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## **Summary Audit Report for Mining Operations**

Name of Mine: Sunrise Dam Gold Mine

Name of Mine Owner: AngloGold Ashanti Australia Limited

Name of Mine Operator: AngloGold Ashanti Australia Limited

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## **Location Detail and Description of Operation**

AngloGold Ashanti Australia Limited's (AGAA) Sunrise Dam Gold Mine (SDGM) is located is located within the Northern Goldfields region of Western Australia, 55km south of Laverton and 220 km north-northeast of Kalgoorlie.

SDGM is located within the East Murchison subregion of the Murchison Interim Biogeographic Regionalisation for Australia. The East Murchison subregion is characterised by internal drainage, extensive areas of elevated red desert sandplains with minimal dune development, salt lake systems associated with occluded palaeodrainage systems, broad plains of red-brown soil and breakaway complexes, and red sand plains. The Murchison bioregion typically has an arid climate with mainly winter rainfall. However, long-term rainfall data recorded at Laverton indicates that summer rainfall contributes the majority of rainfall received in years when cyclones pass over the region.

SDGM employs gravity/carbon-in-leach (CIL) and flotation technology to recover gold through processing up to a maximum licensed throughput of 5.5Mtpa. The main unit processes within the processing plant are crushing, milling, flotation, high intensity grinding, gold leaching, gold recovery, and tailings disposal as shown below in Figure 1. During the 2019 calendar year, SDGM processed 4.08 Mt of ore to produce 272,537 troy ounces of gold.

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The construction and commissioning of new unit processes (flotation and ultra-fine grinding) occurred during the audit period, with the objective of increasing gold recovery. The new unit processes are indicated in red in Figure 1 below.

Ore is delivered to the run-of-mine (ROM) pad and stockpiled before being fed into the crushing circuit by front-end loader. The crushing circuit consists of a jaw and secondary crusher with two tertiary crushers and product screen. The crushed ore is conveyed to the milling circuit.

The milling circuit consists of three (one primary and two secondary) ball mills in a closed circuit with cyclones for product classification and three centrifugal gravity concentrators for removal of coarse gold. Gravity concentrate reports to an up-flow fluidised cyanidation reactor for dedicated leaching and subsequent gold recovery within the Goldroom. Final milled product (cyclone overflow) reports to a flotation circuit where sulphide minerals and gold are concentrated to produce a flotation concentrate product.

The flotation concentrate is thickened in a dedicated concentrate thickener and reports to a high intensity grind (HIG) mill, the ground product from which is combined with the flotation tailings and pumped to the pre-leach thickener. The thickener underflow is pumped to the carbon-in-leach (CIL) circuit, consisting of Carbon-In-Leach adsorption tanks, for conventional gold leaching, utilising cyanide as the lixiviant.

Consistent with many gold-containing ore processing plants, cyanide remains the preferred lixiviant for extracting gold via leaching processes at SDGM. Cyanide is used as a gold leaching reagent in both the gravity concentrate up-flow fluidised cyanidation reactor and the carbon in leach (CIL) circuit. Cyanide is also used in the elution circuit to remove gold adsorbed onto carbon. Minor quantities of cyanide are also used or present in the on-site laboratory and in the Goldroom, noting that these areas are specifically excluded from the International Cyanide Management Code.

Conventional processes are used to recover gold adsorbed onto activated carbon within the CIL circuit, namely acid washing, elution, electrowinning onto stainless steel wool, smelting and carbon regeneration.

The Carbon-In-Leach discharge is pumped to a thickener where density is increased before being pumped to the Central Thickened Discharge Tailings Storage Facility (CTD TSF). Decant water from the CTD TSF is recycled for use as process water in the plant.

Hydrogen peroxide is added to the flotation process water to attenuate residual cyanide concentration prior to flotation.

The operation receives sodium cyanide solution at a nominal concentration of 30% w/w, although the concentration is modified slightly upwards in summer and



downwards in winter, to account for the freezing point of the solution. The sodium cyanide solution is transported in isotainers by rail from the Producer's production facility (located at Kwinana some 40 km south of Perth within the state of Western Australia) to a trans-shipping facility at Kalgoorlie, from where it is then transported by road to the operation. Solid cyanide is not transported to, stored, mixed or used at the operation.

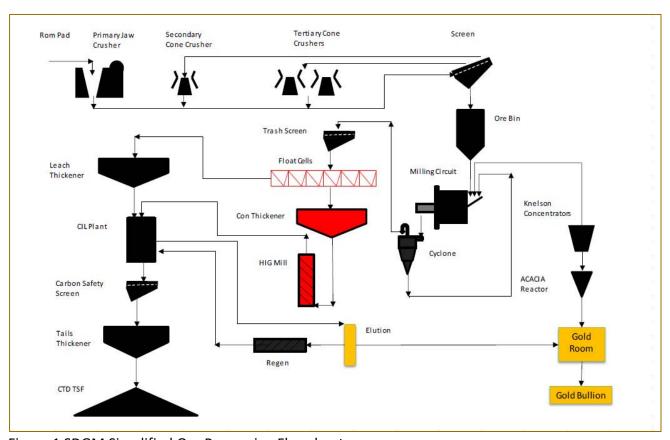


Figure 1 SDGM Simplified Ore Processing Flowsheet

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## **SUMMARY AUDIT REPORT**

# **Auditor's Finding**

This Operation is	
☑ in full compliance	
$\square$ in substantial compliance	
$\square$ not in compliance	
with the International Cyanide Manageme	nt Code.
previous three-year audit cycle, with the	nificant compliance problems during the exception of weak acid dissociable cyanide which is discussed in this report under
Audit Company:	Veritas Metallica Pty Ltd
Audit Team Leader:	Tom Gibbons
Email:	Tom_G@westnet.com.au
Names and Signatures of Other Auditors:	
for Differ.	
Greg Smith 24 February 2021	
Dates of Audit:	28 September – 04 October 2020 Inclusive.
Code Verification Audit Team Leader, et Management Institute, and that all memb	dge, experience and conflict of interest for established by the International Cyanide ers of the audit team meet the applicable Cyanide Management Institute for Code
verification audit. I further attest that the professional manner in accordance with the	accurately describes the findings of the he verification audit was conducted in a e International Cyanide Management Code and using standard and accepted practices s.
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#### **PRINCIPLE 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.

	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 1.1
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with 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.

SDGM's contract with its sole cyanide manufacturer requires that the cyanide be produced at a facility that has been certified as being in compliance with the Code. SDGM's cyanide supply does not include distributor(s).

SDGM has a contract with the cyanide manufacturer and supplier Australian Gold Reagents Pty Ltd (AGR). The contract requires that that the cyanide be produced at a facility that has been certified as being in compliance with the Code. The term of the contract was active for the entire recertification period.

During the recertification period, SDGM purchased cyanide solely from Australian Gold Reagents Pty Ltd (AGR).

During the recertification period, all cyanide purchased by SDGM was manufactured at a facility certified as being in full compliance with the Code. SDGM has purchased cyanide solely from Australian Gold Reagents Pty Ltd (AGR) during the recertification period, with all supplied cyanide being manufactured at Australian Gold Reagents Pty Ltd (AGR)'s Kwinana Production Facility.

The cyanide supplied by Australian Gold Reagents Pty Ltd (AGR) was solely in the form of sodium cyanide solution within 22 cubic metre isotainers. The supplied sodium



cyanide solution strength is nominally 28.0% w/w +/- 1.5% in winter, and 31.5% +/- 1.5% w/w in summer.

The cyanide supplied to SDGM was manufactured at Australian Gold Reagents Pty Ltd (AGR)'s Production Facility in Kwinana, Western Australia. This Production Facility remained certified in full compliance with the Code during the recertification period, and was most recently certified in full compliance with the Code on 22 September 2020.

SDGM did not purchase cyanide from any independent distributors during the recertification period.

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#### **PRINCIPLE 2 - TRANSPORTATION:**

Protect communities and the environment during cyanide transport.

## **Standard of Practice 2.1:**

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

	$oxedsymbol{arphi}$ in full compliance with	
The Operation is	$\hfill \square$ in substantial compliance with	Standard of Practice 2.1
	$\square$ not in compliance with	

### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with 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.

A written agreement exists between SDGM and Australian Gold Reagents Pty Ltd (AGR), who is both the Cyanide Producer and Transporter, designating transportation responsibilities required by the Code, with the exception of addition of colorant dye.

The active sodium cyanide supply of goods contract between SDGM and Australian Gold Reagents Pty Ltd (AGR) requires that transportation be carried out via a supply chain that is certified in compliance with the Code.

AGR has been continuously certified as a Transporter since September 2006. SDGM forms part of AGR's West Australian Supply Chain, the most recent date of recertification date of which is 15 November 2019. This supply chain was the sole means of cyanide transportation to SDGM during the recertification period, and remained certified in full compliance with the Code during the recertification period.

Despite the contract not specifying all aspects of transportation responsibility as required by the Code, they are addressed through AGR's West Australian Supply Chain being fully certified and as such SDGM is compliant with this Standard of Practice.



#### Standard of Practice 2.2:

Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

	$\ensuremath{\square}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 2.2
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 2.2: Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

SDGM's contract with the cyanide transporter requires that the transporter be certified under the Code.

SDGM has continued to utilise AGR as sole Producer and Transporter of cyanide during the recertification period and contractually requires that AGR be certified under the Code, as detailed in clause 35 of the supply of goods contract. The contract addresses roles and responsibilities for safety, security, release prevention and emergency response. AGR's compliance with the Code includes verification of the adequacy of emergency response plans and capabilities applicable to the transportation of cyanide to SDGM.

The cyanide transporter is certified under the Code. The most recent recertification date of AGR's West Australian Supply Chain, which includes all aspects of transportation of cyanide from their Kwinana Production Facility to SDGM, is 15 November 2019.

AGR's identified contractors/carriers, Toll Mining Services and Qube Bulk, are both certified in full compliance with the Code.

SDGM has chain of custody records identifying all elements of the supply chain that handle the cyanide brought to its site. All identified transporters are certified in compliance with the Code.

SDGM has maintained chain of custody records for cyanide supply/transportation over the recertification period. The transporter (AGR) and identified subcontractor transporters (Toll Mining Services and Qube Bulk), are certified in full compliance with the Code. The AGR Supply Chain, which identifies all elements of the supply chain that handle the cyanide brought to its site, is certified in full compliance with the Code.

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#### PRINCIPLE 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.

	oxdot in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 3.1
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

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

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

SDGM receives only sodium cyanide solution, thus no cyanide mixing facilities exist at the Operation.

SDGM continue to maintain records of design compliance with relevant construction standards and statutory approval requirements.

SDGM unloading and storage areas for liquid cyanide are located away from people and surface waters.

SDGM continue to unload liquid cyanide on a concrete surface that can minimize seepage to the subsurface.

The SDGM cyanide unloading area is designed and constructed to contain, recover or allow remediation of any leakage from the tanker truck.

The concrete unloading pad is designed and constructed with a gradient such that spillage reports to the bunded concrete secondary containment for the liquid cyanide



storage tanks. This containment area has a sump and pumping facilities to allow return of spillage to process tanks.

A method exists to prevent the overfilling of cyanide storage tanks.

Several layers of protection exist to prevent overfilling of cyanide storage tanks, including multiple level indicators, high-level alarms, and inspection, observation and unloading procedures. SDGM implements a Liquid Sodium Cyanide Unloading Procedure and Cyanide Delivery Work Instruction Procedure, which includes multiple checks to prevent overfilling of cyanide storage tanks.

Cyanide storage tanks are located on a concrete surface that can prevent seepage to the subsurface.

Liquid cyanide is unloaded on a concrete surface that can minimize seepage to the subsurface.

Cyanide storage tanks are located on a concrete surface that can prevent seepage to the subsurface.

Secondary containments for SDGM cyanide storage tanks are constructed of concrete that provides a competent barrier to leakage.

No reagent strength cyanide is stored at the Recovery Enhancement Project (REP) Circuit area.

The storage area has adequate ventilation and the cyanide is stored securely where public access is prohibited, and away from other incompatible chemicals. The cyanide storage tanks are located externally, and have purpose-designed vents approved by the Cyanide Producer to prevent the build-up of hydrogen cyanide gas. They are located within concrete secondary containment bunds to safeguard against potential comingling with incompatible materials.

The Cyanide Storage Area is located within a fenced and locked compound, with multiple posted signs indicating the presence of cyanide, danger, no unauthorised access, no naked flames, no smoking, no food and drink, and required personal protective equipment.

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## 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.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 3.2
	$\square$ not in compliance with	

## Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with 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.

SDGM continue to solely utilise liquid sodium cyanide for processing requirements, and as such no cyanide mixing facilities exist on site.

The only applicable empty cyanide containers are liquid cyanide isotainers. The containers are cleaned after unloading as part of the standard unloading procedure, and depart site immediately thereafter. There are no remnant empty cyanide containers on site.

Delivery procedures require tanker and isotainer flushing and wash-down within the designated unloading area prior to the tanker leaving site. An observer (Spotter) is required to observe and supervise the unloading procedure and activities are documented by both the Spotter and the delivery driver.

SDGM has developed and implemented multiple plans or procedures to prevent exposures and releases during cyanide unloading activities. Salient plans and procedures include, but are not limited to: the Cyanide Management Plan, Liquid Cyanide Unloading Procedure, Cyanide Delivery Work Instruction Procedure, Cyanide Spill Response Process Procedure, Cyanide Emergency Spill Response Flowchart, and Cyanide Spill Response Work Instruction Procedure.

Operation of relevant valves and couplings for unloading liquid cyanide is addressed within the Liquid Cyanide Unloading Procedure and Cyanide Delivery Work Instruction.



SDGM continue to receive only sodium cyanide solution in 22 cubic metre Isotainers which are immediately unloaded into the cyanide storage tanks upon arrival at the mine site; hence there no handling or stacking of containers occurs.

Timely clean up of spills during cyanide unloading is addressed within the Liquid Cyanide Unloading Procedure and the Cyanide Spill Response Process Procedure.

SDGM provides for safe unloading of liquid cyanide by requiring personal protective equipment and having a second individual observe from a safe area. This second individual is known as the Spotter or Sentry. Prior to cyanide unloading, The SDGM Spotter conducts a detailed pre-unloading inspection of the Cyanide Unloading and Storage area, which includes the following: required personal protective equipment, training and competency requirements of Spotter, Task Preparation, including predelivery tasks such as installation of no entry chains, signage, and checking of valves for correct position; recording of cyanide storage tank levels; confirmation using provided guidance table that tank levels are safe to accept delivery; notification of Processing Plant Control Room; operability of sump pump; fire extinguishers and safety showers; emergency shutoff valve is unlocked and operable, and top-up of overflow pots with water. The Spotter records all details of the inspection on the Cyanide Delivery Form. The form is signed by the SDGM Spotter and the Delivery Driver upon unloading completion.

Addition of colorant dye to liquid cyanide prior to delivery to site is addressed within the Cyanide Management Plan.

SDGM continue to implement appropriate cyanide unloading procedures, including safety and personal protective equipment (PPE) requirements, permit to work, cyanide emergency response, cyanide spill response, and cyanide delivery completion confirmation. Examples of completed documents, including cyanide delivery completion confirmation, were provided during the field audit.

The unloading and storage area was inspected and found to be free of any signs of spillage.

Personnel interviewed demonstrated a strong understanding of cyanide handling and cyanide unloading procedures and this knowledge was consistent with SDGM written procedures and work instructions.

A cyanide delivery was observed during an auditor field inspection, with observed actions consistent with SDGM cyanide delivery and cyanide unloading procedures.

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#### **PRINCIPLE 4 – OPERATIONS:**

Manage cyanide process solutions and waste streams to protect human health and the environment.

## **Standard of Practice 4.1:**

Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.

	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.1
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.1: Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

SDGM have developed written management and operating plans and procedures for cyanide facilities including, but not limited to, unloading and storage facilities, leach plants, tailings impoundments and cyanide treatment systems. No cyanide mixing facilities, heap leach operations, or cyanide regeneration and disposal systems exist at SDGM.

SDGM continue to maintain a comprehensive Cyanide Management Plan. Individual work instructions and guidelines exist for cyanide-related tasks within SDGM's cyanide facilities. The SDGM Cyanide Management Plan references a comprehensive range of 15 Operating, Emergency and Contingency Plans, 45 standard operating practices, work instructions, and maintenance procedures, and 10 inspection procedures. These documents were verified to exist and to be in use/operational.

SDGM continue to maintain plans and procedures that identify the assumptions and parameters on which the facility design was based (including but not limited to freeboard required for safe pond and impoundment operation and the cyanide concentrations in tailings on which the facility's wildlife protective measures were



based) as necessary to prevent or control cyanide releases and exposures consistent with applicable regulatory requirements.

Key plans and procedures used to achieve this include, but are not limited to, Process Design Criteria, the Site-Wide Water Balance, Central Thickened Discharge Tailings Storage Facility Operating Manual, SDGM Environmental Monitoring Parameters, Water Management Plan, and Flood Management Plan.

SDGM continue to implement plans and procedures that describe the standard practices necessary for the safe and environmentally sound operation of the facility including the specific measures needed for compliance with the Code, including inspections and preventive maintenance activities.

A comprehensive range of inspection procedures and log sheets exists. A cross-section of procedures and completed inspection sheets were viewed and verified as consistent with sound industrial practice.

SDGM implements a comprehensive Preventative Maintenance System, with triggering/prompting of preventative maintenance tasks, planning, scheduling, execution, and close-out documentation.

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

SDGM continue to implement a Management of Change (MoC) procedure designed to ensure that hazard and risk assessments are performed whenever necessary. In addition to the procedure, key documents used to implement the procedure are the Hazard Checklist and Change Request and Approval form.

The Management of Change procedure requires review and sign-off on proposed process changes and modifications by various stakeholders and management prior to implementation of the changes and modifications, including Environmental and Safety personnel. Specifically, the Change Request and Approval Form must be reviewed and signed off by the Processing Department, and by representatives of the Health and Safety, Environment, Training, and Maintenance Departments.

A cross-section of completed cyanide-related MoC items were reviewed and found to be consistent with the intent of evaluating the potential for the release of cyanide and to incorporate the necessary release prevention measures.

SDGM has cyanide management contingency procedures for situations when there is an upset in a facility's water balance, when inspections and monitoring identify a deviation from design or standard operating procedures, and/or when a temporary closure or cessation of operations may be necessary.



The Central Thickened Discharge Tailings Storage Facility Operating Manual includes details of the contingency procedures in the event of an upset in the water balance. The Emergency Management Plan, Cyanide Emergency Response Plan, and Crisis Management Plan detail steps to be followed in case of a cyanide emergency, as well as the scenario of a Tailings Storage Facility wall failure.

In the event of short-term cessation of operations, the SDGM Standard Work Instructions and Procedures provide adequate guidance on storage, transfer, and monitoring. In the event of lengthier interruptions, procedures exist for tank drainage and equipment and pipeline flushing and decontamination

SDGM undertakes cyanide facility inspections on an established frequency to assure and document that they are functioning within design parameters.

Inspections are broadly divided into Operational Inspections and Maintenance Inspections. Operational inspections are focused upon operating parameters, but also require inspection of equipment and infrastructure. Maintenance inspections are focused more specifically upon equipment and infrastructure within a specific cyanide facility. The frequency of inspections is designated with the Cyanide Management Plan for Operational inspections, and within the Preventative Maintenance System for maintenance inspections.

Operational and Maintenance Area inspections occur monthly and focused on cyanide facility areas, with maintenance inspections occurring at a range of frequencies determined by equipment requirements and risk, and focused on equipment and infrastructure.

In addition to internal inspections, SDGM utilises third party experts to conduct specialised inspections, including but not limited to; annual Tailings Storage Facility audits; specialised internal and external inspection of tanks for corrosion, metal thickness, and other parameters; secondary containment and infrastructure concrete condition, and annual inspection/audits of Cyanide Unloading and Storage Area by the Cyanide Producer.

SDGM carries out inspections on the following at unloading and storage and process areas, as applicable for the site: Tanks holding cyanide solutions for their integrity and signs of corrosion and leakage; Secondary containments for their integrity, the presence of fluids and their available capacity, and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment; Leak detection and collection systems at leach pads and ponds, as required in the design documents; Pipelines, pumps and valves for deterioration and leakage; and Ponds and impoundments for the parameters identified in their design documents as critical to their containment of cyanide and solutions and maintenance of the water balance, such as available freeboard and integrity of surface water diversions.



Inspections are documented, including the date of the inspection, the name of the inspector, and any observed deficiencies. The nature and date of corrective actions are documented and records are retained. A cross-section of completed inspection forms were reviewed and found to be consistent with stated requirements. Site electronic storage of inspections was verified.

SDGM continue to implement and document preventative maintenance programs and activities to ensure that equipment and devices function as necessary for safe cyanide management.

A detailed demonstration of the Preventative maintenance system was provided. During the demonstration, a cross-section of cyanide-specific equipment was interrogated and maintenance plans and records verified. Existence of prompting of preventative maintenance tasks, planning, scheduling, execution, and close-out was verified.

The existence of Maintenance inspection and Work Order Field Sheet records spanning the recertification period was verified.

SDGM has necessary emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power is interrupted. The back-up power generating equipment maintained and tested.

SDGM continue to maintain 3 power stations; 1 power station is diesel fueled with the other 2 power stations fueled by liquefied natural gas. A total of 26 separate generator sets (11 diesel & 15 liquefied natural gas) provides significant redundancy. LNG is supplied to the power station via the Eastern Goldfields Pipeline.

The existence of maintenance and testing records for Power Generators spanning the recertification period was verified.

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## Standard of Practice 4.2:

Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

	☑ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.2
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.2: Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

SDGM 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.

SDGM continue to conduct routine testwork and implement standard operating procedures to optimise cyanide addition rates.

Third party metallurgical testwork is undertaken to characterise potential new ore sources and for evaluation of leaching parameters and cyanide consumption.

Operational evidence of optimisation of cyanide addition rates was observed during field inspections and found to exist within operational records within logsheets and operating reports.

To improve control and management of weak acid dissociable (WAD) cyanide concentration in the tailings process stream discharging to the Tailings Storage Facility, SDGM have implemented routine WAD cyanide analysis for metallurgical testwork programs, and installed an on-line automated on-line WAD cyanide analysis system that provides continuous sampling, assaying and reporting of the final tailings stream.

SDGM has evaluated various control strategies for cyanide additions.

Plant metallurgists routinely evaluate control strategy variables such as cyanide dose points and cyanide dose ratios, using the Supervisory control and data acquisition (SCADA) interface, on-line free cyanide analyser, and on-line WAD cyanide analyser, to optimise cyanide dosing.

SDGM has implemented a strategy to control cyanide addition.

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The cyanide addition strategy is articulated in both the Cyanide Management Plan and the Daily Leach Cyanide Management Guidelines.

Metallurgical evaluation of cyanide optimisation strategies occurs daily to optimise leaching conditions. Parameters evaluated include pH, free and WAD cyanide concentration, water salinity, residence time, dissolved oxygen concentration and slurry density.

SDGM Process Supervisors and Process Technicians demonstrated a strong understanding of the existing cyanide control strategy and importance of optimising cyanide consumption, consistent with SDGM procedures and work instructions.

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#### Standard of Practice 4.3:

Implement a comprehensive water management program to protect against unintentional releases.

	☑ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.3
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

SDGM continue to implement a comprehensive water management program, utilising a number of complementary management plans, operating manuals and standard operating procedures. Key overarching documents include the probabilistic Site-wide water balance and model, Water Management Plan and Flood Management Plan, within which storage capacity and freeboard are stipulated. The SDGM Cyanide Management Plan references these documents and summarises the management strategy and procedures to ensure compliance with Code requirements.

SDGM has developed and continue to utilise a comprehensive, probabilistic Site-wide water balance and model. The model was developed by a Third party Expert Hydrogeology Consultant, and allows the user to run different scenarios and assess the impacts of the water balance and the water levels on the storm water storage pond. The model was developed in 2006, and has been recalibrated and updated in 2010, 2014 and 2020. The model was routinely run on quarterly input data from Q1 2014 to Q3 2020, encompassing seasonal simulations spanning the recertification period.

The Probabilistic Water Balance considers the following aspects in a reasonable matter as appropriate for the facilities and environment: the rates at which tailings are deposited into tailings storage facilities; a design storm duration and storm return interval that provides a sufficient degree of probability that overtopping of the pond or impoundment can be prevented during the operational life of the facility; the quality of existing precipitation and evaporation data in representing actual site conditions; solution losses in addition to evaporation, such as the capacity of decant, drainage and recycling systems, allowable seepage to the subsurface; the effects of potential power outages or pump and other equipment failures on the emergency



removal of water from a facility; tailings density, borefields water supply, and process water requirements.

The Probabilistic Water Balance Model developer notes within the model development reports that that surface run-on considerations are not applicable due to water diversion; freeze and thaw effects are not applicable due to climatic conditions, the capacity and on-line availability of necessary treatment, destruction or regeneration systems is not applicable as there is no discharge to surface water from SDGM cyanide facilities; and the assumed phreatic surface in the Central Thickened Discharge Tailings Storage Facility does not affect the water balance at SDGM.

SDGM Operating procedures incorporate inspection and monitoring activities to implement the water balance and prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment. The SDGM Cyanide Management Plan summarises the management strategy and procedures to ensure compliance with Code requirements. SDGM utilise several key overarching management documents, including the Water Management Plan, Flood Management Plan, Site-wide Probabilistic Water Balance, and Daily Water Balance. SDGM undertake a number of relevant routine inspections and monitoring activities, including Process Ponds, the Central Thickened Discharge Tailings Storage Facility, the paddock Tailings Storage Facility, and other Ponds.

The SDGM TSF's undergo a third-party technical audit on an annual basis.

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

SDGM limits surface run-on from upgradient watersheds to defined cyanide facilities and infrastructure, via the utilisation of a network of engineered drainage diversion channels and bund walls.

SDGM has an overarching Site-wide Probabilistic Water Balance that is periodically revised by Third party Expert Hydrogeologists. Key supplementary management plans that stipulate storage capacity and freeboard are the Water Management Plan and Flood Management Plan. In addition to multiple operational checks and inspections as noted, the Central Thickened Discharge Tailing Storage Facility (CTD TSF) is subject to a third-party audit on an annual basis.

A Third party Expert Consultant undertakes the design and upgrades of the Central Thickened Discharge Tailing Storage Facility (CTD TSF). The design of the stormwater pond is based on the modelling outcomes with the objective of containing all decant and rainfall run-off water, with no release to the external system. The design is based on a 1 in 100-year 72-hour 180 mm storm event. The water balance model, specifically



established for the CTD TSF, simulates the changing character of the tailings storage facility as residue deposition continues and relates this to the full rainfall records.

SDGM measures precipitation and compares results to design assumptions, with revision of operating practices as necessary.

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## Standard of Practice 4.4:

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

	oxdot in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.4
	$\hfill\Box$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.4: Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

SDGM operates a Central Thickened Discharge Tailings Storage Facility (CTD TSF) where final tailings slurry discharge has a cyanide concentration typically greater than 50mg/l WAD cyanide. Hypersaline (>50,000mg/l total dissolved solids or TDS) water contained in tailings provides a protective mechanism for birds and other wildlife when WAD cyanide levels in tailings are in excess of 50mg/l.

SDGM continue to maintain an electric fence installed around the CTD TSF to restrict access of terrestrial wildlife. Locked access gates remain in place to prevent unauthorised entry to the CTD TSF and associated cyanide facilities.

SDGM's existing operating conditions for salinity and WAD cyanide concentration in final tailings slurry discharge to the CTD TSF consist of a minimum salinity concentration of 50,000 mg/l total dissolved solids (TDS), a maximum cyanide concentration of 125.5 mg/l WAD cyanide, and a maximum 80th percentile cyanide concentration of 100 mg/l WAD cyanide, which has been demonstrated by a peer-reviewed scientific study to be protective of wildlife.

With the exception of numerical exceedances discussed below, SDGM has continued to operate in accordance with site specific Operating Conditions required to demonstrate the continued existence of the hypersaline protective mechanism.

During the recertification period, SDGM constructed and commissioning a new Unit Processing Facility, consisting of a flotation circuit and Ultra-fine Grind (UFG) circuit, with associated reagent storage and distribution, air and water services. The project is referred to as the Recovery Enhancement Project (REP). As a result of the commissioning and initial operation of the REP facility, SDGM immediately detected

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through routine monitoring an increase in WAD cyanide concentrations in the final tailings slurry discharge to the CTD TSF.

The period leading up to, during, and after the exceedances, which spans the recertification period, can be chronologically summarised as follows:

The matter was raised in the REP Hazard and Operability Study (HAZOP) during project design. The matter was referred to two auditors prior to construction. These two steps did not identify the potential for WAD cyanide concentration increases in tailings slurry discharge. Upon commissioning of the REP facility, SDGM's routine monitoring immediately detected that a final tailings WAD cyanide excursion existed. SDGM referred to their Cyanide Management Plan for actions. The actions were not successful in eliminating the exceedances. SDGM elevated the matter through internal procedures, consulted external subject matter expert consultants, and informed an Auditor of the excursions. The matter was technically resolved internally, and SDGM has subsequently demonstrated 16 months of continuously compliant data.

A total of 25 daily exceedances of the 125.5 mg/l maximum WAD cyanide operating condition during period 31 October 2018 to 14 June 2019. A total of 5 consecutive exceedances of the seasonally assessed 80th percentile 100mg/l WAD cyanide operating condition during the period 01 June 2018 to 21 August 2018.

There were zero occurrences of final tailings salinity concentration at or below 50,000 mg/l TDS, and thus salinity operating conditions were met at all times during the recertification period.

All WAD cyanide exceedance events were individually logged and documented within SDGM's incident reporting system. SDGM subsequently implemented an escalating series of operational and technical actions to address the exceedances, using existing management plans and procedures.

In parallel with technical investigations and operational actions, wildlife monitoring frequency was increased, both by trained site personnel and third party wildlife experts.

A Third Party Expert Wildlife Consultant visited site to review status and determine the risk to wildlife or impact to the environment. They concluded that on-site wildlife monitoring at the CTD TSF was demonstrated as being conducted and capable of recording wildlife of interest, that no mortalities have been recorded by either site or Expert Consultant observation, and that it is clear that there was not and is not an ongoing wildlife mortality issue at the CTD TSF, although occasional deaths may have occurred and been undetected (despite intensive monitoring and periodic decoy wildlife carcass monitoring programs).



SDGM conducted a Major Incident Investigation, utilising AngloGold Ashanti's internal investigation process. The report concluded that that further technical work was required to identify the root cause of the WAD cyanide exceedances in the final tailings slurry. The Root Cause Analysis identified two root causes related to limited technical information at the time of design, commissioning and hazard evaluation; and limited emphasis with SDGM's Management of Change procedure on WAD cyanide concentration in the final tailings with specific reference to compliance with the International Cyanide Management Code.

On the basis of the Major Incident Investigation and the Root Cause Analysis, SDGM implemented actions including modification of the Management of Change procedure to specifically consider the risk of elevated WAD cyanide concentration in tailings discharge, training for Managers and Supervisors in the Management of Change procedure, and implementation of WAD cyanide analysis of leach tailings in routine and investigative leach testwork.

SDGM metallurgists have technically established that whilst elevated WAD cyanide concentrations in final tailing slurry is influenced by multiple factors, the most significant two factors are sulphide mineral oxidation rates and copper sulphate addition rates. SDGM have technically addressed the issue via elimination of copper sulphate addition, and improved process control.

Since technical resolution of the issue by SDGM metallurgists in July 2019, SDGM have demonstrated continuous compliance with all daily and seasonal operating conditions. SDGM has provided updated information demonstrating continuous compliance with all daily and seasonal operating conditions for a period of 16 months.

To address the risk of future exceedances, SDGM have installed an automated on-line WAD cyanide analysis system that provides continuous sampling, assaying and reporting of the final tailings stream, and revised operating and monitoring procedures relevant to management of WAD cyanide concentrations.

SDGM routinely arranges for Third party Expert Assessment of Compliance with Standard of Practice 4.4 and site specific protective (Hypersalinity) conditions. The frequency of these assessments were increased from annual to quarterly and in some cases monthly to ensure ongoing compliance with operating conditions.

SDGM continue to conduct prescribed daily wildlife observations inspections by personnel trained in site-specific wildlife observation by recognised third party wildlife experts, and continue to utilise recognised third party wildlife experts to conduct periodic intensive diurnal wildlife monitoring.

SDGM continue to implement internal decoy carcass detection programs, and to utilise recognised third party wildlife experts to review efficacy of ongoing programs,



conduct further intensive site carcass detection programs, and evaluate wildlife mortalities within cyanide facilities.

No significant wildlife mortality in open waters was observed via either local observation or intensive expert third party wildlife monitoring during the recertification period. This included the period during which SDGM experienced exceedances in WAD cyanide maximum operating conditions (September 2018 – August 2019), during which the frequency of both internal and third party expert wildlife observations were significantly increased.

There were no recorded wildlife mortalities where cyanosis was identified as the cause of death.

In reference to the WAD cyanide exceedances, SDGM is found in full compliance on the basis that it immediately identified WAD cyanide exceedances in final tailings, implemented an escalating series of operational and technical actions to address the exceedances, followed internal procedures and processes to mitigate risk, increased the frequency of wildlife monitoring, conducted a thorough investigation and root cause analysis, technically resolved the cause of the exceedances, presented 16 months of continuously fully compliant data since technical resolution, implemented actions identified by the investigation and root cause analysis to prevent reoccurrence of exceedances, and there were no recorded wildlife mortalities during the periods of exceedance where cyanosis was identified as the cause of death.

There are no heap leach facilities at SDGM.

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## **Standard of Practice 4.5:**

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

	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 4.5
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.5: Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

SDGM continue to have no direct or indirect discharge to surface water from any defined cyanide facility.

SDGM monitors groundwater downgradient of cyanide facilities via a network of monitoring bores, which are strategically located downgradient of the Processing Plant and the CTD TSF.

SDGM has a licence to discharge de-watering mine water to the adjacent hypersaline ephemeral lake (Lake Carey). The mine water system is completely separate from all cyanide facilities. As a precaution, SDGM routinely assays this discharge for several analytes including WAD cyanide concentration, and reports these results to the applicable legislative jurisdiction and within the SDGM Annual Environmental Report. Verified assay results remain below the WAD cyanide detection limit.

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## **Standard of Practice 4.6:**

Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.6
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.6: Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

SDGM implements specific water management or other measures to manage seepage to protect the beneficial use(s) of ground water beneath and/or immediately down gradient of the operation.

Seepage water management measures include underdrainage, interception trenches, monitoring bores, and recovery bores. The existence of seepage interception trenches, monitoring bores, and production bores was verified during field inspections.

There is no defined beneficial use of ground water, which is hypersaline.

There is no numerical limit specified for WAD cyanide concentration at defined groundwater compliance points for the SDGM prescribed premises licence. Irrespective, SDGM choose to operate at an internal limit of 0.5mg/l WAD cyanide, with defined actions triggered when any monitoring bore sample returns a cyanide concentration assay equal to or greater than 0.35 mg/l WAD cyanide.

SDGM monitor and report ground water quality on a quarterly basis to the local jurisdiction – the Western Australian Government Department of Water and Environmental Regulation. Groundwater quality, including WAD cyanide concentration, is also reported on an annual basis within SDGM's Annual Environmental Report, which is submitted to the Western Australian Government Department of Water and Environmental Regulation.

The cyanide concentrations in monitoring bores continue to be below detection limit in most instances, with the highest recorded concentration during the recertification being 0.027mg/I WAD cyanide.



SDGM operated a Paste Fill Plant during the recertification period, utilizing mill tailings as underground backfill. The plant was put into care and maintenance status in April 2020, and remains so. The Paste Fill Plant utilised historical dry tailings with relatively low cyanide concentrations, with testing confirming that the paste concentration was less than 0.5mg/l WAD cyanide, and hence the Paste Plant was not classified as a cyanide facility. Irrespective, hydrogen cyanide personal monitors were used during backfill operations. SDGM has committed to continued monitoring of cyanide concentrations in mill tailings, and the use of personal hydrogen cyanide monitors during backfill operations, in the event that the Paste Fill plant is recommissioned.

Seepage from the operation has not caused cyanide concentrations of ground water to rise above levels protective of beneficial use.

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## Standard of Practice 4.7:

Provide spill preven	tion or containment measures for pro	cess tanks and pipelines.
	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.7
	$\square$ not in compliance with	

## Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.7: Provide spill prevention or containment measures for process tanks and pipelines.

SDGM continue to provide a number of measures for spill prevention or containment for all cyanide unloading, storage and process solution tanks.

No cyanide mixing tanks exist at SDGM.

SDGM utilise impermeable concrete secondary containment bunds for process solution tanks, including the Cyanide Storage Tanks and Carbon-In-Leach Process Tanks.

SDGM's Carbon-In-Leach process tanks have concrete ring beam foundations with no impermeable barrier between them and the ground. SDGM continue to implement a tank inspection program and leak detection system as spill prevention and detection measures.

SDGM have a defined Carbon-In-Leach Tank Inspection Regime, developed by the Process Plant Maintenance Manager.

Leak detection is provided via four monitoring bores, referred to as Plant Monitoring Bores, which are strategically located adjacent to the Carbon-In-Leach Tanks and within the Processing Plant footprint. SDGM continue to monitor WAD cyanide concentration on a quarterly frequency.

Spill prevention measures include, but are not limited to, weekly Maintenance Tank Area Inspections, monthly Operations inspections of tank areas, including the Cyanide Storage Area and Carbon-In-Leach Tank Area, annual ultrasonic thickness testing of tank shells, detailed internal and external tank inspection and refurbishment conducted on a three yearly frequency by Third Party Specialist Engineers, a Preventative Maintenance Concrete Inspection and Audit Program, and a Preventative Maintenance Concrete Remediation Program.



The Cyanide Unloading Area, including the Cyanide Storage Tanks, is audited annually by SDGM's Cyanide Producer/Transporter.

The Cyanide Storage Tanks were inspected in detail by Third Party Engineering Experts in August 2020.

SDGM monitor and maintain the condition of concrete secondary containments for process tanks, via the implementation of a Concrete Preventative Maintenance Program, which addresses inspection, auditing and remediation of identified concrete deficiencies.

SDGM have developed specific procedures for addressing process solution spills both inside and outside of secondary containment, and for any spills during liquid cyanide unloading.

Cyanide storage tanks have secondary containment concrete bunding suitable to hold at 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.

Cyanide process tanks utilise concrete secondary containments and an unlined Event Pond, which together are suitable 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.

SDGM have provided measurements and calculations demonstrating that the existing secondary containment of the newly constructed REP Circuit, combined with the existing event pond, are suitable to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event. The tanks within the REP circuit that reply on the unlined Event Pond to achieve 110% containment of the tank volume in the event of a spill are the flotation tanks/cells, and the flotation concentrate thickener. The cyanide concentration in these tanks is typically in the range 2-5 mg/l WAD cyanide.

There were two recorded incidents resulting in process solution (slurry) reporting to the Event pond in the recertification period. Neither incident resulted in an encroachment of the required reserved volumetric capacity. Return of collected slurry within the pond was achieved primarily via the installed sump pump, with final clean up carried out under environmental department supervision.

SDGM implement a number of procedures to prevent discharge to the environment of cyanide solution to the environment of cyanide solutions that are collected in secondary containment, including but not limited to; a Cyanide Management Plan, Water Management Plan, and a Flood Management Plan.

SDGM has a number of procedures that are implemented to prevent discharge to the environment of cyanide solutions that are collected in secondary containment,



including a Cyanide Management Plan, Water Management Plan, Flood Management Plan, and emptying Process Water Excursion (Event) Pond Procedure.

SDGM has sump pumps or recovery pumps installed in secondary containments to return slurry or cyanide-contaminated water to the circuit. The use and operation of sump pumps is addressed within Cyanide Unloading procedures, Carbon-In-Leach Circuit Operating Procedures, and the Process Water Excursion (Event) Pond Procedure.

SDGM high level instrumentation and alarms in place for process ponds, and in secondary containments, such that remedial pumping can occur automatically or via Process Technician action.

SDGM provides spill prevention or containment measures for all cyanide process solution pipelines to collect leaks and prevent releases to the environment.

Process solution pipelines within the Process Plant have secondary containment primarily via concrete bunds, and in some cases via pipe-within-pipe containment, with potential spillage draining to a concrete bunded area.

The newly constructed REP circuit has been designed and constructed with spill presentation and containment measures for cyanide process solution pipelines, consistent with existing cyanide facilities.

Pipelines to and from the Central Thickened Discharge Tailings Storage Facility are placed above ground within a soil bunded area. Catchment sumps are located along the length of the bund to contain any spills in the event of a pipe leak. The pipelines have pressure sensors and flowmeters at the pump discharge and Tailings Storage Facility spigot discharge ends of the pipeline providing leak detection and alarming.

No areas exist where cyanide pipelines present a risk to surface water, as no cyanide pipelines exist in areas that may present such risk.

Cyanide tanks and pipelines, including the newly constructed REP circuit, are constructed of materials compatible with cyanide and high pH conditions. The material of construction is mild steel for tanks and thickeners, and mild steel and High Density Polyethylene (HDPE) for pipelines. The processing facilities were constructed in accordance with the relevant Australian Standards, also taking into account Western Australian State Government Dangerous Goods licence requirements.

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## Standard of Practice 4.8:

Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

	oxrightarrow in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.8
	$\square$ not in compliance with	

## Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.8: Implement quality control/quality assurance (QA/QC) procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

The two new facilities constructed during the recertification period were; the Recovery Enhancement Project (REP), consulting of a new plant facility with the unit processes of flotation, high intensity grinding, flotation thickening, and flotation water pre-treatment for cyanide attenuation via peroxide addition; and the Central Thickened Discharge Tailings Storage Facility TSF Stage 10 Expansion and Stage 11 Perimeter Embankment & Causeway Raise.

Quality assurance and quality control programs were implemented for the construction of both new facilities.

Signed As-built drawings exist for both newly constructed cyanide facilities.

The quality assurance and quality control programs for the newly constructed cyanide facilities address the suitability of materials and adequacy of soil compaction for earthworks for fixed plant installations within the Recovery Enhancement Project, and the Central Thickened Discharge Tailings Storage Facility TSF Stage 10 Expansion and Stage 11 Perimeter Embankment & Causeway Raise.

The design and construction reports for the Recovery Enhancement Project address quality assurance and quality control programs including; Inspection and test plans and corresponding reports for Concrete civil works, inspection and test plans and corresponding reports for Structural Steel works, construction and Post Construction Earthworks, and QA/QC testing for welding.

The quality assurance and construction records for the Recovery Enhancement Project includes detailed information on the following categories; Vendor Drawings, Inspection and Test Plans, Manufacturer Data Reports, Miscellaneous Vendor



Information, Field Inspection Records, Completion Certificates, Commissioning Report, and Performance Test Report.

The design and construction reports for the Central Thickened Discharge Tailings Storage Facility works address quality assurance and quality control programs including; geotechnical investigations and testwork, Liquefaction assessment, and stability and Seepage modelling and assessment.

SDGM continue to retain quality control and assurance records for design and construction of cyanide facilities, including Tailings Storage Facilities.

Cyanide Facility construction at SDGM has been reviewed by appropriately qualified personnel, including construction project managers, certified engineers, and Vendor engineers.

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## Standard of Practice 4.9:

Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

	☑ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 4.9
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 4.9: Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

SDGM has developed and continue to implement a range of written standard monitoring procedures, as summarised in the Cyanide Management Plan.

Examples of procedures, as noted, include Wildlife Cyanosis Monitoring, Water sampling and monitoring, Process Ponds and Tailings Storage Facility sampling and monitoring, Process Plant Daily and Weekly Water Sample Collection Work Instruction, Process Plant Weekly Water Sample Preservation and Dispatch Work Instruction, Weekly Borefields Inspection Work Instruction, Collect Process Water Pond Sample Work instruction, and Bat Monitoring Work Instruction.

The sampling and analytical protocols have been developed by appropriately qualified personnel, being Professionals holding tertiary qualifications in either Chemistry, Environmental Science, or Metallurgy. Protocols take into consideration licensing requirements and Australian Standards for sampling and monitoring.

Analytical techniques have been based on Code and/or Australian Standards and selected in consultation with National Australian Testing Authority (NATA) approved laboratories.

SDGM wildlife monitoring procedures have been developed by Third Party Consultants who are established industry experts in this field. The procedures are developed by tertiary-qualified professionals and in most cases by professionals with Honours degrees or Doctorates.

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



Sampling and observation conditions such as weather, livestock/wildlife activity, and anthropogenic influences are documented in writing, including water sampling conditions that may affect analyses.

SDGM continue to monitor for cyanide in ground water and surface water down gradient of the site.

SDGM continue to have no direct discharge to surface water from any defined cyanide facility.

SDGM inspect for and record wildlife mortalities related to contact with and ingestion of cyanide solutions.

SDGM continue to undertake wildlife monitoring including specific monitoring for wildlife mortalities at the Tailings Storage Facilities and the process water ponds.

SDGM records wildlife incidents and mortalities via an electronic event reporting and safety management software database.

SDGM record, investigate and document wildlife mortalities, including additional analysis and review by Third Party Wildlife Experts.

Monitoring at SDGM continues to be conducted at frequencies adequate to characterize the medium being monitored and to identify changes in a timely manner.

SDGM monitoring frequency is developed based upon legislative licence conditions, expert third party advice, and also upon operational learnings and Code auditing activities.

Daily wildlife monitoring continues to be carried out by trained SDGM personnel, and intensive third party wildlife monitoring, including acoustic bat monitoring, continues to be carried out quarterly.

Mock Testing for wildlife carcasses continues to be carried out monthly by site personnel, and quarterly by Third Party Experts.

Groundwater levels around the Central Thickened Discharge Tailings Storage Facility are monitored monthly, and the ground water quality is monitored quarterly.

Third Party Hydrogeology Experts conduct annual reviews of groundwater monitoring at SDGM, including Borefields, Central Thickened Discharge Tailings Storage Facility and Mining Pits.

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#### PRINCIPLE 5 - DECOMMISSIONING:

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

# **Standard of Practice 5.1:**

•	t procedures for effective decommission that the state of	oning of cyanide facilities to
	$\ensuremath{\square}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 5.1

### Summarize the basis for this Finding/Deficiencies Identified:

 $\square$  not in compliance with

SDGM is in FULL COMPLIANCE with Standard of Practice 5.1: Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

SDGM continue to maintain and revise its closure and decommissioning plans over the period of certification. These plans include the Process Plant, Tailings Storage Facilities and paste fill plant.

A detailed decommissioning schedule has been developed and is periodically revised, including cyanide facility closure planning. The schedule identifies and chronologically details the necessary closure tasks.

The Cyanide Closure Plan (Appendix I of the Mine Closure Plan) was last revised in 2018. The plan includes details for decommissioning activities such as safety management during the decommissioning works, the drawdown of cyanide inventory, environmental management approach, impact assessments and approvals, decontamination of equipment and infrastructure contaminated site assessments, physical removal, dismantling or demolition of facilities, water quality monitoring, groundwater monitoring and management of seepage from the Central Thickened Discharge Tailings Storage Facility.

SDGM continue to annually update cost estimates for closure and decommissioning.



### Standard of Practice 5.2:

Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 5.2
	$\square$ not in compliance with	

### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

SDGM has developed an estimate of the cost to fully fund third party implementation of the cyanide-related decommissioning measures as identified in its closure plan, using a closure plan model.

Financial provisions for decommissioning and closure have been developed. SDGM continue to revise decommissioning costs internally on an annual basis and a third party Consultant review of decommissioning costs is carried out every three years.

The Government of Western Australia replaced mine site bonds with a Mining Rehabilitation Fund (MRF) in 2014. The Fund is managed by the Department of Mines, Industry Regulation and Safety (DMIRS). MRF imposes an annual levy of 1% of the estimated closure costs for rehabilitation of the existing disturbance on tenements. Participation in the Mining Rehabilitation Fund and payment of the levy is mandatory.

SDGM has paid the required levy annually to the Mining Rehabilitation fund based on the annual internal review of the closure costs.

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#### PRINCIPLE 6 - WORKER SAFETY:

Protect workers' health and safety from exposure to cyanide.

## Standard of Practice 6.1:

eliminate, reduce or	control them.	
	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 6.1

Identify potential cyanide exposure scenarios and take measures as necessary to

#### Summarize the basis for this Finding/Deficiencies Identified:

 $\square$  not in compliance with

SDGM is in FULL COMPLIANCE with Standard of Practice 6.1: Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

SDGM has developed written procedures and work instructions describing how all commonly performed cyanide-related tasks are to be conducted to minimise worker exposure, based on the systematic risk assessment. Procedures and work instruction have been developed for cyanide-related tasks such as cyanide unloading, plant operations, entry into confined spaces, spill management and equipment decontamination prior to maintenance. These are stored electronically within SDGM's document control system.

SDGM operational controls have been identified on the basis of a systematic risk management approach.

All SDGM operating procedures and work instructions for cyanide related activities identify PPE requirements, provide specific PPE instructions where appropriate and identify health and safety considerations. Procedures and work instructions include a task preparation section that includes pre-work inspections.

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

SDGM has a Management of Change (MoC) system to trigger and document reviews of proposed process and operational changes and new installations for any potential



impacts on worker health and safety. The MoC system is managed electronically through InControl.

SDGM solicits and actively considers worker input in developing and evaluating health and safety procedures, and when new cyanide related procedures are developed or periodically reviewed. This consultation includes discussing the new or reviewed procedures in Site Safety Committee meetings with safety representatives from all departments, management meetings, safety handover meetings and return to work production and safety meetings. A systematic review is initiated following an incident and this includes a review of relevant procedures with operational personnel provided the opportunity for input.

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### Standard of Practice 6.2:

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

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 6.2
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with 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.

SDGM has determined the appropriate pH for limiting the evolution of hydrogen cyanide gas during production activities. No cyanide mixing facilities exist at SDGM.

SDGM operates its Carbon-In-Leach facilities in the pH range of 8.8 to 9.5 to limit the evolution of hydrogen cyanide gas. The hypersalinity of locally available bore water limits the practical extent to which the slurry pH can be elevated. Daily specific gravity (SG) testing of the process water is undertaken to assist in determining the target pH and quicklime dosing rates in the Carbon-In-Leach circuit. SDGM undertakes a number of routine testwork activities to optimise pH dosing and control, including buffer curve generation, process water salinity, process water specific gravity, protective alkalinity determination and lime consumption. The SDGM Processing Plant utilises both manual and automatic pH measurement, with automatic pH probes installed within four Carbon-In-Leach tanks. Automated control and lime dosing is implemented via process control instrumentation and dosing valves and displayed within the Plant Control operator interface system. The automated analysis is verified via manual pH determinations on a two hourly basis.

SDGM uses both fixed (ambient) and personal hydrogen cyanide monitors to verify that controls are adequate to limit worker exposure to hydrogen cyanide gas from process slurries and solutions and confirm that controls are adequate to limit worker exposure to 10 parts per million on an instantaneous basis and 4.7 parts per million continuously over an 8-hour period. Red emergency flashing beacons are activated if the measured hydrogen cyanide concentration exceeds 4.7ppm. A blue flashing beacon is located at the carbon safety screen to indicate when the acid rinse cycle of the carbon elution sequence is in progress, with a subsequent increased potential for liberation of hydrogen cyanide gas.



No solid cyanide is used at SDGM for ore processing, and hence no monitoring occurs for cyanide dust.

SDGM has identified specific hydrogen cyanide gas risk areas as the top of the Carbon-In-Leach tanks, trash screens and the tailings thickener area. This has been expanded to include the carbon safety screens area. These areas have been identified as having potential to expose workers to hydrogen cyanide gas in excess of 10ppm on an instantaneous basis and 4.7ppm continuously over an 8-hour period.

SDGM procedures require a personal hydrogen cyanide monitor to be carried by all workers or visitors entering or working on the Carbon-In-Leach tanks, at the trash and carbon safety screens and in the tailings thickener area. Signage reminding personnel that they are entering these restricted areas remains in place. Personal hydrogen cyanide monitors continue to be issued in the Process Plant Permit Room and have been set to alarm at 4.7ppm and 10ppm for an instantaneous reading. SDGM procedures require workers are to leave the operating area when a hydrogen cyanide gas reading of 4.7ppm is recorded by either the personal or fixed monitor alarms.

If a personal HCN monitor reaches 4.7ppm, an audible alarm is initiated. If the task can be completed within 15 minutes, the task is completed whilst maintaining vigilance of HCN levels. If the task cannot be completed within 15 minutes, the worker is required to leave the area or fit an appropriate HCN respirator. If at any time the HCN level reaches 10ppm, the worker must immediately leave the area or fit a full face respirator. If at any time the HCN levels exceed 50ppm, the worker must leave the area immediately, then raise an alarm with the Shift Supervisor via radio or telephone.

The Process Plant Induction includes the requirement to report to the SDGM Process Plant Control Room before entering the Carbon-In-Leach area, the requirement for personal hydrogen cyanide monitors and a description of the cyanide monitoring and automated flashing alarm system.

Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records are retained for at least one year. Fixed hydrogen cyanide monitors are calibrated on site by the manufacturer on a sixmonthly basis. Personal hydrogen cyanide monitors are bump tested on site prior to each use. If a personal hydrogen cyanide monitor fails a calibration test, it is serviced by the manufacturer. The manufacturer's test and calibration equipment is tested and calibrated on site by the manufacturer on a six-monthly frequency, synchronised to occur on site at the same time as the six-monthly calibration of the fixed hydrogen cyanide monitors.

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Warning signs are placed at appropriate locations where cyanide is used, including signs that prohibit smoking, eating, drinking, open flames, use of personal hydrogen cyanide monitors and use of suitable PPE.

All cyanide solutions deliver to site contain a Carmoisine red dye added to the solution. Consequently all high strength cyanide solutions on site are identifiable by this red dye.

Low pressure combination Safety shower/ eye wash stations and dry powder fire extinguishers are located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis.

Storage tanks containing high strength (>1%) cyanide solution are identified by a painted lilac band. All piping carrying high strength cyanide solution is labelled "CYANIDE" and is painted lilac in colour. The "CYANIDE" label includes an arrow showing the flow direction.

SDGM also identifies lower strength cyanide process tanks and piping to alert workers of their contents and direction of flow. This is achieved via a combination of signage, labelling, training, and inductions.

SDGM maintains current English language MSDS and first aid procedures at strategic site locations.

In the event of cyanide exposure incidents, SDGM incident investigation procedures include the requirement to evaluate the sufficiency of operational controls, including procedures and training materials to protect worker health and safety and response to cyanide exposure.

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Standard of Practice 6.3

### Standard of Practice 6.3:

The Operation is

Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

in full compliance with

☐ not in compliance with

☐ in substantial compliance with

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 6.3: Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

SDGM has water, oxygen, a resuscitator, and radio and alarm system for communication and emergency notification readily available for use at the cyanide unloading and storage and location and elsewhere in the plant. SDGM has a defined raising of emergency procedure. Audible alarms are established through the process plant to raise the alarm if high hydrogen cyanide gas or other emergencies are triggered, as well as local alarm displays within the Plant Control operator interface system. All personnel carry two-way radios so they can readily report on emergencies.

Potable water, oxygen and resuscitators are located at the cyanide unloading and storage area, Process Plant Control Room, Crusher control Room, Paste Plant, Goldroom and Laboratory. The cyanide antidote kit, which utilises Hydroxycobalamine, is stored in the nearby Process Plant Medical Centre.

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

The cyanide response equipment and the first aid kit contents are inspected monthly. Antidote packages are reviewed annually and replaced as required under a Drug Replacement system with reorder dates specified. Materials such as the cyanide antidote are stored as directed by their manufacturer and are replaced on schedule to ensure that they will be effective when needed. Oxygen resuscitators in field locations are checked monthly by Operations Supervisors, with inspection reports delivered to the Registered Nurse for notation and action as required.



The Cyanide Kit Checklist is completed on a monthly basis by the Site Registered Nurse. The medical oxygen cylinders, resuscitators, ambulance equipment, and cyanide kit are checked on a monthly basis.

Resuscitators are serviced on a six-monthly frequency by an external service provider. Medical equipment within the medical centres is calibrated on a six-monthly frequency by third-party experts, with relevant certification.

On call nursing staff are provided with competency based training in the use of the cyanide antidote kit.

SDGM has developed specific written emergency response plans and procedures to respond to cyanide exposures.

SDGM has a Cyanide Emergency Response Procedure (CERP) and a site wide Emergency Management Plan (EMP) which contain first aid procedures to respond to worker exposure to cyanide. SDGM also has a Cyanide Exposure Treatment on Site Procedure for use in a cyanide exposure incident.

SDGM has its own on-site capability to provide first aid or medical assistance to workers exposed to cyanide.

SDGM has two Medical Centres; one located at the Process Plant, and the other at the nearby Accommodation Village. Each Medical Centres contains medications, medical consumables, trauma medical treatment equipment, two-bed capacity, with ability to extend to three. A registered nurse on 24 hour call is on site at all times, with ancillary support from Emergency Response Team medics with certificate 4 pre-hospital qualifications in health care. The operation's emergency response resources for cyanide exposures include a dedicated ambulance adjacent to the Processing Plant which contains a trauma kit, oxygen resuscitator, and also airway adjuncts for medical administration of oxygen by the Registered Nurse and/or paramedics. A second ambulance is available at the nearby Underground Mine First Aid Clinic.

The cyanide antidote is Hydroxycobalamine, which is held under the care of the Registered Nurse in the Medical Centre. The cyanide antidote is only administered under the supervision of the site registered nurse, in consultation with nominated on-call medical doctors or qualified medical personnel from the Royal Flying Doctor Service.

SDGM has developed procedures to transport workers exposed to cyanide to locally available qualified off site medical facilities.

Transportation of a cyanide exposure patient to a medical facility is considered in the Cyanide Emergency Response Procedure and the preferred method of medivac for a cyanide exposure patient would be by air to Perth using the Royal Flying Doctor Service.



SDGM has a formalised arrangement with Laverton Hospital which has been notified of the potential for cyanide-related exposures. Communication with Laverton hospital regarding emergency planning is managed through the Shire of Laverton Local Emergency Management Committee (LEMC) of which SDGM and Laverton Hospital are a part. Meetings are regularly held and attended by SDGM representatives. The Royal Flying Doctor Service has been notified of the potential for cyanide-related exposures and has the capability and resources to respond to a cyanide related exposure.

SDGM tests response procedures for various cyanide exposure scenarios through periodic mock cyanide emergency drills which involve emergency response personnel, plant personnel and medical staff. Emergency Response Debriefs are conducted following each drill to identify deficiencies and lessons to be learnt.

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#### PRINCIPLE 7 - EMERGENCY RESPONSE:

Manage Protect communities and the environment through the development of emergency response strategies and capabilities.

### **Standard of Practice 7.1:**

Prepare detailed en	nergency response plans for potential	cyanide releases.
	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.1
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

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

SDGM has a Cyanide Emergency Response Procedure (CERP), a site wide Emergency Management Plan (EMP) and a Crisis Management Plan to guide responses to cyanide emergencies. The Cyanide Emergency Response Plan provides additional detail to the Emergency Management Plan specifically for responding to cyanide related emergencies.

The Cyanide Emergency Response plan considers the following potential cyanide failure scenarios appropriate for its site-specific environmental and operating circumstances: Transportation accidents, Release during unloading, Release during fires and explosions, Pipe and tank ruptures, Overtopping of ponds and impoundments, Power outages and pump failures, Uncontrolled seepage, and Failures of tailing impoundments.

The Cyanide Emergency Response Procedure includes Pre-Incident Plans that covers all of the potential cyanide failure scenarios appropriate for its site-specific environmental and operating circumstances. These scenarios include Cyanide Related Injury; Fires Involving Cyanide; Liquid Spills Outside the Bunded Area; Cyanide Related Transport Incidents; and Release if Cyanide Gas Greater Than 50ppm. A flowchart is included in the Cyanide Emergency Response Procedure to guide actions and identify the correct Pre-Incident Plan to use. These provide decision-making guidance and



include specific steps or actions to be taken for each scenario. No fixed cyanide destruction or recovery systems exist at SDGM.

These plans have been reviewed and revised where appropriate over the period of certification in response to changes to organisational structure, review of risk registers, specific risk analyses and outcomes from emergency drills. The Emergency Response Team (ERT) has an Emergency Response Team Procedures Manual which provides details on response to cyanide incidents and cyanide related injuries.

On-site and near site transportation incidents are considered by a Pre-Incident Plan within the Cyanide Emergency Management Plan. For off-site transportation incidents, emergency response would be coordinated and conducted by and under the Producer/Transporters' emergency management procedures with support from SDGM dependant on incident location. SDGM has Mutual Aid Agreements with other mine sites in the WA Northern Goldfields in relation to responding to off-site transportation incidents.

The SDGM Emergency Management Plan, Cyanide Emergency Management Plan, and the Emergency Response Team Procedures Manual all describe response actions for clearing site personnel from the area of exposure. The SDGM Cyanide Treatment on Site Procedure includes a flowchart for first aid response and the use of cyanide antidotes and the Cyanide Emergency Management Plan contains a Pre-Incident Plan for a cyanide related injury and a Pre-Incident Plan for Liquid Spills Outside a Bunded Area.

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### Standard of Practice 7.2:

Involve site personn	nel and stakeholders in the planning pr	ocess.
	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.2
	$\square$ not in compliance with	

### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 7.2: Involve site personnel and stakeholders in the planning process.

SDGM has involved its workforce and stakeholders, including potentially affected communities, in the cyanide emergency response planning process.

Whilst there is no potentially affected local community, an AGAA representative visits the Laverton Cross Cultural Association (LCCA) and the Paakanu Aboriginal Corporation on a monthly basis, providing a forum for involvement should the need arise.

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

SDGM has involved local response agencies such as outside responders and medical facilities in the cyanide emergency planning and response process.

SDGM is a member of the Laverton Shire Local Emergency Management Committee (LEMC) which includes the Laverton Shire Council, Laverton Police, Government of Western Australia Department of Fire and Emergency Services (DFES), Laverton Hospital and local mining operations. Members of the Laverton Shire Local Emergency Management Committee are advised of cyanide operational and transport risks through formal communication of the emergency response plans and involvement with emergency planning exercises. SDGM engages with the Laverton Shire Local Emergency Management Committee membership through regular meetings and periodic mock drills.

Mutual Aid Agreements with nearby mine sites also provide opportunities to involve stakeholders in the cyanide emergency response planning process.



SDGM's workforce continue to be involved in the emergency planning process, including participation in annual Emergency Management Plan reviews and mock drill exercises.

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# **Standard of Practice 7.3:**

Designate appropriate personnel and commit necessary equipment and resources for emergency response.

	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 7.3
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

The SDGM Emergency Management Plan and the SDGM Cyanide Emergency Response Plan, in relation to cyanide elements of the plans, designate primary and alternative emergency response coordinators who have explicit authority to commit the resources necessary to implement the plans; identify emergency response teams, require appropriate training for emergency responders, include call-out procedures and references to 24-hour contact information for the coordinators and response team members; specify the duties and responsibilities of the coordinators and team members; list emergency response equipment, including personal protection gear, on site; include procedures to inspect emergency response equipment to ensure its availability; and describe the role of outside responders, medical facilities and communities in the emergency response procedures.

SDGM's Emergency Management Plan describes and identifies the roles, responsibilities and call out procedures for emergency response coordinators and team members. An Emergency Response Flowchart within the plan is utilised to clarify procedures. The Emergency Management Plan requires appropriate training for emergency responders.

The On Scene Command Team (OSCT) is required to immediately respond to a cyanide related emergency. The Emergency Response Team forms part of the OSCT. The Emergency Response Team Captain reports to and receives guidance from the On Scene Commander (OSC). The Incident Management Team (IMT) provides support to the OSCT and through the Incident Controller manages all aspects of an emergency. The General Manager or deputy assumes the role of Incident Controller and has overall authority and responsibility. The SDGM Emergency Management Plan utilises Duty Cards and Activation Packs to facilitate speed and effectiveness of response and clarification of roles and responsibilities.



SDGM continue to maintain a comprehensive range of emergency equipment and resources, details of which are provided in the Emergency Management Plan. A list of emergency equipment is maintained electronically in InControl. The Emergency Management Plan includes procedures to inspect emergency response equipment to ensure its availability.

SDGM continue to involve local response agencies, such as the Royal Flying Doctor Service, nearby mine Emergency Response Teams, and Government of Western Australia Department of Fire and Emergency Services (DFES) in emergency response planning and mock drills as necessary. Outside entities are familiar with SDGM's Emergency Management Plan for cyanide emergencies via the Laverton Emergency Management Committee (LEMC) which includes the Laverton Shire Council, Laverton Police, Government of Western Australia Department of Fire and Emergency Services, Laverton Hospital and local mining operations.

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# **Standard of Practice 7.4:**

or internal and external emergency i	iotification and reporting.
$oxedsymbol{ec{oxed}}$ in full compliance with	
$\square$ in substantial compliance with	Standard of Practice 7.4
$\square$ not in compliance with	
	<ul><li>☑ in full compliance with</li><li>☐ in substantial compliance with</li></ul>

### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

The SDGM Emergency Management Plan and Cyanide Emergency Response Plan include procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the cyanide emergency.

SDGM's Emergency Management Plan describes the requirement and procedures to notify external emergency support services, which includes notification of external support agencies such as the Royal Flying Doctor Service, Laverton Police, Government of Western Australia Department of Fire and Emergency Services (DFES), Laverton Hospital and the surrounding communities.

SDGM maintains a list of the internal and external emergency contacts, including details for the AGAA Crisis Management Team, key SDGM personnel (including offsite contact details), local and regional fire officers, police, hospitals, governmental agencies and departments and supplier/contractors. This list is updated and disseminated to all Departments on a monthly basis by the Emergency Response and Safety Advisor.

The SDGM Emergency Management Plan contains communication protocols for media interaction and Next-of-Kin notification and management.

SDGM's location is remote from communities so incidents occurring on-site would not affect or require community communications. Whilst there is no potentially affected local community, an AGAA representative regularly liaises with and has contact details for members of the Laverton Cross Cultural Association (LCCA) and the Paakanu Aboriginal Corporation, providing a means of notification should the need arise.



### 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.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 7.5
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with 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.

SDGM's Cyanide Emergency Response Procedure (CERP) and the Emergency Response Team Procedures Manual both contain procedures on the recovery and neutralisation of spilled materials containing cyanide and also management and disposal of contaminated soil and clean up materials. The operation also has a Cyanide Spill Response Process Procedure and a Cyanide Spill Response Work Instruction to guide cyanide spill response actions. There is no beneficial use of groundwater at or near SDGM, and as such provision of alternate drinking water supply is not applicable.

The Cyanide Emergency Response Procedure identifies and describes the environmental considerations for a range of emergency scenarios including tailings release and cyanide spills and specifically describes the remediation actions, including material disposal, sampling, monitoring and reporting.

SDGM's cyanide spill procedures provide instructions on where the neutralizing chemical is stored, how it is prepared and applied to the spill, a guide as to the quantity of neutralizing chemical to apply, based upon the volume and concentration of the cyanide spill, and treatment and excavation of contaminated soil.

The Cyanide Spill Response Work Instruction contains a detailed 32-step set of instructions for the complete cyanide spill response, clean-up and sign-off procedure, including photographs and diagrams for each step.

The Emergency Management Plan, Cyanide Emergency Response Procedure and Emergency Response Team Procedures Manual all identify the potential for adverse environmental impacts if ferrous sulphate enters a waterway or stormwater drain include statements precluding the use of ferrous sulphate in waterways.



The Cyanide Emergency Response Procedure identifies sampling requirements of all cyanide liquids released during emergencies and of the ground covered by the release. The Environmental Coordinator must be notified in all instances of cyanide related spills and they will provide specific environmental advice regarding the testing, recovery and disposal of environmentally affected areas. The Emergency Response Team Procedures Manual includes requirements to carry out material neutralisation and recovery.

There are no drinking water supplies near SDGM that could come into contact with cyanide at the site.

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## **Standard of Practice 7.6:**

Periodically evaluat needed.	e response procedures and capabilitie	s and revise them as
	$\ensuremath{\square}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 7.6
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

SDGM continue to review and evaluate the cyanide related elements of its Emergency Response Plan for adequacy on a regular basis.

The SDGM Emergency Management Plan and Cyanide Emergency Response Procedure are located in the SDGM Event Reporting and Safety Management Database, and a document review is triggered by this system. For the Emergency Management Plan the document footer identified a five yearly review period with the next review scheduled in 2025. For the Cyanide Emergency Response Procedure the document review period is annual. A review of the Emergency Management Plan and or Cyanide Emergency Response Procedure may also be triggered by an emergency response call-out or incident in which a deficiency in the document was identified in the debrief or investigation (where warranted). When incident investigations involving cyanide recommend a change to any section of the Cyanide Emergency Response Procedure and/or Emergency Management Plan then that section would be reviewed. No cyanide related emergencies were recorded in the recertification period.

SDGM conducts mock cyanide emergency drills periodically as part of the Emergency Response Plan evaluation process.

SDGM conducted a number of emergency drills involving cyanide during the audit period for cyanide spill and worker exposure to cyanide scenarios. Mock drills are scheduled in INX on an annual basis with workflow reminders sent to the nominated responsible person. Cyanide Emergency Drill Debrief documentation was produced for each of the drills and included: the scenario and relevant Pre-Incident Plan being simulated; participants; action logs for the drill; debrief notes that include adequacy



of the response according to relevant categories; problems identified; recommendations; and notes and comments.

If a recommendation resulting from cyanide related mock drill recommends changes to or a review of the Emergency Response Plan then the SDGM Emergency Management Plan is updated.

SDGM has provisions in place to evaluate and revise the Emergency Response Plan after any cyanide related emergency requiring its implementation. During the recertification period, there were no cyanide related emergencies that required the implementation of the Emergency Response plan.

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#### PRINCIPLE 8 - TRAINING:

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

## **Standard of Practice 8.1:**

Train workers to un	derstand the nazards associated with	cyaniae use.
	$oxedsymbol{arDelta}$ in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 8.1
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

SDGM continue to train all personnel who may encounter cyanide in cyanide hazard recognition.

All personnel who undertake work in cyanide areas must complete cyanide awareness training including short term contractors. The training package is provided by cyanide suppliers AGR. The Cyanide Awareness training includes information on liquid sodium cyanide, the health effects of cyanide, symptoms of cyanide exposure and procedures to follow in the event of exposure.

All employees and contractors who visit or undertake any work at SDGM must complete the General Site Induction which includes basic cyanide awareness, first aid, emergency response and hazard recognition. SDGM Process plant employees, maintenance, environmental and warehouse personnel, and emergency response team members who access the plant must complete a Plant Induction which also includes training in Cyanide Awareness.

SDGM utilise dedicated commercial software database systems to manage training and track competencies, compliances and procedures.

SDGM periodically conduct cyanide hazard recognition refresher training.

Cyanide Awareness refresher training is required on an annual basis for all personnel working in cyanide areas including the process plant.



SDGM retains training records, including those for cyanide hazard recognition and refresher training for cyanide hazard recognition.

Training records are retained and stored within SDGM's dedicated training software database systems.

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### Standard of Practice 8.2:

Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

	$\ensuremath{ arnothing}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 8.2
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

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

SDGM conducts operational training for all workers performing cyanide-related tasks including normal production tasks, including but not limited to: cyanide delivery, Carbon-In-Leach and leach operations, control room operations, water management, tailings management, pump operations, permits to work, isolation and tagging, hydrogen cyanide monitoring, carbon management, elution, cleaning of filter baskets, heat exchanger cleaning, carbon handling and cyanide spill response.

Training materials and document templates are accessed by employees and trainers via the SDGM electronic information Kiosk. The documents are controlled through SDGM's internal electronic information management systems.

Task training requirements or competencies are allocated to workers as a suite depending on the role.

SDGM utilise dedicated commercial software database systems to manage training and track competencies, compliances and procedures.

Training competency status reports can be produced for individuals or matrices can be generated by department, Mill Team (Crew) or other groupings. Matrices are generated on monthly basis and reviewed by managers/ supervisors to plan training for the month ahead. The process superintendent ensures that tasks are only undertaken by trained personnel and that teams have the competencies required. Personnel who are not recorded as competent for specific work tasks must be supervised by a competent operator until training and Verification of Competency (VOC) in that work task is completed.

Training materials used at SDGM identify the training elements necessary for each job involving cyanide management.

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SDGM use formal training modules with workbooks and assessments as part of the training materials for all jobs in the process plant including cyanide management tasks. The training modules identify the training elements necessary for each job and work instructions provide guidance for specific tasks. Theoretical training modules contain a written assessment which is assessed by the trainer who deems the trainee as competent or not.

SDGM use appropriately qualified personnel to provide task training related to cyanide management activities.

The SDGM Processing Department trainers and assessors hold formal qualifications and or relevant certificates in training and assessment.

Employees at SDGM are trained prior to working with cyanide.

SDGM has a Training Management Plan that outlines the training management system. This includes the requirement to conduct training and assessment for the identified training needs specific to a role. In relation to cyanide the tasks requiring training have been identified and are allocated to roles for workers operating in cyanide areas which includes processing and maintenance personnel. This includes training in cyanide delivery, Carbon-In-Leach and leach operations, control room operations, water management, tailings management, pump operations, unplanned shutdowns, permits to work, isolation and tagging, hydrogen cyanide gas monitoring, cyanide spill response, and first responder. Personnel from other departments may also require task training for cyanide tasks as identified by the Department Management and the Training Department. Emergency Response Team members are trained in Spill Response and Cyanide Incident First Responder. Training Plans are developed for new personnel which identify the competencies, courses and programs that need to be undertaken, when they are scheduled and track progression as they are completed.

SDGM provide refresher training to ensure that employees continue to perform their jobs in a safe and environmentally protective manner.

Refresher training is undertaken for key induction, and cyanide-related tasks at periods set in the Training Management System which are typically between 1 and 5 years depending on the risk profile of the task. Training matrices are generated on monthly basis and reviewed by managers or supervisors to plan refresher training for the month ahead.

All personnel in the process plant are required to have successfully completed the General Induction and Plant Induction including Cyanide Awareness training before commencing work in the plant. Processing personnel who undertake wildlife monitoring are trained in the wildlife monitoring techniques and identification.



SDGM evaluate the effectiveness of cyanide training by competency testing, task observation, and safety interactions.

Training effectiveness is evaluated by competency testing upon completion of training and task observations and safety interactions undertaken formally and informally by Supervisors and Training Assessors. Safety interactions during training effectiveness are captured via the SDGM Event Reporting and Safety Management Software Database System, where a specific safety interaction input is utilised.

Competency in task training is verified by theoretical and/or practical assessment with each signed off by the trainer who verifies that the trainee has an appropriate understanding of the training materials. Task observation are conducted for new employees and employees learning new tasks. Task observations are conducted by experienced personnel 'shadowing' the trainee over time until the trainee has demonstrated an ability to perform the task to the trainer's satisfaction.

SDGM uses 'Safety Interactions' as a tool to observe task performance and provide feedback to employees. Safety Interactions can be an informal or formal process which involve group talk, controls, task performance and Job Hazard Analysis as required. Risk assessments are completed for cyanide related tasks on a periodic basis to assess the effectiveness of training modules in controlling safety and environmental risks. Task observations and safety discussions are undertaken formally and informally by Supervisors and Training Assessors. Training materials are reviewed by SDGM according to set periods or in response to incidents.

SDGM retain records throughout an individual's employment documenting the training they receive. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated an understanding of the training materials.

Training records are maintained in the Training Database System in accordance with AngloGold Ashanti records retention procedures, which require retention for a period of 5 years following cessation of employment. Training records reviewed included the name of the employee being trained, the trainer, the date of training and the training topics covered. Training assessments are framed to demonstrate an understanding of the materials and are marked by the assessor.

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### Standard of Practice 8.3:

Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 8.3
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 8.3: Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

Cyanide unloading, production and maintenance personnel at SDGM are trained in in the procedures to be followed if cyanide is released. No cyanide mixing facilities exist at the Operation.

SDGM has a Cyanide Spill Response Process Procedure and a Cyanide Spill Response Work Instruction Procedure. All process plant and maintenance personnel who work in the plant, including those involved in cyanide unloading, are required to complete Cyanide Spill Response training. All Plant and maintenance personnel are also required to complete cyanide awareness training which includes basic first aid, spill clean-up and use of personal protective equipment.

SDGM plant personnel are all trained in Provide First Aid; Cyanide Incident First Responder; Provide Advanced Resuscitation in addition to the Cyanide Awareness training. All maintenance personnel are also trained in Cyanide Incident First Responder and many are trained in Provide First Aid and Provide Advanced Resuscitation. Plant personnel who are first responders are not required to undertake decontamination procedures. First responders are required to notify Mill Control who will call Emergency Response. It is the role of the Emergency Response Team to undertake decontamination procedures. Decontamination Procedures are a core training competency for the Emergency Response Team and is covered in the Emergency Response Team Procedures Manual in Section 9 Cyanide Related Injury and in the Cyanide Emergency Response Procedure in Pre-Incident Plan 1.0.

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

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The training records and competency matrices for the Emergency Response Team members were reviewed, and verified to include mandatory training requirements of skills required to respond to cyanide related emergencies, as described in the SDGM Emergency Management Plan, Emergency Response Team Procedures Manual, and Emergency Response Team skills matrix.

Cyanide specific mock drill scenarios are run annually to test and improve their response skills. Scenarios are based on incidents covered by Pre-Incident Plans in the Cyanide Emergency Response Plan.

All Emergency Response Team members are required to complete training in Cyanide Awareness; Cyanide Incident First Responder; Cyanide Spill Response, and the Plant Induction. The Emergency Response Team has a high compliance rate with this requirement.

Emergency Response Coordinators (or On Scene Commanders) require specific response training relevant to the Emergency Management Plan scenarios including the use of necessary response equipment. This includes training from external providers with appropriate qualifications.

The ERT members undergo weekly training sessions which periodically include core skills for cyanide related scenarios.

Off-site emergency responders are familiar with SDGM's Emergency Management Plan for cyanide emergencies via the Laverton Emergency Management Committee (LEMC) which includes the Laverton Shire Council, Laverton Police, Government of Western Australia Department of Fire and Emergency Services (DFES), Laverton Hospital and local mining operations. The SDGM Emergency Management Plan has been sent to the Laverton Emergency Management Committee and to nearby mining operations in accordance with the Mutual Aid Agreements. SDGM has agreements with Laverton Hospital and the Royal Flying Doctor Service to provide support in the event of a cyanide incident requiring medical attention. The SDGM Cyanide Emergency Response Procedure describes the role of external medical services and other emergency response providers.

Refresher training is required annually for procedures responding to cyanide exposures and releases for all plant personnel and Emergency Response Team members including Cyanide Incident First Responder; Cyanide Spill Response; and Cyanide awareness.

SDGM conducted a number of emergency drills involving cyanide during the audit period for cyanide spill and worker exposure to cyanide scenarios. Five cyanide-related mock drills were conducted in 2020. Mock drills are scheduled in the SDGM Event Reporting and Safety Management Database on an annual basis with workflow



reminders sent to the nominated responsible person. Some mock drills are undertaken in the plant and involve site personnel to test and improve their response skills. They include a range of scenarios of which at least one is a worker exposure to cyanide scenario.

All training records including documentation of mock drills are stored in InTuition. Mock Drills documentation is also stored in individual folders located within the Training Department for easy access. Records are retained for the time of employment of personnel and for a period of 5 years following cessation of employment. Training records include the name of the employee being trained, the name of the trainer, the date of training, the training topics covered and an assessment of competency. Training assessments are framed to demonstrate an understanding of the materials and are marked by the assessor.

Cyanide Emergency Drill Debrief documentation was produced for each of the drills and included the scenario and relevant Pre-Incident Plan being simulated; participants; action logs for the drill; debrief notes that include adequacy of the response according to relevant categories; problems identified; recommendations; and notes and comments.

If a recommendation resulting from cyanide related mock drill recommends changes to or a review of the Emergency Response Plan then the SDGM Emergency Management Plan is updated.

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#### **PRINCIPLE 9 – DIALOGUE:**

Engage in public consultation and disclosure.

## Standard of Practice 9.1:

Provide stakeholder:	s the opportunity to communicate issu	ues of concern.
The Operation is	<ul><li>☑ in full compliance with</li><li>☐ in substantial compliance with</li><li>☐ not in compliance with</li></ul>	Standard of Practice 9.1

### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.

SDGM continue to provide the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide.

SDGM provides stakeholder communication opportunities via development of community and environment policies with requirements for stakeholder engagement and consultation, participation in a range of community and stakeholder consultation groups.

SDGM tracks, investigates and effectively closes out all community complaints and concerns through the site safety management system.

AngloGold Ashanti operates an Exploration office in Kalgoorlie. AngloGold Ashanti staff conduct regular visits to Laverton, using the LCCA to facilitate dialogue with local community members. The Laverton Cross Cultural Association is actively managed by AngloGold Ashanti.

SDGM contact details are available in the monthly Shire of Laverton community newsletter (Sturt Pea).

AngloGold Ashanti Perth office contact details are available in the Annual Integrated Report for SDGM on the AngloGold Ashanti website, which provides the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide at the Operation.



SDGM disseminates information on site cyanide management via an information pamphlet, which contains contact details to communicate issues of concern.

Annual reports are provided to the WA Department of Mines, Industry Regulation and Safety (DMIRS) as per regulatory requirements. These reports are available to the public once authorities have reviewed and authorised posting to their websites.

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# **Standard of Practice 9.2:**

Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

	oxdot in full compliance with	
The Operation is	$\hfill\Box$ in substantial compliance with	Standard of Practice 9.2
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

SDGM provide opportunities for the Operation to interact with stakeholders and provide them with information regarding cyanide management practices and procedures via annual stakeholder meetings, creation of site visitation opportunities (stakeholder days, Teacher and Student days, University days), and cross-cultural training and employment programs. Information about site process and cyanide use and management is presented at these visits and programs.

SDGM Engages with stakeholders via communication forums, which include the Laverton Cross Cultural Association, the Paakanu Aboriginal Corporation, the Local Area Emergency Management Advisory Committee (LEMAC) and the Laverton Stakeholder Group.

SDGM encourages participation by their workers at various industry group meetings and conferences, where presentations about process and cyanide use and management are discussed.

SDGM includes cyanide information in site inductions to provide cyanide awareness in the Sunrise Dam Gold Mine community.

Visitor and General Site Inductions include cyanide awareness and cyanide management information.

AngloGold Ashanti continue to post their annual Sustainability Report, which includes SDGM, on their website for public viewing. The report notes reportable cyanide incidents.



### Standard of Practice 9.3:

Make appropriate operational and environmental information regarding cyanide available to stakeholders.

	$oxedsymbol{ec{ox}}$ in full compliance with	
The Operation is	$\square$ in substantial compliance with	Standard of Practice 9.3
	$\square$ not in compliance with	

#### Summarize the basis for this Finding/Deficiencies Identified:

SDGM is in FULL COMPLIANCE with Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

SDGM has developed written descriptions of how their activities are conducted and how cyanide is managed, and these descriptions are available to communities and stakeholders.

SDGM has developed a written description of how their activities are conducted and how cyanide is managed, via an information pamphlet named AngloGold Ashanti Sunrise Dam Cyanide Management. The pamphlet contains information on the Operation's background, a process flowsheet, process flow description, and cyanide management practices at Sunrise Dam Gold Mine. It also contains information on industry use of cyanide, alternatives to cyanide, environmental and health effects of cyanide, and the International Cyanide Management Code.

SDGM continue to make the Cyanide Information pamphlet available to communities and other stakeholders at stakeholder interactions such as open days, site visits, and local council notice boards.

There is not a significant percentage of the local population that is illiterate. Notwithstanding this, SDGM engages traditional elders and community members on cyanide management via the Laverton Cross Cultural Association (LCCA) and the Paakanu Aboriginal Corporation.

SDGM has reporting procedures that require the Operation to make publically available information on confirmed cyanide release or exposure incidents, including but not limited to; cyanide exposure resulting in hospitalization or fatality; cyanide releases off the mine site required response or remediation; cyanide releases on or off the mine site resulted in significant adverse effects to health or the environment;



and cyanide releases on or off the mine site requiring reporting under applicable regulations.

No incident in any of these categories occurred during the recertification period.

SDGM continue to make publically available operational and environmental information regarding cyanide via the annual Online Sustainability Report listed on the AngloGold Ashanti website, and the Annual Environmental Report publically available on the Government of Western Australia Department of Mines, Industry Regulation and Safety website.

Site-specific information is contained within the SDGM Annual Environmental Report issued to the Government of Western Australia Department of Mines, Industry Regulation and Safety; and Department of Water and Environmental Regulation; includes details of environmental incidents, cyanide facility related water monitoring activities and International Cyanide Management Code compliance data and activities.

SDGM has remained continuously certified under the Code since 07 March 2007, and as a condition of certification, authorises the International Cyanide Management Institute to make Summary Audit Reports and Corrective Action Plans, if applicable, publically available on the Code website.

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# **APPENDIX A: Important Information**

Important information and limitations concerning the preparation and submission of this Audit Report both in its complete and summarised forms.

Kindly take notice of the following important qualifications and limitations in connection with the preparation and submission of this report ("Report").

- 1. The Report has been prepared in good faith by the signatory for and on his own behalf and as an authorised representative of Veritas Metallica Pty Ltd ("VMPL");
- 2. The Report is intended for the exclusive use of AngloGold Ashanti Australia Limited ("Client").
- 3. It is not intended to be relied upon by any party other than the Client.
- 4. No permission is given by the author for reliance on this Report by any third party and the author takes no responsibility for publication thereof on any media by others.
- 5. The Report has been prepared on the basis of instructions, information and data supplied by the Client, and on the basis of the physical conditions and location of the site at which tests (if any) were undertaken.
- 6. The author of the Report gives no warranty or guarantee and makes no representation, whether express or implied, with respect to the content of this Report or the completeness or accuracy thereof.
- 7. No reliance should be placed upon anything other than that which is expressed in this Report.
- 8. The author of this Report accepts no responsibility or liability for any loss or damage suffered by any party which is incurred in reliance upon the contents of this Report. In particular and without limitation, the author shall not be liable for any loss or damage or economic loss suffered by any party which arises out of any of the contents of this Report or anything which is omitted from the contents of this Report.
- 9. Readers of this Report are alerted to the possibility that the conditions which existed at the time of the preparation of this Report may have changed both prior to and after the preparation of this Report and in no way does this Report encompass, take account of or refer to such changed conditions.

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