
FINAL COMPLETION REPORT

HARMONY TARGET GOLD PLANT **SOUTH AFRICA**

Introduction

This Final Completion Report presents the evidence to support the successful implementation of the Corrective Action Plan to correct the deficiencies identified in the recertification audit held from 27th November – 1st December 2023 to enable the Substantial Compliance to advance to a Full Compliance.

Corrective Action Plan

Principle 4 – OPERATIONS - Manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.8 - Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

4.8.5

Where there is no available quality control and quality assurance documentation or as-built certification for cyanide facility construction, has an appropriately qualified person inspected those facilities and issued a report ("fit-for-purpose") concluding that their continued operation within established parameters will protect against cyanide exposures and releases?

Background

Harmony acquired full ownership of Target mine and plant in May 2004. Target Gold Plant and its associated mine have been operating under different owners since the mine first commenced operations in 1995. Design and Quality Assurance/Quality Control documentation are not readily available. The Engineer of Record, engineering and environmental consultancy, Jones and Wagener, have been closely involved in advising on deposition strategies and TSF (Tailings Storage Facility) development for safe and environmentally sound TSF functioning since Harmony took over.

The Gold Plant has been depositing its tailings onto TSF1¹ and TSF2 since the recommissioning of the adjoining Lorraine Gold Mine. Problems began when seepage was noted in the walls of TSF1. The Engineer of Record stopped Target Plant from depositing tailings onto TSF1. Deposition continued on TSF2 until Jones and Wagener stopped deposition onto TSF2 due to a lower factor of safety and seepage. In the absence of any alternative deposition sites and to keep the mine and Plant operating,

¹ TSF 1 and TSF 2, variously referred to as Dam 1 and Dam 2, Target 1 and Target 2 in reports and documents.

deposition continued on TSF 2 and restarted on TSF 1, against the advice of the Engineer of Record.

Jones and Wagener put forward a list of recommendations to mitigate the problems on the two TSFs. Completion of these recommendations was necessary before Jones and Wagener would support the recommencement of tailings deposition on TSF1 and TSF2. After investigations, review and negotiations, it was agreed that deposition on TSF1 would stop, and repair work and additional buttressing would commence. Deposition would continue only on the low points of TSF2, provided there was no reoccurrence of any seepage.

Deficiencies

The Engineer of Record is not prepared to issue "fit-for-purpose" confirmation for TSF1 until the completion of the mitigating recommendations, including additional reinforcing rock buttressing work. The additional work and completion of the necessary safety work on TSF1 is expected to take less than 12 months.

Corrective Actions

- In the short term, the Engineer of Record is prepared to sanction temporary limited deposition in the low areas of TSF2 whilst the repairs are undertaken on TSF1. These repairs are expected to be completed in less than 12 months. Once complete, the Engineer of Record will review the work, undertake stability studies and associated safety checks, and, if the results are positive, will re-sanction the "fit-for-purpose" tailings deposition on TSF1.
- Once deposition recommences on TSF1, deposition on TSF2 will cease, and repairs will commence on TSF2 to make allowance for backup deposition, in the event of problems with TSF1.
- The long-term solution to stability and seepage problems on TSFs 1 and 2 will be to move tailings deposition to the "Freddies" TSF, a short distance away and across the R30 road from the current TSFs location. The switch to using the Freddies TSF for the remaining life of mine (LOM) of Target Mine will take approximately 3 years. This includes safety and stability tests on the TSF, and planning, construction, and modification of pipework to move the tailings from the Target Gold Plant to the Freddies TSF.

Evidence for Auditor

1. Two technical documents have been submitted to the Auditor: -
 - a) Harmony Gold Target TSFs Advanced Stability Assessment, prepared by ARQ Geotech (Pty) Ltd, Ref: - 9752/20096, dated January 2025, Project Team: - Thomas O'Brien, Geotechnical Engineer | Director Pr. Eng.² Paul le Roux, Geotechnical Engineer, Analyst; and Katy O'Brien, Geotechnical Engineer, Pr. Eng.
 - b) Target TSF Continuation Report, prepared by GEOTHETA Consulting Engineers & Scientists, Ref: - 2402464/R02, dated July 2024, compiled by Nasheel Dayalal, Civil Engineer, and Sheyaam Mahomed, Technical Manager, and reviewed by Ian Hammond, Pr. Eng., CEO (Chief Executive Officer).

² Pr Eng stands for Professional Engineer, a registered professional licensed to practice engineering independently. This title is specific to South Africa and is granted by the Engineering Council of South Africa (ECSA).

2. The Target TSF Continuation Report by Geotheta on Target TSFs 1 and 2 focused on safety, environmental compliance, and operational recommendations. The recommendations are as follows: -

▪ **Target 1**

It was reported that the eastern flank of Dam 1 does not meet local slope-stability regulations, and a buttress is needed to meet safety requirements. Target 1 can deposit at a rate of 110,000 tonnes per month. Additional storage capacity is 2,296,144 tonnes. It is recommended that the Phase 1 buttressing be completed, elevated drains be installed, and an ALARP (As Low As Reasonably Practicable) risk assessment be completed. Budget allocations for remedial work total ZAR766,651.

▪ **Target 2**

Target 2 can deposit at a rate of 97,000 tonnes per month. Additional storage capacity is 2,401,143 tonnes. Elevated drains are recommended to reduce seepage and improve stability. The remedial budget allocation is ZAR6.2 million.

It was stated that a Failure Mode Effects Analysis (FMEA) is necessary for both Dams to evaluate potential failure modes and their impacts on the TSFs. The Analysis will assess the likelihood of failure and its consequences using event trees. The TSFs are classified as a High Hazard Facility in terms of SANS (South African National Standard) 10286 (a South African code of practice for the design, construction, and management of mine residue deposits, currently being revised to align with the more stringent Global Industry Standard for Tailings Management (GISTM))

3. The TSF Advanced Stability Assessment was prepared for Geotherma by ARQ Geotech to assess the stability of the two Target TSFs. The key findings are as follows: -

- Dam (Target) 1 is stable and can accommodate a future height increase.
- Dam (Target) 2 is unstable and not suitable for height increases in its current form.

The Static liquefaction assessment considered three triggers: staged development, phreatic surface elevation, and loss of confinement

- Dam 1 showed stability under all static triggers. Dam 2 was vulnerable.

The conclusions and recommendations of the report stated: -

- Dam (Target) 1 is suitable for future height increases with proper monitoring.
- Dam (Target) 2 requires further evaluation before any expansion can occur.
- Continuous monitoring of credible triggers is essential for ongoing safety. The assessment aligns with local and international standards for tailings stability.

4. Also submitted to the Auditor were the TSF Quarterly Meeting Minutes for Quarter 1 – 2024, Quarter 2 – 2024, Quarter 3 – 2024, Quarter 4 – 2024, and Quarter 3 2025, as well as the Target 1 & 2 TSF Annual report 2024.

A review of the quarterly minutes indicated that Target 1's pool was mostly nonexistent or contained small quantities of rainwater, but within limits. Target 2's pool was mostly within acceptable limits.

Freeboard levels on both Dams were legally compliant. Piezometers were maintained and replaced when blocked.

Engineer of Record for the Free State Operations Tailings Storage Facilities (TSFs) near Welkom, South Africa, including Target Dams 1 & 2. It was stated that, "...Geotheta appointed ARQ Geotech to complete the advanced stability assessment of the facility. Two sections were analysed, section G-G on Target 1 and section L-L on Target 2. Based on the assessment, Target 1 appears more stable, and can be considered for a future height increase of 5.0m beyond its present design height. Target 2, on the other hand, is not recommended for future height increase, due to the instability of the section L-L assessed. Limited deposition is permitted on Target 2 to fill desiccation cracks and build freeboard..." The report further noted, "...The total deposition tonnage of 979 136 tonnes for the last year was within the allowable cumulative tonnage of 1 320 000 tonnes. The rates of rise of 0.64m/year (Target 1) and 1.0m/year (Target 2) are within the allowable rate of rise of 1.8m/year. There are no concerns..."

Conclusion

Considerable ongoing maintenance and developmental work has been carried out on both Target 1 & 2, and is ongoing. The new Engineer of Record, Ian Hammond, a Professional Engineer (Pr.Eng.- ECSA Registration No 20110169) and a Principal tailings and geotechnical engineer, has confirmed his acceptance of the operating practices of Target 1 and 2 by signing off on the annual Audit Report. Targets 1 and 2 are deemed to be operated in accordance with design and modification guidelines and have corrected the original identified deficiency.



Arend Hoogervorst
Lead Auditor & Technical Auditor

Date: 3rd November 2025

