March 2016

ICMI GOLD MINE RECERTIFICATION AUDIT - SUMMARY AUDIT REPORT

AngloGold Ashanti Sadiola Gold Mine

Submitted to:
International Cyanide Management Institute,
1400 I Street, NW-Suite 550,
Washington, DC 20005,
USA

Sadiola Gold Plant
Mali

REPORT

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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility:	Sadiola Gold Mine	
Name of Cyanide User Facility Owner:	AngloGold Ashanti	41%
	IAMGOLD Corporation	41%
	Mali Government	18%
Name of Cyanide User Facility Operator:	AngloGold Ashanti	
Name of Responsible Manager:	Adama Coulibaly, Plant Manager	
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

The Sadiola Gold Mine is located in the Kayes region, 80 kilometres from Kayes town in Mali (West Africa). Gold processing uses the conventional plant consisting of crushing, milling, leach adsorption and elution. The elution uses AARL process. The plant consists of two twin streams capable to process soft oxide and soft sulphide with a limited amount of hard component.

There are two primary mills receiving fresh ore from the ore reception by conveyor belt transportation. The primary mills can run on open or close circuit. The mills are running in open circuit when the underflow of the primary mill cyclones feeds the regrind mill. But when the cyclone underflow returns back into the mill, thus the mill is on close circuit.

A gravity plant installed since December 2008 consists of a screening facility, a falcon concentrator and a Gekko unit used for intensive cyanidation in the leach reactor. A second falcon concentrator installed in 2010 is used in conjunction with the first falcon to extract coarse gold which is fed into the Gekko unit. The pregnant solution from the Gekko unit is pumped to electrowinning in the smelt house and the solids residue back to the regrind mill.

The cyclone overflow passes through linear screens prior to discharging into the preoxidation tanks. There are EDR pumps connected to the preoxidation tanks to supply oxygen through injection points on the pipeline. During sulphide ore treatment it is necessary to add some hydrogen peroxide in order to increase the dissolved oxygen concentration to the right level and maintain it.

The lime addition is performed in tank 1. An EDR pump is fitted to that tank as well. The slurry pH is controlled at 10.0 – 10.2 before sodium cyanide addition. The cyanide is added into the leach tank 2. There are ten leach tanks on each stream to assure the required residence time. Automatic cyanide analyzers are

in line to control the cyanide concentration and dosing rate as close as possible to the set point. No more cyanide is added downstream to maintain the concentration.

The slurry overflows by gravity into adsorption vessels containing activated carbon except the first vessels used as grit catchers. The carbon movement upstream is performed with the carbon transfer pumps installed in each tank. There are height adsorption tanks in series with gravity flow. The last tanks are used for detoxification of residue slurry prior to pumping to the tailings facility.

A WAD (Weak Acid Dissociable) cyanide analyser is installed at the plant tail for optimization control of the cyanide neutralization process.

After detoxification the residue is pumped from the residue tank to the tailings facility via a steel pipeline. The slurry is cycloned to remove the coarse fractions for impoundment wall building. The fine fractions from cyclone overflow run down to the pool. The decanted water is pumped to the plant via the return water dam or directly from a barge decants system with four submersible pumps capable of pumping 300 m3/hr each. There are underdrains and elevated filter drains for stability of the wall. Piezometers installed along the starter wall and vibrocores allow determining the level of water at the wall foundation.

The Loaded carbon is pumped from second adsorption tanks to elution on a daily basis. The carbon is acid washed with hydrochloric acid, neutralized with caustic soda and washed with clean water before elution. The elution consists of heating the carbon, soaking it in hot caustic cyanide solution and rinse with hot soft water. The gold bearing solution is pumped to electro winning in the smelt house and the eluted carbon is regenerated and pumped back to adsorption circuit.

SUMMARY AUDIT REPORT

Auditors Findings

	☒ **in full compliance with**	
Sadiola	☐ in substantial compliance with	**The International Cyanide Management**
Gold Plant is:		**Code**
	☐ not in compliance with	

Audit Company:	Golder Associates Africa (PTY) Ltd
Audit Team Leader:	Ed Perry, Lead Auditor
Email:	eperry@golder.com

This operation has experienced compliance problems during the previous three-year audit cycle which are discussed in this report under Standard of Practice 4.4 of the International Cyanide Management Code Verification Protocol for Gold Mine Operations.

Name of Other Auditors

Marie Schlechter, ICMI pre-certified Mine Technical Specialist

Dates of Audit

The Re-certification Audit was undertaken between 5 October 2015 and 9 October 2015.

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

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

Sadiola Gold Plant		17 March 2016
Name of Facility	Signature of Lead Auditor	Date

PRINCIPLE 1 – PRODUCTION

Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that Operate in a Safe and Environmentally Protective Manner

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

The operation is

☒ **in** full **compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

There is a contract between Samsung C&T Deutschland GMBH and AngloGold Ashanti Limited dated 28 September 2011, signed 6 June 2012. Contract No. AFR31320 to supply solid sodium Cyanide briquettes. The Contract states in Sections 19.1 and 19.2 that Samsung C&T Corporation (inclusive of the contractor's subcontractors) must be certified with the ICMI. Employer and Contractor's affiliate, Samsung C&T Corporation and the transporters of the Product must be ICMI certified.

Samsung was recertified for its African Supply Chain on 4 November 2014. The cyanide producers which form part of this supply chain are TaeKwang Industrial Company and Tongsuh Petrochemical Company.

TaeKwang Industrial Co. Ltd, Republic of Korea, was recertified on 22 May 2014. The auditors observed transportation documents including the inspection report by TaeKwang Industry, South Korea (Manufacturer) and Maersk Line (Shipping Company).

PRINCIPLE 2 – TRANSPORTATION

Protect Communities and the Environment during Cyanide Transport

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

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

Summarise the basis for this Finding/Deficiencies Identified:

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

There is a contract between Samsung C&T Deutschland GMBH and AngloGold Ashanti Limited dated 28 September 2011, signed 6 June 2012. Contract No. AFR31320 to supply solid sodium Cyanide briquettes. The Contract states in Sections 19.1 and 19.2 that Samsung C&T Corporation (inclusive of the contractor's subcontractors) must be certified with the ICMI. Employer and Contractor's affiliate, Samsung C&T Corporation and the transporters of the Product must be ICMI certified.

The Cyanide Transport Summary Audit Report for the International Cyanide Management Code for the Africa Supply Chain dated 21 October 2014 for Samsung C&T Corporation states that the road transportation in Mali is by ICMC certified transporter Bollare Africa Logistics SDV Senegal. The date of certification is 12 March 2013.

The contract between Samsung and AngloGold Ashanti and the Samsung C&T - Transport Management Plan for Cyanide Transport to AngloGold Ashanti Mines, Ref No: SCTC-CN-DOC20110915 designates the following responsibility:

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

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

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 2.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

There is a contract between Samsung C&T Deutschland GMBH and AngloGold Ashanti Limited dated 28 September 2011, signed 6 June 2012. Contract No. AFR31320 to supply solid sodium Cyanide briquettes. The Contract states in Sections 19.1 and 19.2 that Samsung C&T Corporation (inclusive of the contractor's subcontractors) must be certified with the ICMI. Employer and Contractor's affiliate, Samsung C&T Corporation and the transporters of the Product must be ICMI certified.

The Cyanide Transport Summary Audit Report for the International Cyanide Management Code for the Africa Supply Chain dated 21 October 2014 for Samsung C&T Corporation states that the road transportation in Mali is by ICMC certified transporter Bollare Africa Logistics SDV Senegal. The date of certification is 12 March 2013.

The auditors observed transportation documentation that identifies all elements of the supply chain (producer, transporters) that handle the cyanide brought to its site. There is no interim storage.

PRINCIPLE 3 – HANDLING AND STORAGE

Protect Workers and the Environment during Handling and Storage

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Sadiola Plant only uses solid cyanide.

The facilities for unloading, storing and mixing of solid cyanide have been designed and constructed in accordance with cyanide producers' guidelines, applicable jurisdictional rules and/or other sound and accepted engineering practices for these facilities with the following being observed:

Fibre Wound (SA) tank designed and constructed the new cyanide mixing and storage tanks that were installed in 2013. The designs specify that cyanide solutions is the media stored and refer to corrosive media as per SANS 10228 class II corrosion and BS 4994:1987.

The solid cyanide unloading and storage areas are located within the plant, which is fenced and access is security controlled. The solid cyanide storage area itself is also fenced, locked and access controlled. This area is located away from people and surface water.

The solid cyanide is stored in the original packing, which includes plastic liners in a bulk bag inside closed wooden boxes. The boxes are stored in a warehouse with adequate ventilation and that prevents them from coming into contact with water. The solid cyanide is stored in a dedicated area separate from incompatible materials, such as acids, strong oxidisers and explosives and apart from foods, animal feeds, and tobacco products.

The mixing storage tank is ventilated through the solid cyanide delivery chute. The gasses from the cyanide storage tank escape via the ventilation pipe. The mixing and storage tanks are placed on raised solid concrete plinths on steel and concrete supports within a concrete bunded area, which provides a competent barrier to leakage and prevents seepage to subsurface.

The control room operator manages the filling of the cyanide mixing tank from the control room during the mixing event. The maximum level for filling the mixing tank is 90%. This is controlled with an automatic cut-off valve. The control room operator controls the transfer of the mixed cyanide to the storage tank from the control room. The maximum level for the storage tank is set at 95% and this controlled with an automatic cut-off valve.

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

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

Summarise the basis for this Finding/Deficiencies Identified:

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

A risk assessment was undertaken in 2008 demonstrating that it would be more risky to wash the cyanide containers than burn them, as is the current practice.

No cyanide drums are used.

All valves inside the cyanide mixing and storage area are automatically controlled from the control room.

The plant has the following procedures:

4_SAD_OHS_Plant_Special Cyanide Procedure, Sodium Cyanide Make-up SCP 1015, Rev 05, dated May 2015. This prescribes the actions to be taken when burning the boxes and linings that held the solid cyanide.

3_SAD_OHS_Cyanide Container Offloading procedure_002, Rev. 4, dated 21 Apr 2015.

4_SAD_OHS_Plant_Special Cyanide Procedure Sodium Cyanide Make-Up SCP 1015, Rev 05, dated May 2015. This details the actions to be taken when making up the cyanide solution.

4_SAD_OHS_Plant_Special Cyanide Procedure Buddy System Procedure SCP 1025, Rev. 02, dated June 2013.

3_SAD_OHS_Cyanide Container Offloading Procedure_002, Rev. 4, dated 21 Apr 2015. The procedure states that the cyanide boxes must be stacked 3 high in the cyanide storage area.

4_SAD_OHS_Plant_Special Cyanide Procedure Handling of Cyanide Spillages SCP 1008, Rev. 04, dated June 2015. This procedure prescribes details measures to take, as well as PPE requirements in the event of a cyanide spillage.

PRINCIPLE 4 – OPERATIONS

Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Plant has 26 Cyanide Specific Procedures and 135 Standard Operating Procedures that cover the operations of the Plant and TSF.

The Operation has the following plans and procedures that identify the assumptions and parameters on which the facility design was based:

4_SAD_OHS_Plant_Special Cyanide Procedure Detoxification Plant Start-up and Shut-down SCP 1017, Rev. 04, dated June 2015. The objective of the procedure is to ensure correct and safe methods are used when operation of the detox plant is required and when high WAD values above 50 ppm occur. The detox plant is located immediately before residue tank containing tailings going to the TSF. Manual sampling is done every 2 hours and if WAD is above 50 ppm then the detox plant is started;

4_SAD_OHS_Met-Emergency Overtopping of the TSF wall Procedure_6.3, Rev.8, dated 1 January 2015. The procedure states that the minimum freeboard on the TSF is 0.5m;

4_SAD_OHS_Met-Emergency Overtopping of the Return Dam Spillway_6.4, Rev. 8, dated 1 January 2015. The procedure states that the RWD will be operated with a minimum freeboard of 1.7m;

4_SAD_OHS_Plant_Special Cyanide Procedure Sodium Cyanide Make-Up SCP 1015, Rev 05, dated May 2015. The procedure states that caustic soda must be added into the cyanide mixing tank in order to increase the pH to 10.5 before adding the solid cyanide; and

4_SAD_OHS_Control of Leach Section 3.2, Rev 1, dated 1 February 2009. The procedure states that the pH must be kept between 10.0 and 10.2 in the leach;

Inspections and preventative maintenance activities including inspections at the unloading, storage, mixing and process areas are described in the following:

4_SAD_OHS_Plant_Special Cyanide Procedure Safety Shower Inspection SCP 1028, Rev 02, dated June 2013. The procedure stipulates the requirements of what must be checked during the inspection. Safety shower inspections are conducted monthly. There are 12 safety showers located inside the plant. The checklists include comments of what is observed;

4_SAD_OHS_Plant_Special Cyanide Procedure PPE Inspection Procedure SCP 1032, Rev. 01, dated August 2013. The procedure states that PPE must be inspected monthly. The PPE that must be inspected includes the elbow length gloves, inline air masks, inline air respirators (canisters), hard hats, face masks, gloves, gum boots, chemical suits, and overalls;

Sadiola Gold Mine Cyanide Safety Plant Monthly Inspection Checklists are undertaken. The checklists include comments where issues are observed;

Daily, Weekly and Monthly TSF Inspection Checklist are undertaken for Sadiola TSF. The checklist includes the following: pipeline (inspection for leaks), valves, signs, conditions of under drains and solution trenches, rainfall, incidents, seepage around the TSF;

The AGA internal Geotechnical Engineer conducts a quarterly monitoring assessment of the TSF;

AngloGold Ashanti Limited International Operations Continental Africa - Mali Sadiola Gold Mine Tailings Facility Audit Report 2013, 2014 and draft report for 2015 by Roger Welff, Senior Manager Geotechnical Engineer: Tailings & Heap Leach Management, Planning and Technical Department, AGA. The reports include issues identified, risk index, recommended mitigation actions, responsible persons and target completion date; and

A stability assessment has also been undertaken. Sadiola Deep Sulphide Project Mine Tailings Storage Facility Stability Assessment Report No. JW015/15/E675, Rev. 0, dated January 2015 conducted by Jones and Wagener Engineering & Environmental Consultants.

The operation inspects cyanide facilities on an established frequency sufficient to assure and document that they are functioning within design parameters.

No ponds or impoundments are present in the plant that are critical to the containment of cyanide and solutions.

There are no heap leach pads.

Deficiencies noted during any of the inspections are electronically loaded on the Onkey system electronic system that is linked to the Pragma System. A job card is generated for the rectification of the deficiency.

The operation has the following Change Management Procedure 4_SAD_Met_Change Management_003 Rev. 03 dated April 2014.

The operation has the following contingency procedures for situations where there is an upset in a facility's water balance:

4_SAD_OHS_Met-Emergency Overtopping of the TSF wall procedure_6.3, Rev.8, Dated 1 January 2015. The procedure guides the employees in the reporting and corrective actions required to control the situation when damage to the tailings facility wall occurs and results in the overtopping of the TSF wall;

4_SAD_OHS_Met-Emergency overtopping of the return dam spillway_6.4, Rev. 8, dated 1 January 2015. The procedure outlines the actions required when certain conditions are reached such as when there is uncontrolled discharge of water from the return water dam spillway;

4_SAD_OHS_Plant_Special Cyanide Procedure Handling of Cyanide Spillages SCP 1008, Rev. 04, dated June 2015;

4_SAD_OHS Total Plant Power Failure Emergency Procedure SOP 11.19, Rev. 8, dated 1 January 2015. The procedure states the immediate actions to be taken after a total power failure. When the power fails, the cyanide solution in the pipelines will drain back to the cyanide storage tank; and

4_SAD_Shutdown of Leach Section SOP 3.3, Rev. 8, dated 1 January 2015. The procedure states the steps to be taken in the event of a planned shut-down of the leach section to prevent overflows / spillage. It makes specific mention that the cyanide pumps must be stopped.

The operation will prevent unintentional releases and exposures in the event its primary source of power is interrupted. There are 19 GenSets located at the plant. 15 are used to run the plant, 1 is used to run the mine village and the rest are for rotation of maintenance and back up. A GenSet is available at the TSF to pump water from the TSF to the RWD in the event of a total power at the plant in order to prevent too much water being stored on the tailings dam. This GenSet is tested on a monthly basis.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

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

Cyanide Profile: Weekly samples are taken from the Leach section (tank 1-10) and tested for pH, Dissolved Oxygen, NaCN, Au (mg/l), Au(g/t). These tests confirm that enough cyanide is added but not over dosed.

The ore fed into the mill has stayed fairly constant over the last 3 years with the main pit being mined out. Over the last 3 years the plant has been treating the satellite pits and ore dumps. Solid gold is measured with a spectrometer and fire assay as well as the availability of cyanide in tails through bottle rolled tests. The tests conducted in 2013 were reactive testing. Since 2014, the testing has changed to predictive testing where the test determines the cyanide needed for the type of ore.

Since 2014 cyanide usage optimisation tests have been undertaken, the head grade is determined as well as the residue grade. A rolling bottle test is done to determine how much cyanide is needed to dissolve all the gold available for leaching. This test is done once a month in addition to the weekly sampling test. The results included pH, dissolved oxygen, NaCn (mg/l), Au (mg/l), and Au (g/t) for both Module A and Module B Leach tanks 1 - 10. The report indicated that the set point is 160 at module A and 170 at module B. A daily composite sample is taken into a monthly residue re-leach results to determine if any gold is left behind.

A TAC1000 has been installed on both Module A and Module B to measure the cyanide addition continuously and make to any necessary adjustments on the pump in order to keep the setpoint constant. In addition hourly manual titration tests are done on Leach Tank one to confirm the readings received from the Tac 1000.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Sadiola Gold Plant contracted iLanda Water Services CC to develop and update the Water Balance for the plant. A water balance was developed using Remis and GoldSim (probabilistic software) and annual updates are undertaken.

The model uses a stochastic rainfall generator that is calibrated to historical rainfall. Precipitation is recorded at three points on a daily basis (Mine Village, Semos Offices, Sadiola Village). The annual tailings inspections consider the rainfall statistics when revisiting the operating practices. The annual rainfall data is provided to the consultant when updating the water balance model.

Each model run takes the current dam and pool levels, tonnages, densities, etc. and predicts one month ahead, using multiple sequences of stochastically generated rainfall. During the wet season, the sequences contain various large storms that include and even exceed the 50-year storm depth. The results are statistically analysed by GoldSim and the output is a risk of various storage levels being reached.

Monthly average evaporation is built into the model and is based on recorded A-Pan evaporation, taken at the mine.

The plant also supplies the following data: tonnage deposited, target underflow of cyclones, number of cyclones that operated, running time, utilisation of cyclone, bypass hours, operational utilisation, rainfall data, ringmain wall freeboard, Return Water Dam levels, boreholes levels at the TSF, water quality data, phreatic levels, and piezometer graphs.

The consultant sends back a Monthly Water Balance Update Report containing probability of spill at the Return Water Dam, TSF Freeboard, 24 hour power failure at the tailings storage facility, and the effect of plant upset e.g. reduced density.

Freezing thawing conditions do not exist at the operation. There is no discharge to surface water.

The effects of potential power outages or pump and other equipment failures on the emergency removal of water from the facility is described in the following procedures:

4_SAD_OHS Total Plant Power Failure Emergency Procedure SOP 11.19, Rev. 8, dated 1 January 2015. The procedure states the immediate actions to be taken after a total power failure. When the power fails, the cyanide solution in the pipelines will drain back to the cyanide storage tank; and

4_SAD_Shutdown of Leach Section SOP 3.3, Rev. 8, dated 1 January 2015. The procedure states the steps to be taken in the event of a planned shut-down of the leach section to prevent overflows / spillage. It makes specific mention that the cyanide pumps must be stopped.

The operation will prevent unintentional releases and exposures in the event its primary source of power is interrupted. A GenSet is available at the TSF to pump water from the TSF to the RWD in the event of a total

power at the plant in order to prevent too much water being stored on the tailings dam. This GenSet is tested on a monthly basis.

Daily, Weekly and Monthly TSF Inspection Checklists for Sadiola TSF are completed by the TSF operator. The checklists include; pipeline (inspection for leaks), valves, signs, conditions of under drains and solution trenches, rainfall, incidents, and seepage around the TSF.

The AGA internal Geotechnical Engineer conducts a quarterly monitoring assessment of the TSF.

In addition AngloGold Ashanti Limited International Operations Continental Africa - Mali Sadiola Gold Mine Tailings Facility Audit Reports 2013, 2014 and 2015 are produced by Roger Welff, Senior Manager Geotechnical Engineer: Tailings & Heap Leach Management, Planning and Technical Department, AGA. The reports include issues identified, risk index, recommended mitigation actions, responsible persons and target completion date.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has a detoxification plant to treat the residue with copper sulphate when high WAD levels are experienced. The detox plant is located immediately before the residue tank containing tailings going to the TSF. Manual sampling is done every 2 hours and if the WAD cyanide is above 50 ppm then the detox plant is started.

WAD CN is measured at the cyclone overflow

There were a high number of episodes when the 50 ppm limit for WAD cyanide were exceeded in 2013 and 2014. The remedial action described below was subsequently undertaken significantly reducing the number of exceedances in 2015 with no exceedances from August 2015 to December 2015.

Cyanide optimisation was undertaken in 2014 in an effort to reduce the level of WAD on the TSF. The Plant has stated the following “Various sampling and results interpretation were done to determine the lower limit of the residual cyanide causing the exceedance of WAD cyanide. Thereafter additional cyanide dosage optimisation test works different from the usual ones were initiated. The new method consisted of determining the gold recovery variation with different cyanide concentrations. The residual cyanide during the test work is measured at the end of the leach test. Then these values are used as a reference to optimise the cyanide dosage upfront and monitor the cyanide concentration variation from front tanks to the last tanks. The measurement of the cyanide variation allows predicting the high WAD cyanide thus start the detoxification plant accordingly. The correlation between the cyanide concentrations in tanks established after the measurement showing how the concentration cascades down to last tank contributed to avoid overdosing of the reagent leading to high WAD cyanide formation.

The following measures have been implemented at the TSF and RWD:

- Bird chasing is undertaken daily from sunrise to sunset by TSF operators; and

- Eagle Eye, solar powered rotating reflective prism to scare birds.

No wildlife mortalities were observed in 2013, 2014 and 2015. The operation does not have a heap leach.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Standard of Practice 4.5 to implement a comprehensive water management programme to protect against unintentional releases is not applicable to the operation as there are no direct or indirect discharges to surface water. All ponds are HDPE lined. The surface waste monitoring does not indicate any contamination by cyanide.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Mill tailings are not used as underground backfill.

The TSF is equipped with under drains and elevated drains and there are cut-off trenches installed on the western side. The whole TSF is surrounded by clean/dirty water separation channels in order to manage seepage and protect the environment.

The legal limits are 1mg/l Free Cyanide and 1mg/l Total Cyanide as CN.

Groundwater sampling is conducted once a month and analysed for total cyanide.

The community boreholes are monitored and compared to the WHO drinking water level of 0.7 mg/l. total cyanide.

March 2013 monitoring data was observed with all levels being below the detection limit of 0.01 mg/l total cyanide. The data for June 2014 showed the highest concentration of 0.031 mg/l. In March 2015 the results showed that all results are below the detection limit of 0.01 ppm.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The cyanide shipping container (with cyanide boxes inside) is temporarily stored on a cement area after opening to vent for 24 hours. Thereafter the cyanide boxes are moved to the cyanide store which is a cement bunded warehouse. The cyanide mixing and storage tanks are located inside a cement bunded area.

The Cyanide Storage Tank and Cyanide Mixing Tanks are constructed of fibre glass designed in accordance with BS4994:1987. The cyanide reagent strength and TSF pipelines as well as the Leach, CIP and Residue tanks are constructed of mild steel. Both fibreglass and mild steel are compatible with cyanide and high pH conditions.

The Leach, CIP and Residue tanks are located inside cement bunded areas.

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

Any spillage in the bunded areas for these tanks is pumped to Leach Tanks 1A or 1B.

Spill prevention or containment measures are provided for all cyanide process solution pipelines to collect leaks and prevent releases to the environment. All reagent strength cyanide pipelines either run over a bunded area or have a launder to contain any spillage. The cyanide solution transfer lines for the ILR and the elution pipes were replaced with custom designed George Fisher Pipe-in-pipe systems equipped with leak detection sight glasses.

TSF pipelines are maintained by thickness testing and rotation. The new TSF pipeline runs within an earth berm to contain any spillage. Daily pipe patrols are in place for the TSF pipeline in use.

4_SAD_OHS Safe making of reagents pipes, pumps and vessels SCP 1030, Rev 02, dated June 2013 stipulates the process to follow to drain and replace the pipeline.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The auditors observed work instruction WI-8-01-18 Data Book contents including approved design calculations, certified copy of equipment data sheet, certified copy of as built drawings, equipment label, works laminate instruction schedules, Barcol hardness test results, quality certificate EN10204 material certification resin and glass fibre, mechanical results, certification of manufacture, inspection release notes WI-12-14, certificate of compliance WI-12-02-05, general manual for handling, transporting and installation of GRP products. This was accepted on behalf of the client by Elliot Twnm the Engineering Manager at the time of the handover.

The Force Five Engineering Ghana Ltd. Data Book for the repair of CIP Tank 6B which was undertaken in December 2013 was observed. This included drawings/ design changes, thickness test, weld record package (including quality control plan, cut out plan, welding procedure, and inspection reports) and Hand Over Certificate.

A new tailings pipeline was installed at the beginning of 2015. The auditor observed the TSF Pipeline Relocation Report produced by CV Civil Structures (SA) who installed the pipeline covering the period 1 February 2015 to 10 April 2015. The Report included the Inspection Report for joining of Tails Pipeline for each length of pipe, which was signed off by Robert Tamblyn for CV Civil Structures; Flange Joint Assembly Inspection Report for each phase of the pipeline that was signed off by Robert Tamblyn (this included flange connection type, bolt stud type and gasket type); and Hand Over Certificate signed by Marc Luyt - Engineering Manager for Sadiola Mine dated 10 April 2015.

The new cyanide mixing and storage tanks are constructed of fibreglass stating that cyanide salts and sodium cyanide will be stored in the tanks. Design code BS 4994:1987, SANS 10228 Classification Class 8 corrosive. The foundations were constructed of reinforced concrete platforms raised above the bund on concrete columns.

In addition to the QA/QC documentation the following documentation was observed:

AngloGold Ashanti Continental Africa Sadiola Mine: TSF Monitoring Report dated 27 January 2015. The AGA internal Geotechnical Engineer conducts a quarterly monitoring assessment of the TSF. The large amount of water on top of the TSF and high volume in RWD was mentioned but it was noted that it is not of concern and that it was at the end of the rainy season and that the water should reduce rather quickly over the next weeks.

Sadiola Deep Sulphide Project Mine Tailings Storage Facility Stability Assessment Report No. JW015/15/E675 - Rev. 0 dated January 2015 conducted by Jones and Wagener Engineering & Environmental Consultants (Once off Assessment). Assessment stated that the TSF sectors are adequately stable exceeding a factor of safety of 1.3.

Appropriately qualified personnel have reviewed cyanide facility construction and provided documentation that the facility has been built as proposed and approved as detailed above.

Quality control and quality assurance records have been retained for cyanide facilities.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has developed written standard procedures for monitoring activities including the following:

4_SAD_OHS_SOP: Taking water samples for cyanide analysis species analysis 003-1, Rev. 02, dated February 2012 (Monitoring and Emergency). The procedure is used for taking groundwater or surface water samples. The procedure was developed by Mr. Demba Ba, Chemist and Environmental Co-ordinator for Sadiola Gold Plant.

The procedure specifies the steps to be taken during normal monitoring sampling as well as emergency sampling (e.g. for an incident). The procedure includes sampling preservation techniques.

The sampling conditions such as weather conditions, human activities, wildlife activities, and livestock activities are recorded on the form.

The Procedure has two Field Data Forms that can be used:

- Water Quality Measurement and Sampling Field Data Sheet; and

- Incident Sampling Sheet (Emergency Situation).

The Environmental Monitoring Sampling Locations are indicated on a map attached to 4_SAD_OHS_SOP: Taking Water Samples for Cyanide Analysis Species Analysis 003-1 Rev. 02 dated February 2012.

The operations monitors for cyanide in surface water and groundwater up gradient and down gradient of the site. Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner.

There is no discharge to surface water.

Groundwater sampling is conducted on a monthly basis.

Surface water sampling is conducted during the rainy season when the streams are flowing.

Wildlife mortality inspections are undertaken daily, no mortalities have been observed in the last 3 years.

PRINCIPLE 5 – DECOMMISSIONING

Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

Standard of Practice 5.1: **Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.**
☒ **in full compliance with**

The operation is
☐ in substantial compliance with **Emergency Response Practice 5.1**
☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has developed written procedures to decommission cyanide facilities at the cessation of operations including the following:

Cyanide Facility Decommissioning Procedure 4_SAD_OHS Plant Special Cyanide Procedure Cyanide Facility Decommissioning Procedure SCP 1022, Rev 02, dated May 2013.

The procedure stipulates the requirements for decommissioning of the cyanide related facilities and infrastructure. Specific measures are stipulated for 12 months, 6 months and 3 months before closure.

The procedure has been revised on two occasions in June 2011 and May 2013. The next revision date is scheduled for May 2016.

Standard of Practice 5.2: **Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.**
☒ **in full compliance with**

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

Summarise the basis for this Finding/Deficiencies Identified:

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

An Annual Revision is undertaken every December to access the Closure Liabilities of the Sadiola Gold Mine and Plant. The 2015 Closure Cost assessment was based on a number of studies conducted by the mine as well as external consultants to quantify the costs for decommissioning by external organisations. The auditors observed the Sadiola Environmental Liability - December 2014 including; rehabilitation cost, decommissioning cost, and operational cost.

The operation reviews and updates the cost estimate, every 5 years or as needed.

The applicable jurisdiction does not require financial guarantees and the operation has not established a mechanism other than self-insurance or self-guarantee to cover estimated costs for the cyanide-related decommissioning activities

Report of Factual Findings – Agreed upon Procedures on Financial Information of AngloGold Ashanti Limited, Ernst & Young Inc., dated 18 January 2013. This was undertaken to “evaluate the accuracy of financial information”. This included item 7. “Check that the financial test requirements set by AGA with reference to the ICMI Code have been met”.

The findings of this assessment include the statement “With respect to item 7, the financial test requirements set by AGA with reference to ICMI Code have been met”.

PRINCIPLE 6 – WORKER SAFETY

Protect Workers' Health and Safety from Exposure to Cyanide

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has developed procedures describing how cyanide-related tasks such as unloading, mixing plant, operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure including the following: 4_SAD_OHS Plant Special Cyanide Procedure Sodium Cyanide Make-up SCP 1015; 3_SAD_OHS_Cyanide Container Offloading Procedure 002; 4_SAD_OHS Plant Special Cyanide Procedure Cyanide Equipment Detoxification/Decontamination SCP 1001; 4_SAD_OHS Plant Special Cyanide Procedure Cyanide PPE Decontamination SCP 100; 4_SAD_OHS_Plant_Special Cyanide Procedure Plant Personal Protective Equipment SCP 1023; 4_SAD_OHS Plant Special Cyanide Procedure Cyanide Areas Access Control SCP 1006; 4_SAD_OHS_Plant Special Cyanide Procedure Entering and Working in Confined Spaces SCP 1013; 4_SAD_OHS Plant Special Cyanide Procedure Working on Cyanide Storages and Cyanide Reticulation Systems SCP 1014; 4_SAD_OHS Plant Special Cyanide Procedure Buddy System Procedure SCP 1025; and 4_SAD_OHS Plant Special Cyanide Procedure Safe Making of Reagents Pipes, Pumps and Vessels SCP 1030.

The procedures stipulate the PPE required for the type of work as well as the area where it will be performed. The procedures stipulate the pre-checks such as clearance certificates needed before work can be performed. The operation implements the change management procedure 4_SAD_Met Change Management 003, Rev. 03, dated April 2014 to review proposed process and operational changes and modifications for their potential impacts on worker health and safety, and incorporates the necessary worker protection measures.

Training sessions with plant employees are held when new procedures are implemented. When training is conducted, the participants get the opportunity to give their input during discussions. Cyanide procedures are drafted by the Cyanide Champion and it is circulated for approval. Daily, Health and Safety Meetings (Toolbox Talks) are held with plant employees, in addition monthly Mass Health and Safety Meetings are held with employees where issues around health and safety are discussed.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The pH is controlled at 10.2. The leach feed pumps, and the cyanide dosing pumps are interlocked with the pH so that it shuts down at pH < 9.5.

PAC 7000 personal monitors are used when entering a cyanide area. Signs are present showing that a PAC 7000 must be used at the Cyanide Mixing and Storage Area, Leach and CIP section, Residue Section, ILR Section, Elution Section, Acid Wash Section, Cyanide Off-loading Area, and the Laboratory. It is also identified within the procedures what PPE must be used including PAC 7000 monitors. The monitors have an alarm at 4.7 ppm and 10 ppm. The first alarm identifies when a face mask must be fitted, which are carried by all employees entering a cyanide area. The second alarm identifies when an area must be evacuated.

005 Plant HCN Gas Survey Locations indicates that 32 locations around the plant and 6 areas around the TSF are monitored on a monthly basis for HCN.

Warning Signs have been placed where cyanide is used advising workers that cyanide is present and that smoking, open flames, eating and drinking are not allowed, and suitable PPE must be worn.

Showers, low pressure eye wash stations and dry powder fire extinguishers are located at strategic locations throughout the plant, where cyanide is used and they are maintained and tested.

The storage, mixing and process tanks and piping are colour coded, orange with a purple band for the solution tanks and orange for the piping, to alert workers of their contents. They are also marked with arrows showing the direction of flow. The tailing pipes are marked showing they contain cyanide and have the direction of flow arrow.

The MSDS for sodium cyanide in French and English is kept in the Cyanide Champion's office and is located at the Cyanide Mixing and Storage Area. First aid procedures are also located at each of the first aid cabinets. There are 10 first aid cabinets throughout the plant including the Cyanide Mixing and Storage Area, Top of the Leach Tanks, TSF, the Intensive Leach Reactor, and the Emergency Station.

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

4_SAD_OHS_Incident Reporting / Investigation_SHP002, Rev 04, dated 10 Sept 2015. The aim of the procedure is to prevent a re-occurrence of similar incidents.Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records are retained for at least one year.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Plant has water, oxygen and antidote kits at each of the 10 first aid cabinets throughout the plant including at the unloading, mixing and storage areas, top of the leach tanks and TSF. There are mandown alarms at all of these locations and throughout the plant. There are fixed radios and telephones as well as mobile radios being carried by the relevant people.

First aid equipment is inspected on a monthly basis.

4_SAD_EPP_Procedure for Developing an Emergency Response Preparedness Plan for Sadiola_000, Rev 01, signed off 9 July 2014 is the emergency response plan that has been developed to assist key personnel in the management of an emergency at AngloGold Ashanti West Africa Region Sadiola. .

Sadiola has an on-site clinic that will respond to all emergencies including workers exposed to cyanide. The control room will inform the clinic of an emergency involving cyanide. The clinic will send an appropriately equipped ambulance to the plant to recover the patient and take them to the AGA clinic, which is 10 minutes from the Plant.

4_SADIOLA Transportation of a Patient Using the Ambulance_CL111, Rev 2, dated Feb 2015 ensures the safe transportation of a patient, availability of the ambulance at all times and correct usage of emergency services.

A flow chart of the emergency response procedure to follow in the event of an incident is kept in the emergency room and the ambulance. Cyanide PPE is available in the Sadiola ambulance including a personal cyanide monitor.

Dr Coetzee at Sadiola Clinic received in-house AGA AHS (Anglo Health Services) training by one of the Doctors at the South African Operations (Dr DB de Villiers). The paramedic, Sue-Allen Wragge received her training at the AGA Siguiri operations (ICMI certified).

Mock emergency drills are conducted periodically to test response procedures for various cyanide exposure scenarios, and lessons learnt from the drills are incorporated into response planning. 4_SAD_OHS_How to Conduct an Emergency Drill SHP 032 Rev. 00 dated 1 August 2015. The purpose of this procedure is to enhance emergency preparedness by conducting emergency drills in order to prepare employees how to respond safely and effectively to a real emergency situation. It should also be used to ensure all emergency equipment and resources are available in a good condition.

PRINCIPLE 7 – EMERGENCY RESPONSE

Protect Communities and the Environment through the Development of Emergency Response Strategies and Capabilities

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

4_SAD_EPP_Procedure for Developing an Emergency Response Preparedness Plan for Sadiola_000, Rev 01, signed off 9 July 2014 is the emergency response plan that has been developed to assist key personnel in the management of an emergency at AngloGold Ashanti West Africa Region Sadiola.

The Plan through associated procedures considers the potential cyanide failure scenarios appropriate for its site-specific environmental and operating circumstances, including the following, catastrophic release of hydrogen cyanide from storage or process facilities; transportation accidents; releases during unloading and mixing; releases during fires and explosions; pipe, valve and tank ruptures; overtopping of ponds and impoundments; power outages and pump failures; uncontrolled seepage; failure of cyanide treatment, destruction or recovery systems; and failure of tailings impoundments, heap leach facilities and other cyanide facilities.

The contract between Samsung C&T Deutschland GMBH and AngloGold Ashanti Limited dated 28 September 2011, signed 6 June 2012 (Contract NO. AFR31320) is to supply solid sodium cyanide briquettes. Section 19.3.4 of the contract states that Samsung is responsible for the material until delivery. Delivery occurs when the boxes of cyanide are offloaded inside the Plant.

An on-site emergency trailer is available to assist the emergency vehicles of the transporter that accompanies the transport of the cyanide from the harbour in Dakar, Senegal to the site at Sadiola in Mali. A route risk assessment has been conducted by the transporter as well as Sadiola Mine, which was observed - Dakar-Yatel-Sadiola Road Assessment for Transport of Sodium Cyanide, dated 22-30 May 2014.

All the procedures associated with the Emergency Response Plan include the use of cyanide antidote and first aid measures, evacuation requirements, control of the source, containment, assessment and mitigation.

The Emergency Response Plan (Section 15. Emergency Notification of Surrounding Communities) states that the Incident Controller in consultation with the General Manager will instigate incident notification to nominate authorities for surrounding communities via the External Phone list located in Plant / TSF Emergency Response plan. The closest village is approximately 5 km from the Plant (Farabakouta Village).

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 7.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Cyanide training including emergency response planning is provided to the workforce through the induction training and through undertaking emergency mock drills. The Emergency Response team has more detailed training with regards to the responses to be undertaken in the event of an emergency.

The communities are included in the emergency response planning process through the quarterly community meeting, which includes site visits and training on emergency situations.

Quarterly sessions are held with the 8 villages around the Sadiola mine (Sadiola, Farabakouta, Medine, Sirimana, Neteko, Borokone, Tabakot, and Sekokoto). Each village sends 4 people as representatives.

AngloGold Ashanti uses its own clinic at Sadiola for medical emergencies. The clinic is involved in mock drills and involved in the emergency response planning process.

Local response agencies will not be used in cyanide emergencies as they are not equipped or trained to deal with cyanide emergencies.

The Civil Protection organisation are the only outside responders that are involved in the emergency planning and response process. The Civil Protection organisation have received specific training with regard to emergency incidents including hazardous chemicals. They will be informed in order to assist with any incident outside the mine site. They are involved in transportation emergency drills.

The workforce, including the clinic, are consulted through feedback sessions following the mock drills.

The Governor of Kayes (local regional capital in Mali) is included in the distribution list for the Emergency Response Plan.

The current Plan is dated September 2013 is due to be reviewed in September 2016.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The primary and alternate emergency response co-ordinators with explicit authority to commit the resources necessary to implement the Plan are detailed in 7.1 Emergency Response Levels of the Emergency Response Plant. This includes Level one Incident (Low Aspect, Level two incident (Medium Aspect), and Level three Incident (High Aspect). In addition there are flow charts showing the incident command and control arrangements for each level.

The Emergency Response Teams are identified. There are 11 people in the Plant Chemical Team who are the Emergency Responders. The Plan contains their photographs, names and telephone numbers. This is also included on most of the notice boards observed during the site visit.

The Emergency Responders have additional training compared to normal Plant employees.

4_SAD_OHS Plant Special Cyanide Procedure Chemical Emergency Response Team Call Out SCP 1007. details that an emergency is reported to the control room via Radio Channel 4 who will then report it to the foreman and subsequently immediately inform the Chemical Emergency Response Team. The Metallurgical Official will be in telephone contact and have a vehicle to transport the Emergency Response Team members from the mine village to the Plant. The Shift Foreman on duty at the time of the incident will take charge.

This procedure also specifies the responsibilites and duties of the co-ordinators and team members.

There is a list of all of the first aid cabinets in addition to the emergency trailer detailing the contents of each.

4_SAD_OHS_Plant_Special Cyanide Procedure PPE Inspection Procedure SCP 1032, Rev. 01, dated August 2013. The procedure states that PPE must be inspected monthly. The PPE that must be inspected includes the elbow length gloves, inline air masks, inline air respirators (canisters), hard hats, face masks, gloves, gum boots, chemical suits, and overalls.

The only outside responders in the event of an emergency are the Civil Protection Organisation who will assist the Sadiola staff for incidents outside the mine site i.e. transportation incidents. The Civil Protection Organisation were involved in a mock drill on 11 Dec 2009 regarding a transportation incident. They are not involved in the drills undertaken at the Plant. No other outside entities are involved.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

4_SAD_EPP_Procedure for Developing an Emergency Response Preparedness Plan for Sadiola_000, Rev 01, signed off 9 July 2014, includes procedures and contact information for notifying management and medical facilities of the cyanide emergency. This will be undertaken through the Control Room contacting the people on the Emergency Response List (including the Clinic) after which the Plant Foreman will take

control of the incident. The Plan includes Malian external contact numbers although external responders will not be part of the emergency response.

Section. 15. Emergency Notification of Surrounding Communities states that the Incident Controller in consultation with the General Manager will instigate incident notification to nominate authorities for surrounding communities via the External Phone list located in Plant / TSF Emergency Response Plan.

Section 12. Media Relations states that Contact with Media / Public Affairs is the responsibility of the Incident Management Team. If required, a Crisis Management Team Leader representative may be sent to site to liaise with relevant agencies should the General Manager request assistance. The General Manager will handle media contact on site and the site personnel are to be advised not to give media interviews, either by telephone or in person or speculate or discuss the incident until a formal investigation has been completed.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

4_SAD_OHS_Plant_Special Cyanide Procedure Handling of Cyanide Spillages SCP 1008 Rev. 04 dated June 2015 includes the neutralisation of solutions or solids and the decontamination of soils and other contaminated media.

Drinking water is obtained from boreholes into the groundwater not from surface water therefore, the drinking water is unlikely to be affected by an emergency situation. The borehole water is monitored for cyanide on a regular basis. In an emergency Sadiola Mine can supply drinking water via a water tanker.

4_SAD_OHS_Plant_Special Cyanide Procedure Handling of Cyanide Spillages SCP 1008 Rev. 04 dated June 2015 states that sodium hypochlorite, ferrous sulphate and hydrogen peroxide shall not be used to treat cyanide that has been released into surface water, unless human life is threatened.

4_SAD_OHS_SOP: Taking Water Samples for Cyanide Analysis Species Analysis 003-1, Rev. 02, dated February 2012 (monitoring and emergency samples) is used for taking groundwater or surface water samples including a plan of all surface water and groundwater sampling locations.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

4_SAD_MET_Emergency Preparedness and Response Plan_002, Rev 02, dated May 2013 - Section 6.0 Plan Maintenance and Change Management details when the Emergency Preparedness and Response Plan will be updated. It will be reviewed every 3 years. It also states that the EPP must be updated after it is used for an actual event. The EPP has not been used in the last 3 years.

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

4_SAD_EPP_Procedure for Developing an Emergency Preparedness Plan for Sadiola_000 Rev 01 Dated September 2013 in section 22.2 Emergency Response Training states "As a minimum, all employees shall take part in one emergency response lecture of one hour and one evacuation training exercise for their area annually.

The Cyanide 2014 Drills Schedule included the following; 1st Q - Emergency Alarm, 2 Q - Safety Shower Alarm, 3 Q - Man down, 4th Q Confined Space Rescue.

PRINCIPLE 8 – TRAINING

Train Workers and Emergency Response Personnel to Manage Cyanide in a Safe and Environmentally Protective Manner

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

☒ **in full compliance with**

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

Summarise the basis for this Finding/Deficiencies Identified:

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

All employees receive a general induction when they start on the mine and an annual refresher induction when they return from leave. All employees receive Cyanide Awareness training on an annual basis.

The employees working in the Plant, Engineering, Stores and Lab personnel receive Cyanide First Aid Training annually.

The general induction Slide 12 shows the process flow. Slide 44 discusses PPE safety signs, Slide 39 shows cyanide colour coding, Slide 58 confined spaces requirements, Slide 60 isolation, lock-out and tagging, Slide 70 hazardous substances, Slide 71, 72, 73 cyanide, Slide 82 – 91 Emergency Site Plan.

The Cyanide Response Team also undertake the following training: HCN Gas Monitoring - annually; Cyanide First Aid Training – annually; Confined Space Rescue - every two years; Emergency Response Plan – annually; Breathing Apparatus - every two years, and A,B,C First Aid - every two years.

All training records have been retained since the start of the operation.

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

☒ **in full compliance with**

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

Summarise the basis for this Finding/Deficiencies Identified:

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

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

All employees receive a general induction when they start on the mine and an annual refresher induction when they return from leave. All employees receive Cyanide Awareness training on an annual basis.

The employees working in the Plant, Engineering, Stores and Lab personnel receive Cyanide First Aid Training annually.

The general induction Slide 12 shows the process flow. Slide 44 discusses PPE safety signs, Slide 39 shows cyanide colour coding, Slide 58 confined spaces requirements, Slide 60 isolation, lock-out and tagging, Slide 70 hazardous substances, Slide 71, 72, 73 cyanide, Slide 82 – 91 Emergency Site Plan.

The Cyanide Response Team also undertake the following training: HCN Gas Monitoring - annually; Cyanide First Aid Training – annually; Confined Space Rescue - every two years; Emergency Response Plan – annually; Breathing Apparatus - every two years, and A,B,C First Aid - every two years.

The operation evaluates the effectiveness of cyanide training by undertaking Planned Task Observations.

The Internal Training Matrix indicates the different training modules offered at the Plant. It lists the names of all employees and indicates which of the modules each employee needs for their specific job requirements.

The Cyanide Training Officer is an appropriately qualified person who undertakes the Induction Training, The Cyanide First Aid Training, the General First Aid Training (ABC First Aid) and training on the handling of hazardous chemicals. Other training is provided by third party trainers as required.

Records are retained throughout an individual's employment documenting the training they received. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated and understanding of the training materials.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

All employees receive a general induction when they start on the mine and an annual refresher induction when they return from leave. All employees receive Cyanide Awareness training on an annual basis.

The employees working in the Plant, Engineering, Stores and Lab personnel receive Cyanide First Aid Training annually.

The general induction Slide 12 shows the process flow. Slide 44 discusses PPE safety signs, Slide 39 shows cyanide colour coding, Slide 58 confined spaces requirements, Slide 60 isolation, lock-out and tagging, Slide 70 hazardous substances, Slide 71, 72, 73 cyanide, Slide 82 – 91 Emergency Site Plan.

The Cyanide Response Team is comprised of the following people who receive additional training:

S. Coulibaly, J. Coulibaly, A. Traore, Y. Konate, S. Berthe, A. Perou, S. Camara, K. Keita, S. Thera, and A. Coulibaly.

The additional training includes: HCN Gas Monitoring - annually; Cyanide First Aid Training – annually; Confined Space Rescue - every two years; Emergency Response Plan – annually; Breathing Apparatus - every two years, and A,B,C First Aid - every two years.

Site cyanide response personnel, including unloading, mixing, production and maintenance workers, are trained in decontamination and first aid procedures They take part in routine drills to test and improve their response skills.

4_SAD_EPP Procedure for Developing an Emergency Preparedness Plan for Sadiola_000, Rev 01, dated September 2013 includes Section 22.2 Emergency Response Training, which states that "As a minimum, all employees shall take part in one emergency response lecture of one hour and one evacuation training exercise for their area annually".

Cyanide emergency drills are evaluated from a training perspective. Procedure for Developing an Emergency Preparedness and Response Plan for Sadiola Mine 4_SAD_EPP_Procedure for developing an Emergency Preparedness Plan for Sadiola_000 Rev 01 Dated September 2013 - Section 25 Debriefing Requirements states that "debriefing of all personnel involved in the emergency provides an exchange of experiences and views during the effectiveness of the emergency response."

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

The operation has made off-site community members familiar with those elements of the Emergency Response Plan related to There are no off-site Emergency Responders except for the Civil Protection organisation who are involved in the emergency planning and response process.

The Civil Protection organisation has received specific training with regard to emergency incidents including hazardous chemicals. They will be informed in order to assist the mine personnel with any incident. They are involved in transportation emergency drills.

Quarterly sessions are held with the 8 villages around the Sadiola mine (Sadiola, Farabakouta, Medine, Sirimana, Neteko, Borokone, Tabakot, and Sekokoto). Each village sends 4 people as representatives.

Records are retained documenting the cyanide training, including the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Quarterly sessions are held with the 8 villages around the Sadiola mine (Sadiola, Farabakouta, Medine, Sirimana, Neteko, Borokone, Tabakot, and Sekokoto). Each village sends 4 people as representatives.

This included the following:

Report on the Training of the Sadiola Local Community Cyanide Response Committee dated 3 March 2015 held at IDAP Conference Room at Sadiola. During the second day of the meeting, a site visit was organised and the Cyanide Champion gave a refresher presentation on the nine principals of the Cyanide Code.

Sadiola Gold Mine Process Plant Mandown Emergency Drill 11 Dec 2009 to Sangafara Village - Scenario: Cyanide transport truck accident resulting in cyanide spillage to the Sangafara River and several causalities, Drill location: Sangafara Village access from Kayes at the last curve going down to the river bridge, Roles and Responsibilities were noted.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Quarterly sessions are held with the 8 villages around the Sadiola mine (Sadiola, Farabakouta, Medine, Sirimana, Neteko, Borokone, Tabakot, and Sekokoto). Each village sends 4 people as representatives.

This included the following:

Report on the Training of the Sadiola Local Community Cyanide Response Committee dated 3 March 2015 held at IDAP Conference Room at Sadiola. During the second day of the meeting, a site visit was organised and the Cyanide Champion gave a refresher presentation on the nine principals of the Cyanide Code.

Sadiola Gold Mine Process Plant Mandown Emergency Drill 11 Dec 2009 to Sangafara Village - Scenario: Cyanide transport truck accident resulting in cyanide spillage to the Sangafara River and several causalities, Drill location: Sangafara Village access from Kayes at the last curve going down to the river bridge, Roles and Responsibilities were noted.

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

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 9.3**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has developed written descriptions of how their activities are conducted and how cyanide is managed in the form of hard copies of a presentation on the use and management of cyanide that was given to the communities' representatives on 9 March 2015. The hard copies were distributed to the community representatives at this meeting.

Most of the community members are illiterate and therefore the information is mostly provided verbally as detailed in 9.1.1 and they are also taken on site visits to show them the different areas.

4_SAD_EPP_Procedure for Developing an Emergency Response Preparedness Plan for Sadiola_000, Rev 01, signed off 9 July 2014. Section. 15. Emergency Notification of Surrounding Communities states that the Incident Controller in consultation with the General Manager will instigate incident notification to nominate authorities for surrounding communities via the External Phone list located in Plant / TSF Emergency Response Plan.

Section 12. Media Relations states that Contact with Media / Public Affairs is the responsibility of the Incident Management Team. If required, a Crisis Management Team Leader representative may be sent to site to liaise with relevant agencies should the General Manager request assistance. The General Manager will handle media contact on site and the site personnel are to be advised not to give media interviews, either by telephone or in person or speculate or discuss the incident until a formal investigation has been completed.

AngloGold Ashanti Interactive Annual Sustainability Report for 2014. The chapter on Environmental Stewardship (http://www.aga-reports.com/14/sdr/material-issues/environmental-stewardship/approach) provides details of the significant environmental incidents in 2014. None of the incidents occurred at Sadiola.

Report Signature Page

GOLDER ASSOCIATES AFRICA (PTY) LTD.

Ed Perry
Lead Auditor

Marie Schlechter
Project Manager

Date: 17 March 2016

MS/EP/ag

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At Golder Associates we strive to be the most respected global group of companies specialising in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organisational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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