 995.45	**R 69 624.79**	Yes	B1,2	/m³	69.94	R 995.45	**R 69 624.79**
			Demolition of retaining wall																		
Area and height was determined using Design Drawings	1.1.10		Concrete Base (Medium concrete)	Yes	B1,2	/m³	4 391.42	R 995.45	**R 4 371 458.27**	Yes	B1,2	/m³	4 391.42	R 995.45	**R 4 371 458.27**	Yes	B1,2	/m³	4 391.42	R 995.45	**R 4 371 458.27**
			Demolition of dirty water channel						**R 4 520 680.62**						**R 4 520 680.62**						**R 4 520 680.62**
Length and area determined from Design Drawings. Concrete thickness of 200MM assumed	1.1.11		Concrete Base (Medium concrete)	Yes	B1,2	/m³	4 366.41	R 995.45	R 4 346 555.56	Yes	B1,2	/m³	4 366.41	R 995.45	R 4 346 555.56	Yes	B1,2	/m³	4 366.41	R 995.45	R 4 346 555.56
To be dozed 0.1 m depth	1.1.12		Rip footprint area	Yes	G1,2	/ha	2.18	R 7 169.93	R 15 653.42	Yes	G1,2	/ha	2.18	R 7 169.93	R 15 653.42	Yes	G1,2	/ha	2.18	R 7 169.93	R 15 653.42
To be shaped at a depth of 0.15 m	1.1.13		Levelling and shaping of area	Yes	G1,3	/m³	3 274.80	R 26.77	R 87 677.91	Yes	G1,3	/m³	3 274.80	R 26.77	R 87 677.91	Yes	G1,3	/m³	3 274.80	R 26.77	R 87 677.91
Assume to rehabilitate whole dirty water channel	1.1.14		Establish vegetation - Hydroseeding	Yes	I1,7	/ha	2.18	R 32 426.55	R 70 793.73	Yes	I1,7	/ha	2.18	R 32 426.55	R 70 793.73	Yes	I1,7	/ha	2.18	R 32 426.55	R 70 793.73
			Disposal of demolition waste																		
Removal of all concrete waste that is to demolished			**Concrete demolition waste**						**R 1 472 459.26**						**R 1 472 459.26**						**R 1 472 459.26**
Summation of all the concrete casted	1.1.15		Crushing of concrete demolition waste	Yes	H1,1	/m³	8 945.27	R 94.61	R 846 290.34	Yes	H1,1	/m³	8 945.27	R 94.61	R 846 290.34	Yes	H1,1	/m³	8 945.27	R 94.61	R 846 290.34
Disposal at Odendaalsrus landfill site - 6.18 km away. Overhaul cost at R5/m³ per km extra.	1.1.16		Load and haul	Yes	P1,5	/m³	8 945.27	R 70.00	R 626 168.92	Yes	P1,5	/m³	8 945.27	R 70.00	R 626 168.92	Yes	P1,5	/m³	8 945.27	R 70.00	R 626 168.92
		2	**Decommissioning of Tailings Storage Facility bottom liner system**						**R 28 250 378.14**						**R 35 322 134.05**						
		2.1	**Removal of bottom liner system**						**R 4 009 208.53**						**R 11 080 964.44**						
Removal of 590 g/m2 geotextile, 2x110mm perforated HDPE pipes and coarse stone.	2.1.1		Removal of underdrainage system	Yes	L1,4	/m	12 930.00	R 152.40	R 1 970 593.87	Yes	L1,4	/m	12 930.00	R 152.40	R 1 970 593.87	No					
Removal of 590 g/m2 geotextile, 160mm perforated HDPE pipes and coarse stone.	2.1.2		Removal of underdrainage system	Yes	L1,4	/m	5 892.00	R 152.40	R 897 968.99	Yes	L1,4	/m	5 892.00	R 152.40	R 897 968.99	No					
Removal of toe drain. 3x110 HDPE drainage pipes, 50 g/m2 geotextile and coarse stone.	2.1.3		Removal of underdrainage system	Yes	L1,4	/m	2 894.00	R 152.40	R 441 059.45	Yes	L1,4	/m	2 894.00	R 152.40	R 441 059.45	No					
Removal of 1.5mm HDPE liner. Added 5% contingency for area that cannot be measured in anchor trenches.	2.1.4		Remove Liner	No	L1,3	/m²			R -	Yes	L1,3	/m²	1 024 508.10	R 4.86	R 4 983 189.47	No					
Removal of 50mm tailings material as part of liner system	2.1.5		Dozing material	No	P1,4	/m³			R -	Yes	P1,4	/m³	48 786.10	R 42.81	R 2 088 566.44	No					
To be dozed 0.1 m depth	2.1.6		Rip footprint area	Yes	G1,2	/ha	97.57	R 7 169.93	R 699 586.22	Yes	G1,2	/ha	97.57	R 7 169.93	R 699 586.22	No					
																No					
		2.2	**Demolition of embankments**						**R 3 707 636.43**						**R 3 707 636.43**						
Demolition of toe wall	2.2.1		Load and haul	Yes	P1,5	/m³	24 309.60	R 37.83	R 919 655.87	Yes	P1,5	/m³	24 309.60	R 37.83	R 919 655.87	No					
Demolition of starter wall. Average area measured from drawing	2.2.2		Load and haul	Yes	P1,5	/m³	73 695.71	R 37.83	R 2 787 980.56	Yes	P1,5	/m³	73 695.71	R 37.83	R 2 787 980.56	No					
		2.3	**Rehabilitation of TSF area**						**R 20 533 533.18**						**R 20 533 533.18**						
Area to be shaped to freedrainage after removal of bottom liner system and embankments	2.3.1		Levelling and shaping of area	Yes	G1,3	/m³	97 572.20	R 26.77	R 2 612 347.40	Yes	G1,3	/m³	97 572.20	R 26.77	R 2 612 347.40	No					
Assume topsoil stockpile will be used, 200 mm thick.	2.3.2		Import of topsoil from on site borrow pit	Yes	G1,8	/m³	195 144.40	R 55.04	R 10 741 198.85	Yes	G1,8	/m³	195 144.40	R 55.04	R 10 741 198.85	No					
Will establish different vegetation taking into account erosion and environmental properties,	2.3.3		Establish vegetation	Yes	G1,4	/ha	97.57	R 73 586.40	R 7 179 986.92	Yes	G1,4	/ha	97.57	R 73 586.40	R 7 179 986.92	No					
		3	**Closure of final filled Tailings Storage Facility**																		**R 208 408 122.43**
		3.1	**Shaping of final filled TSF**						**R -**						**R -**						**R 51 511 567.34**
			On Flat Slopes of TSF						**R -**						**R -**						**R 26 305 249.45**
Material from side slopes to be utilised on flat area to create valleys for freedrainage	3.1.1		Dozing material	No	P1,4	/m³		R 42.81	R -	No	P1,4	/m³		R 42.81	R -	Yes	P1,4	/m³	467 506.00	R 42.81	R 20 014 252.91
100% of cut volume will be levelled and shaped.	3.1.2		General levelling and shaping	No	I1,6	/ha		R 134 565.04	R -	No	I1,6	/ha		R 134 565.04	R -	Yes	I1,6	/ha	46.75	R 134 565.04	R 6 290 996.54
			On Side Slopes of TSF						**R -**						**R -**						**R 25 206 317.89**
Material to placed on flat are to create valleys for freedrainage of stormwater	3.1.3		Load and haul	No	P1,5	/m³		R 37.83	R -	No	P1,5	/m³		R 37.83	R -	Yes	P1,5	/m³	467 506.00	R 37.83	R 17 686 207.80
Cut to fill of mwaterial on side slopes to create 1:4 slopes	3.1.4		Dozing material	No	P1,4	/m³		R 42.81	R -	No	P1,4	/m³		R 42.81	R -	Yes	P1,4	/m³	133 650.00	R 42.81	R 5 721 648.28
Material to be shaped to correct elevation	3.1.5		General levelling and shaping	No	I1,6	/ha		R 134 565.04	R -	No	I1,6	/ha		R 134 565.04	R -	Yes	I1,6	/ha	13.37	R 134 565.04	R 1 798 461.81
		3.2	**Capping of TSF**						**R -**						**R -**						**R 101 399 315.82**
Area was determined using modelled DWG file			**On Flat Slopes of TSF**						**R -**						**R -**						**R 66 105 325.21**
Added a wastage factor of 10%, area determined though DWG model.	3.2.1		Supply and Install - 1.5mm Thick smooth HDPE geomembrane	No	I1,5	/m²		R 64.85	R -	No	I1,5	/m²		R 64.85	R -	Yes	I1,5	/m²	684 589.40	R 64.85	R 44 397 744.82
Assume in situ subsoil will be used, 300 mm thick.- high percentage of clay content	3.2.2		Import of subsoil layer	No	G1,8	/m³		R 55.04	R -	No	G1,8	/m³		R 55.04	R -	Yes	G1,8	/m³	186 706.20	R 55.04	R 10 276 740.82
Assume topsoil stockpile will be used, 200 mm thick.	3.2.3		Import of topsoil from on site borrow pit	No	G1,8	/m³		R 55.04	R -	No	G1,8	/m³		R 55.04	R -	Yes	G1,8	/m³	124 470.80	R 55.04	R 6 851 160.55
Will establish different vegetation taking into account erosion and environmental properties,	3.2.4		Establish vegetation	No	G1,4	/ha		R 73 586.40	R -	No	G1,4	/ha		R 73 586.40	R -	Yes	G1,4	/ha	62.24	R 73 586.40	R 4 579 679.03
Area was determined using modelled DWG file			**On Side Slopes of TSF**						**R -**						**R -**						**R 35 293 990.61**
Assume in situ subsoil will be used, 350 mm thick.- high percentage of clay content	3.2.5		Import of subsoil layer	No	G1,8	/m³		R 55.04	R -	No	G1,8	/m³		R 55.04	R -	Yes	G1,8	/m³	159 136.25	R 55.04	R 8 759 227.05
Assume topsoil stockpile will be used, 200 mm thick.	3.2.6		Import of topsoil from on site borrow pit	No	G1,8	/m³		R 55.04	R -	No	G1,8	/m³		R 55.04	R -	Yes	G1,8	/m³	90 935.00	R 55.04	R 5 005 272.60
Coconut layer placed for erosion damage and vegetation	3.2.7		Coconut Fibre Woven	No	O1,3	/m²		R 39.99	R -	No	O1,3	/m²		R 39.99	R -	Yes	O1,3	/m²	454 675.00	R 39.99	R 18 183 701.33
Will establish different vegetation taking into account erosion and environmental properties.	3.2.8		Establish vegetation	No	G1,4	/ha		R 73 586.40	R -	No	G1,4	/ha		R 73 586.40	R -	Yes	G1,4	/ha	45.47	R 73 586.40	R 3 345 789.63
		3.3	**Stormwater Management Infrastructure**						**R -**						**R -**						**R 53 968 530.81**
Area was determined using design assumptions			**Construction of Interception Trench**						**R -**						**R -**						**R 1 751 773.54**
	3.3.1		Restricted excavation for trench - Temporary stockpile, backfill and compaction	No	M1,1	/m³		R 103.97	R -	No	M1,1	/m³		R 103.97	R -	Yes	M1,1	/m³	3 969.46	R 103.97	R 412 699.99
	3.3.2		Place HDPE Perforated Pipe (160mm)	No	M1,2	/m		R 36.69	R -	No	M1,2	/m		R 36.69	R -	Yes	M1,2	/m	3 307.88	R 36.69	R 121 382.35
Installed to capture possible leachate	3.3.3		Fin Drain	No	M1,3	/m²		R 97.85	R -	No	M1,3	/m²		R 97.85	R -	Yes	M1,3	/m²	6 615.77	R 97.85	R 647 372.54
	3.3.4		Excavate material to specific depth for manhole	No	M1,4	/m³		R 36.69	R -	No	M1,4	/m³		R 36.69	R -	Yes	M1,4	/m³	3.60	R 36.69	R 132.10
Observation point for amount of leachate	3.3.5		Manhole	No	M1,5	/unit		R 30 579.06	R -	No	M1,5	/unit		R 30 579.06	R -	Yes	M1,5	/unit	16.00	R 30 579.06	R 489 264.99
	3.3.6		Rodding eye every 50m	No	M1,6	/unit		R 1 223.16	R -	No	M1,6	/unit		R 1 223.16	R -	Yes	M1,6	/unit	66.16	R 1 223.16	R 80 921.57
Area was determined using design assumptions			**Construction of Concrete Chutes**						**R -**						**R -**						**R 28 989 653.48**
Assume a 30 MPa concrete will be used	3.3.7		Concrete	No	N1,5	/m³		R 4 500.00	R -	No	N1,5	/m³		R 4 500.00	R -	Yes	N1,5	/m³	2 958.00	R 4 500.00	R 13 311 000.00
Assume reinforcing of 132 kg per m^3	3.3.8		High tensile steel bars	No	N1,6	t		R 32 426.55	R -	No	N1,6	t		R 32 426.55	R -	Yes	N1,6	t	390.46	R 32 426.55	R 12 661 141.01
Stone pitching placed to dissipate energy in water	3.3.9		Stone pitching to be done with 300mm dia boulders with a relevant density of 2.65 and higher. All stones to be uniform in size and to protrude by a min. of 100mm.	No	O1,1	/m²		R 285.73	R -	No	O1,1	/m²		R 285.73	R -	Yes	O1,1	/m²	9 860.00	R 285.73	R 2 817 305.24
	3.3.10		Gabion baskets to be supplied and installed as erosion control:	No	O1,2	/m²		R 2 690.96	R -	No	O1,2	/m²		R 2 690.96	R -	Yes	O1,2	/m²	74.40	R 2 690.96	R 200 207.23

Area was determined using design assumptions			**Construction of Drainage Berms (x7) on Side Slopes**						**R -**						**R -**						**R 18 693 910.15**
Total length of draiange berms taken over whole facilty	3.3.11		Import and compaction of material for berms - x7 berms	No	M1,1	/m^3		R 103.97	R -	No	M1,1	/m^3		R 103.97	R -	Yes	M1,1	/m^3	48 825.00	R 103.97	R 5 076 277.18
Cover drainage berm in 150 mm topsoil	3.3.12		Import of topsoil from on site borrow pit	No	G1,8	/m^3		R 55.04	R -	No	G1,8	/m^3		R 55.04	R -	Yes	G1,8	/m^3	24 127.36	R 55.04	R 1 328 025.78
	3.3.13		Establish vegetation - Hydroseeding	No	I1,7	/ha		R 32 426.55	R -	No	I1,7	/ha		R 32 426.55	R -	Yes	I1,7	/ha	11.72	R 32 426.55	R 379 974.31
Placed to prevent erosion gullies from forming	3.3.14		Unreinforced - Geomat composite for erotion control under hydroseeding	No	O1,5	/m^2		R 74.04	R -	No	O1,5	/m^2		R 74.04	R -	Yes	O1,5	/m^2	160 849.08	R 74.04	R 11 909 632.89
Area was determined using design assumptions			**Construction of Clean water Dish**						**R -**						**R -**						**R 3 763 591.22**
	3.3.15		Excavation - Remove all Material 500 mm below	No	G1,6	/m^3		R 61.16	R -	No	G1,6	/m^3		R 61.16	R -	Yes	G1,6	/m^3	44 589.37	R 61.16	R 2 727 002.22
Cover drainage berm in 150 mm topsoil	3.3.16		Import of topsoil from on site borrow pit	No	G1,8	/m^3		R 55.04	R -	No	G1,8	/m^3		R 55.04	R -	Yes	G1,8	/m^3	13 521.90	R 55.04	R 744 276.63
	3.3.17		Establish vegetation - Hydroseeding	No	I1,7	/ha		R 32 426.55	R -	No	I1,7	/ha		R 32 426.55	R -	Yes	I1,7	/ha	9.01	R 32 426.55	R 292 312.38
Area was determined using design assumptions			**Construction of Outlet Structure (x7)**						**R -**						**R -**						**R 769 602.40**
Assume a 30 MPa concrete will be used	3.3.18		Concrete	No	N1,5	/m^3		R 4 500.00	R -	No	N1,5	/m^3		R 4 500.00	R -	Yes	N1,5	/m^3	127.96	R 4 500.00	R 575 820.00
	3.3.19		Erosion Control - Stone Pitching and Rip Rap	No	O1,4	/m^2		R 2 976.69	R -	No	O1,4	/m^2		R 2 976.69	R -	Yes	O1,4	/m^2	65.10	R 2 976.69	R 193 782.40
		3.4	**Closure Phase Monitoring**						**R -**						**R -**						**R 1 528 708.47**
Bi-annually monitoring for 3 years	3.4.1		Surface water quality monitoring	No	K1,1	/yr	3.00	R 45 501.64	R -	No	K1,1	/yr	3.00	R 45 501.64	R -	Yes	K1,1	/yr	3.00	R 45 501.64	R 136 504.93
5 days per year for 3 years	3.4.2		Bi-monthly groundwater quality monitoring (Decommissioning and closure phase)	No	K1,2	/yr	3.00	R 441 806.29	R -	No	K1,2	/yr	3.00	R 441 806.29	R -	Yes	K1,2	/yr	3.00	R 441 806.29	R 1 325 418.86
Bi-annually for 3 years	3.4.3		Rehabilitation monitoring of rehabilitated areas	No	K1,5	/yr	3.00	R 22 261.56	R -	No	K1,5	/yr	3.00	R 22 261.56	R -	Yes	K1,5	/yr	3.00	R 22 261.56	R 66 784.67
		4	**P&Gs and Contingencies**						**R 7 578 945.80**						**R 9 134 732.10**						**R 47 213 649.55**
Assume 12% of sub-total	4.1		Preliminaries and general	Yes	J1,1	%	34 449 753.64	12.00%	R 4 133 970.44	Yes	J1,1	%	41 521 509.55	12.00%	R 4 982 581.15	Yes	J1,1	%	214 607 497.94	12.00%	R 25 752 899.75
Assume 10% of sub-total	4.2		Contingencies	Yes	J1,2	%	34 449 753.64	10.00%	R 3 444 975.36	Yes	J1,2	%	41 521 509.55	10.00%	R 4 152 150.96	Yes	J1,2	%	214 607 497.94	10.00%	R 21 460 749.79
		5	**Annual Rehabilitation Costing**						**R -**						**R -**						**R -**
		6	**Post Closure Phase**						**R 3 589 207.83**						**R 3 589 207.83**						**R 4 553 059.86**
		6.1	**Monitoring**						**R -**						**R -**						**R 963 852.03**
Bi-annual monitoring for 5 years	6.1.1		Surface water quality monitoring	No	K1,1	/yr	5.00	R 45 501.64	R -	No	K1,1	/yr	5.00	R 45 501.64	R -	Yes	K1,1	/yr	5.00	R 45 501.64	R 227 508.22
Annually for 50 years	6.1.2		Annual groundwater quality monitoring (post-closure phase)	No	K1,3	/yr	50.00	R 73 634.38	R -	No	K1,3	/yr	50.00	R 73 634.38	R -	Yes	K1,3	/yr	10.00	R 73 634.38	R 736 343.81
		6.2	**Rehabilitation of RWD**						**R 3 589 207.83**						**R 3 589 207.83**						**R 3 589 207.83**
	6.2.1		Pump Water Out of Dam	Yes	L1,2	/m^3	327 000.00	R 4.65	R 1 521 286.72	Yes	L1,2	/m^3	327 000.00	R 4.65	R 1 521 286.72	Yes	L1,2	/m^3	327 000.00	R 4.65	R 1 521 286.72
Added 5% contingency for area that cannot be measured in anchor trenches.	6.2.2		Remove Liner	Yes	L1,3	/m^2	85 635.90	R 4.86	R 416 531.52	Yes	L1,3	/m^2	85 635.90	R 4.86	R 416 531.52	Yes	L1,3	/m^2	85 635.90	R 4.86	R 416 531.52
	6.2.3		Rip footprint area	Yes	G1,2	/ha	8.16	R 7 169.93	R 58 476.55	Yes	G1,2	/ha	8.16	R 7 169.93	R 58 476.55	Yes	G1,2	/ha	8.16	R 7 169.93	R 58 476.55
Assume 0.3 m	6.2.4		Levelling and shaping of area	Yes	G1,3	/m^3	24 467.40	R 26.77	R 655 077.46	Yes	G1,3	/m^3	24 467.40	R 26.77	R 655 077.46	Yes	G1,3	/m^3	24 467.40	R 26.77	R 655 077.46
Assume 0.15 m thick topsoil	6.2.5		Import of topsoil from on site borrow pit	Yes	G1,8	/m^3	12 233.70	R 55.04	R 673 371.13	Yes	G1,8	/m^3	12 233.70	R 55.04	R 673 371.13	Yes	G1,8	/m^3	12 233.70	R 55.04	R 673 371.13
	6.2.6		Establish vegetation - Hydroseeding	Yes	I1,7	/ha	8.16	R 32 426.55	R 264 464.46	Yes	I1,7	/ha	8.16	R 32 426.55	R 264 464.46	Yes	I1,7	/ha	8.16	R 32 426.55	R 264 464.46
TOTAL									**R 45 617 907.27**						**R 54 245 449.49**						**R 266 374 207.35**

APPENDIX B
LAYOUT MAP



Notes:

REV:	DESCRIPTION:	BY:	DATE:
00	FOR INFORMATION	IK	14/01/2026

STATUS: FOR INFORMATION

MineLock Pty Ltd
54 Via Salara Cres, Irene Corporate Corner
Building 54, First Floor
Irene
0157
www.minelock.co.za

CLIENT: EIMS (PTY) LTD

ENGINEER:

SITE: HARMONY GOLD
MPONENG LOWER COMPART

TITLE: SHCEDULED CLOSURE
LAYOUT DRAWING

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
NTS	14/01/2026	IK	DR

PROJECT NO:	DRAWING NO:	REVISION:
P291	001	00