North Mara Gold Mine International Cyanide Management Code Recertification Audit

Summary Audit Report

Barrick Gold Corporation

Prepared by:

SLR Consulting (Africa) Proprietary Limited

Suite 1 - Building D, Monte Circle, 178 Montecasino Boulevard, Fourways, Johannesburg, Gauteng, 2191

SLR Project No.: 710.070060.00001

27 April 2024

Revision: 03
Report No.: 02

Title	North Mara Gold Mine International Cyanide Management Code Recertification Audit – Summary Audit Report
Project Manager	Ed Perry
Project Manager Email	eperry@slrconsulting.com
Author	Ed Perry
Reviewer	ICMI
Keywords	ICMI; Gold; Mine; Audit; Cyanide
Status	Draft
Report No.	02
SLR Company	SLR Consulting (Africa) Proprietary Limited
SLR Project No.	710.070060.00001

Revision Record

Revision	Date	Prepared By	Checked By	Authorized By
01	11 February 2024	Ed Perry	Natasha Smyth	Ed Perry
02	11 April 2024	Ed Perry	ICMI	Ed Perry
03	27 April 2024	Ed Perry	ICMI	Ed Perry

Basis of Report

This document has been prepared by an SLR Group company with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Barrick Gold Corporation (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

Table of Contents

Acronym / abbreviation	Description
AARL	Anglo American Research Laboratory
Barrick	Barrick Gold Corporation
BICO	Bureau for Industrial Corporation
CIL	Carbon-in-Leach
CN	Cyanide
ECMP	*Emergency Crisis Management Plan NMA-ERI-PLA-0001,* Rev 12 11 August 2023
ERT	Emergency Response Team
FFK	Freight Forwarders Kenya
HCN	Hydrogen Cyanide
HDPE	High Density Polyethylene
Hebei	Hebei Chengxin Co. Ltd
ICMC	International Cyanide Management Code
ICMI	International Cyanide Management Institute
IFC	International Finance Corporation
North Mara	North Mara Gold Mine
OEM	Original Equipment Manufacturer
PMS	Planned Maintenance System
PPE	Personal Protective Equipment
ppm	Parts Per Million
PTO	Planned Task Observation
ROM	Run-of-Mine
RWD	Return Water Dam
SAG	Semi-Autogenous Grinding
SCADA	Supervisory Control and Data Acquisition
SDS	Safety Data Sheets
SLR	SLR Consulting (Africa) (Pty) Ltd
SOP	Standard Operating Procedure
The Code	The International Cyanide Management Code for the Manufacture, Transport, And Use of Cyanide in the Production of Gold and Silver
The Plant	North Mara Gold Plant
The Protocol	The Mining Operations Verification Protocol
TSF	Tailings Storage Facility
UNEP	United Nations Environmental Program
WAD	Weak Acid Dissociable

1.0 Summary Audit Report for Gold Mining Operations

Name of Cyanide User Facility:	North Mara Gold Mine
Name of Cyanide User Facility Owner:	Barrick Gold Corporation
Name of Cyanide User Facility Operator:	North Mara Gold Mine Limited
Name of Responsible Manager:	Paties Kabazimu (Plant Operations Superintendent)
Address:	PO Box 422, Tarime, Tanzania
Country:	Tanzania
Telephone:	+255 767100568
E-mail:	PKabazimu@barrick.com

2.0 Location and description of operation

Barrick Gold Corporation Canada (Barrick) reduced ownership in North Mara Gold Mine from 74% to 64% and notified the International Cyanide Management Institute (ICMI) on 27 February 2013. African Barrick Gold was changed to Acacia Mining PLC in November 2014. Acacia Mining became a signatory to ICMI in November 2015. In September 2019 Barrick Gold purchased the remaining shares in Acacia Mining that is 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, 110 km east of Musoma town centre and approximately 350 km from Mwanza. It is located 100 km east of Lake Victoria and 20 km south of the Kenyan border.

The mine uses solid sodium cyanide supplied from the certified Hebei Chengxin Co. Ltd (Hebei Chengxin) facility in China. Hebei Chengxin also has a certified Transport Global Ocean Supply Chain that includes transport from the production facility in Shijiazhuang City, China to the Port of Mombasa, Kenya. Freight Forwarder Kenya transports the solid cyanide from the Port of Mombasa to the North Mara Mine. The Mine uses cyanide briquettes delivered in sea containers, which are unloaded by forklift and packed in the cyanide box store. These are then taken to the mixing facility located within the Plant for conversion to process strength cyanide solution that is used in the Plant.

The North Mara mine consists of two open pit deposits, Nyabirama and Nyabigena open pits 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 . 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 double deck screen. The undersize from the screen passes onto a conveyor belt which feeds the Semi-Autogenous Grinding (SAG) 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.

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 50 parts per million (ppm) 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.

The decant water is less than 0.5 mg/l WAD CN, and process water make up used is less than the limit of detection for WAD cyanide.

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 dorê bars.

There are no new facilities or facilities that have undergone substantial changes since the previous recertification audit.

SUMMARY AUDIT REPORT

Auditors Findings

North Mara Gold Mine is:	☒ **in full compliance with**	**The International Cyanide Management Code**
	☐ in substantial compliance with	
	☐ not in compliance with	

Audit Company:	SLR Consulting (Africa) (Pty) Ltd
Audit Team Leader:	Ed Perry, Lead Auditor
Email:	eperry@slrconsulting.com
Mine Technical Auditor	Dawie Viljoen

North Mara Gold Mine
Name of Facility

Signature of Mine Technical Auditor

February 2024
Date

COMPLIANCE STATEMENT

North Mara Gold Mine, Tanzania has not experienced any cyanide incidents or compliance issues during the previous three year audit cycle.

NAME OF OTHER AUDITORS

Dawie Viljoen

DATES OF AUDIT

The Re-certification Audit was undertaken between 6 November 2023 to 11 November 2023.

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 (ICMI) and that all members of the audit team meet the applicable criteria established by the International Cyanide Management 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 Mining Operations Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

North Mara Gold Mine
Name of Facility

Signature of Lead Auditor

April 2024
Date

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.

The Code is a voluntary industry programme for gold and silver 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 ICMI.

Principle 1 – Production and Purchase

Encourage responsible cyanide manufacturing by purchasing from manufacturers that operate in a safe and environmental protective manner.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarise the basis for the findings/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.

North Mara purchases cyanide from a supplier that is manufactured at a facility that is certified as being in compliance with the Code.

The auditors observed the following:

The cyanide purchased by the gold mine is manufactured at a facility or facilities certified as being in compliance with the Code.

The cyanide is supplied from the Hebei Chengxin Co. Ltd (Hebei Chengxin) facility in China. The facility was first recertified on 1 October 2012 with the latest recertification being on 18 April 2023.

The auditors observed a supply and purchase agreement for sodium cyanide between North Mara Gold Mine Ltd, and Hebei Chengxin Co. Ltd. which expired on 1 November 2022.

An addendum dated 27 November 2022 extends the contract to 31st December 2025. The agreement between the parties covers the purchase of cyanide from Hebei Chengxin.

It was observed during the site inspection that only Sodium Cyanide briquette boxes supplied from Hebei Chengxin were stored in the Cyanide Shed

Principle 2 – Transportation

Protect communities and the environment during cyanide transport

Standard of practice 2.1: Require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training and emergency response.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 2.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 2.1 requiring that cyanide is safely managed through the entire transportation ad delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training and emergency response.

The operation has chain of custody records or other documentation identifying all transporters and supply chains responsible for transporting cyanide from the producer (Hebei Chenxin, China), via the transporter, Freight Forwarder Kenya (FFK) to the operation (North Mara Mine).

All identified transporters are individually certified in compliance under the Code or included in certified supply chain.

Hebei Chengxin is the producer of the solid cyanide. The initial certification was on 01 October 2012 and the current certification was on 18 April 2023. Hebei Chengxin also has a certified Transport Global Ocean Supply Chain that includes transport from the production facility in Shijiazhuang City, China to the Port of Mombasa, Kenya. The supply chain was initially certified on 29 August 2017 and the current certification was on 30 October 2023.

FFK transports the solid cyanide from the Port of Mombasa to the mine. FFK were initially certified on 27 May 2008 and the current certification was on 19 August 2021.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 3.1**

☐ not in compliance with

Summarise the basis for the findings/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.

No changes have been made to the facility since construction in 2015. The relevant documents and files related to the construction were confirmed to be available on site at the Engineering archive section in the Plant.

It was verified during the site audit that the cyanide box store, cyanide mixing and storage tanks, are located in the Plant, an access controlled part of the mine away from people and surface waters.

The Mine uses cyanide briquettes delivered in sea containers, which are unloaded by forklift and packed in the cyanide box store.

There are systems in place to prevent the overfilling of cyanide storage tanks, and are the systems are tested and maintained on a routine basis.

Procedure Cyanide Mixing - NMA-CYC-PRO-0008 - Rev 2, 1 May 2023, which includes the following:

Section 8 Procedure:

- Call Control room operator on radio and have him press on water fill valve to fill tank up to 75%. After mixing is complete the control room operator transfers the mixed cyanide to the storage tank.

- When each batch solid cyanide bags into the mixing tank had been completed go to the Supervisory Control and Data Acquisition (SCADA) system 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.

- Cyanide dosing 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, which was observed during the site visit. The cyanide tank level sensors are included in the SAP Planned Maintenance system.

The cyanide mixing and storage tanks are located on concrete within a concrete bunded area that can prevent seepage to the subsurface and provide a competent barrier to leakage. Secondary containments for cyanide storage and mixing tanks are constructed of materials that provide a competent barrier to leakage. The secondary containments for cyanide storage and mixing tanks are constructed of concrete and sealed. The bunds were observed during the site assessment and found to be in good condition.

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.

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.

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.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 3.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with 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.

Procedures are in place and implemented to prevent empty cyanide containers from being used for any purpose other than holding cyanide. The Auditors reviewed the following procedures:

Procedure Cyanide Mixing - NMA-CYC-PRO-0008 - Rev 2, 1 May 2023

The upper operator opens the dust doors and checks the bag is empty by giving it a brisk shake. It is important to ensure that each bag is washed three times by bag wash spray to ensure no cyanide is left in the bag prior to lowering it to the ground. Make sure all empty cyanide bags are secured in empty boxes along with empty NaOH bags. Also, empty boxes should be marked empty as well as the date of disposal to the burn yard. Fill in the “Cyanide mixing and empty boxes disposal checklist” NMA-GPL-FOR-0019 01- Cyanide mixing and empty boxes disposal checklist.

Burning of Cyanide Boxes - NMA-CYC-PRO-0010, Rev 2, 1 May 2023.

Purpose: To dispose of Burnable (combustible) Rubbish including Cyanide Boxes and Reagent Bags in a safe and environmentally friendly manner. The cyanide empty boxes burned will be conducted after the cyanide mixing. At least two trained and competent operators will be responsible to burn the cyanide rubbish safely. Burning of the cyanide boxes will take place during the same day as the mixing operation. Once all rubbish has been completely burnt the incinerator will be stopped. If the incinerator chamber becomes full of ashes, the incinerator will be left for 36 hrs for cooling. The ashes should be loaded into the truck and be disposed of at the tailings storage facility (TSF).

It was observed during the site visit that there were no empty cyanide boxes at the incinerator, as all containers had been incinerated at the time of the audit.

Cleaning Cyanide Empty Container - NMA-CYC-PRO-0007, Rev 2, 1 May 2023.

Section 8. Procedure details the cleaning of the cyanide container after destuffing the cyanide boxes to the cyanide shed.

Slicing Cyanide Boxes NMA-OPE-PRO-0007 Rev 2, 19 August 2023

Section 1. Purpose: To maintain a clean and health environment by safely slice cyanide boxes prior burning without causing any harm to personnel and / or Environment.

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

The auditors observed the following procedures:

Mixing Cyanide - NMA-CYC-PRO-0008 , Rev 2, 1 May 2023.

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 CN 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. The maintenance of hoses, valves and couplings for the mixing of solid cyanide are part of the shiftly operational inspections detailed in 4.1.

Clean up.

Hosing down the bag splitter area and the top of the mixing to remove any cyanide residue that may be present. Placing all rubbish inside the used cyanide boxes. Placing the lids back on the used boxes and transport the boxes to the burning area. Ensure all of area is clean before leaving.

Unloading Cyanide Containers and Cyanide Boxes - SOP-SC-WM-11 May 2022.

The procedure covers 7 Pre-offloading checks, personnel required, equipment required, personal protective equipment (PPE), safety equipment on hand, safety signage, unloading of cyanide, cyanide storage, issuing cyanide and other hazardous goods, records hazardous material compatibility chart.

Cyanide Transportation - NMA-CYC-PRO-0009, Rev 2, 1 May 2023.

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. Check the box is secure on the forks and keep the forks as close to the load as possible while moving. Do not rush the task, or speed with the cyanide box loaded onto the forks. It was observed during the site visit that the cyanide boxes are only stacked two high in the warehouse.

Cleaning Cyanide Liquid Spill - NMA-CYC-PRO-0002, Rev 02, 1 May 2023.

Purpose: 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.

Buddy Responsibilities -NMA-CYC-PRO-0011, Rev 2, 1 May 2023.

Details the roles and responsibilities of the second individual observing the cyanide offloading activities from a from a safe distance (i.e. Buddy) during the cyanide mixing. Section 7 of the procedure stipulates the PPE requirements for cyanide mixing.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.1**

☐ not in compliance with

Summarise the basis for the findings/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.

The operation has written management and operating plans or procedures been developed for cyanide facilities including unloading, mixing and storage facilities, process plants, and tailings impoundments including the following:

- 11 Cyanide specific operational procedure
- 43 Carbon in Leach (CIL) procedures;
- 18 Elution procedures;
- 12 Operational procedures;
- 70 Environmental procedures
- 15 TSF procedures
- 9 Detox procedures.
- 77 Milling Procedures

TSF- Management Plan - NMGPD – TSF ERP-0001, Revision 02, 15 June 2023.

The operation's plans or procedures identify and account for the assumptions and parameters on which the facility design was based and any applicable regulatory requirements as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements, which includes the following.

pH Adjustment – NMA-CIL-PRO-0019 – Rev 01, 18 December 2019

The pH in tank 1 must be above 10.0 using the correct amount of lime in the mill feed.

Cyanide Addition to CIL Circuit – NMA-CIL-PRO-0006 – Rev 02, 12 February 2022:

Section 10.4 states that the normal cyanide addition and levels must be automatically controlled by the TAC 1000 Analyzer using PU751, as per the set parameters. The cyanide set point is 250 ppm free cyanide (CN) unless the ore characteristics changes as detailed in Principle 4.2.

Detoxification Process Work Procedure – NMA-DET-PRO-0002 - Rev 02, 10 August 2023:

Section 9 states the actions to be taken "if the concentration of WAD cyanide in the Detox tank discharge is above 50 ppm".

Process Water Pond Operation - NMA-TSF-PRO-0009 - Rev 2, 23 August 2023:

Section 8.4 states that if the WAD CN level in the final tailings is greater than 50 ppm, the Detox plant must be operated accordingly and monitored closely until it is less than 50 ppm WAD CN.

TSF Operation NMGPD – TSF - 0001, Rev 2, 22 August 2023:

This states that the TSF must maintain a freeboard of +1000 mm. This ensures that a potential to overflow to the embankment is eliminated. It was confirmed that the current freeboard requirement is 1.85 m.

The TSF detail design report for TSF North Mara, Stage 10 by Epoch Engineering dated October 2021 states that the mean precipitation value for a 72 hour storm event is 451 mm.

The operation has plans and procedures that describe the standard practices necessary for the safe and environmentally sound operation of the facility including the specific measures needed for compliance with the Code, such as; water management, inspections and preventive maintenance activities.

Operational inspections are conducted shiftly. The hardcopy files of all the shiftly inspections are available for the 3 years since recertification in 2020. All inspections were signed off by the Operator and the Shift Supervisor. The inspections cover both the day and night shift and include the following:

- Starting of shift CIL checklist.
- Cyanide mixing empty boxes disposal checklist.
- Plant and cyanide mixing area start of shift checklist.
- Overhead crane pre-start checks including field level risk assessment.
- Elution Area checklist.
- Grinding start of shift checklist including field risk assessment.

The Plant has used the SAP planned maintenance system since 2021. The following cyanide facilities are included in the system; crusher, grinding / milling circuit, separation and concentration, cyanide leaching, cyanide area mixing and storage, regeneration, elution and refining, tailings including the detoxification plant and TSF. The maintenance includes daily, weekly, monthly quarterly, 6 monthly and annual inspections and maintenance.

TSF Inspections include; daily, weekly, monthly, quarterly and annual inspections.

The operation implements procedures to review proposed changes to production processes, operating practices, or cyanide facilities to determine if they may increase the potential for cyanide releases and worker exposures and incorporate any measures necessary to protect worker health and safety and the environment include the following.

Management Of Change Request for Change & Functional Area Review, Doc No: NMA-SAF-For-0013 Rev 2, 6 January 2022. An example was observed and included a review and comments by the Occupational Health and Safety Superintendent, and the Environmental Superintendent.

The procedure describes the information that must be collected and considered during the management of change including: Section 1.1. Functional Areas Potentially Affected; Section 1.2. Preliminary Supervisory Approval; and Section 2, Step 2 - Questions for Functional Area Representatives.

The sections include safety impact questions, health impact questions, environmental impact questions. Each of these sections requires the name of the functional area representative, participation in a formal risk assessment, the name of the person who participated in the risk assessment, and a comments section.

The operation has cyanide management contingency procedures for non-standard operating situations that may present a potential for cyanide exposures and releases, including the following.

- Notification to Prepare for Process Plant Shutdown Mill Shutdown - NMA-Mil-PRO-0021 - Rev 2, 1 May 2023
- CIL Pre Start Checks – NMA-CIL-PRO-0003 – Rev 02, 24 February 2022.
- CIL Circuit Shutdown – NMA-CIL-PRO-0004 – Rev 02, 24 February 2022.
- High HCN Gas – NMA-CIL-PRO-0014 – Rev 02, 24 February 2022.
- Power Failure – NMA-CIL-PRO-0023 – Rev 02, 24 February 2022
- Detox Plant Pre Start Checks – NMA-DET-PRO-0007 – Rev 2, 11 August 2023.
- Detoxification Process Work Procedures- NMA-DET-PRO-0002, Rev 2, 11 August 2023. This provides guidance to operational personnel in the event of a process upset in the cyanide detoxification circuit.
- TSF Upset Safe Work Procedure- NMA-TSF-PRO-0010 – Rev 2, 23 August 2023. This 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.
- Emergency Crisis Management Plan NMA-ERI-PLA-0001 rev 2 11 Aug 2023 includes the temporary closure or cessation of operations due to situations such as work stoppages, lack of ore or other essential materials, economics, civil unrest, or legal or regulatory actions. The Plan specifies who is responsible for the crisis management. Detail responses and specific action will be determined by the responsible Team, based on the evaluation of the scenario at the time.

The operation's contingency procedures as detailed above account for how cyanide would be safely managed during short-term and long-term shutdowns or cessations in operation.

This includes the management of any cyanide on site, including solid cyanide (which would remain in the dedicated storage area), and cyanide solution within tanks, vessels, pipelines, ponds and impoundments.

The operation inspects the following at unloading, storage, mixing and process areas, including tanks, secondary containments, pipelines, pumps, valves, and ponds. The following were observed.

a) Tanks holding cyanide solutions for structural integrity and signs of corrosion and leakage.

The annual thickness testing of all the tanks is undertaken by the Bureau for Industrial Corporation (BICO). The reports include integrity and shell thickness, visual inspection, corrosion, leakage and weld conditions. A safety factor of 50% is considered and includes remaining life in years.

The action Track system, which was initiated in 2020, is used to plan and close out actions raised by the inspections.

Full inspections are conducted on three tanks every year as scheduled in the SAP Planned Maintenance System (PMS) and this was confirmed for 2023. Base plates are replaced at minimum 12 mm thickness.

b) Secondary containments provided for tanks and pipelines for physical integrity, the presence of fluids and available capacity, and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment.

The shiftly inspections include secondary containments provided for tanks and pipelines for physical integrity, the presence of fluids and available capacity, and to ensure that any drains are closed for all areas of the Plant.

c) Leak detection and collection systems at leach pads and ponds, as required in the design documents.

There are no leak detection systems in the Ponds or the TSF. The Process Water Pond is drained, cleaned, inspected, and repaired annually to identify the condition of the liner and any maintenance that is required. There is a seepage layer at the bottom of the TSF that collects any seepage.

d) Pipelines, pumps and valves for deterioration and leakage.

All pumps including the associated vales and pipelines are inspected according to the schedule maintained on the SAP system.

a) Ponds and impoundments for the parameters identified in their design documents as critical to their containment of cyanide and solutions and maintenance of the water balance, such as available freeboard and integrity of surface water diversions.

TSF Quarterly and Annual reports include the inspection of; TSF freeboard, integrity of surface water diversions, and seepage collection channels.

The operation inspects the cyanide facilities on an established frequency sufficient to ensure and document that they are functioning within design parameters. The planned maintenance system schedules inspection of cyanide facilities on a set frequency, i.e. daily, weekly,

monthly, etc. depending on the type of equipment. TSF inspections are undertaken on daily, weekly, monthly, 6 monthly and annual inspections.

The inspections are documented. The inspection reports and checklists identify the specific items to be observed and include the date of the inspection, the name of the inspector, and any observed deficiencies. The nature and date of the corrective action is documented through the SAP planned maintenance system where the work orders are generated. The records are retained through the SAP planned maintenance system.

A preventive maintenance program is implemented and activities documented to ensure that equipment and devices function as necessary for safe cyanide management.

The Plant used the Proton Xi Enterprise Management System for recording planned maintenance up till 2021. The use of this system was observed and verified during the previous Cyanide Code audit. The Plant has used the SAP planned maintenance system since 2021.

The auditors reviewed the system electronically and confirmed the following cyanide facilities are included in the system; crusher, grinding / milling circuit, separation and concentration, cyanide leaching, cyanide area mixing and storage, regeneration, elution and refining, tailings including the detoxification plant and TSF. The maintenance includes daily, weekly, monthly quarterly, 6 monthly and annual inspections and maintenance.

The Plant is equipped with its own power generation plant. Maintenance is undertaken by a special Mine electrical Team and the original equipment manufacturer OEM inspections and maintenance is done according to a schedule in the SAP system. All maintenance activities are documented and electronic and hard copy records are kept. The software is also used to record ad hoc maintenance as a result of inspections.

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 is interrupted.

The Plant is equipped with its own power generation plant. Maintenance is undertaken by a special Mine electrical Team and the OEM inspections and maintenance is done according to a schedule in the SAP system.

The auditors observed the maintenance schedule for Power Plant covering the OEM and Electrical maintenance schedules. There are 18 generators as backup up in case the national grid power goes out. This can run the whole Plant. 15 generators are on standby and 3 are running to ensure that all critical areas such as the detox plant keep running.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.2**

☐ not in compliance with

Summarise the basis for the findings/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 implements a program to evaluate cyanide use in the Plant and adjust the addition rate to minimize its use as detailed in the following procedure.

Sodium Cyanide Optimization Plan NMA-CYC-PLA-0001 rev 2 dated 1 May 2023.

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. It is normally set to 230 ppm free CN.

North Mara Feeding Summary Week by Week indicates the source of the materials to come to the Plant, crusher feeding grade per day for the week. The sheet is updated every week.

The normal Setpoint is 230 ppm free CN for 3 gram per tonne up to 4 gram per tonnes. From 4 to 6 grams per tonne, the setpoint is adjusted to 250 ppm free CN. This parameter was set based on test work. 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 to the operators to indicate that higher grade ore will be received and that the setpoint will be adjusted.

Bottle roll optimisation tests are conducted daily to check recovery and reagent consumption including cyanide. The test work indicates cyanide setpoint changes. All results are kept electronically.

Feed source characterisation tests are done as required by AMTEL in Canada, SGS South Africa, and NESCHS Mintek Tanzania.

The AMTEL report, Characterisation of North Mara Q3 2023 Ore Samples. includes the grades, gravity and leach recovery, mineralogy, and reagent consumption. The report results are used for prediction of reagent consumption, recovery for the next quarter.

The cyanide setpoint is changed using a standard form signed by the Manager. Setpoint changes are undertaken based on the daily bottle roll test results as well as the quarterly ore characterisation results.

Cyanide addition control is based on a Cyanoprobe on-line free cyanide analyser measurement linked to variable speed control on the dosing pumps. Manual titrations are done hourly on Tank 1 and Tank 12 to check the online analyser results.

Standard of practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.3**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has developed a comprehensive, probabilistic water balance.

Digby Wells Environmental was appointed to develop the probabilistic water balance model to replace the GoldSim model previously used. The Digby Wells model is a spreadsheet based model, which uses the daily precipitation records together with 19 years of historic rainfall records to model the uncertainty and variability in the prediction of precipitation patterns, including the ability to consider the frequency and distribution of precipitation events along with extremes and seasonal variations.

The water balance considers the following in a reasonable manner and as appropriate for the facilities and the environment. The water balance model includes the following.

a.) The rates at which solutions are applied to leach pads and the rates at which tailings are deposited into tailings storage facilities. It was confirmed that the quantity of slurry from the Plant pumped to the TSF is included. This is calculated using the tonnage and density from the tailings.
b.) A design storm duration and storm return interval that provides a sufficient degree of probability that overtopping of the pond or impoundment can be prevented during the operational life of the facility. The TSF design storm event is used in the model. The precipitation to the TSF is calculated daily using the catchment area and the rainfall mm to the TSF measured by the TSF rain meters. The previous year's monthly averages are used to forecast the current year volume to the TSF and compared to the TSF design storm.
c.) The quality of existing precipitation and evaporation data in representing actual site conditions. The rainfall is measured for the TSF on a daily basis using rain gauges at the TSF and the data is input into the spreadsheet. Rainfall data for the previous 19 years was used in developing the forecasts.
d.) The amount of precipitation entering a pond or impoundment resulting from surface run-on from the up gradient watershed, including adjustments as necessary to account for differences in elevation and for infiltration of the runoff into the ground. There is no run-on to the TSF from outside the TSF catchment area or for any other pond. This was confirmed during the site visit.
e.) Effects of potential freezing and thawing conditions on the accumulation of precipitation within the facility and the up gradient watershed. This is not applicable as the mine is in a tropical zone.

f.) Solution losses in addition to evaporation, such as the capacity of decant, drainage and recycling systems, allowable seepage to the subsurface, and allowable discharges to surface water. Evaporation is calculated using estimate standards supplied to Digby Wells by the Engineer of Record. There are no discharges to surface water. There is a nominal seepage to subsurface included in the model.
g.) The effects of potential power outages or pump and other equipment failures on the emergency removal of water from a facility. The TSF has sufficient freeboard to accommodate a storm event and therefore a power outage will not produce a risk of overtopping.
h.) Where solution is discharged to surface waters, the capacity and on-line availability of necessary cyanide treatment, destruction. or regeneration systems. There is no discharge to surface waters.
i.) Other aspects of facility design that can affect the water balance, such as the assumed phreatic surface in a tailings storage facility. Detailed phreatic levels are recorded in the quarterly Engineer of Record's Reports, which is used in the model.
j.) 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 minimum freeboard of 1.85 m. The freeboard detailed in the latest quarterly report was 3.63 m.

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

The operation's operating procedures incorporate inspection and monitoring activities as necessary to implement the water balance and prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment including the following.

Daily, weekly, monthly, quarterly and annual inspections are conducted at the TSF to monitor levels for input into the model and to ensure compliance. The auditors observed the relevant reports. The process water pond is inspected on a daily basis in addition to a float switch which will activate an alarm if the freeboard is too low.

The operation measures precipitation, comparing the results to design assumptions and revising operating practices as necessary. Precipitation is measured daily at the automatic weather station.

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.

In addition, the quarterly TSF reports include a review of rainfall, the water balance and the pool level.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.4**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation can demonstrate that the cyanide concentration in open water in the TSF's, and solution ponds does not exceed 50 mg/l WAD cyanide.

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 between 15 February 2020 and 6 November 2023. The average WAD cyanide for the TSF during this period was 42.8 mg/l however there were a high number of exceedances.

Due to the high number of exceedances a detailed analysis was undertaken as described in the High WAD Cyanide Exceedance Report by the Metallurgical Superintendent. This report included the major causes of poor performance of the detoxification circuit, the actions taken to address the poor performance, the mitigation plan, and the events timeline.

The events that contributed to the poor performance of the detoxification circuit included; an increase in tonnage, failure of the oxygen plant, issues with the WAD 1000 analyser resulting in poor control of the detoxification.

The operation has does not have any open water where it is necessary to implemented measures to restrict access by wildlife and livestock as the WAD cyanide does not exceeds 50 mg/l.

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 50 ppm when exiting the spigots.

Process water pond in the plant receives water from the TSF and pre-leach thickener overflow, before cyanide is added to the system.

The WAD CN values in the open waters are all less than 50 mg/l and thus no special measures to restrict wildlife and livestock to the TSF and open waters are required.

Poor performance of the detoxification process has led to a high number of exceedances. The events that contributed to the poor performance of the detoxification circuit included; an increase in tonnage, failure of the oxygen plant, issues with the WAD 1000 analyser resulting in poor control of the detoxification process, and manual addition of the detoxification reagent due to WAD 1000 issues.

The actions taken to address these issues include; upgrading the oxygen air spargers, improvements in the WAD 1000 analyser availability, installation and commissioning of the oxygen supply pipe and spargers, replacement of the free cyanide and WAD cyanide analysers. These items have taken time to commission and provide optimal results.

The auditors observed the results for daily WAD cyanide for samples taken from the spigot at the TSF, from the 20 November 2023 to 11 April 2023. There have been three exceedances of 50 mg/l WAD cyanide in that time as follows; 9 February 2024 (64.4), 2 March 2024 (62.8), and 6 April 2024 (51.9). The auditors have observed the Nonconformity and Corrective Actions Submission Forms for these exceedances. These exceedances were due to issues with the detoxification process that were quickly rectified.

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”. 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 is effective in preventing significant wildlife mortalities.

The TSF and Plant are inspected for wildlife mortalities on a daily basis. No wildlife mortalities have been recorded since the previous recertification audit.

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.

The auditors observed records for TSF daily inspection records from 2020 to the date of the audit. There is no heap leach on site.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.5**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard 4.5 to implement measure to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

There is one direct discharge to surface water which is from the Ingwe Dam to the Mara River. TSF decant water is treated at the Water Treatment Plant, which is then discharged to the Ingwe Dam. The Ingwe Dam is a stormwater reservoir on the Mine that is used to store water. Water from the Dam is pumped back to the Plant for use in the process as required.

If there is excess water in the Ingwe Dam this will be released into the North Mara River in accordance with the Mine's discharge permit. Water is monitored at the Ingwe Dam with all results below the detection limit of 0.002 mg/l of free cyanide and WAD cyanide.

The operation monitors the discharge to the surface water prior to it being discharged.

There is no established mixing zone however, the Inge Dam is monitored for free cyanide and WAD cyanide with all results in the period from the previous audit being below the detection limit of 0.002 mg/l.

The following results in the Mara River were observed from 2020 to the date of the audit demonstrating that the direct discharge does not cause the concentration of free cyanide in the receiving water to exceed 0.022 mg/l.

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

Mara River downstream - SWM03D -quarterly monitoring all results <0.002 mg/l free and WAD cyanide

No seepage or indirect discharge from the operation has caused cyanide concentrations in surface water to rise above levels protective of beneficial use as shown by the monitoring results above.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.6**

☐ not in compliance with

Summarise the basis for the findings/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 implements specific water management and other measures to manage seepage to protect the beneficial use of ground water beneath and / or immediately down gradient of the operation. This includes the following:

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 high density polyethylene (HDPE) lined, as are the TSF pipeline trenches. The tanks in the Plant are all constructed inside concrete bunds, equipped with sump pumps.

The operation monitors for cyanide in groundwater downgradient of the site and can demonstrate that concentrations of WAD cyanide (or other species of cyanide for which there is a numerical standard established by the applicable jurisdiction) in groundwater at compliance points below or downgradient of the facility are at or below levels that are protective of identified beneficial uses of the groundwater.

The beneficial uses of groundwater downgradient of the facility are likely to include the provision of drinking water and water for livestock as this is obtained via wells abstracting water from the local groundwater.

No seepage from the operation has caused the concentration of groundwater to rise above levels protective of beneficial use.

There is no specific legal standard for cyanide in groundwater is 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 on a monthly basis. All results of the 36 boreholes show concentrations of less than 0.002 mg/l WAD cyanide for the period 1 January 2020 to the date of the audit.

Mill tailings are not used as underground backfill.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.7**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

Spill prevention or containment measures are provided for all unloading, storage, mixing and process solution tanks.

It was confirmed during the site inspection that 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.

Risk based tank inspections are undertaken on tanks as they are taken offline, 3 tanks per year. The auditors observed the inspections for 2021, 2022, and 2023. The tank inspections are included in the SAP planned maintenance system schedules. There are 3 tank inspections per annum, and detail reports including photographs, thickness testing, corrective action are included in the report.

There has not been any impact on the groundwater as all groundwater samples are <0.002 mg/l WAD cyanide.

The leach, CIL, tailings hopper, thickener and cyanide solution bunds are inter-linked and subsequently linked to the events pond.

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 65 m^3 with the largest tank being 44 m^3.

One CIL Tank has a volume of 1233 m^3. The total bund available has a volume of 2203 m^3.

The largest tank for the detox is 636 m^3. The bund volume is only 70 m^3 however this is linked to the diesel tank bund of 1500 m^3.

Procedures in place and being implemented to prevent discharge to the environment of any cyanide solution or cyanide-contaminated water that is collected in a 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 be manually switched to either pump to the storage tank if cyanide was spilled or can pump to the CIL tank No.1 if contaminated rainwater is in the bund.

The spillage and sump pumps were observed during the site visit and the process confirmed.

There are no cyanide process tanks without secondary containment.

Spill prevention or containment measures are provided for all 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 SAP planned maintenance system 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.

Cyanide delivery pipelines are a pipe-in-pipe system that together with the valves are constructed of stainless steel.

The TSF pipelines and return water pipelines are all made from HDPE.

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.

The operation is

☒ in full compliance with

☐ in substantial compliance with **Standard of Practice 4.8**

☐ not in compliance with

Summarise the basis for the findings/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 assurance and quality control programs were implemented during construction and substantial modification of all cyanide facilities.

The previous audit found the QA/QC documents for the replacement storage and mixing facility and new seepage trench. The documents were confirmed to be available on site.

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 for the construction of cyanide storage and process tanks for the replacement storage and mixing facility.

Quality control and quality assurance records have not been retained for cyanide facilities other than for the replacement storage and mixing facility and new seepage trench. An appropriately qualified person inspected those elements of the replacement storage and mixing facility and provided documentation that the facility has been built as proposed and approved.

There have been no other substantial modifications of the cyanide facility since the last audit.

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

The auditors observed the following.

Resultant Consulting Engineers (Pty) Ltd Reg No 2008/57438/07 Plant Structural Inspection and Maintenance Manual (SIMM) 2023 - Job BAR081/final rev 0.0 dated 19 September 2023. The report was signed off by the author Dane van Tonder PR. Eng Structural Engineer 20220239 and reviewed and approved y Izak Van Der Walt Pr. Eng number 20150501 Structural Engineer.

The report summary states that the general structural condition is in an acceptable condition. Priority areas were highlighted in the report.

The action Track system, which was initiated in 2020, is used to plan and close out actions raised by the inspections. The actions for 2023 were observed. This included orders for tank repairs for CIL tanks 01, 02, 05, 08,10, 11, 12, which were highlighted by the structural report, including order numbers, start and completions dates.

Quarterly reports are conducted by the Engineer of Record, Epoch Mine Residue and Environmental Engineering Consultants. The following reports were observed.

- Second Quarterly Report, 2021, for the Mine Residue Disposal Facilities for the North Mara Gold Mine, Tanzania by Epoch Mine Residue and Environmental Engineering Consultants. The report includes recommendations stemming from the Site Inspection, with risk and priority ratings for each item.

- Second Quarterly Report, 2022, for the Mine Residue Disposal Facilities for the North Mara Gold Mine, Tanzania by Epoch Mine Residue and Environmental Engineering Consultants. The section under 2.5 General Comments concludes the "The dam is considered stable".

- Second Quarterly Report, 2023, for the Mine Residue Disposal Facilities for the North Mara Gold Mine, Tanzania Project No: 135-057 June 2023 by Epoch Mine Residue and Environmental Engineering Consultants. Section 2.5 General Comments includes "The dam is considered stable".

Tailings Storage Facility Annual Audit 2021 by Norplan Tanzania Ltd. The report flagged a number of issues, and revisit the TSF again in February 2022, noticing that all flagged issues had been addressed.

Tailings Storage Facility Annual Audit 2022 by Norplan Tanzania Ltd. The report highlighted issues and included recommendations for actions by the mine, which have been completed.

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

The operation is

☒ in full compliance with

☐ in substantial compliance with **Standard of Practice 4.9**

☐ not in compliance with

Summarise the basis for the findings/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 procedures for monitoring activities. The following procedure was observed.

Surface Water Sampling Procedure NMA-ENV-PRO 0007, Rev 5, dated May 2020.

Groundwater Sampling Procedure NMA-ENV-PRO 0006, Rev 4, dated May 2020.

Wildlife monitoring is undertaken daily by the TSF personnel.

The sampling and analytical procedures have been developed by an appropriately qualified person,

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 revisions and updates were done by Sarah Cyprian Senior Environmental Officer with an Environmental Engineering Degree and 7 years of experience.

The analyses for WAD cyanide is carried out by SGS in Mwanza and Site Environmental Laboratories in accordance with the Standard Methods for Water and Wastewater, 20th Ed by American Public Health Association, American Waterworks Association and American Environment Federation, accredited to ISO 17025

The Surface Water and Groundwater Monitoring Procedures include details; specifying how and where samples should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, cyanide species to be analysed and quality assurance and quality control requirements for cyanide analyse.

Sampling conditions are documented in the North Mara Gold Mine Water Field Parameter Sheets, including weather, livestock/wildlife activity, anthropogenic influences, etc., as observed by the auditors. The sheets have a section for general remarks, e.g. weather, livestock, wildlife activity, and anthropogenic influences.

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

WAD monitoring is conducted at:

- the spigot - once a day;
- the decant pump – monthly; and
- process water pond (inside the plant) - quarterly.

Borehole sampling is done monthly.

Surface Water monitoring is conducted weekly, monthly and quarterly at the Ingwe Dam. weekly and monthly samples are analysed by the internal mine laboratory and the quarterly is done by SGS.

Principle 5 – Decommissioning

Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 5.1**

☐ not in compliance with

Summarise the basis for the findings/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 to effectively decommission cyanide facilities at the cessation of operations.

The auditors observed the following.

Cyanide Decontamination and Decommissioning Plan NMA-OPE-PLA-0002 rev 2, 8 August 2023.

This Plan adequately addresses decommissioning which is that aspect of closure that addresses the cyanide remaining on site upon cessation of production activities and prepares the site for its closure and post closure period.

Sections 6 and 7 of the report provides detailed descriptions of how the cyanide related facilities should be run down, decontaminated, and decommissioned.

The Plan includes an implementation schedule for decommissioning activities. Section 8 of the Plan, contains the implementation schedule Table 8.1: Preliminary North Mara Gold Mine Processing Plant Decommissioning and Decontamination Schedule.

The operation reviews its decommissioning procedures for cyanide facilities during the life of the operation and revises them as needed. Two revisions of the Plan have been undertaken since the previous recertification audit.

Standard of practice 5.2: Establish a financial assurance mechanism capable of fully funding cyanide-related decommissioning activities.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 5.2**

☐ not in compliance with

Summarise the basis for the findings/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 identified in its site decommissioning or closure plan.

Digby Wells Annual Closure Cost Assessment updated December 2022 project number BAR 7959.

Line item for Plant decontamination total is included in the Area 1 Processing Plant and Infrastructure is sufficient to cover the cyanide facility decontamination and detoxification costs.

The operation reviews and updates the cost estimate at least every five years and when revisions to the plan are made that affect cyanide-related decommissioning activities.

The closure cost estimate is updated annually by Digby Wells Environmental

The operation has established a financial mechanism approved by the applicable jurisdiction to cover the estimated costs for cyanide-related decommissioning activities as identified in its decommissioning and closure strategy.

Acacia Mining has an Insurance Guarantee in place in accordance with applicable jurisdiction financial guarantees to make provision for the required closure costs.

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 measures as necessary to eliminate, reduce and control them.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 6.1 to identify potential cyanide exposure scenarios and take measures 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 auditors observed the following.

- *Unloading Cyanide Containers and Cyanide Boxes - SOP-SC-WM-11 May 2022.*

The procedure covers 7 pre-offloading checks, personnel required, equipment required, PPE, safety equipment on hand, safety signage, unloading of cyanide, cyanide storage, issuing cyanide and other hazardous goods, and records hazardous material compatibility chart.

- *Mixing Cyanide - NMA-CYC-PRO-0008, Rev 2, 1 May 2023*
- *Detoxification Process Work Procedure - NMA-DET-PRO-0002, Rev 2, 10 August 2023*
- *Mixing SMBS-NMA-DET-PRO-0003 , Rev 2, 10 August 2023*
- *Tails pump changeover NMA-DET-PRO-0009, Rev 2 10 August 2023*
- *Plant confined space entry NMA-SAF-PRO-0005, Rev 2, 30 June 2023*
- *Cleaning out of Cyanide Mixing Tank NMA-CYC-PRO-0003, Rev 2, 1 May 2023*
- *Flushing Tails Line NMA-TSF-PRO-0006 , Rev 2, 23 August 2023*
- *Spigot assembly and Operation NMA-TSF-PRO-0003 , Rev 2, 23 August 2023*

The confined space entry permit includes:

- Details of tank/area, proposed work, date, time;
- Pre-cautions;

- PPE required;
- Authorisation and sign off; and
- Vessel entry requirements.

The procedures require, where necessary, the use of personal protective equipment and address pre-work inspections.

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

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.2**

☐ not in compliance with

Summarise the basis for the findings/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 hydrogen cyanide gas (HCN) 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. The CIL operator will monitor pH manually and through Leach Tank 1, pH meter. The set point of which is determined by the Plant Metallurgist. Set points for cyanide and pH will be reviewed by the Plant Metallurgist daily and written on the parameter board in the control room. pH readings will be recorded on the CIL log sheet hourly. Typically, the pH set point will be 10.5.

Lime Addition NMA-CIL-PRO-0007 , Rev 2, 12 February 2022.

The low set point is 10.0 and lowest set point is 9.5. At 10.0 an advisory alarm warns the control room operator that the pH is becoming low and the CIL operator needs to check the lime addition system as well as the pH probe. At a pH of 9.5 the CIL operator needs to be informed and preparations need to commence for shutting off cyanide to the leach circuit.

The operation has identified areas and activities where workers may be exposed to hydrogen cyanide gas or cyanide dust in excess of 10 parts per million (ppm) (11 mg/m3) on an instantaneous basis and 4.7 parts per million (ppm) 5 mg/m3) continuously over an 8-hour period, as cyanide and require use of appropriate personal protective equipment in these areas or when performing these activities.

Hotspot surveys was conducted in 2014 / 2015 and this determined where to place the fixed monitors, in areas where there was a higher risk of exposure and the areas where workers must use personal monitors as detailed below. This remains unchanged.

The facility uses monitoring devices in process areas and for activities involving the management of cyanide to confirm that workers are not exposed to hydrogen cyanide gas or cyanide dust exceeding 10 parts per million (ppm) on an instantaneous basis and 4.7 parts per million (ppm) continuously over an 8-hour period, as cyanide

Fixed monitors are installed at: Top of the CIL (2) Tank 1 and Tank 2, Detox (1), Cyanide Mixing Facility (2) top and bottom, Gold Room (1).

Areas for mandatory use of personal monitors include the following; cyanide storage shed, CIL, mixing and storage area, gold room, the incinerator while the burning of cyanide packaging is in progress, and the TSF by the supervisor.

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 the emergency assembly point. These actions are included in the Induction for the Plant and TSF.

Signs have been placed at these areas to instruct workers to wear the monitors. Warning signs have been placed where cyanide is used advising workers that cyanide is present, of any necessary personal protective equipment that must be worn, and that smoking, open flames and eating and drinking are not allowed. 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.

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

PAC 7000 personal monitors and fixed HCN monitors are calibrated every 6 months.

During 2020 and 2021 it was not possible for Draeger staff to visit the site due to Covid-19 restrictions. A trained Instrumentation Technician therefore carried out the calibration of the monitors. Calibration certificates have been retained for 2021, 2022, and 2023.

High strength cyanide solution is dyed for clear identification, with the dye being added during the mixing operation.

Showers, low pressure eye wash stations and dry powder or non-acidic sodium bicarbonate fire extinguishers located at strategic locations throughout the operation and are they 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. Safety shower and eye wash inspected on a shiftly basis, on a weekly basis and on a monthly basis.

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

Safety Data Sheets (from Hebei), first aid procedures and other informational materials on cyanide safety is in the language of the workforce and available in areas where cyanide is managed.

English is the official language on the Mine.

It was confirmed that the safety data sheets and first aid procedures are available in English and Swahili 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.

The auditors observed the *Safety and Health Incident Reporting and Investigation Standard NMA-SAF-STD-0001*, Rev 03, 3 Jan 2022.

This describes the processes and protocols used when an investigation is undertaken. It is stated that an investigation must determine the following: incident description, PEEPO chart (people, environment, equipment, procedures, organisation), sequence of events and why, incident cause analyses method (ICAM) analyses, basic cause and key contributing factors, recommended actions, key learnings.

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

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.3**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has water, oxygen, a resuscitator, antidote kits and a radio, telephone, alarm system or other means of communications or emergency notification readily available for use at cyanide 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), and 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 Control Room, and at Cyanide Storage Shed), which includes the oxygen kits. Antidote kits (Cyanokits) are kept in 2 fridges in the Plant as per the manufacturer's recommendations in the Gold Room and in the Supervisors Office.

The operation inspects its first aid equipment regularly to ensure that it is available when needed, and that materials such as cyanide antidotes are stored and/or tested as directed by their manufacturer and replaced on a schedule to ensure that they will be effective when needed.

Cyanokits are stored as per manufacturers recommendations in fridges and replaced prior to the expiry date. The Cyanokits are inspected monthly by the doctor and recorded on the pharmaceutical inspection program. The Emergency Response Team (ERT) undertakes inspections of the Emergency Response Trailer.

The operation has developed specific written emergency response plans and procedures to respond to cyanide exposure including the following:

- *Emergency Crisis Management Plan NMA-ERI-PLA-0001 (ECMP)*
- *TSF Emergency Preparedness Response Plan NMA-TSF-ERP-0001 (EPRP)*

The ECMP details the necessary response to cyanide exposure through ingestion, inhalation, and absorption through the skin and eyes.

The operation has its own on-site capability to provide first aid and medical assistance to workers exposed to cyanide. All Plant workers are trained in cyanide first aid and are first responders. 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 doctor 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 locally available qualified off-site medical facilities, which includes the following. *Medical Evacuation NMA-CLI-PRO-0004,* Rev 5, 1 July 2023.

The procedure contains a list of appropriate medical facilities where patients may be evacuated to. The doctor will decide whether it is necessary to evacuate the patient based on the medical requirements.

The operation has informed the relevant medical facilities of the potential need to treat patients for cyanide exposure, and the operation is assured that the medical facility has adequate, qualified staff, equipment and expertise to respond to cyanide exposures.

Dr. A Maupa, Superintendent at the on-site Clinic confirmed that they visited the hospitals where cyanide patients will be evacuated to and confirmed they have the equipment and expertise to treat cyanide emergencies. The Mine will send Cyanokits and a trained medical person with the patient when they are evacuated.

The auditors observed an email from Dr. Maupa confirming the name of the hospitals i.e. Aga Khan Hospital in Dar Es Salaam, Tanzania and Aga Khan Hospital in Nairobi, Kenya) and the outcome of his visit and his conclusions confirming the capabilities of the hospitals to treat cyanide patients.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation developed an Emergency Response Plan to address potential accidental releases of cyanide and cyanide exposure incidents. These include the following.

- *Emergency Crisis Management Plan NMA-ERI-PLA-0001.*
- *TSF Emergency Preparedness Response Plan NMA-TSF-ERP-0001.*

The Plans consider the potential cyanide failure scenarios appropriate for the operations site-specific environmental and operating circumstances.

Emergency Crisis Management Plan NMA-ERI-PLA-0001, Rev 12 ,11 August 2023 is in place and includes the following.

- Catastrophic release of hydrogen cyanide from storage or process or regeneration facilities; Section 27, page 109 and Appendix C North Mara Threat Analysis.
-
- Transportation accidents occurring on site or in close proximity to the operation; Cyanide Transportation - NMA-CYC-PRO-0009, Rev 2, 1 May 2023. This procedure is applicable for transport of cyanide boxes inside the Mine. Transportation accidents outside the Mine are the responsibility of the transportation company FFK and Orica as manager of the supply chain. The mine will assist if the incident is close by.
- Cyanide releases during unloading and mixing; Section 37 Release of High Strength Cyanide Solutions page 119.
- Cyanide releases during fires and explosions;
- -Pipe, valve and tank ruptures; Section 29 - Cyanide Pipe Rupture page 112, Section 30 - Cyanide Valve Rupture/Failure page 113, Section 31 - Cyanide Tank Rupture/

Failure page 114, Section 38 - Release Of Low Strength Cyanide Solutions page 120, Section 39 - Release Of Cyanide During Dry Conditions page 120, Section 40 - Release Of Cyanide During Wet Conditions page 121.

- Overtopping of ponds and impoundments; Section 32 - Overtopping Of Cyanide Ponds And Impoundments page 115.

- Power outages and pump failures; Section 33 - Power Outages at C.I.L. Gold Plant page 116, Section 34 - Pump Failure at C.I.L. Gold Plant page 116.

- Uncontrolled seepage;- Section 41 - Uncontrolled Seepage of Cyanide page 117.

- Failure of cyanide treatment, destruction or recovery systems; Section 36 - Failure of Cyanide Destruction Or Recovery Systems page 118.

- Failure of tailings impoundments, and other cyanide facilities. TSF Emergency Preparedness Response Plan NMA-TSF-ERP-0001. Page 148 -152.

Planning for response to transportation-related emergencies has considered the transportation route, physical and chemical form of the cyanide, method of transport, the condition of the road or railway, and the design of the transport vehicle.

ERP 14 (B) - Hazardous Materials Event (Cyanide), page 89. Is applicable to a major transportation event on the mine.

Cyanide Transportation - NMA-CYC-PRO-0009, Rev 2, 1 May 2023. Is applicable for transport of cyanide boxes inside the Plant. Transportation accidents outside the mine are the responsibility of the transportation company FFK and Orica as manager of the supply chain. The mine will assist if the incident is close by.

The supplier is ICMI certified and their emergency procedures will consider the transportation route, physical and chemical form, etc.

The emergency response plans include the following.

a) specific response actions, as appropriate for the anticipated emergency situations, such as clearing site personnel and potentially affected communities from the area of exposure:

- Emergency Evacuation of an Area, ECMP – page 71;
- Evacuation of Gokona Area ECMP – page 73; and
- Emergency Evacuation of Gold Plant, ECMP – page 113.

b) use of cyanide antidotes and first aid measures for cyanide exposure:

- *Procedure Clinic Cyanide Poisoning Case Management Protocol 1,* Rev 1.3, 25 October 2018;
- Minor Exposure to Cyanide (conscious), ECMP – page 118; and
- Acute Exposure to Cyanide (unconscious), ECMP – page 122.

c) control of releases at their source, and

- Hazardous Materials Event (Cyanide), ECMP – page 102; and

- Hazardous Materials Event ECMP page 103.

d) containment, assessment, mitigation and future prevention of releases??

- *SOP 2 Contaminated Soil Monitoring Procedure*, page 5, covers cyanide contamination levels.

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.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 7.2; involve 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 ECMP or during toolbox meetings and safety meetings. In addition, the ECMP is reviewed on an annual basis.

The nearby communities are not involved in the emergency response planning process. They do have an opportunity to provide comments and are made aware of the risks through the stakeholder engagement process.

The operation made potentially affected communities aware of the nature of their risks associated with accidental cyanide releases and consulted with them directly or through community representatives regarding appropriate communications and response actions.

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 agency is involved in cyanide emergencies or play a role in the cyanide emergency response planning process as the ERT and medical clinic is 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 the 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 the Emergency Response Plan as they are not involved in emergency events. Consultation with local communities is maintained through the Community Relations Officer.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.3**

☐ not in compliance with

Summarise the basis for the findings/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 cyanide related elements of the Emergency Response Plan include the following.

The cyanide-related elements of the *Emergency Crisis Management Plan NMA-ERI-PLA-0001, Rev 12 11 August 2023* (ECMP) includes the following.

a) Designate primary and alternate emergency response co-ordinators who have explicit authority to commit the resources necessary to implement the Plan.
Table 1 – Summary Of "Mining Emergency Duty Cards" page 25 and 26 covers the responsibility of all duty card holders including the following; Incident Controller, Assembly Point Warden, Communications Officer, Emergency Plans Officer, Equipment/ Maintenance Officer, Access Control Officer, Emergency Response First Line Leader, and Corporate External Affair. The sections following the table describe in detail the responsibilities and authority, including the reporting lines of all duty card holders.

b) Identify Emergency Response Teams.
The ERT is a mine wide team fully trained in emergencies including cyanide emergencies. The ERT listing and contact details are detailed in a list in the ECMP page 5 and 6: ERT Listing and Contact Details.

c) Require appropriate training for emergency responders.
Implementation of the Emergency Plan page 65 - 68 details the training requirements for all personnel, detailing different requirement levels and elements.

d) Include call-out procedures and 24-hour contact information for the co-ordinators and response team members.
Emergency Process Flowchart page 23 details call out procedures.
Contact information tables are detailed on page 5 – 8.

e) Specify the duties and responsibilities of the co-ordinators and team members.
Table 1 – Summary Of "Mining Emergency Duty Cards" page 25 and 26 covers the responsibility of all duty card holders.

f) List emergency response equipment, including personal protection gear, available on-site.

Emergency response equipment is listed on page 57 of the ECMP.

g) Include procedures to inspect emergency response equipment to ensure its availability. Maintenance and Inspection of Response Equipment, page 3 of the ERP includes procedures to inspect emergency response equipment to ensure its availability.

h) Describe the role of external responders, medical facilities and communities in the emergency response procedures. There is no role for outside responders, medical facilities or communities in the case of an emergency. 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.

Standard of practice 7.4: Develop procedure for internal and external emergency notification reporting.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.4**

☐ not in compliance with

Summarise the basis for the findings/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 include procedures and contact information for notifying management, regulatory agencies, external response providers and medical facilities of the cyanide emergency including the following.

- Emergency Process Flowchart page 23 details call out procedures.
- Contact information tables are detailed on page 5 – 8. This includes the contact information for notifying regulatory agencies and medical facilities as appropriate.
- Table 1 – Summary Of “Mining Emergency Duty Cards” page 25 and 26 covers the responsibility of all duty card holders including the following; Incident Controller, Assembly Point Warden, Communications Officer, Emergency Plans Officer, Equipment/ Maintenance Officer, Access Control Officer, Emergency Response First Line Leader, and Corporate External Affair. The sections following the table describe in detail the responsibilities and authority, including the reporting lines of all duty card holders.

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

Public Relations/Telephone Use ECMP page 61 "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."

The operation has a procedure for notifying the International Cyanide Management Institute (ICMI) of any significant cyanide incidents, as defined in the ICMI's Definitions and Acronyms document - Notification of Significant Cyanide incident to the International Cyanide Management Institute Procedure, dated 01 December 2023. There have been no significant cyanide incidents since the previous recertification audit.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.5**

☐ not in compliance with

Summarise the basis for the findings/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 emergency response plans describe specific remediation measures as appropriate for the likely cyanide release scenarios, in the following documents.

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

a) Recovery or neutralisation of solutions or solids.
b) Decontamination of soils or other contaminated media.
c) Management and/or disposal of spill clean-up debris.

The ECMP Section 42 - Decontamination of a Spill of Solid / Liquid Cyanide into Soil, page 124 – 127 includes the following:

- Excavate the contaminated soil and remove it to the nearest safe area e.g., Cyanide Detoxification Area, for disposal. -Test the sub-soil for contamination and excavate to the limits of contamination.
- For treatment of contaminated soil, (Calcium hypochlorite or sodium hypochlorite) are the preferred reagents, for there is no problem with sludge formation and for small spills the pH should remain high in the relatively undiluted reaction in the soil. Dilution at the scene of the incident to not more than 5% calcium hypochlorite is recommended if dealing with a pool, or the cyanide solution should be appropriately diluted before using 15% solution in order to prevent excessive heat being generated from the reaction. The ECMP details the storage location of calcium hypochlorite as well as the preparation requirements. It is stated that the Threshold Limit Value (TLV) i.e. the level at which it is determined the clean-up is complete is 0.3 ppm WAD cyanide.

d) Provision of an alternate drinking water supply.

The Mine uses a water treatment plant to produce potable water for employees and the local community, therefore there is no risk of groundwater pollution affecting the water supply to the community.

The ECMP prohibits the use of chemicals such as sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released into surface water or that has the potential to reach surface water.

The ECMP states that Hypochlorite is damaging to aquatic life, together with ferrous sulphate and hydrogen peroxide these reagents are not to be used on spills with the potential to reach surface water.

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

All environmental monitoring is carried out in accordance with The Environmental Monitoring Plan and sampling procedures Surface Water Sampling Procedure NMA-ENV-PRO 0007, Rev 5, dated May 2020., Groundwater Sampling Procedure NMA-ENV-PRO 0006, Rev 4, dated May 2020, which include sampling methodologies, parameters, and sampling locations.

Samples from the boreholes in the vicinity of the contaminated area should be undertaken to determine the degree of contamination. The Water Authority will advise on any treatment that may be considered for contamination of groundwater.

The auditors observed the map showing the monitoring sampling locations for surface and groundwater, which would be used as possible sampling locations in the event of a release.

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

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with Standard of Practice 7.6**

☐ **not in compliance with**

Summarise the basis for the findings/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 ECMP states that it will be updated at least annually. The latest version is. Emergency Crisis Management Plan NMA-ERI-PLA-0001, Rev 12 11 August 2023.

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

The emergency drill program includes the requirement to conduct drills simulating cyanide release scenarios appropriate for the operation. The ERT members are included as part of the emergency drill. No outside agency is part of the emergency drill process. The on-site clinic is used in the first instance of a cyanide exposure and is part of the emergency drills. Similarly, the on-site fire service are the primary responders in the event of a fire. All of the emergency drills are field drills, which are undertaken on at least an annual basis. The drill schedule for 2023 was observed, which included, a cyanide spill, a man down due to exposure to cyanide and a fire.

Provisions are in place to evaluate and revise the ECMP, as necessary, following mock drills and following an actual cyanide-related emergency requiring its implementation.

Review and Continuous Improvement, page 16, states:

The Occupational Health and Safety Superintendent is required to coordinate a review at least annually, and after any of the following that resulted from or affected the Emergency Procedures; incidents, emergencies, emergency exercises; and external or internal audits and assessments as required.

The mock drills did not provide any findings that caused the ECMP to be undated. In addition, there have been no cyanide related emergencies. The ECMP has therefore just been reviewed on the normal annual basis.

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.

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with** **Standard of Practice 8.1**

☐ **not in compliance with**

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 8.1; 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 2023 including oxyviva and cyanide awareness training. The cyanide awareness training is for all staff entering the Plant. The matrix has the names of all the employees listed and indicates whether the training has been completed.

The auditors observed: The contents of the cyanide awareness training that included the following contents.

- Storage and handling;
- Safety precautions
- Cyanide usage;
- What is cyanide;
- Where is cyanide;
- Where is cyanide present on site;
- Cyanide gas monitoring;
- Routes of entry and PPE required;
- Mixing procedure;
- Cyanide gas monitoring;
- Symptoms of cyanide poisoning;
- What to do in the event of cyanide exposure;
- First aid measures;
- Procedure for cleaning cyanide mixing tank;
- Procedure for cyanide transportation; and

- Procedure for cyanide destruction.

Cyanide awareness refresher training is conducted annually.

Cyanide training records are retained. Training records are kept electronically as well as hard copies in the employee files. Cyanide training records are retained for at least 3 years for contractors and permanently for employees.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 8.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with 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.

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 trainees must be trained on all the Cyanide procedures and lists the procedures.

Process training matrix, includes operational task training and the required SOP training modules for each job. The auditors observed the Reagent Operator matrix, which includes names, scores and the required total score. The matrix also includes training requirements detailed for each section in the Plant.

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.

The auditors observed the Reagent Operator matrix, which includes names, scores and the required total score. The matrix also includes training requirements detailed for each section in the Plant.

Task training related to cyanide management activities is provided by an appropriately qualified person. Training is provided by the Plant Training Officer, Nelson Yahulula, who has more than 12 years experience.

Workers are trained prior to working with cyanide. 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.

Refresher training on cyanide management is provided to ensure that employees continue to perform their jobs in a safe and environmentally protective manner. Cyanide awareness refresher training is conducted annually.

Work task refresher training is provided as required depending on the outcome of the Planned Task Observations (PTO), such that is the tasks as being undertaken adequately no refresher training is required.

The effectiveness of the cyanide awareness induction training is evaluated by a written test. The refresher training is also evaluated by a written test. Planned Task Observations (PTOs) are also conducted after the appropriate training has been received on the relevant procedures.

Records are retained throughout an individual's employment documenting the training they have received and including 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. For Contractors the records are only retained for 3 years.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 8.3**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

All cyanide unloading, mixing, production and maintenance personnel are trained in the procedures to be followed if cyanide is released, including decontamination and first aid procedures.

The auditors observed the Training Level Matrix 2023, which included Cyanide Awareness and Oxyviva training. The Cyanide Awareness and Oxyviva training is for all staff entering the Plant. The matrix has the names of all the employees listed and indicates whether the training has been completed.

The auditors observed: The contents of the Cyanide Awareness and Oxyviva training that included the following contents.

- Storage and handling;
- Safety precautions
- Cyanide usage;
- What is cyanide;
- Where is cyanide;
- Where is cyanide present on site;
- Cyanide gas monitoring;
- Routes of entry and PPE required;
- Mixing procedure;
- Cyanide gas monitoring;
- Symptoms of cyanide poisoning;
- What to do in the event of cyanide exposure;
- First aid measures;
- Procedure for cleaning cyanide mixing tank;
- Procedure for cyanide transportation; and
- Procedure for cyanide destruction.

This training included what to do in the event of a cyanide emergency, including a spill.

Emergency Response Coordinators and members of the Emergency Response Team are trained in the procedures included in the Emergency Response Plan regarding cyanide, including the use of necessary response equipment. Every shift includes an Emergency Response Team Member, trained by the Emergency Response Department.

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

Refresher training for ERT members and other Plant employees with regards to response to cyanide exposures and releases is undertaken on an annual basis.

Records are retained documenting the cyanide emergency response training, including 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.

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.

Principle 9 – Dialogue and Disclosure

Engage in public consultation and disclosure.

Standard of practice 9.1: Promote dialogue with stakeholders regarding cyanide management and responsibility address identified concerns.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 9.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation provides stakeholders with information on its cyanide management practices and engages with them regarding their concerns.

Eleven villages are situated around the mine. Grievance Officers go and meet with the village leaders and community members according to an agreed timetable, they communicate with them regarding the Grievance Procedure. In addition, theatre performances are undertaken to communicate details of the mining operation 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.

Brochures in Swahili 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 to the communities in 2022.

A timetable of community meetings for 2023 include the following; Main Theme, Subtheme, Key Issues, Actions, and Responsible Person

Presentations to the community regarding cyanide were provided in English and Swahili during June 2023. The meetings cover the villages around the Mine and were attended by Police, Ward Councillors and village representatives. The following villages were covered; Nyamisangura, Weigita, Magena, Kibasuka, Binagi, Magoma, Inchabe, Kemakorere, Dini, and Kiwanja.

Standard of practice 9.2: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 9.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 9.2 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. Are these descriptions available to communities and other stakeholders.

A brochure was handed out to communities in 2022. In addition, the presentations are printed out and distributed to the community following the meeting.

The operation has disseminated information on cyanide in verbal form where a significant percentage of the local population is illiterate.

All of the community meetings provide the information in a verbal format in English and Swahili.

The operation makes information publicly available on confirmed cyanide release or exposure incidents including the following.

- Cyanide exposure resulting in hospitalisation or fatality.
- Cyanide releases off the mine site requiring response or remediation.
- Cyanide releases on or off the mine site resulting in significant adverse effects to health or the environment.
- Cyanide releases on or off the mine site requiring reporting under applicable regulations.
- Releases that are or that cause applicable limits for cyanide to be exceeded.

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

Public Relations/Telephone Use ECMP page 61 "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.

North Mara Gold Mine, 2022 Annual Environmental Monitoring & Compliance Report includes environmental incidents in 2022. This report was prepared for the National Environmental Management Council and has not been released to the public.

On the Barrick website there is a section specifically for the North Mara operation. This includes a statement that in 2023 there had been no Class 1 or 2 environmental incidents.

Class 1 - High Significance is defined as an incident that causes significant negative impacts on human health or the environment or an incident that extends onto publicly accessible land and has the potential to cause significant adverse impact to surrounding communities, livestock or wildlife.

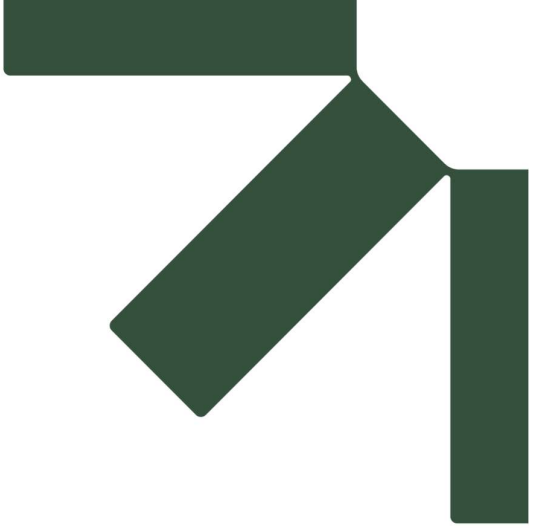
Class 2 - Medium Significance is defined as an incident that has the potential to cause negative impact on human health or the environment but is reasonably anticipated to result in only localized and short-term environmental or community impact requiring minor remediation.

Safety and Health Incident Reporting and Investigation Standard NMA-SAF-STD-0001, Rev 03, 3 Jan 2022, describes the processes and protocols used when an investigation is undertaken.

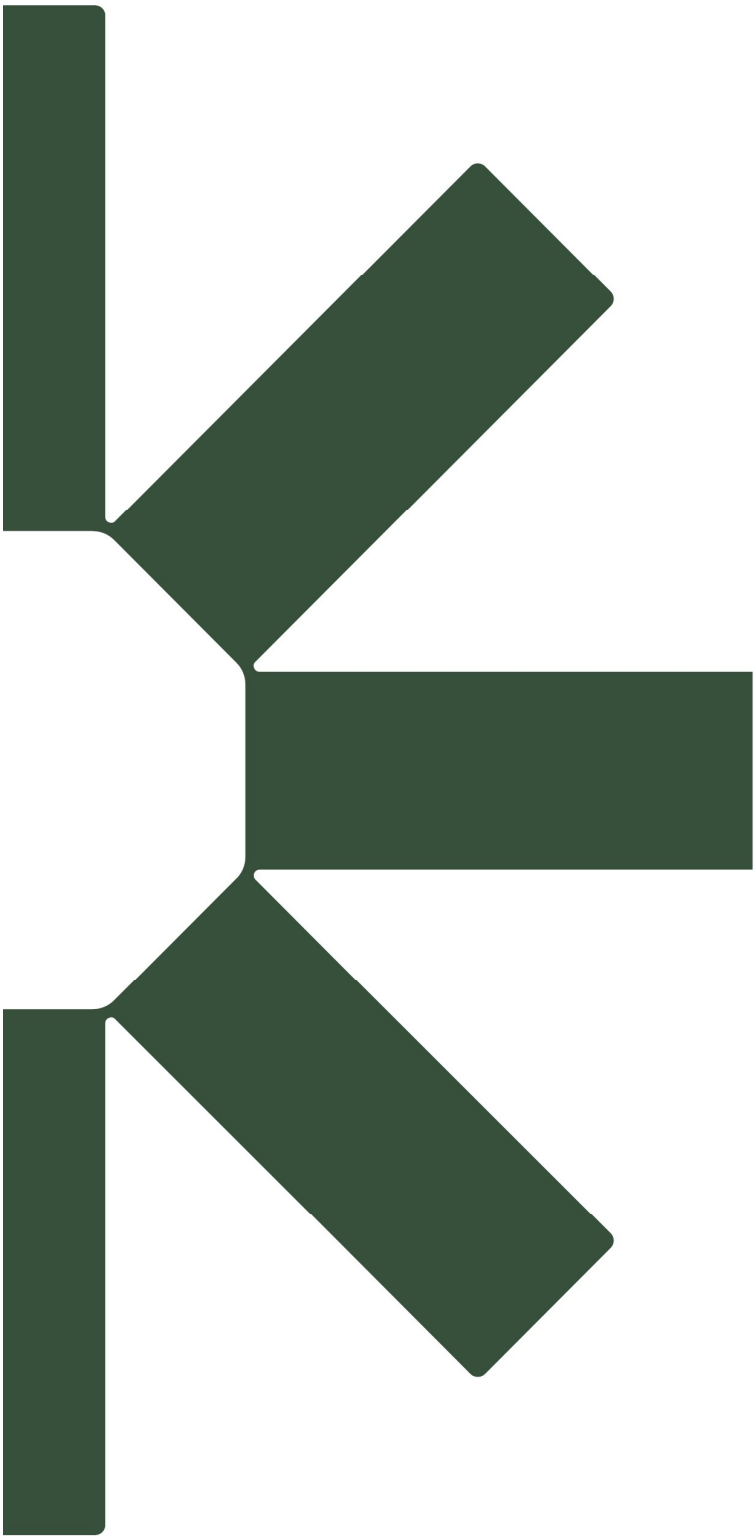
Any relevant incidents as detailed above, that might occur will be included in the sustainability report, which is publicly available. However, none have occurred since certification.

The auditors observed the Sustainability Report 2022: (https://www.barrick.com/English/sustainability/default.aspx.) Section 2 Workplace Safety and Health includes Performance metrics, fatality targets and actuals, lost time injury target and actuals, and injury frequency. The report states that full investigations were done to understand the root causes and corrective actions were implemented and shared across the operations. This highlights the location and nature of any incidents that have occurred.

North Mara Gold Plant Name of Facility	 Signature of Mine Technical Auditor	April 2024 Date
North Mara Gold Mine Name of Facility	 Signature of Lead Auditor	April 2024 Date



SLR



Making Sustainability Happen