
FINAL COMPLETION REPORT

African Barrick Gold North Mara Gold Mine **Tanzania**

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 14^h – 18th May 2012 to enable the Substantial Compliance to advance to a Full Compliance.

Corrective Action Plan - 1

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

Standard of Practice 4.1 Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

Deficiencies

- As a result of changing ore characteristics and process philosophies, and changing terminal cyanide levels, there were a series of changes in compliance strategy, which included changing the appropriate points of compliance, which were not accurately reflected in operational procedures, to which multiple turnover of senior staff did not react appropriately to.

Corrective Actions

- Corrections and additions to the systems documentation and procedures will be made to ensure that staff changes will not disrupt operational Cyanide Code compliance.

Evidence Sighted by the Auditors

- The revised and amended surface water sampling procedure (ENV-MON 07) was sighted which included full and complete information on cyanide compliance points, sample handling and management, chain of custody process in sufficient detail to enable training and planned task observations to be undertaken.
- A TSF Safety, Theory Training Model has been developed and is used for training all staff from the Process and Environmental departments who work, sample or observe on the TSF. It includes key issues such



as a TSF Overview and Explanation of Tailings Storage Facility and Operation, Required PPE, Housekeeping, Water Recovery, Discharge methods, High Pressure Slurry, Boggy and Unstable Ground, Dam Wall Freeboard, and TSF Trouble Shooting.

Corrective Action Plan - 2

Principle 4 – Operations: manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.4 Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

Deficiencies:

- There are significant gaps in the continuity of WAD cyanide monitoring data, and the appropriate points of compliance, pertaining to the supernatant pond, demonstrating Code compliance to this Operations Practice over the three year period since certification.

Corrective Actions

- Confirmation of appropriate code compliant sampling points, to take into account the changing pond characteristics relating to changing ores and TSF management and the documentation thereof.
- Retraining of environmental officers and samplers on reviewed and revised sampling and wildlife monitoring procedures
- Establishment of system based, strong communication between the environmental and gold plant staff to ensure that TSF sampling data is available for review on a daily basis.
- Appoint a formal Cyanide Champion to review and update all cyanide procedures, monitor cyanide results independently, and provide leadership on cyanide related activities and the Cyanide Code.
- Install new WAD 1000 cyanide analysers at the Detox plant and CIL circuits.

Evidence sighted by Auditors

- Photographic and extensive data evidence was sighted that indicated that the detoxification circuit has been significantly improved and a new 10 tonne Oxygen Plant added. Performance efficiencies have been improved and 95% of daily TSF data since October 2012 was below 50ppm WAD cyanide. With the help of experts from the oxygen plant manufacturers, spikes in data were investigated, and problems with the plant were pinpointed with replacement of the zeolite reagent dealing with the issues.
- Attendance register for retraining of environmental officers in the revised sampling procedure.



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- Evidence of the daily WAD cyanide results from the TSF discharge point emailed to key members from different involved departments in the mine.
 - The site has appointed CN Champion whose responsibilities include:-
 - Reviewing and updating all Cyanide SOP's as per the review dates.
 - Monitoring of the WAD Cyanide going to the TSF after detoxification
 - Providing leadership in maintaining all Cyanide related activities including all nine principles of the cyanide code (Production, Transportation, Handling & Storage, Operations, Decommissioning, Workers Safety, Emergency Preparedness, Training and Dialogue.), and
 - Coordinating all technical requirements for day-to-day Cyanide activities and plant supervision.
 - Photographic evidence of the WAD 1000 cyanide analysers installed at the Detox plant and CIL.

Corrective Action Plan - 3

Principle 4 – Operations: manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.9 Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

Deficiencies

There was a failure in correct implementation of sampling and monitoring procedures through lack of understanding and insufficient handover between departing and new staff.

Corrective Actions

- Re-establish appropriate, Code compliant, sampling points on the TSF considering the changing terminal cyanide level requirements in the residue slurry and enable appropriate management of WAD cyanide levels in the TSF.
- Document in detail the WAD cyanide management and sampling philosophy necessitated by the complex and changing ore processing and pond management and ensure that the appropriate amendments are made to operational and environmental procedures and operating parameters.

Evidence sighted by Auditors

- The revised and amended surface water sampling procedure (ENV- MON 07) was sighted which included full and complete information on cyanide compliance points, sample handling and management, chain of custody

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- process in sufficient detail to enable training and planned task observations to be undertaken.
- Sighted evidence of detailed daily WAD cyanide monitoring and measurement results, the Detoxification Process Work Procedure and a copy of the Detox Plant Area Start of Shift Checklist.

Conclusion

The Lead Auditor, following discussions within the audit team, is satisfied that the corrective actions taken, meet the requirements of the corrective action plans and thus enable substantial compliance in the Operations Practices to be revised to Full Compliance.



Arend Hoogervorst
Lead Auditor

Date: 16th May 2013

