

NORTH MARA GOLD MINE ICMI RECERTIFICATION AUDIT – SUMMARY AUDIT REPORT

North Mara Gold Mine

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1 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility: North Mara Gold Plant

Name of Cyanide User Facility Owner: Barrick Gold Corporation

Name of Cyanide User Facility Operator: Barrick Gold Corporation

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2 LOCATION AND DESCRIPTION OF OPERATION

Barrick Gold Corporation Canada (Barrick) reduced ownership in North Mara Gold Mine from 74% to 64% and notified ICMI in 27 Feb 2013. African Barrick Gold was changed to Acacia Mining PLC in Nov 2014. Acacia Mining became a signatory to ICMI in November 2015. In September 2019 Barrick Gold purchased the remaining shares in Acacia Mining that it did not own at the time, with Acacia Mining becoming a fully owned subsidiary of Barrick Gold.

Barrick's North Mara Gold Mine is located in the Tarime District, Mara, Tanzania. It is approximately 38 km south of the township of Tarime, 110km east of Musoma town centre and approximately 350km from Mwanza. It is located 100km east of Lake Victoria and 20km south of the Kenyan border.

The North Mara mine consists of one open pit deposit, Nyabirama and an underground mine at Gokona. The deposits are exploited using traditional drilling and blasting techniques. Both oxide and sulphide reserves are mined and processed by conventional carbon-in-leach (CIL) technology.

The ore is hauled in 80 tonne dump trucks up to the Run of Mine (ROM) pad at Nyabirama. The ore is drawn out of the ROM bin and fed onto a vibrating grizzly screen by means of an apron feeder. The undersize material passes through the grizzly onto a conveyor belt while the oversize material passes through a jaw crusher which discharges onto the same conveyor belt. The ore is fed onto a banana screen via a two tier conveyor system. The undersize from the banana screen passes onto a conveyor belt which feeds the SAG (Semi-Autogenous Grinding) mill feed stockpile while the oversize material is fed into a secondary cone crusher. The crushed ore from the secondary stockpile is tipped onto the SAG feed stockpile.

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The ore is drawn from underneath the SAG mill feed stockpile onto the SAG mill feed conveyor belt by means of three vibrating feeders. It is fed into the SAG mill for primary grinding. The SAG mill discharge is pumped to a cluster of twelve cyclones for classification. The cyclone overflow is fed to two trash screens whilst the underflow reports to a scalping screen prior to gravity concentration. Screen overflow is recombined with gravity circuit tails and reports to 2 ball mills in closed circuit with the classification cyclones. The concentrate from the Knelson Concentrators is fed to the Acacia reactor in the gold room for gold recovery by intensive cyanidation. Acacia tailings are returned to the ball mill circuit and pregnant solution is pumped to electrowinning cells.

The trash screen overflow falls into a bunker whilst the underflow is fed to two thickeners. Thickened slurry is pumped to the CIL circuit and water recovered from the thickeners is pumped back to the mill circuit as process water. The CIL circuit consists of three pre-leach tanks and nine adsorption tanks. Carbon is transferred counter current to slurry flow by means of air lifts and is pumped from Tank 4 over the loaded carbon screen before being transferred to the acid wash section.

Residue from the CIL section is pumped to a cyanide detoxification circuit where Weak Acid Dissociable (WAD) cyanide concentrations are reduced to less than 50ppm before final plant tailings are routed to the tailings storage facility (TSF). Following deposition, solution from the TSF supernatant pond is pumped back to the plant as process water.

Loaded carbon from the CIL circuit is acid treated using HCl before loaded gold is stripped from the carbon using the AARL (Anglo American Research Laboratory) elution process. Cyanide is not used in the elution circuit. Eluted carbon is regenerated in a rotary kiln and returned to the CIL circuit.

Eluate solution is passed to two electrowinning cells for gold recovery. Gold electroplates onto cathodes which are periodically removed and washed with high pressure spray water to produce a gold slime which is dewatered in a plate and frame filter press. The gold sludge filter cake is dried in calcine ovens and smelted on site before being dispatched as doré bars.

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SUMMARY AUDIT REPORT

AUDITORS FINDINGS

in full compliance with
 in substantial compliance with
 not in compliance with

North Mara Gold Plant is:

The International Cyanide Management Code

Audit Company: SLR Consulting (Africa) (Pty) Ltd

Audit Team Leader: Ed Perry, Lead Auditor

Email: ed.perry@ricardo.com

COMPLIANCE STATEMENT

A letter, dated 2nd September, 2019, was sent to the International Cyanide Management Institute (ICMI) requesting for North Mara Gold Mine to enter a ‘temporary inactive period’. This was due to a Tanzanian Government Prohibition Order to cease using the Tailing Storage Facility (TSF) with the consequence of the Process Plant ceasing operations. The Prohibition Order was lifted on the 17th September 2019. The Process Plant restarted operations following this and the recertification audit described in this report was undertaken.

With the exception of the above inactive period North Mara Gold Mine has not experienced any significant cyanide incidents or compliance problems since the previous recertification audit.

NAME OF OTHER AUDITORS

Marie Schlechter, ICMI pre-certified Mine Technical Specialist

DATES OF AUDIT

The Re-certification Audit was undertaken between 9 December 2019 and 12 December 2019.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

The “International Cyanide Management Code For The Manufacture, Transport, And Use Of Cyanide In The Production Of Gold and Silver” (the Code) was developed by a multi-stakeholder Steering Committee under the guidance of the United Nations Environmental Program (UNEP) and the then, International Council on Metals and the Environment.

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The Code is a voluntary industry programme for gold mining companies, and companies involved with the production and transport of cyanide to gold and silver mining companies; it focuses exclusively on the safe management of cyanide. Companies that adopt the Code must have their operations, which manufacture cyanide, transport cyanide or use cyanide to recover gold and silver, audited by an independent third party to determine the status of the Code's implementation. Those operations that meet the Code's requirements can be certified and are able to use a unique trademark symbol, which identifies the company as a certified operation. Audit results are made public to inform stakeholders of the status of cyanide management practices at the certified operation.

The objective of the Code is to improve the management of cyanide used in gold and silver mining and assist in the protection of human health and the reduction of environmental impacts (refer to www.cyanidecode.org). The Code is managed by the International Cyanide Management Institute (ICMI).

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PRINCIPLE 1 – PRODUCTION

ENCOURAGE RESPONSIBLE CYANIDE MANUFACTURING BY PURCHASING FROM MANUFACTURERS THAT OPERATE IN A SAFE AND ENVIRONMENTALLY PROTECTIVE MANNER

Standard of Practice 1.1: Purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 1.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 1.1; to purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

A solid sodium cyanide purchase contract variation agreement including North Mara Gold Mine and Orica expiring on the 31 Dec 2015 was signed including an extension to 31 Dec 2017. Orica was continuing to supply solid cyanide to North Mara through individual purchase orders. This agreement includes the conditions in the original contract, which started on 1 Jan 2009 including the requirement that the cyanide is produced at a facility compliant with the code.

All cyanide is purchased directly from Orica who have their own certified production facility in Yarwun, Australia. The facility was recertified on 29 October 2013 and again on 22 February 2017. The contract allows for distributors and subcontractors for the transportation of the cyanide. The contract in 13.2 requires the seller (Orica) to comply with all current and future recommendations of the ICMI.

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PRINCIPLE 2 – TRANSPORTATION

PROTECT COMMUNITIES AND THE ENVIRONMENT DURING CYANIDE TRANSPORT

Standard of Practice 2.1: Establish clear lines of responsibility for safety, security release prevention, training and emergency response in written agreements with producers, distributors and transporters.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.1 to establish clear lines of responsibility for safety, security release prevention, training and emergency response in written agreements with producers, distributors and transporters.

The contract with Orica International PTE Ltd includes transportation and the delivery of the cyanide to the mine site. Orica uses Freight Forwarders Kenya (FFK) for the transportation of solid cyanide, from the port of Dar es Salaam to the Mine. FFK was initially certified on 22 January 2008 and most recently was recertified on 31 July 2018.

The contract with Orica designates responsibilities for the following:

- a) Packaging as required by the United Nations for international shipments and by the political jurisdiction(s) the shipment will pass through.
- b) Labelling in languages necessary to identify the material in the political jurisdiction(s) the shipment will pass through, and as required by these jurisdiction(s) and by the United Nations (for international shipments).
- d) Storage prior to shipment.
- e) Evaluation and selection of routes, including community involvement.
- f) Storage and security at ports of entry.
- g) Interim loading, storage and unloading during shipment.
- h) Transport to the operation.
- i) Unloading at the operation.
- j) Safety and maintenance of the means of transportation (e.g. aircraft, vessels, trains, etc.) throughout transport.
- k) Task and safety training for transporters and handlers throughout transport.
- l) Security throughout transport.
- m) Emergency response throughout transport.

The contract has as yet designated responsibility for c) the addition of the colorant dye, although in practice this responsibility rests with the mine.

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The written agreement specifies that designated responsibilities extend to any subcontractors used by the producer, distributor, transporter or the operation for transportation related activities

The transportation of solid cyanide since the last recertification audit been undertaken solely by FFK.

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Standard of Practice 2.2: Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 2.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.2 to require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

A supply contract is in place with Orica to supply sodium cyanide to the Port of Mombasa and the contract covers responsibilities as in the questions above. The mine has a contract with certified transporters to transport the cyanide by road from the port to the mine. This contract requires the transporter to be certified.

The services agreement in respect of global transportation, clearance and forwarding warehousing and distribution, consolidation services, concentrate and fuel transport between Barrick Gold, acting on behalf of North Mara Gold Mine, and Freight Forwarders Kenya (FFK) covering transport of solid sodium cyanide to the Mine.

The Orica East Africa Supply Chain covers the transportation of solid sodium cyanide by ship from the Port of Brisbane, Australia to the Ports of Mombasa, Kenya, and Dar es Salaam, Tanzania, via the Mediterranean Shipping Company. Within Kenya and Tanzania solid sodium cyanide is transported by road to end point users by Freight Forwarders Kenya and Freight Forwarders Tanzania.

The Orica Australian Supply Chain was recertified on 20 August 2018 and the Orica East Africa Supply Chain was recertified on 3 April 2018.

FFK was initially certified on 22 January 2008 and most recently was recertified on July 31, 2018

The operation has chain of custody records identifying all elements of the supply chain (producer, transporter, interim storage facilities) that handle the cyanide brought to its site, and all transporters are certified in compliance with the Code.

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PRINCIPLE 3 – HANDLING AND STORAGE

PROTECT WORKERS AND THE ENVIRONMENT DURING HANDLING AND STORAGE

Standard of Practice 3.1: Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 3.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 3.1; design and construct unloading, storage and mixing facilities consistent with sound accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

The facilities for unloading, storing and mixing cyanide have been designed and constructed in accordance with cyanide producers' guidelines, applicable jurisdictional rules and/or other sound and accepted engineering practices for these facilities.

It was stated in the previous recertification audit that a new cyanide mixing and storage facility was constructed at the end of 2015. The facility was designed by Marlyn Chemicals. This was included in the previous recertification audit.

Unloading and storage areas of solid cyanide are located away from people and surface waters.

Only solid cyanide is transported to the mine.

There is a method to prevent the overfilling of cyanide storage tanks. Procedure Cyanide Mixing - CN 11 - Rev 15, 22 Sept 2019, includes the following:

- Call Control room operator on radio and have him press on water fill valve to fill tank up to 75%. Automatic shut off valve prevents overfilling; and
- After mixing is complete the control room operator transfers the mixed cyanide to the storage tank. Maximum filled volume is 90%. There is an automatic shut off valve.

Tank levels are indicated on the SCADA system in the control room

The solid cyanide boxes are stored in a warehouse i.e. under a roof and off the ground to minimise the potential for contact of solid cyanide with water. The warehouse is fitted with ventilation slots to prevent the build-up of hydrogen cyanide gas.

It was observed that the cyanide storage and mixing tanks are fitted with ventilation pipes on the side of the tanks. The storage and mixing tanks are located in an open air environment.

The solid cyanide warehouse has a roof, solid sides, concrete floor and concrete hump at the entrance to prevent any rainwater from entering the warehouse.

The solid cyanide warehouse is located within a high security area, with access control and security patrols. The storage shed is triple locked with keys held by the Security officer, Warehouse Supervisor and Process Plant Supervisor.

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The cyanide is stored separately from incompatible materials, such as acids, strong oxidisers and explosives and apart from foods, animal feeds, and tobacco products with berms, bunds, walls or other appropriate barriers that will prevent mixing.

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Standard of Practice 3.2: Operate unloading storage and mixing facilities using inspections, preventative maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 3.2**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 3.2 to operate unloading storage and mixing facilities using inspections, preventative maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

Procedures are in place and implemented to prevent empty cyanide containers from being used for any purpose other than holding cyanide.

Cyanide Mixing - CN 11 - Rev 15, 22 Sept 2019. Each bag is washed three times by bag wash spray to ensure no cyanide is left in the bag. All empty cyanide bags are secured in empty boxes along with empty NaOH bags.

Burning of Cyanide Boxes - CN 21, Rev 8, 15 June 2019. To dispose of cyanide boxes and reagent bags in a safe and environmentally friendly manner. Burning of the cyanide boxes

will take place during the same day as the mixing operation. The ashes should be loaded into the truck and be disposed of at the tailings storage facility (TSF).

Cleaning Cyanide Empty Container - CN 9, Rev 5, 15 06 2019. Making sure the empty cyanide shipping container, which is used to bring the wooden boxes to site, is thoroughly cleaned following safe working procedure by trained gold plant personnel. The Isotainers are washed in the secondary bund of the Leach Tanks. The sump pump pumps it to the thickeners. Alternatively, the isotainers are washed at the storage shed on the concrete from where the water drains to a sump pump which pumps to UP70 sump pump and to the thickener.

The operation has developed and implemented plans or procedures to prevent exposures and releases during cyanide unloading and mixing activities.

Mixing Cyanide - CN 11, Rev 15, 22 Sept 2019. Ensure the cyanide transfer manual valve is closed before filling up the cyanide mixing tank with water and after the cyanide transfer from mixing to storage tank is completed. Ensure water addition manual valve is open. When the first batch of two bags is completed, the operator is to pour the red dye into the bin. The operator will do the same to the second batch once completed; he will be also required to pour a cup of red dye into the bin. When each batch of charging cyanide bags into the mixing tank had been completed go to SCADA control and request CYANIDE MIX COMPLETE at which time the water addition valve will automatically open and fill the tank to approximately 85%. The manual isolation valve must be closed when level reaches set point to prevent overflowing in case of valve failure.

Unloading Cyanide Containers and Cyanide Boxes - CN 30, Rev 6, 09 Nov 2019. It was observed during the site visit that the cyanide boxes are only stacked two high in the warehouse.

Cyanide Transportation - CN 12, Rev 10, 15 June 2019. Only one box is allowed to be lifted and moved at a time. Do not attempt to lift two boxes on top of each other, as this increases the risk of an incident to happen if the boxes topple over and fall to the ground.

Cleaning Cyanide Liquid Spill - CN 01, Rev 11, 15 June 2019. To maintain a clean and health environment by safely cleaning up liquid cyanide spills immediately they occur without causing any harm to personnel and / or property.

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Cleaning of Dry Cyanide Spill on the Ground - CN 04, Rev 7, 15 June 2019. To maintain a clean and safe environment by safely cleaning up a dry cyanide spills immediately after they occur without causing any harm to personnel and / or property.

Buddy Responsibilities - CN 22, Rev 6, 15 June 2019. Responsibilities of the buddy during cyanide mixing. Section 7 of the procedure stipulates the PPE requirements for cyanide mixing.

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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 preventative maintenance procedures.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.1 to implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures.

Written management and operating plans or procedures have been developed for cyanide facilities including unloading, mixing and storage facilities, and tailings impoundments include the following: 14 Cyanide specific operational procedure; 42 Carbon in Leach (CIL) procedures; 23 Elution procedures; 4 Operational procedures; 4 Environmental procedures; 11 TSF procedures; 4 Detox procedures, and TSF- Management Plan - NMGPD – TSF – 1.0, Revision 6, 29 Jan 2019.

The operation has a number of procedures identifying assumptions and parameters for design and operation of the cyanide facilities including the following. PH Determination – CIL 17 – Rev 7, 12 March 2019, which states the pH parameter in Tank # 1 must be maintained at 10.0 and above.

Cyanide Addition to CIL Circuit – CIL 5 – Rev 8, 12 March 2019 states that the normal cyanide addition and levels must be automatically controlled by the TAC 1000 Analyzer using PU30A, as per the set parameters. The cyanide set point is 230 ppm free CN unless the ore characteristics changes. Detoxification Process Work Procedure – DET 01- Rev 5, 23 Dec 2018 states the actions to be taken “If the concentration of WAD cyanide in Detox tank discharge is above 50ppm”. Process Water Pond Operation - TSF 09 - Rev 5, 25 Nov 2019 states that if the WAD CN level in the final tails is greater than 50ppm, the Detox plant must be operated accordingly and monitored closely until it is less than 50ppm WAD CN.

TSF Operation NMGPD – TSF - 01, Rev 8, 29 Jan 2019: states the TSF must maintain a freeboard of +1000mm. This ensures that a potential to overflow to the embankment is eliminated. It also states that the TSF is designed to accommodate a 1 in 100 year 72 hour storm event. It was confirmed that the current freeboard requirement is 1.85 m.

North Mara is operating with a number of inspections and checklists, as well as preventive maintenance activities describing the standards and practices necessary for the sound operation of the cyanide facilities, including the specific measures needed for compliance with the Code.

Planned Maintenance is undertaken using Pronto Xi software that lists all of the Plant that undergo regular maintenance. The software is structured as a hierarchical tree. A list of the sections within the maintenance programme includes: New CIL buildings, Reclamation, Pre-leach Leaching, Gravity and Gold Room, Reagent Oxygen, Detox and Tailings Storage, Pump, Water Services, and Reagents, which includes Cyanide Area. All ad hoc maintenance is also recorded in the database. The auditors observed the software and the inspection frequencies for various equipment.

The job card is completed for all inspections. All observations are recorded as well as any defects that require repairs. The job card is signed off by the supervisor and checked by the planner, who raises a separate job card for any repairs before the inspection is completed on the system. Various job cards and plant work order sheets were observed.

TSF daily logsheets and shiftly plant inspections were also observed.

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The following inspection reports were observed:

- Technical Report Process Plant Structural Steel Integrity Inspection, Gastech Enterprises, April 2018.
- Structural Inspection and Maintenance Management, Report No; QTS/2017/593, Quest Technical Services, March 2017
- Tailings Storage Facility Annual Audit Report 2018, Knight Piesold, 15 May 2019.
- Tailings Storage Facility Annual Audit Report 2017, Knight Piesold, 24 Sept 2018.

The operation inspects cyanide facilities on an established frequency sufficient to assure and document that they are functioning within design parameters. The inspections are documented, including the date of the inspection, the name of the inspector, and any observed deficiencies; the nature and date of corrective actions and records are retained.

Deficiencies picked up during an inspection will be rectified via an ad-hoc job card as part of the preventative maintenance system.

The operation has a procedure to identify when changes in a site’s processes or operating practices may increase the potential for the release of cyanide and to incorporate the necessary release prevention measures.

Procedure: Management of Change (MOC), Request for Change & Functional Area Review, Doc No: NMA-SAF-FOR-0013, Rev 01, 28 Oct 2019. The procedure describes the information that must be collected and considered during the MOC including: request for change information; questions for functional area representatives (including environmental); formal risk assessment; technical and cost assessment; action plan; final approval to implement change; and lessons learnt.

There are a number of procedures in place for contingencies situations such as upset in TSF water balance, temporary closure, or when inspections or monitoring identifies a problem, including the following: Notification to Prepare for Process Plant Shutdown – Process Slurry Spillage ML - 62, Rev 4, 10 March 2019; “Crash Stop Shutdown” ML - 19 Rev 5, 15 February 2019; CIL Pre Start Checks – CIL 02 – Rev 03, 12 March 2019; CIL Circuit Shutdown – CIL 11 – Rev 06, 12 March 2019; High HCN Gas – CIL 13 – Rev 4, 12 March 2019; Power Failure – CIL 22 – Rev 6, 12 March 2019; Detox Plant Pre Start Checks – DET 06 – Rev 4, 14 Aug 2018; Detoxification Process Work Procedures- DET 01, Rev 5, 23 Dec 2018. This provides guidance to operational personnel in the event of a process upset in the cyanide detoxification circuit. TSF Upset Safe Work Procedure-TSF 10 – Rev 4, 25 Nov 2019 includes actions to be taken in the following situations; Decant Pump Failure, Weld Failures, Spigot Failures, Valve Failures, Sabotage, No Flow, Overtopping, and Embankment Failure.

The operation inspects the following at unloading, storage, mixing and process areas, including the following: Technical Report Process Plant Structural Steel Integrity Inspection, Gastech Enterprises, April 2018. Results indicate remaining tank life; Technical Report Annual Inspection of Tanks Integrity and Shell Thickness 2018 and 2019, Gastech Enterprises; CIL Tank Repair Programme including a schedule to sandblast and coat the tanks.

The leach tanks are seated on ring beams. The operation has developed a monitoring and action plan for the ring beams. Lysimeter tests are conducted once a month. Operational Daily Checklists for Detox Plant Area and CIL Area Start of Shift Checklist assesses the condition of the bunds and whether they are empty or not.

The seepage pumps and associated sumps are checked on a daily basis during the TSF and Water Management Daily Log Sheet checks. The TSF delivery line and tailings distribution line, Y piece and valves are checked on a daily basis during the TSF and Water Management Daily Log Sheet checks. Operational inspections for the start of shifts cover pump operation, check for noise, heat, vibrations, and lines for leaks. The inspections for operational areas of the plant include checking tanks, pipelines, and valves for deterioration and leakage.

TSF Daily checklist does visual check on tailings level versus embankment crest. TSF Monthly Inspections checks for the water levels at the TSFs and seepage collection sumps. TSF Weekly Inspections checks for freeboard. There are no surface water diversions required to maintain the water balance.

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The operation has the necessary emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power being interrupted.

The plant has 18 Gensets for power backup that can run the entire plant, 15 on standby and 3 are running to ensure that all critical areas such as the detox plant is running.

The back-up generating equipment is maintained and tested through the Proton Xi Enterprise Management System.

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Standard of Practice 4.2: Introduce management and operating systems to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.2; introducing management and operating systems to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

The operation conducts a program to determine appropriate cyanide addition rates in the mill and evaluate and adjust addition rates as necessary when ore types or processing practices change cyanide requirements.

Weekly Blend Ratio Reports are received from the Geology Department. Blend Ratio Reports contain quarterly information on the ore to be fed into the plant. This indicates the grade that will be fed into the plant. The cyanide setpoint is adjusted depended on the ore to be received. Normal Setpoint is 230 ppm free CN for 3 gram per tons up to 4 gram per tons. From 4 up to 6 grams per ton, the setpoint is adjusted to 250 ppm free CN. This parameter was set based on test work as stated below.

North Mara_Feeding_summary_week_by_week_standard_file_week_50_1912 indicates the source of the materials that come to plant, and crusher feeding grade per day for the week. The sheet is updated every week.

Adjustments to a higher setpoint is done slowly to ensure that the last leach tank does not exceed 100 ppm free CN. If this is exceeded, the setpoint is reduced providing a feedback mechanism. Before any adjustment of the cyanide setpoint a communication is sent from Management to the operators to indicate that higher grade ore will be received and that the setpoint will be adjusted.

Leach Kinetics Test is undertaken to determine consumption of the cyanide at particular grades, ore type, and oxygen uptake. The work was done on underground and open pit ore.

The operation has evaluated various control strategies for cyanide addition.

A TAC 1000 is used to control the cyanide at the dosing point according to the setpoint. This takes a sample in Tank 1 and Tank 5 and adjusts the quantity accordingly. Manual samples (titrations) are taken on all tanks every two hours as back-up and in order to manually control the cyanide addition in the event that the TAC 1000 is not working. Manual samples are taken on Tank 12 to ensure that the tank does not exceed 100 ppm.

The operation implemented a strategy to control its cyanide addition. Cyanide addition control is based on TAC 1000 on-line free cyanide measurement linked to variable speed control on the dosing pumps. Free cyanide in CIL no 12 is manually titrated two hourly. TAC1000 set points are changed based on residual free cyanide values to optimise recovery

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Standard of Practice 4.3: Implement a comprehensive water management programme to protect against unintentional releases.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.3**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.3 to implement a comprehensive water management programme to protect against unintentional releases.

The operation has developed a comprehensive, probabilistic water balance.

Piteau Associates, an environmental consultancy, is assisting North Mara with the development of the water balance. They update the model on an annual basis with data provided by the mine. The water balance is currently used to assess different on-site scenarios.

The water balance was constructed in version 12.1 of the GoldSim software platform. Goldsim is an analytical modelling package which allows the simulation of highly dynamic flow and associated chemical network systems such as a site-wide water and chemical mass balance.

The water balance includes the following:

- rates at which tailings are deposited into tailings storage facilities (TSF);
- precipitation, evaporation, and seepage rates (including 1 in 100 year, 24 hour storm event);
- undiverted runoff from external catchment areas;
- potential power outages; and
- phreatic levels in the TSF.

There are no direct discharges to surface water and the effects of freezing and thawing are not applicable.

The operating procedures incorporate inspection and monitoring activities to implement the water balance and prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment. The process water pond is inspected on a daily basis.

Ponds and impoundments are designed and operated with adequate freeboard above the maximum design storage capacity determined to be necessary from water balance calculations.

The TSF is operated with a freeboard of 1.85 m.

The operation measures precipitation compares the results to design assumptions and revises operating practices as necessary. The weekly water management meetings are used to discuss any short term actions required to prevent any spillages to the environment. TSF employees also attend the meeting. The daily management meetings also include an item to discuss any water management issues.

The water level in the process water pond is maintained between 1m above the pump suction point and 300mm from below the overflow point.

A float switch is located on the southern wall of the process water pond which will activate an audible alarm as well as a flashing light if the freeboard is less than 300mm from the overflow point.

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

in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.4**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.4 to implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions

The operation has attempted to maintain the WAD cyanide levels in all open waters below 50 mg/l. The TSF is fenced to prevent local cattle and wildlife from accessing the open water.

A detoxification system is in place between the feed from Tank 12 (CIL) and the feed to the TSF to ensure that the WAD cyanide in the tailings is less than 50ppm when exiting the spigots.

WAD monitoring is conducted at the following locations and frequencies: the spigot - once a day; at the decant pump – weekly; and process water pond (inside the plant) - quarterly.

The following results were observed;

Spigot - daily WAD cyanide results 1st Jan 2016 – 11 Dec 2019.

- 19 exceedances in 2016 with the highest being 69.88 on 20 Nov 2016.
- 0 exceedances in 2017.
- 38 Exceedances in 2018 with the highest being 83.5 mg/l on 7 March 2018.
- 20 Exceedances in 2019 with the highest being 73.6 mg/l on 13 May 2019. The last exceedance was on the 16 July 2019.

In the event of an exceedance a root cause assessment is undertaken and appropriate corrective actions undertaken e.g. maintenance of the detoxification process.

Decant Pond – weekly results 3 Jan 2017 to 5 Jul 2019

- 0 exceedances, all results below 1 mg/l.

Process Water Pond quarterly results 15 March 2016 – 1 Oct 2019.

- 0 exceedances, highest result was 0.37 mg/l on 14 Jun 2018.

Detoxification Process Work Procedure – DET 01- Rev 5, 23 Dec 2018 includes actions to be undertaken “if the concentration of WAD cyanide in Detox tank discharge is above 50 ppm”. This includes troubleshooting and ultimately stopping the Plant.

If there is an exceedance TSF personnel are notified. The TSF personnel then monitors for any wildlife activity.

Maintaining a WAD cyanide concentration of 50 mg/L or less in open water has been effective in preventing significant wildlife mortality. The daily inspections showed no wildlife mortalities at the TSF, Decant Pond, or Process Water Pond.

No wildlife mortalities have been observed since the last recertification audit.

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Standard of Practice 4.5: Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.5

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.5 to implement a comprehensive water management programme to protect against unintentional releases.

There is no direct discharge to surface water.

TSF decant water is treated at the Water Treatment Plant, which is then transferred to the Ingwe Dam which releases to the Mara River in accordance with the discharge permit.

Water is monitored at the Ingwe Dam and upstream and downstream in the Mara River.

There is no established mixing zone. The following results in the Mara River were observed.

Mara River upstream - SWM03U -quarterly monitoring all results <0.002 mg/l WAD.

Mara River downstream - SWM03D -quarterly monitoring all results <0.002 mg/l WAD.

Indirect discharges from the operation have not caused cyanide concentrations in surface water to rise above levels protective of a designated beneficial use for aquatic life.

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Standard of Practice 4.6: Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.6**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.6 to implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

The operation has implemented specific water management measures to manage seepage to protect the beneficial uses of groundwater beneath and/or immediately down-gradient of the operation.

Seepage interception trenches and sumps have been constructed at the TSF to intercept seepage and pump it back onto the TSF. The seepage sumps are all HDPE lined, as are the TSF pipeline trenches. The tanks in the Plant are all constructed inside concrete bunds, equipped with sump pumps.

WAD cyanide concentrations (or other species of cyanide for which there is a numerical standard established by the applicable jurisdiction) in groundwater down-gradient of the facility at or below levels that are protective of identified beneficial uses of groundwater.

There is no specific legal standard for cyanide in groundwater in place, but the drinking water standard is 0.2 mg/l CN (Tanzania Bureau of Standards - National Environmental Standards Compendium).

The drinking water standard does not stipulate which cyanide species should be measured therefore the mine uses the International Finance Corporation (IFC) effluent standards which stipulate cyanide total - 1 mg/l, cyanide free - 0.1 mg/l and WAD cyanide - 0.5 mg/l

All boreholes are monitored quarterly. There are 19 boreholes around the TSF. The results for the quarterly monitoring were observed between 8 March 2017 and 25 September 2019. All of the results were <0.002 mg/l WAD cyanide.

Mill tailings are not used as underground backfill. seepage from the operation has not caused cyanide concentration of the ground water to exceed that necessary to protect its beneficial use.

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Standard of Practice 4.7: Provide spill prevention or containment measures for process tanks and pipelines.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.7

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.7 to provide spill prevention or containment measures for process tanks and pipelines.

Spill prevention or containment measures are provided for all cyanide unloading, storage, mixing and process solution tanks. All tanks (cyanide mixing, storage, CIL, Detox and residue, elution, process water tank) are located inside concrete bunds.

The tanks are all constructed with concrete bases except for the Leach Tanks, which are on ring beams. The operation has developed a monitoring and action plan for the ring beams. Lysimeter tests are conducted once a month.

Secondary containments for cyanide unloading, storage, mixing and process tanks sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event.

The new cyanide mixing area bund volume is 59.37 m³ with the largest tank being 44 m³. One CIL Tank is 1233 m³ with the total bund available being 2203 m³.

Procedures are in place and being implemented to prevent discharge to the environment or any cyanide solution or cyanide-contaminated water that is collected in the secondary containment area. Containment bunds at the CIL and Detox are equipped with sump pumps to return the spillage back to the process.

The sump pump in the cyanide storage and mixing tank bund can either pump to the storage tank if cyanide was spilled or can pump to the CIL tank No2 if contaminated rainwater is in the bund.

All cyanide process tanks are equipped with secondary containment.

Spill prevention or containment measures are provided for all cyanide process solution pipelines to collect leaks and prevent releases to the environment.

The tailings pipe between the plant and the TSF is running inside a HDPE lined trench inside and outside the plant to the TSF. Daily inspections are conducted of the TSF tailings line as well as the return water line.

The cyanide pipelines within the Plant are constructed of a stainless steel pipe-in-pipe system draining back to the cyanide mixing sump in case of any leaks into the secondary containment pipe. The plant pipelines are inspected as per the schedules on the PRONTO PMS. and shiftly inspections.

There are no areas where the cyanide pipelines could present a risk to surface water and therefore no special protection needs are required. Cyanide tanks and pipelines are constructed of materials compatible with cyanide and high pH conditions. All tanks inside the plant have been constructed from mild steel. The TSF pipelines and return water pipelines are all made from HDPE. Cyanide delivery pipelines are a pipe-in-pipe system that together with the valves are constructed of stainless steel.

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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.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.8**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.8 to implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications

Quality control and quality assurance programs have been implemented during construction of all new cyanide facilities and modifications to existing facilities, including cyanide unloading, storage, mixing facilities and other cyanide facilities.

A replacement storage and mixing facility was designed and constructed by a number of different organisations including Marlyn Chemicals (a chemical design and engineering Company based in South Africa), North Mara Plant Engineering, and Processing Departments at the end of 2015. The inspection of the relevant engineering documents was included in the last recertification audit. This included the following:

Drawings of cyanide mixing and storage tanks - designed by Marlyn Chemicals:

- 40 cube tank general arrangement drg S_6014_40CTGA;
- 20 cube tank general arrangement drg JS_6014_20CTGA;
- General notes covering specifications;
- A S Automation Solutions Pty Ltd issued a manufacturing certificate AS 6014 dated declaring the cyanide dilution system was fabricated in accordance with specifications - signed by J M Schmidt (Director), R O Oliver (General Manager), R Maartens (Technical Manager);
- Civil design documentation cyanide tank civil drawing 2 including civil specification under general notes as well as slab specifications, tank plinth reinforcement specifications;
- Cyanide mixing and storage P&ID drawing 25 July 2015 signed by Dr Johann Oosthuizen, Mechanical Engineer; and

Report No: QTS/2015/142, November 2015, signed by Dr Johann Oosthuizen, Mechanical Engineer. Approval covered foundations and plinths, bunds, steelwork, electrical cabling, piping, cyanide tanks and emergency shower

A new seepage trench was constructed on the northern side of the TSF, which was signed off by the Engineer of Record (Coffey).

The quality control and quality assurance programs addressed the suitability of materials and adequacy of soil compaction for earthworks such as tank foundations and earthen liners, the installation of synthetic membrane liners used in TSFs, and for construction of cyanide storage and process tanks. Quality control and quality assurance records have not been retained for cyanide facilities other than those detailed above.

Appropriately qualified personnel reviewed the construction of the cyanide facilities and provided documentation that the facility has been built as proposed and approved.

An appropriately qualified person has inspected those elements of the facility involving cyanide and issued a report concluding that its continued operation within established parameters will protect against cyanide exposures and releases as detailed below.

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The following structural assessment of the Plant was observed.

Quest Technical Services: Structural Inspection and Maintenance Management, Report No: QTS/2017/593, March 2017 sighted, authored by Johann F Oosthuizen, Mechanical Engineer. The study was based on a visual inspection of the plant structures.

Annual inspections of the TSF are undertaken by Knight Piesold, the following documents were observed: Acacia Mining Plc, north Mara Gold Mine, Tailings Storage facility, Management Audit Report, March 2016 (Ref. No. LO301-00122/14-1) By Knight Piésold Limited; and Tailings Storage Facility Annual Audit Report 2017, LO301-00122/15-01 Rev 0, Knight Piésold Limited.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.9

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.9 to implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

The operation has developed written standard operating procedures (SOP) for monitoring activities. Surface Water Sampling Procedure SOP 14, dated Feb 2016, Rev 4, August 2018; and Groundwater Sampling Procedure SOP 13 GWS, Rev 4, August 2018.

The sampling and analytical protocols were developed by appropriately qualified personnel. The procedures for surface and groundwater quality were developed by Mr John McKenna. Mr McKenna is a Fellow of the Royal Australian Chemical Institute, Member of the Australian Institute of Mining and Metallurgy, and Registered Lead Auditor and Technical Specialist with the International Cyanide Management Institute.

The procedures specify how and where samples should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, and cyanide species to be analysed.

Sampling conditions (e.g., weather, livestock/wildlife activity, anthropogenic influences, etc.) and procedures are documented in writing.

The operation monitors for cyanide in discharges to surface water from the Water Treatment Plant upstream and downstream of the Plant and groundwater down-gradient of the site.

The operation inspects for and records wildlife mortalities related to contact with and ingestion of cyanide solutions.

The Environmental Department conducts daily visual inspections for wildlife mortalities at the Plant. Daily inspections are conducted by the TSF personnel and includes wildlife mortalities. Wildlife mortalities due to cyanide or any chemicals are reportable to the Tanzanian Government. No wildlife mortalities have occurred since the previous recertification audit.

Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner.

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PRINCIPLE 5 – DECOMMISSIONING

MANAGE CYANIDE PROCESS SOLUTIONS AND WASTE STREAMS TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT

Standard of Practice 5.1: Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 5.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.1 to plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The operation has developed written procedures for the effective decommissioning of cyanide facilities at the cessation of operations.

Acacia Mining North Mara Gold Mine, International Cyanide Management Code Compliance Project, North Mara Decontamination and Decommissioning Plan ICMI-ENV-G-003 Rev 03 dated February 2016.

The plan provides detailed descriptions of how the cyanide related facilities should be run down, decontaminated, and decommissioned. Refer to sections 5 and 6 of the report. The plan also includes an implementation schedule for decommissioning activities, see Section 7, contains the Implementation Schedule and Figure 3: Preliminary North Mara Gold Mine Processing Plant Decommissioning and Decontamination Schedule.

The decontamination and decommissioning plan will be revised / updated periodically.

The North Mara Closure Plan, 439725/North Mara, Rev R01, February 2012 was observed in addition to the 2016 report. The Closure Plan will be revised by the end of 2020.

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Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 5.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.2 to establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

The operation has developed an estimate of the cost to fully fund third party implementation of the cyanide-related decommissioning measures as identified in the site's closure plan.

The mine's closure costing is done annually by an external consultant.

Cash Flow_02Dec2018_rev19a_clean (excel sheet)

The closure cost estimate is updated annually by MESA and reviewed by SRK consulting.

Acacia Mining has an Insurance Guarantee in place to make provision for the required closure costs. The Insurance Guarantee has been approved by the government through a Rehabilitation Bond Agreement between the mine and the Ministry of Energy and Minerals.

The auditors observed the following:

Metropolitan Tanzania Insurance Company Limited Guarantee (GR/G/40928/0116/0311-C) dated 29 January 2019 posting of rehabilitation bond to finance the costs. The document was signed by Metropolitan Tanzania Insurance Company on 31 January 2019.

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PRINCIPLE 6 – WORKER SAFETY

PROTECT WORKERS' HEALTH AND SAFETY FROM EXPOSURE TO CYANIDE

Standard of Practice 6.1: Identify potential cyanide exposure scenarios and take measure as necessary to eliminate, reduce and control them.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.1 to identify potential cyanide exposure scenarios and take measure as necessary to eliminate, reduce and control them.

The operation has developed procedures describing how cyanide-related tasks such as unloading, mixing plant, operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure., the following were observed:

- Unloading Cyanide Containers and Cyanide Boxes - SC 30, Rev 6, 09 Nov 2019.
- Mixing Cyanide - CN 11, Rev 15, 22 Sept 2019;
- Detoxification Process Work Procedure - DET 01, Rev 5, 23 Dec 2018;
- Mixing SMBS - DET 02, Rev 4, 13 Aug 2018;
- Tails pump changeover - DET 08, Rev 3 14 Aug 2018;
- Plant confined space entry NMGPD – GE - 01, Rev 4, 26 Feb 2018;
- Cleaning out of Cyanide Mixing Tank CN - 05, Rev 10, 15 June 2019;
- Flushing Tails Line NMGPD – TSF - 06, Rev 7, 25 Nov 2019; and
- Spigot assembly and Operation NMGPD – TSF-03, Rev 8, 29 Jan 2019.

A number of confined space entry permits were also observed, which included details of tank/area, proposed work, date, time; pre-cautions; PPE required; vessel entry requirements; authorisation and sign off.

It was observed that the procedures include the required PPE as well as pre-work inspections.

The operation implements procedures to review proposed process and operational changes and modifications for their potential impacts on worker health and safety, and incorporate the necessary worker protection measures.

The auditors observed the following:

Procedure: Management of Change (MOC), Request for Change & Functional Area Review, Doc No: NMA-SAF-FOR-0013, Rev 01, 28 Oct 2019. The procedure describes the information that must be collected and considered during the MOC including: request for change information; questions for functional area representatives (including environmental); formal risk assessment; technical and cost assessment; action plan; final approval to implement change; and lessons learnt.

The operation solicits and actively considers worker input in developing and evaluating health and safety procedures.

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The Training Department is responsible for the updating of procedures. All feedback from the employees is provided to the Department for inclusion in the procedures.

When conducting reviewing a standard operating procedure (SOP) input is obtained from workers during the toolbox meetings (before a shift) or during weekly safety meetings, monthly safety meetings, quarterly safety meetings (includes the management team and General Manager). Workers can raise concerns or give comments during these meetings. Procedures are updated accordingly.

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Standard of Practice 6.2: Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.2**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.2 to operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation has determined the appropriate pH for limiting the evolution of HCN gas during mixing and production activities.

Cyanide Addition to CIL Circuit NMGPD – CIL - 05, Rev 8, 12 March 2019 states that the pH should be maintained at 10.5.

Where the potential exists for significant cyanide exposure, the operation uses ambient or personal monitoring devices to confirm that controls are adequate to limit worker exposure to HCN gas and sodium, calcium or potassium cyanide dust to 10 ppm on an instantaneous basis and 4.7 ppm continuously over an 8-hour period, as cyanide, and where the use of personal protective equipment is required.

Hotspot surveys was conducted in 2014 / 2015 and is was determined where to place the fixed monitors in areas where required as well as the areas where workers must use personal monitors.

Fixed monitors include; the top of the CIL (Tank 1 and Tank 2), detox tank, cyanide mixing facility (top and bottom), gold room. - 6 units. Personal monitors: 47 units including TSF personnel.

The monitors have the following alarms. Alarm A1 is set at 4.7 ppm and alarm A2 is set at 10 ppm. The associated actions are, 4.7 ppm retreat 15 meters, 10 ppm go to emergency assembly point.

Hydrogen cyanide monitoring equipment maintained, tested and calibrated as directed by the manufacturer, and records are retained for at least one year.

PAC 7000 personal monitors and fixed HCN monitors are calibrated every 6 months. The calibration certificates for Feb 2019 and Aug 2019 were observed.

Warning signs have been placed where cyanide is used advising workers that cyanide is present, and that smoking, open flames and eating and drinking are not allowed, and that, if necessary, suitable personal protective equipment must be worn.

All the required warning signs have been placed at the cyanide storage shed, mixing area, CIL, detox tanks and elution. Warning signs have been placed at the TSF that cyanide is present and that the required PPE should be worn. Eating and smoking is only allowed in designated areas.

High strength cyanide solution is dyed during mixing for clear identification. This was confirmed during the site visit.

Showers, low pressure eye wash stations and dry powder fire extinguishers are located at strategic locations throughout the operation and they are maintained, inspected and tested on a regular basis. Fire extinguishers are inspected monthly and recorded on the stickers on the equipment as observed during the site visit.

Unloading, storage, mixing and process tanks and piping containing cyanide are identified to alert workers of their contents, and the direction of cyanide flow in designated pipes. This includes TSF and cyanide solution pipelines.

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It was confirmed that MSDS and first aid procedures are available in English and Swahili (MSDS) in the areas where cyanide is managed.

Procedures are in place and being implemented to investigate and evaluate cyanide exposure incidents to determine if the operation's programs and procedures to protect worker health and safety, and to respond to cyanide exposures, are adequate or need of revising.

Safety and Health Incident Reporting and Investigation Standard ACA-OHS-STD-0001, Rev 1, 22 March 2019. This describes the processes and protocols used when an investigation is undertaken. It is stated that an investigation must determine the following: details of what occurred; costs associated with the incident; actual and / or potential severity; which controls failed, were ineffective, or were missing; root causes; and corrective actions that are required to prevent similar occurrences.

No cyanide related incidents have occurred since the last recertification audit.

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Standard of Practice 6.3: Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.3**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.3 to develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

It was confirmed that the operation has water, oxygen, available at unloading, storage and mixing locations and elsewhere in the plant.

Radios and cell phones are primarily used for communication - The clinic, Emergency Response Team (ERT), Security are all on Channel 1 used for emergencies

There are 6 cyanide emergency PPE boxes in place on the plant (Cyanide Mixing, Top of CIL, and Gold Room, Detox plant, Outside of the Gold room and at cyanide storage shed). Antidote kits (Cyanokits) are kept in 2 fridges in the plant as per the manufacturer's recommendations in the Gold Room and the Supervisors Office.

It was observed that the cyanide emergency boxes in the plant are inspected monthly, as per inspection sheets on the outside of the boxes, this includes inspection of the oxygen and Cyanokits. Cyanokits are stored as per manufacturers recommendations in fridges and replaced prior to the expiry date of 17 Oct 2020. The ERT undertakes inspections of the Emergency Response Trailer on a monthly basis.

The operation has developed specific written emergency response plans or procedures to respond to cyanide exposures. The following were observed:

- Emergency Response Plan (ERP), OHS-ERS-001, Rev 10, March 2019.

The site has an on-site clinic fully equipped to handle cyanide emergencies.

All plant workers are trained in cyanide first aid and form part of the response team. The plant responders will administer oxygen and put the worker under the shower for decontamination.

The ERT will respond, assist with decontamination of the worker and provide more oxygen. Once decontaminated, the worker will be taken to the "green zone" where the doctor with the ambulance will wait. The Dr will give oxygen and administer the antidote. The worker will be taken to the clinic to be stabilised. The Clinic has a Resuscitation Room that can take 3 patients. There are 4 doctors and 4 nurses stationed at the Clinic. The Clinic is at the Plant Entrance and the ERT Team is also stationed on the mine site.

The operation has developed procedures to transport workers exposed to cyanide to qualified off-site medical facilities following treatment at the on-site clinic as deemed necessary. Medical Evacuation NMSD-OH4, Rev 7, 17 Sept 2019.

The Mine's Health Insurer (AAR) will assist with arrangements to evacuate patients to one of three identified hospitals once stabilised in the on-site Clinic. The doctor will decide whether it is necessary to evacuate the patient.

The operation has a formalised agreement with three hospitals through their Health Insurer (AAR) for the evacuation of patients so that these providers are aware of the potential to treat patients for cyanide exposure. The operation is confident that the medical facility has adequate, qualified staff, equipment and expertise to respond to cyanide exposures. The three hospitals are: Bugando Hospital, Mwanza; Muhimbili National Hospital, Dar es Salaam, and Aga Khan Hospital, Dar es Salaam.

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Mock emergency drills are conducted periodically to test response procedures for various cyanide exposure scenarios, and lessons learned from the drills are incorporated into response planning. Records include details of step by step actions and times taken during the mock drills as well as positive feedback ,and areas of improvement.

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PRINCIPLE 7 – EMERGENCY RESPONSE

PROTECT COMMUNITIES AND THE ENVIRONMENT THROUGH THE DEVELOPMENT OF EMERGENCY RESPONSE STRATEGIES AND CAPABILITIES

Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.1 to prepare detailed emergency response plans for potential cyanide releases.

The operation has developed an Emergency Response Plan to address potential accidental releases of cyanide.

Emergency Response Plan (ERP), OHS-ERS-001, rev10, March 2019.

The Plan considers the potential cyanide failure scenarios appropriate for its site-specific environmental and operating circumstances, including the following:

- Catastrophic release of hydrogen cyanide from storage or process facilities;
- Transportation accidents;
- Releases during unloading and mixing;
- Releases during fires and explosions;
- Pipe, valve and tank ruptures (including tailings line and return water line failures);
- Overtopping of ponds and impoundments (including return water pond overflow);
- Power outages and pump failures;
- Uncontrolled seepage;
- Failure of cyanide treatment, destruction or recovery systems and
- Failure of tailings impoundments, and other cyanide facilities (including failure of the tailings storage facility).

Transport related emergencies outside the mine are the responsibility of Orica as manager of the supply chain and FFK as the transportation company.

The Plan describes specific response actions (as appropriate for the anticipated emergency situations) such as clearing site personnel and potentially affected communities from the area of exposure, use of cyanide antidotes and first aid measures for cyanide exposure, control of releases at their source, and containment, assessment, mitigation and future prevention of releases.

The Plan describes the following specific response actions:

Emergency Evacuation of an Area, ERP 2 - p71;

Evacuation of Gokona Area (MIN 01.18) , p73;

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Emergency Evacuation of Gold Plant, ERP 20 - p113;

Procedure Clinic Cyanide Poisoning Case Management Protocol 1, Rev 1.3, 25 Oct 2018;

Minor Exposure to Cyanide (conscious), ERP 23 - p118;

Acute Exposure to Cyanide (Unconscious), ERP 24 - p122;

Hazardous Materials Event (Cyanide), ERP 14(b) p102;

Hazardous Materials Event ERP 14(c) p 103 and 104;

SOP 2 Contaminated Soil Monitoring Procedure, p5, covers cyanide contamination levels.

All scenarios include control of release at the source, containment, assessment and mitigation.

In the event of a community being affected the village executive will be contacted by the site community relations officer after being authorised by the General Manager. Local community contact details are listed under Key Contacts for Emergency Situations within the Plan.

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Standard of Practice 7.2: Involve site personnel and stakeholders in the planning process.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.2 to involving site personnel and stakeholders in the planning process.

The operation has involved its workforce and stakeholders in the cyanide emergency response planning.

The workforce is involved in the Mock Drills. In addition, the workforce can provide input into the writing and updating of procedures including the Emergency Response Plan (ERP) or during toolbox meetings and safety meetings.

In addition, the ERP is reviewed on an annual basis.

The community is not involved in the emergency response planning process. They do have an opportunity to provide comments during the stakeholder engagement process described in 9.1.

Communities are made aware of the risks through consultation detailed in 9.1.

In the event of a community being affected the village executive will be contacted by the site community relations officer after being authorised by the General Manager.

No local response agencies are involved in the emergency plan as the ERT and medical clinic are situated inside the Mine security area. The on-site clinic and ERT is involved with the full cycle cyanide mock drills and de-briefing sessions following drills. Local response agencies do not have the training or equipment to assist in the event of an emergency. Consultation with external stakeholders is not required as they are not involved in the event of an emergency.

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Standard of Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.3**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.3 to designate appropriate personnel and commit necessary equipment and resources for emergency response.

The Emergency Response Plan includes cyanide related elements as follows:

Table 1 – Summary Of “Mining Emergency Duty Cards” p 25 and 26 covers the responsibility of all duty card holders:

1. Incident Controller
2. Assembly Point Warden
3. Communications Officer
4. Emergency Plans Officer
5. Equipment/ Maintenance Officer
6. Access Control Officer
7. Emergency Response First Line Leader
8. Corporate External Affairs

The sections following the table describe in detail the responsibilities and authority, including the reporting lines of all duty card holders. p27 to p52.

The ERT is a mine wide team fully trained in cyanide emergencies. The ERT listing and contact details are detailed in a list in the ERP p5 and p6: ERT Listing and Contact Details.

Implementation of the Emergency Plan p65 to p68 details the training requirements for all personnel, detailing different requirement levels and elements.

- Emergency Process Flowchart p23 details call out procedures.
- Contact information tables are detailed on p5 to p8
- Emergency response equipment is listed on p57 of the ERP.
- Maintenance and Inspection of Response Equipment, p3 of the ERP includes procedures to inspect emergency response equipment to ensure its availability.

There is no role for outside responders, medical facilities or communities in the case of an emergency and therefore they are not included in the ERP. The local response agencies do not have the training or equipment to assist with an emergency at the mine. The nearest medical facility is the on-site Clinic. Communities will be kept at a precautionary distance from any incident to prevent injuries.

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Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.4

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.4 to develop procedures for internal and external emergency notification and reporting.

The Plan includes procedures and contact information for notifying management, regulatory agencies, and medical facilities of the cyanide emergency. Outside response agencies are not involved in a cyanide emergency. The auditors observed the following:

Emergency Process Flowchart – ERP p20;

Contact information tables are detailed on ERP p5 to p7; and

Table 1 – Summary Of “Mining Emergency Duty Cards” ERP p 25 and p26 covers the responsibility of all duty card holders.

The Plan include procedures and contact information for notifying potentially affected communities of the cyanide-related incident and any necessary response measures and for communications with the media.

Public relations/telephone use ERP p61 "The only person permitted to release information to the public and/or media is the Corporate External Affairs Officer. All queries from outside parties shall be directed to this person."

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Standard of Practice 7.5: Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.5

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.5 to incorporate in response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

The Plan describes specific remediation measures as appropriate for the likely cyanide release scenarios.

ERP 42 - Decontamination of a spill of solid / liquid cyanide into soil, p144 – p151 includes the following:

- Recovery or neutralisation of solutions or solids;
- Decontamination of soils or other contaminated media, with confirmation that all contaminated material has been removed i.e. no residual contamination in underlying subsoil.
- Management and/or disposal of spill clean-up debris, where this taken to the TSF.

Emergency Crisis Management Plan, NMA-ERS-PLA-001, Rev 10, 14 Jan 2020 p166 details the provision of an alternate drinking water supply in the event of an emergency.

The ERP prohibits the use ferrous sulphate, hydrogen peroxide, and calcium hypochloride to treat cyanide that has been released into surface water.

This is stipulated in Hazardous Materials Event (Cyanide), ERP 14 (B) - p102.

The Plan details the storage location of calcium hypochlorite as well as the preparation requirements.

The Plan addresses the potential need for environmental monitoring to identify the extent and effects of a cyanide release, and includes sampling methodologies, parameters and, where practical, possible sampling locations.

This was included in Decontamination of a spill of solid/liquid cyanide into soil, ERP 42 - p144; and Contamination of Soil Monitoring Procedure SOP-02, Rev 4, September 2019.

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Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.6

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.6 to periodically evaluate response procedures and capabilities and revise them as needed.

The operation reviews and evaluates the cyanide related elements of its Emergency Response Plan for adequacy on a regular basis.

The ERP states that it will be updated at least annually. The latest version is:

Emergency Response Plan (ERP), OHS-ERS-001, rev10, March 2019.

Mock emergency drills are conducted periodically to test response procedures for various cyanide exposure scenarios, and lessons learned from the drills are incorporated into response planning.

Provisions are in place to evaluate and revise the Emergency Response Plan after any cyanide-related emergency requiring its implementation.

Review and continuous improvement p67 states:

The Emergency Plan will be fully reviewed:

- At least annually, if possible bi-annually; and
- At anytime major changes occur in operations on the mine site.

The Emergency Plan will be revised in line with recommendations from emergencies, emergency drill debriefs and recommendations from Emergency Plan reviews at other operations.

Records include details of step by step actions and times taken during the mock drills as well as positive feedback ,and areas of improvement.

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PRINCIPLE 8 – TRAINING

TRAIN WORKERS AND EMERGENCY RESPONSE PERSONNEL TO MANAGE CYANIDE IN A SAFE AND ENVIRONMENTALLY PROTECTIVE MANNER

Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.1 to train workers to understand the hazards associated with cyanide use.

The operation trains all personnel who may encounter cyanide in cyanide hazard recognition.

The auditors observed the Induction presentation given to all employees, contractors, personnel that will work in the Process Plant, and TSF personnel. The slides are in English but the trainer gives it in the local language (Swahili).

The auditors observed the Training Level Matrix 2019 showing that the Sodium Cyanide module is compulsory for all employees. The matrix has the names of all the employees listed and indicates whether the training has been completed.

The North Mara Mine Sodium Cyanide Training Manual, December 2018 content includes: storage and handling; safety precautions; cyanide usage; what is cyanide; where is cyanide; where is cyanide present on site; P.E.L and I.D.L.H; cyanide gas monitoring; routes of entry and PPE required; mixing procedure; cyanide gas monitoring; symptoms of cyanide poisoning; first aid measures; procedure for cleaning cyanide mixing tank; procedure for cyanide transportation; and procedure for cyanide destruction.

Cyanide hazard recognition refresher training is conducted annually as shown in the Training Level Matrix Refresher courses, 2017, 2018 and 2019.

Cyanide training records are retained for at least 3 years for contractors and permanently for employees.

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Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.2**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.2 to train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

The operation trains workers to perform their normal production tasks, including unloading, mixing, production and maintenance, with minimum risk to worker health and safety in a manner that prevents unplanned cyanide releases.

North Mara Mine Sodium Cyanide Training Manual, December 2018 states that trainee must be trained on all the Cyanide procedures and lists the procedures. Details are included in the manual.

Process training matrix for 2019, includes operational task training and required SOP training modules for each job.

Confirmed training matrix electronically details training for individuals per job category and per shifts A, B and C. The comments for each staff member includes the test scores for the courses. SOP training is conducted during the Daily Toolbox talks. The training files contains the written examinations taken for operational training received. Includes the pass rate and the trainer's name.

It was observed that the training elements necessary for each job involving cyanide management are identified in the training matrix and that all modules required per category or worker are included in the training materials.

Appropriately qualified personnel provide task training related to cyanide management activities.

Training is provided by the Plant Training Officer, Nicodemus Maisori (qualified Metallurgist), with 13 years operational experience in running the different sections of the plant as well as in a supervisory position. Registered as a Professional Engineer Reg Nr PE3541 (2017 - 2018)

Training is also provided by Epaphrace Benedicto since 2019, who has 20 years experience working on gold mines and has completed the African Barrick Gold Train the Trainer course in Aug 2012.

All employees receive induction training before being allowed to start with their training in the sections under supervision. The worker is only allowed to work unsupervised with cyanide once assessed and signed off for each task by his supervisor.

Cyanide hazard recognition refresher training is conducted annually.

The effectiveness of the training is evaluated by testing after the induction training. In addition, Planned Task Observations (PTOs) are conducted after the appropriate training has been received on the procedures.

Records are retained for at least 3 years for contractors and for the duration of employment for permanent employees. Training records include; the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

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Standard of Practice 8.3: Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.3 to train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

All cyanide unloading, mixing, production, and maintenance personnel receive cyanide training and cyanide first aid training. Observed training module Sodium Cyanide Training Manual as part of the training undertaken. All employees receive training on the cyanide procedures which includes liquid and solid cyanide spills.

All site cyanide response personnel, including unloading, mixing, production and maintenance workers, are trained in decontamination and first aid procedures.

All site cyanide response personnel, including unloading, mixing, production and maintenance workers, also take part in mock drills to test and improve their response skills.

Emergency Response Co-ordinators and members of the Emergency Response Team (ERT) trained in the procedures included in the Emergency Response Plan regarding cyanide, including the use of necessary response equipment.

The community, local responders, and off-site medical providers do not form part of the Emergency Response Plan.

Plant employees and ERT members receives annual refresher training including response to cyanide exposures and releases.

Mock emergency drills are conducted periodically to test response procedures and for training purposes for various cyanide exposure scenarios, and lessons learned from the drills are incorporated into response planning. Records include details of step by step actions and times taken during the mock drills as well as positive feedback ,and areas of improvement.

Cyanide emergency drills are evaluated from a training perspective to determine if personnel have the knowledge and skills required for effective response. Training procedures are revised if deficiencies are identified. The Training Officer is present at all drills.

Records are retained for at least 3 years for contractors and for the duration of employment for permanent employees. This was verified during the review of the training records. The records include the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

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PRINCIPLE 9 – DIALOGUE

ENGAGE IN PUBLIC CONSULTATION AND DISCLOSURE

Standard of Practice 9.1: Provide stakeholders with the opportunity to communicate issues of concern.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.1 to provide stakeholders with the opportunity to communicate issues of concern.

The operation provides the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide

Eleven villages are situated around the mine. Grievance Officers go and meet with the village leaders and community members as per a set timetable, they communicate to them regarding the Grievance Procedure. In addition, theatre performances are undertaken to communicate with the community.

During meetings the communities are informed of the impacts that could come from the mining operations. The communities are informed of the avenues of communication with the mine in-order for them to report if there are any impacts or issues.

The auditors observed the brochures that contained details of the grievance process and how the community can lodge a complaint. The information is descriptive and provides a flow diagram, pictures, and illustrations about the process. Telephone numbers are included. Brochures were handed out June 2018, August 2019.

Cyanide Stakeholder Engagement Report, October 2019, to create awareness along the Mombasa - North Mara Gold Mine Transport route on the hazards and controls in place for the transportation of sodium cyanide and emergency response in case of cyanide release.

Key stakeholders such as the police, medical service providers, and the fire brigade were informed of their specific roles during a cyanide emergency along the transport route through a roadshow undertaken between 30 September 2019 and 5 October 2019. This was attended by personnel from North Mara Mine, Transeast and FFK.

Attendance registers for sessions in 2018, and 2019 held on the transport route to communicate on cyanide used at the mine and the grievance process - for the following villages: Kewanja, Nkerege, Bisarwi, Kembwi village, Nyangoto, Mjini Kati, Nyakunguru, Nyamisangura, Mika, Buganjo, Remagwe, Ngere Ngere, Sirari town, Tarime government officials, Gamasara, Rorya district officials, Nkende, Nyarwana, Keisaka, Weigita, and Sombanyasoko.

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Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.2 to initiate dialogue describing cyanide management procedures and responsively address identified concerns.

There are opportunities for the operation to interact with stakeholders and to provide them with information regarding cyanide management practices and procedures.

Community officers with a facilitator from the Gold Plant visits the local communities to speak to them about the cyanide used at the plant and the grievance procedure, should they have any issues.

This is undertaken every 3 years, with the latest one in June 2018. Verbal meetings are held and brochures are handed out on both topics. The brochures were observed by the auditors.

Cyanide & Grievance Mechanism Awareness Report to the Community Relation - North Mara Gold Mine, 25 - 30 June 2018.

Conducted 17 sessions of cyanide and grievance mechanism awareness at 24 villages and 2 district councils (Tarime & Rorya) where a total number of 650 village leaders and district heads from the 2 councils attended.

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Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.3 to make appropriate operational and environmental information regarding cyanide available to stakeholders.

The operation has developed written descriptions of how their activities are conducted and how cyanide is managed. These descriptions are available to communities and other stakeholders.

The Mine has produced a pamphlet in Swahili containing information on Cyanide Identification and Management. The pamphlet is distributed to schools and the community to read in their own time and discuss with their families.

The operation has disseminated information on cyanide in verbal form where a significant percentage of the local population is illiterate. Two presentations have been prepared, one for the district executive officers (English) and one for the community (Swahili), the community meetings are mostly verbal, with use of the presentation, as a large number of the population are illiterate.

No cyanide related incidents have occurred since the last recertification audit.

Public relations/telephone use ERP p61 "The only person permitted to release information to the public and/or media is the Corporate External Affairs Officer. All queries from outside parties shall be directed to this person."

A Corporate Environmental reporting standard contains classifications of environmental incidents and appropriate reporting requirements.

The incident reporting and investigation standard - ACA-OHS--ST01-0001 December 2015, Section 5 Incident Classification includes reporting requirements.

Any relevant environmental incidents i.e. scenarios a-e listed in the protocol question, that might occur will be included in the sustainability report, which is publicly available. However, none have occurred since certification.

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