

***INTERNATIONAL CYANIDE  
MANAGEMENT INSTITUTE***

***Cyanide Code Recertification Audit  
Gold Mining Operations***

***Summary Audit Report***

***Evander Gold Mining Limited (Pty) Ltd***

***Evander Gold Mines: Kinross  
Metallurgical Plant, South Africa***

***9<sup>th</sup> – 12<sup>th</sup> March 2021***

***For the  
International Cyanide Management Institute***



Name of Operation: Evander Gold Mines: Kinross Metallurgical Plant

Name of Operation Owner: Pan African Resources PLC

Name of Operation Operator: Evander Gold Mines Ltd

Name of Responsible Manager: Ms Phumzile Mokoena, Metallurgical Plant Manager

Address: Rotterdam Road, Evander – Private Bag X1012, Evander, 2280

State/Province Mpumalanga

Country: South Africa

Telephone: +27 (0)17 620 1704

Fax: n/a

E-Mail: [phumzile.mokoena@emines.co.za](mailto:phumzile.mokoena@emines.co.za)

**Location detail and description of operation:**

The Evander Gold Mines: Kinross Metallurgical Plant, at Pan African Resources, is located in Evander, Mpumalanga, South Africa. It is a concentrator plant that processes two sources, namely Run of Mine (ROM) and Surface Sources, in two completely separate streams. The ROM plant produces gold in two products:

- Free gold bullion at approximately 40% Au(Gold),
- Leach and Carbon in Pulp (CIP) gold contained on activated carbon

The Surface Source stream produces gold in Carbon in Leach with activated carbon.

**1. Historical description**

Since the last recertification, The Evander Gold Plant has gone through various phases, driven by the ore reserves, production costs, availability of sources, and the commissioning of the new Tailings Treatment Elikhulu Gold Plant. The phases influenced the operational strategies of the Plant significantly.

The first phase, after the previous recertification, included the Plant treating underground ore and filling the gap in excess treatment. Due to economic considerations, it was decided to close the Plant in 2017. As a result, the operation went into a shutdown mode.



During the planning for the shutdown, additional underground sources were found, and together with the availability of surface rock dump sources, the economic feasibility of the Plant was reassessed, and it was decided to extend the Life of the Plant by 12 years. The operation moved from a shutdown mode into a normal operational mode, and the required changes to getting the Plant back to a safe operating condition were commenced at the beginning of 2018.

The current operations include the Elikhulu Plant. The Elikhulu slimes dam retreatment plant was constructed and commissioned at the end of 2018, resulting in the residue from Evander Gold Plant now being pumped to the Elikhulu residue tank, from where the combined residue volume was now pumped from Elikhulu to two residue dams.

## **2. ROM Process description**

The ROM plant consists of milling, gravity, thickening, Leach and CIP circuits. The milling section consists of a 2000 ton run of mine (ROM) silo, a conveyor belt that feeds the Vicor 4x6 (4m diameter, 6m length) overflow autogenous mill, at an average feed rate tonnage of 40 tons per hour. The mill effluent discharges into the mill effluent sump and is pumped to a 500CVX Cavex cyclone. The Cavex cyclone produces two products, namely the overflow and the underflow. The overflow gravitates to the Trash screen. The underflow flows into a vibrating screen to remove the +4mm pebbles. The screen undersize –4mm gravity feed enters into an XD30 Knelson Concentrator. The screen oversize +4mm returns to the mill feed hopper for regrinding.

The gravity circuit consists of an XD30 Knelson concentrator and a Gemini redress table that recovers the free gold. The concentrate from the XD30 Knelson concentrator reports to a gravity stock tank, where it is then redressed twice a week over the Gemini table. The Gemini table free gold cut is subsequently further processed in the Kinross plant smelt house to produce a bullion bar.

The cyclone overflow is screened over a trash linear screen. The undersize of the trash screen gravitates to a 45m diameter Thickener to thicken the pulp to the desired relative density of 1.500. The thickened pulp is then pumped with a centrifugal pump to the CIL (Carbon in Leach) conditioner tank. Lime is added at the conditioner to adjust the pH of the pulp to 10.5. The pulp from the conditioner is then pumped to the Leach tank. From the Leach tank, the pulp gravitates to CIP (Carbon in Pulp) tank 1, which is tank 1. Tank 1 gravity feeds to tank 2, then tank 3 until it reaches tank 6, which is the last tank of the CIP.

Cyanide at a dosing rate of 0.9kg/ton is added to tank 1. The cyanide addition is controlled by means of a TAC 1000 (Process Analytical Systems TAC 1000 Cyanide & pH Analyzer & Controller) Cyanide controller. The TAC 1000 is

programmed such that it controls the cyanide addition at a set point. Carbon at +/- 15g/litre pulp is maintained in each tank. Virgin or regenerated carbon is added to tank 6, the last tank of the CIP circuit. The carbon is then transferred to tank 5 through an interstage pump system. The same method is employed to transfer the carbon through tank 4, tank 3, tank 2 and tank 1. From tank 1, the loaded carbon is pumped across a vibrating screen. The purpose of this screen is to wash the carbon clean before it gravitates into the loaded tank.

The loaded tank has a capacity of 1.4 tons. When the loaded tank has 1.4 tons of carbon, the carbon is pumped to the elution column. The carbon is stored in the elution carbon column until a second batch of 1.4 tons is pulled from tank 1 to the loaded tank. The gold is eluted from the carbon with a hot 3% caustic solution. The elution process takes place at 1300°C and lasts approximately 18 hours. The caustic circulates through the heat exchangers, then the column, to the electrowinning cells. In these cells, the gold is plated out onto steel wool cathodes, which are subsequently smelted.

When the gold has been removed from the carbon, and the carbon cooled, the eluted carbon is transferred to the regeneration circuit. Here it is heated to approximately 740°C in a steam atmosphere. In the first zone in the regeneration kiln, the volatile organic substances still on the carbon are removed. The pores in the activated carbon re-open in the second zone, re-activating the carbon. From the kiln, the carbon is quenched and sized on a 1 mm vibrating kiln screen and the carbon is fed into the acid wash column.

The carbon is washed with diluted hydrochloric acid (3%) at ambient conditions to remove calcium and some of the base metals that are adsorbed by the activated carbon and which will interfere with the rest of the circuit. After the acid washing process, the carbon is sized on a 1mm vibrating Regen screen before being returned to the CIP plant. Fine carbon is extracted and dispatched for gold by-product recovery.

The tails of CIP tank 6 discharges into a residue sump and are then pumped, with two centrifugal pumps in series, to the Elikhulu plant tailings tank.

### 3. Surface Sources Process description

The Surface Plant consists of milling, thickening and CIL (Carbon in Leach) circuits. The milling section has two Vicor 6x4 overflow ball mills. The mill conveyor belts are fitted with the feed bin systems. The ore is fed on the conveyor belts through the feed bin with the use of front-end loaders. The mill feed is controlled at an average feed rate of 35 tons/hour. The mill effluent discharges into the mill effluent sump and is pumped to a 500CVX Cavex cyclone. The Cavex cyclone produces two products, namely the overflow and the underflow. The overflow gravitates to the Trash screen. The underflow flows into the mill feed hopper for regrind. Free cyanide measurements in the mill have



---

detected levels of up to 15mg /l, and thus, the mill is deemed to be a cyanide facility in terms of ICMI (International Cyanide Management Institute) definitions.

The cyclone overflow is screened over a trash linear screen. The undersize of the trash screen gravitates to a 45m diameter Thickener to thicken the pulp to the desired relative density of 1.500. The thickened pulp is then pumped with a centrifugal pump to the CIL conditioner tank. Lime is added at the conditioner to adjust the pH of the pulp to 10.5. The pulp from the conditioner is then pumped to the first CIL tank, which is tank 1. From tank 1, the pulp gravitates to CIL tank 2, then tank 3 until it reaches tank 6, which is the last tank of the CIL.

Cyanide at a dosing rate of 1.2kg/ton is added to tank 1. The cyanide addition is controlled by means of a TAC 1000 Cyanide controller. The TAC 1000 is programmed such that it controls the cyanide addition at a set point. Carbon at +/- 15g/litre pulp is maintained in each tank. Virgin or regenerated carbon is added to tank 6, the last tank of the CIL circuit. The carbon is then transferred to tank 5 through an interstage pump system. The same method is employed to transfer the carbon through tank 4, tank 3, tank 2 and tank 1. From tank 1, the loaded carbon is pumped across a vibrating screen. The purpose of this screen is to wash the carbon clean before it gravitates into the loaded tank.

The loaded tank has a capacity of 1.4 tons. When the loaded tank has 1.4 tons of carbon, the carbon is pumped to the elution column. The carbon is stored in the elution carbon column until a second batch of 1.4 tons is pulled from tank 1 to the loaded tank. The gold is eluted from the carbon with a hot 3 % caustic solution. The elution process takes place at 1300°C and lasts approximately 18 hours. The caustic circulates through the heat exchangers, then the column to the electrowinning cells. In these cells, the gold is plated out onto steel wool cathodes, which are subsequently smelted.

The tails of CIL tank 6 discharges into a residue sump is combined with the ROM tails and is then pumped, with two centrifugal pumps in series, to the Elikhulu plant tailings tank.



***Auditor's Finding***

**This operation is**

- in full compliance
- X in substantial compliance** \*(see below)
- not in compliance

with the International Cyanide Management Code.

\* The Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.


This operation has experienced compliance problems during the previous three-year audit cycle and these are noted and explained in 4.8 below.

Audit Company: Eagle Environmental

Audit Team Leader: Arend Hoogervorst

E-mail: [arend@eagleenv.co.za](mailto:arend@eagleenv.co.za)

Names and Signatures of Other Auditors:

Name: Dawid M. L Viljoen      Signature       Date: \_\_\_\_\_

Dates of Audit: 9<sup>th</sup> – 12<sup>th</sup> March 2021

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

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

Kinross Metallurgical Plant



23/11/2021

Facility

Signature of Lead Auditor

Date

---

Kinross Metallurgical Plant

Signature of Lead Auditor

17<sup>th</sup> November 2021

---

*Auditor's Findings*

**1. PRODUCTION: Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.**

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 1.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

Evander Kinross receives liquid sodium cyanide from ICMI (International Cyanide Management Institute)-certified producer, Sasol South Africa (Pty) Ltd (Sasol). There is no supply contract between the operation and Sasol, but as Sasol and its bulk transporter are both ICMI certified, the operation is deemed fully compliant. Sasol was certified on the ICMI website as compliant on 23<sup>rd</sup> January 2019. Sasol supplies Evander Kinross directly, and there are no independent distributors involved in the supply of sodium cyanide.

**2. TRANSPORTATION: Protect communities and the environment during cyanide transport.**

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 2.1**  
 not in compliance with



*Basis for this Finding/Deficiencies Identified:*

There is a Memorandum of Agreement for the Off-loading of Liquid Cyanide in terms of SANS (South African National Standard) 10231:2006 Specifications and Codes of Practices incorporated into Legislation and the National Road Traffic Act 93/1996 and Regulations between Imperial Logistics Advance Trading as Tanker Services Food and Chemicals Division and Evander Gold Mining Proprietary Limited which confirms that Tanker Services, the bulk sodium cyanide transporter, "...is accredited with the International Cyanide Management Institute and shall adhere to all requirements and procedures required regarding, but not limited to, the evaluation and selection of routes, overnight parking and security, interim loading, and un-loading, Transport to the operation, unloading at the operation, safety and maintenance of the means of transportation, task and safety training for transporters and handlers throughout transport, security throughout transport, and emergency response throughout transport...".

There is also an agreement in place between Evander Gold Mining Company and Tanker Services - sighted signed agreement titled: "Memorandum of Agreement (MOA) for The Off-Loading of Liquid Sodium Cyanide: In Terms of SANS (South African National Standard) 10231:2006 Specifications and Codes of Practices incorporated into Legislation and the National Road Traffic Act 93/1996 and Regulations." which meets the legal requirements of labelling and transporting cyanide in South Africa.

There is no Sasol Contract in place, and site procedures do not refer to the addition of dye to the storage tanks. However, Sasol is a certified liquid cyanide producer that delivers liquid cyanide to ICMI signatories that is dyed red, using Carmoisine colouring. The Sasol Safety Data Sheet for Sodium Cyanide Solution, issued to EGM, includes in Section 9. Physical and chemical properties, that the solution has the colour, light to dark red.

There are no subcontractors used by the producer, distributor or the operation for liquid sodium cyanide transport-related activities.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 2.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

There is a Memorandum of Agreement for the Off-loading of Liquid Cyanide in terms of SANS (South African National Standard) 10231:2006 Specifications and Codes of Practices incorporated into Legislation and the National Road Traffic Act 93/1996 and Regulations between Imperial Logistics Advance Trading as Tanker Services Food and Chemicals Division (Tanker Services) and Evander Gold Mining Proprietary Limited



which confirms that Tanker Services, the bulk sodium cyanide transporter, "...is accredited with the International Cyanide Management Institute and shall adhere to all requirements and procedures required regarding, but not limited to, the Evaluation and selection of routes, overnight parking and security, Interim loading, and un-loading, Transport to the operation, Unloading at the operation, Safety and maintenance of the means of transportation, Task and safety training for transporters and handlers throughout transport, security throughout transport, and Emergency response throughout transport...".

Tanker Services was recertified as fully compliant under the ICMI transport code on 21 Nov 2018. Chain of custody document packages were sampled for cyanide delivered to the Kinross Metallurgical Gold Plant on 18 December 2017 and the 31<sup>st</sup> January 2021. The document packages included the Kinross purchase order, the Sasol delivery note and tax invoice, and the Tanker Services Delivery Note.

**3. HANDLING AND STORAGE: Protect workers and the environment during cyanide 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.*

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 3.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

In previous certification audit evidence, it was confirmed that the cyanide storage facility was designed by Engineers from Harmony Engineering, Welkom, ELROX Engineering, and inspected by the cyanide producer's representative. The design drawings (Signed by Engineer S I Bester, ECSA (Engineering Council of South Africa) Reg. 850123) were available and sighted. Drawings sighted included the Chemical Storage facility tank foundation, Cyanide storage tank A & B Design Data notes, Cyanide storage tank A & B Arrangement and details, and Cyanide storage tank A & B P&IDs (Piping & Instrumentation Drawings). On-going Sasol (cyanide producer) annual inspection reports for 2017, 2018, and 2019 were sighted with scores of 97%, 80% and 97%, respectively. The 2020 inspection was not carried out due to Covid-19 quarantine restrictions. There have been no changes or additions made to the facility.

Cyanide unloading takes place on a concrete offloading bay which drains into the cyanide bund area. The cyanide tanks are placed on solid concrete foundations, inside a concrete bund area. The unloading and storage areas are located away from people and surface waters. The installation of vents on top of the cyanide tanks was confirmed, and no solid sodium cyanide is stored on the site. The cyanide storage tanks are equipped with

ultrasonic level detectors with a high-level alarm that will sound at the offloading area. The tank levels show on the SCADA (Supervisory Control And Data Acquisition system) screen in the control room, as well as alarming. The off-loading procedure requires that tank levels be verified by calculation, as a back-up to electronic measurement.

Secondary containment is constructed of concrete which is coated with an additional sealant. Both the bund and tanker offloading bay were observed to be in good condition during the site inspection. An approved purchase requisition for the precautionary relining of the cyanide bund was sighted, with negotiations currently underway for a contractor to come on-site to carry out work. (Covid-19 restrictions are creating access problems.)

The cyanide storage area is fenced off, and entry gates are locked. The cyanide offloading area is located inside the main plant security fence with access control. It was confirmed during the site inspection that the cyanide storage area is away, and separate from, all incompatible materials.

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

**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 3.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

No solid sodium cyanide is used on the plant. Only liquid cyanide is delivered in bulk, dedicated tankers by Tanker Services. There is a detailed, task-specific, Plant off-loading procedure that specifies the clean-up of spills and the washing of pipes, flanges and valves and tanker outer surfaces before leaving the off-loading area. The MOU (Memorandum of Understanding) for the offloading of liquid cyanide in terms of SANS 10231 and the national road traffic act also, similarly, requires the washing of pipes, flanges and valves and tanker outer surfaces.

The off-loading procedure refers to the use of a “buddy” and is supported by a separate, more detailed “Buddy” procedure. Sasol is an ICMI-certified liquid cyanide producer that delivers liquid cyanide that is dyed red using Carmoisine colouring to ICMI signatories. The Plant does not mix cyanide or add dye to the cyanide that it uses.

The plant off-loading procedure includes a detailed task sequence covering the operation of valves, couplings, and pipes in the connection, off-loading and disconnection process for the liquid sodium cyanide. No solid sodium cyanide is mixed or used on the Plant.



**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 utilizing contingency planning and inspection and preventive maintenance procedures.*

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 4.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Plant has 81 Process and Engineering Procedures and 3 Environmental Procedures in place covering cyanide management. There is an Evander Gold Mining Mandatory Code of Practice for Mine Residue Deposits Code of Practice (COP), dated 15 February 2018 in place. From the last recertification audit in November 2016 to November 2019, Evander Gold Mine (EGM) Kinross Plant was responsible for the Tailings Storage Facility (TSF), and Fraser Alexander Tailings were the TSF operating contractors. From January 2019 (change over to Elikhulu residue station) to the recertification audit, Elikhulu Remining Gold Plant took over responsibility for EGM (Evander Gold Mine) tailings deposition from their tailings tank, when this tailings audit requirement became not applicable for EGM Kinross Plant. The Evander Gold Mine, Winkelhaak Tailings Storage Facility Complex Annual Audit Reports for 2017 and 2018 were reviewed, along with sampled, supporting Winkelhaak Bi-weekly meeting minutes from 2017 and 2018. The regular agenda items in the meetings included: - 1. Priority items, 3. Safety statistics (Re-mine and deposition), 4. Environmental, 6. Slurry pumping, 7. Return water, 9. TSF Construction Recording, 10. Deposition, 11. Structural performance indicators, 12. Operational Issues, 13. Cyclones and Day walls, and 14. Pipe failure incident recording. The Fraser Alexander Tailings Issue Based Risk Assessments (IBRAs) for 24 tasks were sighted and reviewed.

Operating parameters for the Winkelhaak freeboard were identified as the 1:50 year rain event in 24 hours, and freeboard as per the 2018 Annual Report was reported as Compartment 1 – 1.77m, Compartment 2 – 2.21m and Compartment 3 – 1.45m. With regard to WAD (Weak Acid Dissociable) cyanide, a Plant procedure required WAD cyanide to not exceed 50 ppm in the residue slime with an alarm in the SCADA pre-warning at 45 ppm. An EGM managerial instruction is in place (sighted "Efficient control of WAD cyanide in tailings dated 9/8/2020) managing the EGM WAD cyanide in the slurry pumped to Elikhulu tailings tank to be at less than 50 mg/l WAD cyanide.

A Plant Cyanide Facility (Operational) Inspections Procedure requires that the following inspections must be conducted: Pre-Use Inspections; Shift and Daily Inspections; Monthly Inspections; and Quarterly Inspections. Sighted Monthly inspection books

showing daily inspections in the cyanide off-loading and storage area. Books date back two years. Also sighted were off-loading inspection checklists kept at the emergency cabin. The procedure only includes the cyanide storage, and not the CIL (Carbon in Leach), Elution, CIP (Carbon in Pulp), Leach, and Residue circuits. The Plant has standby units for all key processes, such as Cyanide Pumps 1 and 2, Residue pumps 1 and 2, Surface CIL (Carbon in leach) feed pumps, CIL pumps, Flocculent pumps, and Lime feed pumps, Thickener pumps, and mill return water pumps. These are all subject to a standby unit's daily checklist (sighted). The units without standby pumps are also listed on the daily checklist, and their performance is also checked daily. The maintenance records were sampled, which showed the job cards that were raised for breakdowns and for work generated from the daily checks. The operation does not have any leak detection or collections systems because it does not have any heap leach operations.

The Plant's Change Management procedure was sighted, along with a change management example covering the re-routing of the cyanide feed pipe to the No 8 tank launder. The document was signed, and approval signatures included the Chief Safety Officer and the Environmental Officer.

Probabilistic Water Balance (PWB) and plant operational strategies did not identify any scenario where the Plant needs to be stopped to maintain the water balance. The Plant is stopped in the case of breakdowns identified during inspections requiring maintenance and for planned monthly shutdowns. The Plant also has a Start/Stop procedure, which includes the sequential steps to start/stop the plant safely under normal, abnormal and emergency circumstances. This also includes the sequencing to prevent the release of overtopping of solutions that may contain cyanide. All maintenance is preceded by a mini-risk assessment before commencing the maintenance.

The Engineering spreadsheet-based planned inspections are done weekly, and the electronic DMS (Drumblade Maintenance & Safety) PMS (Planned Maintenance System) system is being implemented again.

A manual PMS system was used from the previous recertification audit. This was due to the, then, decision to close the Mine and the Plant when the DMS 2000 electronic PMS was turned off. The manual system consisted of a weekly maintenance schedule used for the Plant. The schedule includes the process and cyanide equipment. A job card is generated for deficiencies detected by process inspections. The cyanide tank level system is inspected by the Process Department, and a job card is issued if required. Maintenance done is shown on the job card, filed at the process control room. A manual book is used by the artisans when doing inspections. Faults are discussed and planned between the artisan and foreman and completed. No documentation is completed for the smaller jobs. Bigger jobs are carried out during planned shutdown, and jobs are listed. Artisan inspection books are filed and available for the recent period and have been sighted.

Job cards are filed in hardcopy format in the control room and are also available from the newly established Microsoft Access database system. The Mine's future feasibility has changed, and it is now envisaged that the mine will operate under the planned EgoLi project for another 15 years, coming from a previously planned closure in 2018. In the light of the longer operating Life of Mine being considered, the DMS PMS system is being re-commissioned and was restarted from 2019. The DMS may only be fully operational in a few months' time. During the period since the previous recertification,

Evander Gold Plant has gone through significant operational change. The first change saw a potential shutdown of operations. This commenced with significant reductions of throughput and retrenchments, leading towards going to a Care and Maintenance condition and possible closing down (2016 -2018). Changes in the gold price, along with the identification of new, underground resources, resulted in a restarting of activities and eventually extending the Life of Mine by 12 years. Towards the end of the first change phase, the reduction of operations resulted in the stopping of the DMS 2000 electronic PM (Planned Maintenance) system. Inspections continued, but instead of the DMS, a Microsoft Access database was adapted to function as a manual job card system that stored job cards and inspection data (2018 -2019.) From 2019, the DMS 2000 system was reinstated

Weekly inspections by Fitters, Boilermakers, instrument technicians, and the Process Department identify problems at an early stage. A Job card system flow chart and Managerial instruction dated 23-11-2020 describing the requirement that no work will be carried out without a job card being in place that has been generated by the Planner or the Control Room was reviewed. Planned Maintenance work orders for Fitters (weekly pumps), Boilermakers (weekly boilermaker for cyanide area), Electricians (weekly electrical inspection of cyanide area), Process Department weekly cyanide tank inspections) and Technicians weekly cyanide instrument inspections) Fitters (weekly process dam maintenance) were sampled and reviewed. Thickness testing on all tanks is done annually. A train of CIL tanks was decommissioned and will be demolished later due to failing the thickness tests. The boilermaker undertakes weekly inspections of tanks, looking for leaks. A sample procedure for CIL Tanks Maintenance at Kinross Plant is in place to minimise downtime and disruption to enable a steady production and increase availability. The procedure encourages close cooperation between Plant staff and Engineering. Sampled monthly operational inspection books include bunds, pumps, piping, tanks, and covers leaks and rust on pipes. Weekly Pump Inspections, which include the pump's associated pipes and valves, are carried out by Fitters. Check items included leaks and dripping, pump connections and couplings, pipe labelling and direction of flow, and condition of pumps, piping and valves. Mechanical weekly inspections on the process dam have check items which include: - check dam level, check pump operation, check standby pump operation, check suction pipe. Work Orders, job cards, and checklists include the date of the inspector, the name of the inspector, and any observed deficiencies. Records are maintained in the DMS 2000 PMS system or the Microsoft Access Database. An Electronic sampled review was carried out. Additional Work Orders and Job cards are raised if inspectors cannot make an on-the-spot repair. The frequency of inspections is deemed sufficient to assure and document that they are functioning within design parameters.

Dams are operated with excessive freeboard to cater for rainstorms, depending on pool level requirements from the stability analyses and Piezometer readings. Thus, no emergency power is required. The Plant is currently operating at 50% of its original design capacity. An operating penstock procedure is in place to regulate maximum numbers of rings that could be added in case of abnormal rainfall. As per previous audit findings, emergency power generating equipment at the central substation to provide power to the pumps at the return water dams is available as back-up in case of power

outages. Maintenance of the generators is done by the Mine's Shaft Engineering Department, and weekly and monthly tests are conducted. The EGM stopped pumping to the TSF's from January 2019, and then the Elikhulu Gold Plant assumed responsibility for the Tailings Dams and pumping of tailings and return water.

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

**X in full compliance with**

- The operation is**
- in substantial compliance **with Standard of Practice 4.2**
  - not in compliance with
  - not subject to

*Basis for this Finding/Deficiencies Identified:*

Electronic files of bottle roll tests for 2016, 2017, 2018 were reviewed for Period 1 before Elikhulu 2021 certification. Underground ore SGS (SGS Laboratories) bottle roll tests sighted include cyanide consumption, pH, and Lime consumption. Surface source reclamation ore SGS tests include cyanide consumption. Bottle roll tests for ETRP (Elikhulu Tailings Recovery Plant) TUF, which is a slimes dam reclamation source, were reviewed, and it was noted that the cyanide consumption for the slimes dam reclamation material is close to the underground consumption.

For Period 2, after Elikhulu 2021 certification, electronic files of bottle roll tests for 2019, 2020 and 2021 were sighted, which included: - Underground ore - SGS bottle roll tests include cyanide consumption, pH, and Lime consumption; - Surface source reclamation ore – with SGS tests including cyanide consumption. Bottle roll tests for five surface sources were reviewed. It was noted that the cyanide consumption is significantly higher for surface sources than for underground sources.

The bottle roll test program covers the underground source and the various surfaces sources and characterises the reagent and cyanide consumptions for the various sources monthly. The Plant treats one surface source stockpile at a time. Samples are taken from the stockpiles and sent to SGS Laboratories for diagnostic leaching on bottle roll leaching to understand cyanide consumption before loading to the plant mills.

The high grade (underground ore) stream is controlled by on-line measurement of free cyanide using a TAC 1000 analyser. Primary cyanide dosing ratio control with tonnage feed rates, linked to the variable speed cyanide dosing peristaltic pumps, is in place. The TAC 1000 output (secondary control) is also linked to the variable speed peristaltic pumps, controlling cyanide addition to the dosing points. This system prevents spikes in WAD cyanide levels during high tonnage feed rates.

The low grade (surface sources) stream is controlled by on-line measurement of free cyanide using a TAC 1000 analyser. The TAC 1000 output is linked to the variable speed

peristaltic pumps, controlling cyanide addition to the dosing points. There is no ratio control with tonnage feed rates which results in an increased number of WAD cyanide exceedances in the case of high tonnage feed rates. Manual back-up titrations are done to cross-check the TAC 1000 results. Silver Nitrate and Rhodamine, as indicators, are used. The use of a ratio control system, using the thickener underflow mass flow and the variable speed peristaltic pumps for the low-grade section, will be installed in future. This will reduce the incidents of manual feed control in the case of high tonnage feed rate causing elevated WAD cyanide values.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 4.3**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

Spreadsheet-based probabilistic water balances (PWBs) for 2016, 2017, 2018, 2019 and 2020 were sighted and reviewed. The water balance includes the following: tailings deposition rates; Precipitation; evaporation; seepage; undiverted run-on from up gradient areas; and impacts of freezing and thawing. There are no cyanide treatment systems for surface discharges, as no discharge takes place. The water balance takes into consideration variability in the daily, 24-hour rainfall events. The variability in rainfall is taken into account manually by using the statistical data in the rainfall database, which covers daily total rainfall for both wet and dry seasons: 1 in 50-year 24-hour event - 170 mm; 1 in 100-year 24-hour event – 187 mm; year max 24 hour event; year min 24 hour event; and year Average 24 hour event.

Data is used from local TSF rain gauges (the TSF is situated next to the Plant, and rainfall is checked and recorded daily. An evaporation database from 1988 to 2020 from the South African Weather Bureau is used in the model. The plant keeps records of daily 24-hour rainfall for each year, and the maximum, minimum, 1:50 and 1:100-year, 24-hour storm events are used in calculating the solution dam freeboard. If the freeboard is inadequate, the operating dam freeboard is revised. This may differ for wet and dry seasons.

There is no run on to the TSF, or to the return water dam, and run on is included in the Plant catchment area, running into the catchment dam. For the TSF, seepage assumptions are used. In the Plant, evaporation is negligible due to the small dam surface area. No allowance for seepage was included as most of the plant surface is concrete or tar covered. The Mine does not discharge to surface water. Abnormal precipitation events are treated as emergencies under the emergency plan and managed under the monitoring procedures.

The TSF freeboard is operated at required levels, and the parameters are set out in the annual and quarterly audits, inspections and reports.



TSF inspections are done monthly, and include measurement of pool levels and freeboard. This was confirmed during a review of TSF inspection documentation. Weekly mechanical surge dam inspections are also conducted.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 4.4**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

Evander Gold Plant has gone through significant operational change. The first change saw a potential shutdown of operations. This commenced with significant reductions of throughput and retrenchments, leading towards going to a Care and Maintenance condition and possible closing down (2016 -2018). Change in the gold price, along with identification of new, underground resources, resulted in a restarting of activities and eventually extending the Life of Mine by 12 years. The EGM stopped pumping to the TSF's from January 2019, and then the Elikhulu Gold Plant assumed responsibility for the Tailings Dams and pumping of tailings and return water.

The EGM recertification was published on 8 Nov 2016. During Review Period 1: 8 November 2016 to around January 2019, EGM was running the TSF. During Period 2: from January 2019 to certification audit, Elikhulu was taking responsibility for EGM tailings deposition from their tailings tank, when the TSF audit question became not applicable for EGM ICMI recertification purposes. A managerial instruction is still in place (sighted "Efficient control of WAD cyanide in tailings dated 9/8/2020) managing the EGM WAD cyanide in the slurry pumped to Elikhulu tailings tank.

The EGM tonnage pumped to the Elikhulu plant is around 40 000 tpm (tons per month) mixed with the Elikhulu tonnage of around 1 200 000 tpm, or a dilution to 2.5% of the total tonnage to the TSF's (40 000tpm is deposited onto the Winkelhaak TSF and the balance to the new Elikhulu TSF).

The values indicated below indicate that the operation's WAD cyanide in open waters is less than 50mg/l (a maximum of 3.1 mg/l WAD cyanide), and thus no measures to restrict access by wildlife and livestock are necessary at the TSF's.

The Plant measures its WAD cyanide in the residue tank at the Plant using an on-line WAD 1000 analyser. All WAD cyanide exceedances were investigated.

**WAD Cyanide Performance - Period 1 November 2016 to November 2018:**

- *November - December 2016:* 4 exceedances - sighted investigation reference numbers and sampled investigations - highest value 66 mg/l WAD cyanide.

- *January/February/March 2017:* 5 exceedances - sighted investigation reference numbers and sampled investigations - highest value 70 mg/l WAD cyanide.





- *April/May/June/July 2017*: 11 exceedances - sighted investigation reference numbers and sampled investigations - highest value 86 mg/l WAD cyanide, the investigation identified cyanide valve failure - fixed valve.

- *August to December 2017*: 9 exceedances - sighted investigation reference numbers and sampled investigations - highest value 88 mg/l WAD cyanide, investigation 1592 and 1593 identified control issues related to high tonnage treated from multiple sources. With no ratio control, manual control was used, which is less accurate than automated control. Remedial action was noted: The Mine is investigating changes to the system allowing for ratio control, which will eliminate the manual spikes experienced currently.

- *January to June 2018*: 12 exceedances - sighted investigation reference numbers and sampled investigations - highest value 92 mg/l WAD cyanide, investigation 1580 identified pump was running on manual, the pump was returned to automatic, rectifying problem.

- *July to December 2018*: 16 exceedances - sighted investigation reference numbers and sampled investigations - highest value 111 mg/l WAD cyanide, investigation 1886 identified as due to high throughput - remedial action taken.

- *November 2018 to Date of audit*: Residue pumped via Elikhulu Gold Plant to the TSF, WAD analyser off-line, WAD cyanide measured at Elikhulu.

**Period 2: WAD analyser was decommissioned as part of WAD cyanide management to Elikhulu in Dec 2019.**

- *December 2019 to June 2020*: 40 exceedances sighted - investigation reference numbers and sampled investigations - highest value 96 mg/l WAD cyanide, investigation 331 identified as control switched to manual, control returned to automatic.

- *January to February 2021*: 7 exceedances sighted - investigation reference numbers and sampled investigations - highest value 97 mg/l WAD cyanide, investigation 316 identified as control switched to manual, control returned to automatic.

There have been no wildlife or livestock mortalities since the previous audit.

With regard to WAD cyanide analyses on open waters, these are carried out quarterly. Surge dams 1 and 2 and the Toe dams 1 and 2 results were sighted, dated 17 Jan 2020, 14 April 2020, 11 Aug 2020, 11 Dec 2020, the maximum value was 3.1 mg/l WAD cyanide, thus the open water dams are less than 50 mg/l WAD cyanide.

The EGM Chief Safety Officer confirmed that he was the Mine Representative who signed off the daily reports from the TSF on a weekly basis. Any task requirements were referred to outside Engineering for resolution. He further confirms that the reports were submitted regularly on a weekly basis, and no wildlife mortalities have been reported since the last audit. EGM has no heap leach operations.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 4.5**



not in compliance with

*Basis for this Finding/Deficiencies Identified:*

No licensed discharge of mine water to surface water is permitted (No-discharge Water Licence). There is no mixing zone as no discharge to surface water from any cyanide facility occurs. The Mine, however, samples the adjacent Groot Spruit up and down stream of the mine operations: Data provided by the EGM Environmental Officer for 2016, 2017, and 2018, shows less than 0.01 mg/l free cyanide, limits of detection.

The auditors observed the monthly water monitoring results for sampling point BM 11 downstream of the Winkelhaak TSF in the Winkelhaakspruit. This showed that all results from November 2016 to December 2019 were <0.01 mg/l cyanide, below limits of detection. This data indicated that no indirect discharge from the Winkelhaak TSF occurs into the Winkelhaak spruit.

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

**X in full compliance with**

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

not in compliance with

*Basis for this Finding/Deficiencies Identified*

No beneficial uses of groundwater were identified by the jurisdiction, and there are currently no uses of underground water. No borehole water is used from mining property. The plant surface is covered by concrete and tarred roads, with water trenched to silt traps and water containment dams, from where water is returned to the Plant.

There is no numerical standard established by the applicable jurisdiction for WAD cyanide or any other species of cyanide in groundwater. Therefore, there are no compliance points below or down gradient of the gold plants or tailings facilities. There are no backfill facilities on the mine. No remedial activity has been required to be done to prevent further degradation or restore beneficial uses.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 4.7**

not in compliance with

*Basis for this Finding/Deficiencies Identified:*



Evidence from the last recertification audit confirmed, "The leach, CIP, residue tanks are placed inside bunds. Based upon knowledge of engineering and construction practice when the Plant was built 40 years ago, it can be concluded that the tank bases are all solid concrete - ring beams were not used in South Africa during this time."

The reagent strength cyanide tanks are placed on a solid concrete foundation inside a concrete bund which has been confirmed in plant drawings.

The bund area calculations made in previous audits are still valid as there have been no changes to designs or capacities. There are no cyanide process tanks that do not have secondary containment.

The Leach areas are linked to a holding tank which is equipped with a pump returning the spillage to leach tanks. The Residue and CIP bund areas are equipped with spindle pumps, returning spillage back to the process. Drains will take any overflow of the bund area to the emergency spillage dam outside the fence from where spillage can be returned to the Plant. The cyanide facility is equipped with a bund, sump and pump system with spillage currently pumped to the leach, except in the case of confirmed tested storm water.

A pipeline to enable pumping of the contents of the cyanide storage bund back to the cyanide storage tank is in place. There is a procedure, Starting and stopping a vertical spindle pump in the cyanide bund area, in place which governs the use of this pump.

Plant pipes are installed over bunds, concrete and tar surfaces, linked to spillage containment dams. Reagent strength cyanide dosing pipes from the cyanide storage dosing pumps are equipped with secondary containment channels, draining to the cyanide bund and to the leach bunds, as appropriate. The EGM Chief Safety Officer confirmed that he was the Mine Representative who signed off the daily reports from the TSF on a weekly basis. Any task requirements were referred to the outside Engineering Department for resolution. He further confirms that the reports were submitted regularly on a weekly basis. The routine daily pipe inspections are deemed a preventative measure. Tanks are constructed of mild steel, as are the pipelines, and all flanges are welded by coded welders. The new pipelines were welded by coded welders and x-ray certified.

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

in full compliance with

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

not in compliance with

*Basis for this Finding/Deficiencies Identified:*

No new facilities or modifications have been undertaken since the last audit. As per previous audit evidence, a new cyanide facility was constructed and commissioned during February 2012. The QA/QC (Quality Assurance/ Quality Control) by Conloo Construction was sighted, and files with test results were sampled on all the steel work,

including the tanks and pipes. As per the previous audit, a Kinross cyanide storage visual inspection report by F Bester Pr. Eng. (ECSA (Engineering Council of South Africa) number 850123) of ELROX Design and Management Services concluding the facility was built to be fit-for-purpose.

No plant QC /QA documentation was available, as the Plant is more than 46 years old. The last Structural Mechanical and Civil Audit conducted by a professional engineer was reported on in a document dated 3 June 2016. This report needed to be reviewed/updated as it is four years old. (The past uncertainty regarding the future of the operation contributed to the delay of certain preventative maintenance measures.) The auditors were concerned about some of the physical conditions during their site inspection. There was significant evidence of corrosion and deterioration. Although inspections continued during the changing circumstances of the Plant, it was deemed by the auditors that a Professional Engineer's report would confirm fit-for-purpose and prioritise repairs to enable the operation to cope with the extension of the life of mine by 12 years. A structural, mechanical and civil audit was planned to commence the week beginning 15th March 2021, but was only undertaken from 10-14 April 2021. This was an opportunity to confirm the status of the Plant as being fit-for-purpose.

A finding of substantial compliance has been made, based upon the uncertainty regarding fit-for-purpose, the age of the Plant and the fact that it had not been possible to undertake a Structural, Mechanical and Civil Audit since 2016. It was reported during the audit that a Visual Structural Inspection by a Structural Specialist was planned, and the resulting report was made available to the auditors after the physical audit had been completed.

It was indicated that any high priority work covering the cyanide facilities of the operation could be completed within 12 months, and the lower priority work could be built into normal on-going maintenance activities.

Thus, a Corrective Action Plan has been agreed to, in order to complete all of the High Priority remedial work and the specific safety concerns related to the Elution Building, CIP building and tanks, and Thickener structures within a 12-month period. It was also agreed that the lower priority work on the Cyanide Tanks would also be completed. The identified work would be done according to the recommendations from the Visual Structural Inspection Technical Report by T Dibakwane (Pr. Tech. Eng. No. 201670260), Rev. 00, dated 10th May 2021, using the AngloGold Ashanti SIMM (Structural Integrity Management Monitoring) -based prioritisation system, described in the Report.

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

**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 4.9**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*



The EGM has motoring procedures for Ground water Monitoring, Surface water Monitoring, Preservation of water samples, and a Cyanide Sampling Procedure. The procedures were originally developed by an Environmental Officer with a B.Sc. degree in Environmental Management and a Senior Metallurgist with a BTech Metallurgy qualification.

The procedures include the sample positions and a map, the sampling frequency, and the sampling procedure. Cyanide sample positions are also included in the map for ground and surface water, in the emergency procedure. The Procedure for Surface water Monitoring indicates the parameters to be measured only include free cyanide, in surface waters. There is no licensed discharge of mine water to surface water permitted (The mine has a No-discharge water licence). The Cyanide Sampling Procedure includes detail on sample preservation and responsibilities for sampling when cyanide and WAD cyanide samples are taken. The field sheet file was sighted and sampled, and sample field sheets include remarks on sampling conditions (e.g., weather, livestock, wildlife activity, anthropogenic influences). The Procedure for Surface water Monitoring, section 5-Monitoring plan, includes the requirement to sample up and down stream of the main water courses on and around the Mine as per Annexure B, the locality map for monitoring stations. No groundwater monitoring for cyanide is undertaken.

Whilst EGM was running the TSF, Period 1: November 2016 to around January 2019, The EGM Chief Safety Officer confirmed that he was the Mine Representative who signed off the daily reports from the TSF on a weekly basis. He further confirmed that the reports were submitted regularly on a weekly basis, and no wildlife mortalities have been reported since the last audit. During Period 2, January 2019 to certification audit, Elikhulu was taking responsibility for EGM tailings' deposition from their tailings tank, when this question became not applicable for EGM.

Surface water is sampled on a monthly basis, and groundwater is sampled on a 6 monthly basis. WAD cyanide in the plant tailings is sampled using an on-line analyser, and shiftly averages are reported up to January 2019, when the Elikhulu project was commissioned. Monitoring is deemed to be at adequate frequencies to characterize the medium being monitored and to identify changes in a timely manner.

***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 and livestock.*

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 5.1**  
 not in compliance with



---

Kinross Metallurgical Plant      Signature of Lead Auditor      17<sup>th</sup> November 2021

*Basis for this Finding/Deficiencies Identified:*

A Cyanide Decommissioning Procedure is in place, which includes an implementation schedule and a Sequence of Decommissioning Activities. It was confirmed in the procedure that it is reviewed every 4 years in terms of the document control procedure. The Closure Plan is reviewed annually by an external consultant.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 5.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The document, Evander Gold Mines (Pty) Ltd Review, Assessment and Adjustment of Financial Provision For 2019 (Closure) memorandum, XEXM (Proprietary company Name), dated 20 June 2020, was sighted and reviewed. The total reassessed Closure cost for EGM at June 2020 is calculated at South African Rands (ZAR) 238.4 million. The Mine Closure Plan and costing are reviewed and updated on an annual basis by an external consultant to align them with the Department of Mineral Resources and the National Environmental Management Act requirements.

Also sighted was a cost estimate by JJM Filtration to decommission the cyanide facilitates, totaling ZAR 549, 975.50. The scope for this includes: - test for explosives Gas & High-Pressure Clean tanks and equipment, flame cut all lines and equipment into 1m lengths for safe disposal, and JJM Filtration (a South African third-party specialised cyanide decontamination contractor) will remove all Cyanide pipes and drip trays from Cyanide tanks to Pachucas.

The decommissioning plan procedure requires annual review and a review following significant operational changes. There is also a review by external consultants every second year.

Previous audit information indicated that Evander Gold Mine had established a rehabilitation trust fund with Pan African Resources Group Rehabilitation Trust. The letter from the Trust, dated 20 January 2016, states that the current fund is adequate to cover the current closing rehabilitation liability for Evander Gold Mining (Pty) Ltd. Previously, Evander Gold Mine (EGM) had in place a Trust as the financial instrument to cover its estimated costs for the cyanide-related decommissioning activities (as a part of the wider closure costs) identified in its decommissioning and closure strategy. During the course of a review of financial instruments, an email/memo from Renier Ellis (Senior Environmental Advisor) and Divan van der Merwe (Director of XEMX titled "Review, Assessment and Adjustment of Financial provision for 2019 dated 10 July 2020) was sighted. Also sighted was a Financial Guarantee from Centriq Insurance to the Regional Director: Mpumalanga Province, Dept of Mineral Resources, dated 1 August 2018,

covering closure costs including cyanide decommissioning for the guarantee amount totaling ZAR302,197,352.57. The amount is in excess of the calculated liabilities and includes the money held in the previous Trust Fund, which was transferred from the Trust Fund to Centriq Insurance.

After due consideration of the closure documentation, it is deemed that there is sufficient provision in closure costing to cover cyanide-related decommissioning measures.

**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 or control them.*

**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 6.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Plant has 81 Process and Engineering Procedures and 3 Environmental Procedures in place covering cyanide management. There is an Evander Gold Mining Mandatory Code of Practice for Mine Residue Deposits Code of Practice (COP), dated 15 February 2018 in place. From the last recertification audit in November 2016 to January 2019, Evander Gold Mine (EGM) Kinross Plant was responsible for the Tailings Storage Facility (TSF), and Fraser Alexander Tailings were the TSF operating contractors. From January 2019 (change over to Elikhulu residue station) to the recertification audit, Elikhulu Remining Gold Plant took responsibility for EGM tailings deposition from their tailings tank, when this question became not applicable for EGM Kinross Plant. The Fraser Alexander Tailings Issue Based Risk Assessments (IBRAs) for 24 tasks were sighted and reviewed. To test that procedures minimised worker exposure, a number of procedures were sampled. They were: - Working in Confined Space and Cyanide Storage Vessels; Obtaining and Compiling a Clearance Certificate - Normal Work; Entering a confined space: Sumps or Tunnels; Liquid Cyanide Off-Loading; Clearance Certificate for Vessel Entry; and Decontamination before maintenance (included in the procedure to change cyanide pump). It was noted that procedures are reviewed as part of the document control system. The FAT (Fraser Alexander Tailings) (TSF contractor) Cyanide-related tasks IBRAs (Issue-Based Risk Assessments) was also checked for minimizing worker exposure.

For the plant procedures, it was confirmed that the procedures required pre-work inspections and appropriate PPE (Personal Protective Equipment) to be used. This was verified in interviews. There is a Cyanide PPE Control, Care and Examination procedure, the high-risk cyanide storage area displays PPE required, as well as being noted in the off-loading procedure, and training programs include the requirement of wearing of appropriate PPE.



The Plant's Change Management procedure was sighted, along with a change management example covering the re-routing of the cyanide feed pipe to the No 8 tank launder. The document was signed, and approval signatures included the Chief Safety Officer and the Environmental Officer.

The operation solicits and considers worker input in developing and evaluating health and safety procedures through plant personnel involvement in risk assessments, daily safety meetings, and weekly safety meetings. Examples in meeting minutes and reports were reviewed in 2018 and 2020.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 6.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

A plant procedure, response to low pH level, states, "...Discharge points of cyanide must always enter the process stream at a point where the pH is maintained above 10.2. No work is allowed at 9.8 pH". An inline pH monitor has been installed in Tank 1 of CIL (high grade stream), Tank 2 of ETRP (Evander Tailings Remining Project) (low grade stream) and one of the Residue Tanks (interlinked).

Four portable HCN gas personal monitors are used on the Plant. There are two fixed HCN gas monitors at the cyanide storage area, and one at the leach tank no 1. The Procedure, Monitoring of and Calibrating Fixed & Portable Gas Monitors, identifies risks areas where gas monitors are required under section 1. Placement of Monitors.

The HCN monitors 1st alarm is set at 4.7 ppm, and the second alarm is set at 7.5 ppm. The area is evacuated at 4.7 ppm, investigated, and operators return to work if values are less than 4.7 ppm. 10 ppm is also an evacuation action. Higher risk, cyanide dosing points signage was confirmed during the site inspection. In the procedure, Obtaining and Compiling a Clearance Certificate - Normal Work, it states that "...the gas monitor is set to alarm at 4.7 ppm, when the area is evacuated, investigated and returned to work if values are less than 4.7 ppm..." The procedure, Monitoring of and Calibrating Fixed & Portable Gas Monitors, includes the requirement for 6 monthly calibrations, as per the manufacturer's recommendations. A sample of calibration certificates showed equipment calibrated six-monthly over the past 12 months.

During the site inspection, appropriate signage at the cyanide and offloading area was observed to be very good. Appropriate signage throughout the rest of the Plant was observed to be in place and effective during the site inspection. It was not possible to confirm the FAT (Fraser Alexander Tailings) TSF cyanide signage, as Elikhulu took over TSF management from November 2018. Elikhulu replaced FAT with a new contractor, whose new signs replaced those of FAT's. EGM Chief Safety Officer confirmed in an





interview that FAT cyanide warning signage was in place when FAT was running the TSF.

Sasol is an ICMI-certified liquid sodium cyanide producer that delivers liquid sodium cyanide to ICMI signatories that is dyed red, using Carmoisine food colouring. The Sasol Safety Data Sheet (SDS): - Sodium Cyanide Solution, issued to EGM, includes, in Section 9. Physical and chemical properties, Colour Light to dark red. The SDS and cyanide first aid procedures were noted to be in place appropriately during the site inspection.

Cyanide storage tanks are colour coded red with a purple band around them and marked with the UN number and associated warnings. Reagent strength pipeline feeds to dosing points are colour coded and labelled with flow direction indicated. The residue slurry line to Elikhulu is colour coded, and direction is indicated. The slime pipelines are colour coded grey. Pipe colour coding forms a part of the training induction.

No cyanide-related incidents or accidents have occurred since the recertification audit in 2016. A sample accident investigation report in terms of the Mine Health & Safety (MHS) Act section 11.5 was reviewed. The reports include observations during in loco inspection, photos, sequence of events, findings, potential human effects, and contributing factors. This is the investigation and evaluation format that would be used if there were a cyanide incident or exposure.

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

**X in full compliance with**

- The operation is**
- in substantial compliance with **Standard of Practice 6.3**
  - not in compliance with

*Basis for this Finding/Deficiencies Identified:*

For the period up to January 2019, when TSF emergency response moved to Elikhulu Gold Plant, the TSF was close to the Plant and the plant emergency procedure and cyanide emergency equipment were used. Fraser Alexander Tailings (FAT) staff communicate with the plant control room via radio and cell phone. The “Use of plant High Cyanide Levels in Residue Slime procedure”, was used to manage the risk of exposure on the TSF at the tip points. After January 2019, Elikhulu has its own cyanide emergency response procedures.

The Plant is equipped with an emergency room containing medical oxygen, face masks, SCBA (Self-contained Breathing Apparatus) sets, a manual resuscitator, stretcher, PPE (Personal Protective Equipment), TriPac cyanide antidote stored in a fridge, and access to potable water close by. All the treatment shift staff are trained as cyanide emergency responders, including the use of emergency equipment, as is available in the emergency room.



During the site inspection, the emergency alarm was sighted at the cyanide storage area. Radios and cell phones are used for normal and emergency communication. An additional TriPac cyanide antidote is placed in the unit leader's office in a fridge.

TriPac cyanide antidote kits are stored in fridges, and it was confirmed that the kits are all current and stored in fridges during the site inspections. The Antidote Replacement system is applied, using the daily checklist expiry date (sighted records since 2016) and the Dynamics ordering system. Cyanide first aid inspections are done by Shift Supervisors daily, and inspection records from 2016 to date were sighted.

The latest version of the Evander Gold Mining (Pty) Limited Emergency Response Plan was sighted and reviewed. The Emergency Response Plan (ERP) was valid from November 2016 to January 2019, when Elikhulu took over the TSF responsibility: The current version of the ERP is thus not applicable to TSF emergencies. The Fraser Alexander "Site specific emergency preparedness and response guide" dated April 2020, for the Winkelhaak TSF Evander was valid until January 2019, when Elikhulu took over the TSF responsibility.

Cyanide emergency cases are transported by ER24 ambulances to the Highveld Mediclinic in Trichardt. The procedure, Ambulance Entry in The Event of An Emergency, covers transport and emergency entrance and egress through the security gates.

Full cycle drills are held from the Plant to the Highveld Mediclinic. The ambulance service is provided by ER24 through an agreement signed on 10 July 2020. No Community members are part of, or involved in, the ERP. Training records of the casualty staff, Highveld Mediclinic, ER 24 and the health hub staff were sighted for training on 13 July 2016. Pictures were viewed, but attendance lists were not sighted. An e-mail from Highveld Mediclinic to the Chief Safety Officer was sighted, which indicated that a contract to receive cyanide patients is not necessary as they are required by law to treat all patients. Highveld Mediclinic confirmed they do not need any more cyanide training.

Cyanide drills are conducted from the incident site to the security gate and from the airlock (security gate) to the Hospital. A Sasol cyanide drill was done on a cyanide spillage outside the gate. 2018 pictures of the drill were sighted. A video of the cyanide drill of 20 March 2020 was sighted where the hospital could not accommodate the patient as it was a drill and the hospital was full and experienced an emergency. This is a very realistic scenario under the current Covid-19 pandemic. Another video of a full cycle drill from the Plant to the Highveld Mediclinic at Trichardt was sighted. The post drill briefing video dated 17 February 2021, including the emergency staff security and medical doctor, was sighted. A drill report dated 12 September 2020 for a Mandown due to gassing, completed at the plant gate, was reviewed. Other drill reports reviewed included: a drill report Mandown caused by Ingestion of cyanide dated 18 September 2018; a Mandown caused by splashing of cyanide at the cyanide storage dated 13 June 2018; and a Mandown covering a Plant only drill for suspected gassing at the cyanide storage facility, dated 10 May 2017. Feedback from the drills included the need for more regular drills.



**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.*

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 7.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The latest version of the Evander Gold Mining (Pty) Limited Emergency Response Plan was sighted and reviewed. The Emergency Response Plan (ERP) was valid from November 2016 to January 2019, when Elikhulu took over the TSF responsibility: The current version of the ERP is thus not applicable to TSF emergencies. The Fraser Alexander "Site specific emergency preparedness and response guide" dated April 2020, for the Winkelhaak TSF Evander was valid until January 2019, when Elikhulu took over the TSF responsibility.

The Plant ERP includes procedures and responses for plant or vehicle fires, surface and veldt fires, surface structure fires, bomb threats, natural perils, Hazardous chemical spills, Personal medical conditions including Covid-19, worker unrest, other surface fires, large seismic events, surface flooding surface power failure, explosion, cyanide exposure due to explosion, Liquid cyanide spillage, cyanide exposure, cyanide emergency drill procedure, cyanide procedures poisoning, cyanide exposure on TSF, Hydrogen Cyanide Gas Generation Exposure, and Search and rescue and all clear notification.

The ERP was valid from November 2016 to January 2019 when Elikhulu took over the TSF responsibility: The current version of the ERP is thus not applicable to TSF emergencies. The Fraser Alexander "Site specific emergency preparedness and response guide" dated April 2020, for Site: Winkelhaak TSF Evander was valid until January 2019. This Plan covers Tailings Storage Facility Failure in detail. The Tailings dam emergency situation logic model covers code red, orange, yellow, blue and green codes in a flow diagram. Page 10 includes a flow diagram: Attention to the incident and report immediately. Tanker Services are responsible for transportation-related emergencies and are fully ICMI compliant transporters. Evacuation is covered for site personnel, and there is a section covering response to cyanide poisoning. The section on liquid cyanide spillage refers to various procedures via cross referencing. The Section, cyanide exposure, describes control and containment of releases.

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



**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 7.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Workforce is involved with the ERP via the emergency drills and safety meetings and gives feedback on issues relating to response planning. The quarterly Waterval Forum is a water catchment management forum for engagement between stakeholders, which will be used to communicate appropriate ERP activities to stakeholders. The Govan Mbeki Municipality LDMAF (Local Disaster Management Advisory Forum) is a forum for the discussion of emergency scenarios. Meetings were suspended due to the Covid pandemic.

Full cycle cyanide drills are conducted from the incident site to the security gate and from the airlock (security gate) to the Hospital. A Sasol cyanide drill was done on a cyanide spillage outside the gate. 2018 pictures of the drill were sighted. A video of the cyanide drill of 20 March 2020 was sighted where the hospital could not accommodate the patient as it was a drill and the hospital was full and experienced an emergency. This is a very realistic scenario under the current Covid-19 pandemic. Another video of a full cycle drill from the Plant to the Highveld Mediclinic at Trichardt was sighted. The post drill briefing video dated 17 February 2021, including the emergency staff security and medical doctor, was sighted. A drill report dated 12 September 2020 for a Mandown due to gassing, stopping at the plant gate, was reviewed. Other drill reports reviewed included: a drill report Mandown caused by Ingestion of cyanide dated 18 September 2018; a Mandown caused by splashing of cyanide at the cyanide storage dated 13 June 2018; and a Mandown covering a Plant-only drill for suspected gassing at the cyanide storage facility, dated 10 May 2017. Feedback from the drills included the need for more regular drills. The community are not involved with the EGM Emergency Response Plan.

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

**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 7.3**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Cyanide emergency drills procedure designates the duties and roles of responders, as well as the authority to contact the relevant persons. The ERP Section, Metallurgical plant operations control centre, specifies authority of the control room operator, who is the response coordinator. All staff are trained to handle cyanide emergencies as first responders. The training matrix defines the required training for emergency responders.

There is a call out list that includes plant contact details, and the emergency contact procedure includes emergency contact numbers. The cyanide emergency drills procedure designates the duties and roles of responders, as well as the authority to contact the relevant persons. The ERP includes a list of cyanide emergency equipment, and this is checked via the Cyanide PPE control care and examination procedure, which covers the cyanide emergency cabin and cyanide emergency equipment. In the ERP, the section, Emergency Procedures Quick Reference Guides, covers Mediclinic and Ambulance procedures.

Full cycle cyanide drills are conducted from the incident site to the security gate and from the airlock (security gate) to the Hospital. A Sasol cyanide drill was done on a cyanide spillage outside the gate. 2018 pictures of the drill were sighted. A video of the cyanide drill of 20 March 2020 was sighted where the hospital could not accommodate the patient as it was a drill and the hospital was full and experienced an emergency. This is a very realistic scenario under the current Covid-19 pandemic. Another video of a full cycle drill from Plant to the Highveld Mediclinic at Trichardt was sighted. The post drill briefing video dated 17 February 2021, including the emergency staff security and medical doctor was sighted. A drill report dated 12 September 2020 for a Mandown due to gassing, stopping at the plant gate, was reviewed. Other drill reports reviewed included: a drill report Mandown caused by Ingestion of cyanide dated 18 September 2018; a Mandown caused by splashing of cyanide at the cyanide storage dated 13 June 2018; and a Mandown covering a Plant-only drill for suspected gassing at the cyanide storage facility, dated 10 May 2017. Feedback from the drills included the need for more regular drills. The community are not involved with the EGM Emergency Response Plan.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 7.4**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Emergency Preparedness Plan includes full details for appropriate emergency notification and reporting to management and the media. The Control Centre will contact the relevant people as per the emergency procedure during normal working hours or as per stand-by list after hours. Contact information for notifying regulatory agencies of cyanide emergencies, as required, is included in the ERP (ERP1) and can be found on the noticeboards in the control room. The ERP states that employees will not disclose any information to the press or the public. Only the Human Resources Manager, in consultation with Senior Management, may release information.



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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 7.5**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The ERP Section, Emergency Procedures Liquid Cyanide Spillage, covers cyanide solution flows into drains & down the road, contaminating the area or overflowing into dams' area. The Section, Environmental monitoring, Emergency Action, includes: - containment of any spillage, sampling and testing of soil or water after a spillage of cyanide which must be conducted to monitor the contamination extent, and treatment of a hazardous spill. It further states that if the spill has already occurred, then addition of chemicals could result in additional environmental impacts and are generally not effective in downstream cyanide levels. Specifically, chlorine or hypochlorite reagents are not recommended for direct treatment of cyanide spills in flowing surface water, since these compounds are toxic. The ERP requires monitoring of water quality, specifies Environmental Monitoring Points for Surface and Ground Water p45. The Plant procedure, Liquid Cyanide Spillage, covers all details of spill clean-up. The Cyanide Sampling Procedure covers subsequent sampling procedures of ground water, surface water and soil sampling.

There are no nearby communities that could be affected or are present in the Plant zone of influence. Potable water is supplied by the Govan Mbeki Municipality, so no alternate drinking water supply provision would be required.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 7.6**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The ERP normal cycle of document review is annual unless there is reason to review in a shorter period.

Full cycle cyanide drills are conducted from the incident site to the security gate and from the airlock (security gate) to the Hospital. A Sasol cyanide drill was done on a cyanide spillage outside the gate. 2018 pictures of the drill were sighted. A video of the cyanide drill of 20 March 2020 was sighted where the hospital could not accommodate the patient

as it was a drill and the hospital was full and experienced an emergency. This is a very realistic scenario under the current Covid-19 pandemic. Another video of a full cycle drill from the Plant to the Highveld Mediclinic at Trichardt was sighted. The post drill briefing video dated 17 February 2021, including the emergency staff security and medical doctor, was sighted. A drill report dated 12 September 2020 for a Mandown due to gassing, stopping at the plant gate, was reviewed. Other drill reports reviewed included: a drill report Mandown caused by Ingestion of cyanide dated 18 September 2018; a Mandown caused by splashing of cyanide at the cyanide storage dated 13 June 2018; and a Mandown covering a Plant-only drill for suspected gassing at the cyanide storage facility, dated 10 May 2017. Feedback from the drills included the need for more regular drills. The community are not involved with the EGM Emergency Response Plan.

In the Section, Investigations and Follow Up, under Emergency Events, it states, "...The Emergency Procedures and related standard procedure, training manuals and control measures must be reviewed annually, and after a major event or changes in legislation, on a team approach and amended if necessary to address the deviations or shortfalls identified..."

It was reported that reviews have not necessitated any changes or updates.

**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.*

**X in full compliance with**

- The operation is**  in substantial compliance with **Standard of Practice 8.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

All plant personnel inside the plant fence are trained in induction on basic cyanide awareness and Cyanide first aid. This was verified in the training matrix. A Cyanide training program is available on DVD (Digital Versatile Disc). Assessments are carried out, and the pass mark is 80%. The completed induction training matrix was sighted, including EGM plant employees, Security Department, contractors and TSF employees, for 2017 and 2018, when the TSF was still part of the Plant. Some training is given via Microsoft Teams as part of remote training.

Refresher training is done annually on return from leave. A Firefly system is in place, flagging the remaining validity time for induction/refresher validity and medical examinations. The system will block the employee's access card if 0 days are remaining. A routing form is used to ensure new employees receive training, and returning from leave employees are blocked by a card control system from entering the Plant when they have not completed the training and induction refreshers.



Records are retained for 40 years on the Plant, after which the records are sent to the central archive. Interviewees' training records as a sample of employees training records were verified.

*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.*

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 8.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

The Evander Kinross Plant Training matrix indicating training requirements for all staff, populated with names, was sighted. The training requirements include all normal production tasks. The Fraser Alexander Tailings (FAT) training matrix covering the day crew and shift crew was sighted. The training matrix includes names, occupation, expiry date, and a list of all the training courses required by occupation.

Training is done by EGM training officers on site. The Training Officer is a qualified, Trained Assessor, has undertaken “Train the trainer” training, and has a Diploma in Safety Management. TSF training is provided, in-house, by a trained and qualified Assessor and Moderator and Assessment designer, who also has an Outcomes-based assessment certificate.

All employees are trained before being allowed to work in a cyanide section. A clock card system is used to control access to the Plant. Contractors are trained and inducted before being allowed on the Plant. A clock card system is also used to control access to the Plant. Assessments are used to test knowledge and competency.

A PTO (Planned Task Observation) system is in place, and poor performers will be given refresher training. Refresher training can be given if risks are identified, and employees need to be re-trained in specific tasks. Supervisors and the Training Officer conduct PTO's. The target is two PTOs per week for supervisors. Examples of completed PTOs were sampled from 2017, 2020 and 2021. FAT does its own competency training. The FAT training matrix covering the day crew and shift crew was sighted and includes names, occupation, expiry date, and a list of all the training courses required and completed by occupation. It was confirmed by interview that FAT conducted PTOs to test competency. No PTOs were available as the Company is not contracted to EGM anymore and do not have records.

Records are retained for 40 years on the Plant, after which the records are sent to the central archive. Interviewees' training records as a sample of employees training records were verified, and training elements were noted.





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

**X in full compliance with**

- The operation is**
- in substantial compliance with Standard of Practice 8.3
  - not in compliance with

*Basis for this Finding/Deficiencies Identified:*

All staff are trained as cyanide emergency responders and in basic cyanide awareness and cyanide first aid, and this was confirmed in the training matrix. A cyanide emergency team consisting of four to five members is in place on each of the four shifts. The Plant uses the 1st, 2nd, 3<sup>rd</sup>, and 4th responder system, as indicated in the procedure, Conducting Cyanide Drills. Training in emergency equipment occurs during drills, and re-training or refresher training occurs, as appropriate.

Sasol is providing additional annual training on cyanide first aid. The schedule is behind due to Covid-19 restrictions. Formal drills to test the emergency procedure for cyanide first aid treatment will be conducted on a 3-monthly basis, once Covid-19 restrictions are lifted.

Full cycle cyanide drills are conducted from the incident site to the security gate and from the airlock (security gate) to the Hospital. A Sasol cyanide drill was done on a cyanide spillage outside the gate. 2018 pictures of the drill were sighted. A video of the cyanide drill of 20 March 2020 was sighted where the hospital could not accommodate the patient as it was a drill and the hospital was full and experienced an emergency. This is a very realistic scenario under the current Covid-19 pandemic. Another video of a full cycle drill from the Plant to the Highveld Mediclinic at Trichardt was sighted. The post drill briefing video dated 17 February 2021, including the emergency staff security and medical doctor was sighted. A drill report dated 12 September 2020 for a Mandown due to gassing, stopping at the plant gate, was reviewed. Other drill reports reviewed included: a drill report Mandown caused by Ingestion of cyanide dated 18 September 2018; a Mandown caused by splashing of cyanide at the cyanide storage dated 13 June 2018; and a Mandown covering a Plant only drill for suspected gassing at the cyanide storage facility, dated 10 May 2017. Feedback from the drills included the need for more regular drills. The community are not involved with the EGM Emergency Response Plan.

The Plant training officer is present at all drills, and training requirements are noted. Training material is updated, and retraining is given, as appropriate, from the drill reports.

Records are retained for 40 years on the Plant, after which the records are sent to the central archive. Interviewees' training records as a sample of employees training records were verified.

**9. DIALOGUE: Engage in public consultation and disclosure.**



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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 9.1**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

Dialogue meetings are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide.

The quarterly Waterval Forum is a water catchment management forum for engagement between stakeholders. Evander Gold mine and Elikhulu Plant are both represented and report periodically on water matters in their operations. No issues relating to cyanide were identified in the minutes for 19 May 2016 and 23 August 2018, 20 February 2020. The Forum includes political parties, municipalities, surrounding Mines, the National Department of Water and Sanitation, Rand Water, and Community Leaders.

A presentation on cyanide awareness was given to the community on 7 March 2021 at Sakhisizwe formal settlement attended by 34 people. No questions regarding cyanide were asked, only job opportunities and service deliveries comments. A further presentation on cyanide awareness was given to the community on 31 October 2021 at Sakhisizwe formal settlement, attended by 47 people. Attendance lists for both meetings were sighted.

The Govan Mbeki Municipality LDMAF (Local Disaster Management Advisory Forum) is a forum for the discussion of emergency scenarios. Meetings were suspended due to the Covid pandemic. Sighted agenda for LDMAF 20 March 2017 held in Secunda. Significant cyanide issues will be reported at this forum.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 9.2**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

Dialogue meetings are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide.

The quarterly Waterval Forum is a water catchment management forum for engagement between stakeholders. Evander Gold mine and Elikhulu Plant are both represented and report periodically on water matters in their operations. No issues relating to cyanide



were identified in the minutes for 19 May 2016 and 23 August 2018, 20 February 2020. The Forum includes political parties, municipalities, surrounding Mines, the National Department of Water and Sanitation, Rand Water, and Community Leaders.

A presentation on cyanide awareness was given to the community on 7 March 2021 at Sakhisizwe formal settlement attended by 34 people. No questions regarding cyanide were asked, only job opportunities and service deliveries comments. A further presentation on cyanide awareness was given to the community on 31 October 2021 at Sakhisizwe formal settlement, attended by 47 people. Attendance lists for both meetings were sighted.

The Govan Mbeki Municipality LDMAF (Local Disaster Management Advisory Forum) is a forum for the discussion of emergency scenarios. Meetings were suspended due to the Covid pandemic. Sighted agenda for LDMAF 20 March 2017 held in Secunda. Significant cyanide issues will be reported at this forum.

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

**X in full compliance with**

**The operation is**  in substantial compliance with **Standard of Practice 9.3**  
 not in compliance with

*Basis for this Finding/Deficiencies Identified:*

A presentation on cyanide awareness was given to the community on 7 March 2021 at Sakhisizwe formal settlement attended by 34 people. No questions regarding cyanide were asked, only job opportunities and service deliveries comments. The presentation was given verbally in Zulu, with no pamphlets. No requests for written material were received. The nature of the communities is that they prefer to be shown information and equipment rather than given pamphlets or other documents. The Presentation focussed on visual material with physical examples to illustrate information and concepts.

From a previous audit, it was reported that any communication on fatality or significant environmental incidents will be handled in accordance with Evander Gold Mining (Pty) Limited Emergency Response Plan. The Evander Human Resources Manager will communicate to the Corporate Structure before any information will be released via a Media Briefing.

Annual reporting on fatalities and significant environmental incidents are done via the Pan African Resources Integrated Annual Report. As a rule, South African government agencies do not make accident and incident details publicly available. For this reason, the company makes the information available in its annual integrated reports. The following Integrated Annual Reports were reviewed: -

- Integrated Annual Report for the year ended 30 June 2017, under, Group Overview of Progress p73, two reported environmental incidents occurred at Evander Mines as a result of excess water overflowing on the Kinross TSF, and no environmental fines resulted.



- Integrated Annual Report for the year ended 30 June 2018. Under, Natural capital, Environment Review, p94, five reported environmental incidents occurred at Evander Mines as a result of water overflows and pipeline failures,
- The 2019 Sustainable Development report was sighted with no reports.

Tanker Services, the certified transporter, is responsible for incidents and reporting of incidents off the mine property.

