November, 2017

LOS FILOS GOLD MINE

ICMI Recertification - Summary Audit Report

Submitted to:
International Cyanide Management Institute (ICMI)
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UNITED STATES OF AMERICA

REPORT

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Golder Associates

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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Mine:	Los Filos
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

Los Filos is located near the city of Mezcala in the state of Guerrero between Acapulco and Mexico City (Figure 1). Los Filos carries out mining and beneficiation of gold and silver from two open pits (Los Filos and El Bermejal) and an underground mine. Overburden is transported on run-of-mine (ROM) roads to four overburden stockpiles.

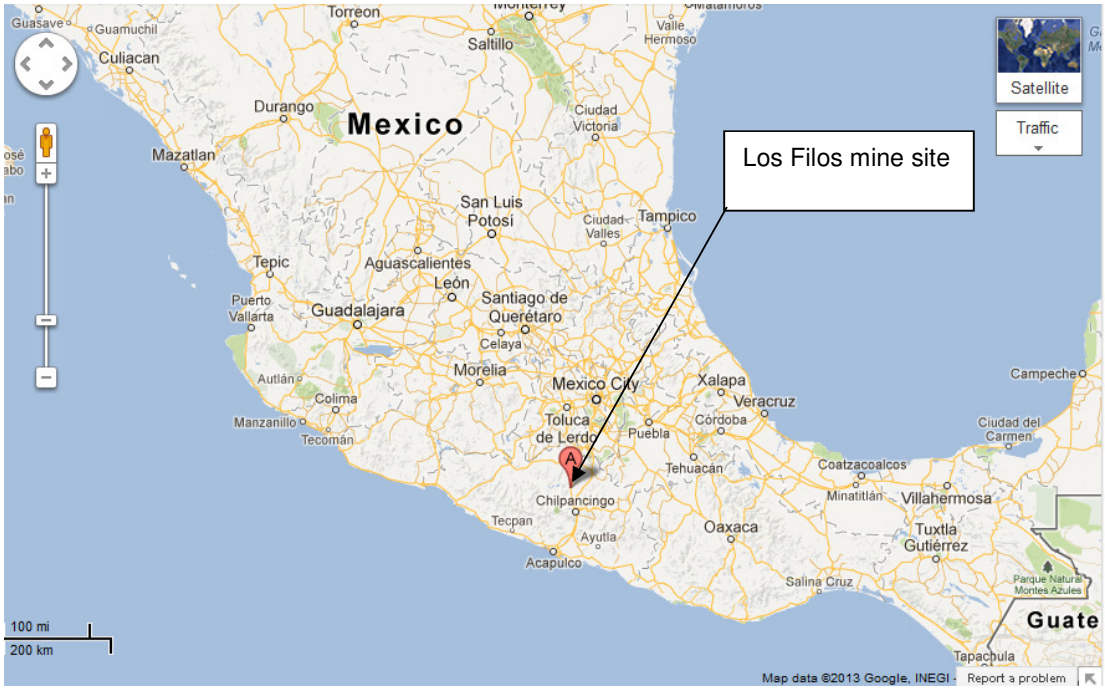

Figure 1: Regional Location Map

Low grade ore from both pits is transported on the ROM roads and, after addition of lime from silos during haulage, is deposited on Pad 1 and Pad 2. High grade ore from the Los Filos open pit and the underground

mine is crushed and then placed on Pad 1 or Pad 2. The crushing operation includes primary crushing with a jaw crusher and secondary crushing with two cone crushers. The crushed ore is transported by conveyor where cement and lime is added for agglomeration before placement on the leach pads. .

Fresh water used in the leaching process is pumped from a deep well in Mezcala to a storage tank for redistribution to different parts of the operation, including the cyanide mixing tank (T-100). The sodium cyanide is transported in solid briquettes in an 18-ton isotainer truck. The isotainer is connected to the T-100 tank, freshwater is added, and recirculated between the isotainer and tank until the solid cyanide is completely dissolved. After dissolution of the solid cyanide, the solution is transferred to a storage tank (T-200) for dosing to different process points (barren tank, recirculation tank, activated carbon circuit). This solution has a concentration of approximately 30 percent sodium cyanide.

The cyanide solution is added to the barren solution at the outlets of the barren and recirculation tanks and subsequently pumped to the booster station for repumping to the heap leach pad. The average concentration is 250 to 350 parts per million (ppm) of free cyanide. When the solution contacts the ore, the cyanide reacts with the gold and silver and converts to a pregnant solution that reports to two gravel-covered ponds at the toe of the heap leach pad (i.e., North Pregnant Pond and South Pregnant Pond). Each pond is equipped with two pumps to pump the solution to the Adsorption, Desorption and Recovery (ADR) Plant.

The carbon adsorption plant consists of four parallel trains of activated carbon columns, with a new fifth train added in 2013. The function of the carbon is to absorb the gold and silver in the pregnant solution. The pregnant solution enters at the base of the column, flows upward through a fluidized bed of carbon, and then passes by gravity to the next column. Upon leaving the last column, the solutions has left its gold and silver in the carbon and been converted to barren solution. Each train has a nominal capacity of 950 to 1,000 cubic meters per hour. At the end of each train there is a screening system to retain carbon fines and avoid sending them to the heap leach pad.

The barren solution that leaves the carbon trains with low concentrations of free cyanide is returned to the barren and recirculation tanks. To maintain the water balance in the rainy season, it is sometimes necessary to neutralize part of the sterile solution coming from the carbon columns. Los Filos has two neutralization tanks where hydrogen peroxide is added to react with the cyanide in solution. The neutralized solution is sent to the Excess Pond 1 or Excess Pond 2 for storage and subsequent use in the dry season by returning the solution to the recirculation pond.

The carbon is transferred from column to column with counter current flow of the rich solution until all gold and silver are absorbed. Then, the carbon is transferred from the first column in each train to the stripping column. The regenerated carbon, the new carbon, or both, are transferred to the last column in each train, as required, to replace the carbon transferred to the stripping column. In the stripping circuit, the gold is desorbed from the carbon using a hot caustic solution.

The stripping circuit consists of three columns operated independently in parallel. The stripping solutions contains caustic soda with an average temperature of 120 to 130 ˚C. As the stripping solution passes through the carbon, the gold is desorbed to produce a pregnant solution. The hot pregnant solution passes through heat exchangers to be cooled to 85 ˚C and then passes to the electrowinning circuit. The gold-poor electrowinning solution is recirculated to the stripping column. The stripping of gold and silver from each carbon batch takes approximately 16 hours to complete. The stripped carbon is transferred to the acid wash circuit.

The carbon regeneration is composed of two processes: chemical regeneration and thermic regeneration. The regenerated carbon is screened to retain carbon fines created during the handling and then sent to the carbon storage tank to be returned to the absorption columns.

The carbon fines product from the screening process is recovered in the carbon fines tank and then sent to the filter press. After filtration, the carbon fines are partially air-dried and loaded in supersacks to be sent to the warehouse for later offsite shipment as a by-product with low values of gold and silver.

The pregnant solution from the stripping columns is fed to four electrowinning cells. The sludge that deposits in the bottom of the cell is pumped to the filter press where 80 percent of the water is removed. The rest of the water content is eliminated in a retort oven before being sent to the induction oven. The loads are smelted at approximately 1,200 °C. At this temperature, the load in the oven has reached a liquid state composes of two phases. In the upper phase is slag. The gold and silver, both heavier, are in the lower phase in the bottom of the crucible. When the separation is complete, the crucible is tipped to remove the cap of slag and later the valuable metals are poured into moulds in the shape of bars. The doré bars are transported to an offsite refinery. The slag is crushed, milled, and treated in a concentrator to recover the valuable metals. The concentrate is returned to the induction oven to re-smelt while the slag with low levels of valuable metals is stored for sale.

SUMMARY AUDIT REPORT

Auditors Findings

This operation is:

☒ **in full compliance with**

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code.

During the audit period there were no significant cyanide related incidents at the mine requiring reporting to the ICMI or incidents requiring public disclosure or reporting to the Standard of Practice 9.3.3. The four incidents recorded during the audit period were not reported publicly as they did not meet the Mexican regulatory requirements nor the Cyanide Code´s listed criteria for public reporting:

a) they did not result in hospitalization or death;
b) they were on site incidents;
c) they did not result in significant adverse effects to health or the environment;
d) they did not require reporting under applicable regulations;
e) they did not cause applicable limits of cyanide to be exceeded.

Audit Company: Golder Associates

Audit Team Leader: Alistair Cadden, Lead Auditor and Technical Specialist

Email: acadden@golder.com

Name and Signatures of Other Auditors

Name	Position
Sergio Gonzalez	Auditor
Bruno Pizzorni	Independent 3rd Party Auditor

Dates of Audit

The Recertification Audit was carried out during 5 days, between the 16 and the 20 of December of 2016. In addition Bruno Pizzorni visited the site between 21 and 22 February 2017 to review on site Construction Quality Assurance (CQA) and water balance information.

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

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International

Lead Auditor:

Cyanide Management Code Verification Protocol for Gold Mining Operations and using standard and accepted practices for health, safety and environmental audits.

PRINCIPLE 1 – PRODUCTION

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

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 1.1; 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.

Los Filos purchased cyanide only from Chemours Company (formerly E.I. DuPont de Nemours and Company) during the recertification period from the end of 2013 to the end of 2016. An extension of the contract with Chemours was presented until the end of 2019, covering the recertification period. The Memphis plant of Chemours (Tennessee, USA) has been certified as in full compliance with the cyanide code continuously since 2006, as shown on the ICMI website. In addition, the transport of bulk cyanide in Flobins and isotainers at Chemours' San Luis Potosí warehouse was recertified in 2014, which was published on the ICMI website.

PRINCIPLE 2 – TRANSPORTATION

Protect Communities and the Environment during Cyanide Transport

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has a written agreement with Chemours Company (formerly E.I. DuPont de Nemours and Company), the cyanide producer, which is responsible for transporting cyanide from the Memphis, Tennessee plant to Los Filos. Los Filos extended the contract during the recertification period from the end of 2015 until the end of 2019. The operation's contract with Chemours, Clause 13 (a) and (d) require that all transporters be certified in accordance with the Code. Clause 13 (a) and (d) of both contracts require that all transporters be certified in accordance with the Code.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 2.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Chemours Company´s cyanide supply chain to Los Filos is certified as fully compliant with the Code until 12/04/2017. Los Filos keeps records identifying the elements of the chain of suppliers that handle the cyanide that is transported to the mine. Documentation of route, training and evaluation of the transport was presented to the auditors.

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.**

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Area 800 is the offload area at the Adsorption, Desorption and Recovery (ADR) Plant at the Los Filos Mine. Area 800 consists of a mixing tank (T-100), a storage tank (T-200), and the various pumps, pipelines, valves and appurtenances. These cyanide facilities were reviewed during the 2010 Code audit and 2014 Recertification Audit and found to be in full compliance. Some minor modifications have been made to the area since the 2014 audit: further extension of the concrete secondary containment pad, and raising of a concrete kerb to improve secondary containment. In addition, a new on-line pH meter has been installed.

The cyanide offload area (Area 800) is not located near any surface water bodies. The nearest arroyo (Arroyo Carrizalillo) is located several hundred meters to the west of Area 800 with no pathway for concentrated flow between them. Area 800 is also located away from the other process areas and buildings at the ADR Plant. The nearest community, Carrizalillo, is located several kilometers away uphill and up gradient from Area 800. Area 800 is located within a fenced, gated, and patrolled area for the ADR Plant. Unauthorized access is prohibited to the area. Therefore, the potential for releases to surface water and/or human exposures is minimal.

Los Filos receives cyanide briquettes via isotainer such that there is no liquid cyanide until the offload procedure starts. The isotainer is parked on a curbed concrete pad that slopes to a sump that drains by gravity via a double-walled pipe to the nearby recirculation pond. The auditor observed the concrete pad and sump to be in good condition to serve as a barrier to minimize seepage to the subsurface. The design and construction quality assurance for this pad were reviewed during the 2010 audit and 2014 recertification audit and found acceptable.

The offload pad at Area 800 is designed to contain leakage from the isotainer and safely convey it to the nearby recirculation pond. The isotainer is parked on a curbed concrete pad that slopes to a sump that drains by gravity via a double-walled pipe to the nearby recirculation pond. The auditor observed the concrete pad and sump to be in good condition to contain and recover leaked solution. The design and construction quality assurance for this pad were reviewed during the 2010 audit and 2014 recertification audit and found acceptable.

The mixing tank (T-100) and storage tank (T-200) have automatic ultrasonic level indicators and two level alarms which prevent the overfilling of the tanks. The “high” level alarm is set at 90 percent of each tank capacity (at which point the water addition pump is automatically shut down) and the “high-high” level alarm is set at 95 percent of each tank capacity. The tank levels are monitored from the display at the offload area as well as in the control room. The alarms are both audible and visual.

Los Filos has a written procedure detailing the required maintenance and calibration of the level sensors (as well as all other types of sensors). The procedure references the work instructions for level sensors and switches. The auditor reviewed the quarterly calibration forms to verify that the level sensors and switches were maintained and calibrated throughout the recertification period. Los Filos staff also record the tank levels on their offload checklist prior to allowing the offload to commence. This manual check is another method to prevent overfilling of the tanks by offloading when the solution level is not low enough to accommodate the offloaded solution.

The mixing tank (T-100) and storage tank (T-200) are installed on structural concrete bases within curbed structural concrete containment. The concrete and sump are underlain by 60-mil HDPE liner. Between the concrete and liner, there is a competent barrier to prevent seepage to the subsurface. The design and construction quality assurance for this pad were reviewed during the 2010 audit and 2014 recertification audit and found acceptable. The auditor observed the concrete bases and containment to be in good condition, indicating they continue to serve as a barrier to seepage.

Solution reporting to the secondary containment sump is pumped to either the recirculation pond or the T-200 tank. Los Filos has developed a written procedure describing how to operate the sump pump and valves. Cyanide solution is returned to the T-200 Tank whereas rainwater and/or cleaning water are sent to the recirculation pond.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos receives cyanide briquettes in isotainers and so does not have to manage disposable cyanide packaging. The site has developed two procedures and 11 work instructions that provide a comprehensive guide for receiving the truck at the main gate, escorting it to the ADR Plant, and offloading the cyanide from the isotainer. The procedures detail the responsibilities for the transporter and the site personnel. The work instructions detail the step-by-step actions connections, operation, and disconnections during offloading, including operation of all truck and tank valves. A checklist is used to verify the tank level and pH are acceptable to start the offload process. The procedure contains instructions on how to deal with contingencies in Area 800 and describes the steps for timely cleanup of spills. In addition, the work instructions detail the personal protective equipment (PPE) required for offloading. The PPE for the driver consists of rubber gloves, impermeable suit, hard hat, safety glasses, face shield, rubber boots, dust mask, portable HCN monitor, and a radio. The PPE for the observer consists of rubber gloves, tychem suit, hard hat, rubber boots, respirator, and radio. The procedure requires that a second observer and a paramedic watch the offload connections and disconnections, although the observer and paramedic may leave during the 3 to 4 hours it takes to empty the isotainer. During that period, the control room operator observes via video camera. The auditor observed an offload connection on one day of the site visit and the offload disconnections on another day of the site visit to verify that the procedures and work instructions are followed. Observations were made form a safe distance of the offload and via a camera in the plant control room.

PRINCIPLE 4 – OPERATIONS

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

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has developed written management and operating plans, as well as procedures, for the safe management of the cyanide facilities. The cyanide facilities at the time of the site visit in December 2016 were:

- The ADR Plant: Area 800 (Offload, Mixing, and Storage), Area 420 (Process Area – including the new 6th and 7th Trains constructed since 2014), and Area 250 (Pumping Area).
- Process ponds: north and south pregnant ponds, recirculation pond, and excess pond
- Cyanide neutralization unit between the recirculation pond and the excess pond
- Pad 1
- Pad 2
- Booster station (constructed in 2012)
- Pumps and piping connecting these facilities

Los Filos has plans and procedures that identify the design criteria for safe management of cyanide. The 2006 Feasibility Study is the most complete statement of assumptions and parameters, including regulatory requirements. The various design reports for the pad and ponds that were evaluated in the previous audit cycle also contain design assumptions and parameters. Since that time, however, Los Filos has developed other operational procedures that reiterate the assumptions and parameters. For example:

- The General Procedure for Pads contains the parameters for pad operation such as pH (9.7 to 11), free cyanide concentration for leaching (approximately 300-350 ppm), and allowable HCN gas generation (3.7 ppm).
- The procedure for Contingencies in the Solution Ponds by Excess Water specifies freeboard of 2 m.
- The recirculation pond is maintained with WAD cyanide concentrations less than 50 ppm, as explained by interview with Los Filos staff. Note that the pregnant ponds are gravel filled and there is no open water.
- The procedure for neutralizing cyanide solution states that the concentration of cyanide (after treatment) must be less than 4 ppm before water can be transferred from the recirculation pond to the excess pond.
- The written program for water quality monitoring contains regulatory requirements cyanide in for surface water and groundwater.

Los Filos has a complete set of standard operating procedures and work instructions covering all aspects of safe operation of the cyanide facilities. Most of the procedures and work instructions were developed for previous audit cycles, although some new documents were developed to cover safe operation of new facilities for this audit cycle. For example, Los Filos developed a new procedure for starting and stopping the pumps at the booster station. Similarly, Los Filos developed new procedures for activities that were added since the previous audit, such as a procedure for cleaning out sediment from the floor of the recirculation pond, an activity that had not previously occurred given the short time in service for that pond. Los Filos has developed a change management procedure for the plant, pad, ponds, pump stations and associated infrastructure. The procedure includes sections for the change details, risk assessment, approval, implementation, and follow-up. Up until August 2016, the change management procedure described in previous audits (LF-P-PB-10) has been implemented. In the period of this audit, 8 change management records using this change management procedure were reviewed. The auditors obtained a total of 13 completed change management forms from throughout the recertification period to verify that Los Filos addresses change management. The completed forms were signed off by operational, environmental and safety staff.

Los Filos has developed contingency procedures for upset conditions, deviations from design criteria, deviations from standard operating conditions, and temporary closure / cessation of operations, specific to each process area at the ADR Plant (Areas 800, 420, and 250). There are also contingency procedures for operation of emergency generators and management of the excess pond. The area-specific contingency procedures for the ADR Plant cover tank collapse, pipe ruptures, and leaks from the pipelines, tanks, and columns. The contingency procedure for the excess water pond covers failure of the neutralization system and measures to avoid or manage overtopping.

The Emergency Response Plan for the mine contains contingency procedures for the following scenarios:

- Worker exposure by solid, liquid, or gaseous cyanide
- HCN gas formation in the process area
- Isotanker accident within the Los Filos Mine property
- Spill of solid sodium cyanide
- Leaks of cyanide solution from valves, pipes, and tanks in the process area
- Spill towards the heap leach pad due to pipeline rupture
- Failure or slide of the heap leach pad side slopes
- Energy supply interruptions and pumping problems
- Out-of-control seepage
- Neutralization system failure
- Overtopping of ponds and dikes
- Evacuation in case of earthquakes

Contingency plans for temporary closure or cessation of operations are covered in the Los Filos Closure Plan, specifically in Section 10. Section 10.1 covers unplanned rapid closure and Section 10.2 covers care and maintenance under temporary closure.

Los Filos inspects the cyanide facilities at a reasonable frequency for each type of inspection. The frequencies vary from shift to monthly. A pre-offload inspection is conducted each time an offload occurs, which may occasionally be more than once per shift. Wildlife inspections take place daily at the pad and ponds. Los Filos uses inspection forms to document the regular inspections with the exception of the operator rounds conducted each shift at Areas 800, 420, and 250 of the ADR.

Los Filos inspects unloading, storage, mixing, and process areas as follows:

a) Continuation of the program of tank and pipe wall thickness measurements described in the 2014 Recertification Audit report

b) secondary containments via the weekly inspections for Areas 800, 420, and 250 at the ADR Plant. The secondary containment at the Booster Station is inspected as part of the weekly pad inspections. These weekly inspections include the condition of the concrete and joints, as well as sump pumps (as applicable). In addition, the recently implemented program of monthly inspections according to the STI guidance includes detailed inspections of secondary containments.

c) the pond leak detection system and the pad underdrains on a daily basis for cyanide, pH, gold and copper concentrations, as well as flow and/or volume.

d) pipelines, pumps, and valves during the weekly inspections at Areas 800, 420, and 250 of the ADR Plant, as well as the weekly pad inspections (which include the Booster Station).

e) process ponds weekly for the condition of the liner; daily surveys document the water levels and freeboard for use in the water balance. Monthly inspection of the diversions around the pad and process ponds.

Los Filos documents inspections, including the date of the inspection and the name of the inspector. The inspection forms have a section for observations and corrective actions; the inspection forms for the ADR Plant have a section to enter the work order number for corrective actions. Corrective actions are tracked via the maintenance program. The auditors reviewed examples of the inspections forms listed under Questions 4.1.6 and 4.1.7 to verify compliance.

Los Filos has organized their maintenance program according to three functional areas: mechanical, instrumentation, and electrical. Los Filos completes both proactive (scheduled) and reactive (unscheduled) maintenance in each of the functional areas.

Preventive maintenance is scheduled weekly, biweekly, and monthly, respectively, by the mechanical, electrical, and instrumentation staff, as evidenced by example schedules provided to the auditor for the recertification period. The auditor reviewed “gamas” (tickets) for completed preventive maintenance from throughout the recertification period. In particular, the auditor focused on proactive maintenance for instrumentation for cyanide management, such as level sensors, in-line pH meters, and fixed HCN meters. The instrumentation maintenance staff provided examples of maintenance and calibration records for the recertification period to verify compliance.

Corrective maintenance is conducted to address problems observed by staff during rounds and inspections. In addition, corrective maintenance is conducted when equipment breaks down. The auditor observed examples of closed work orders from throughout the recertification period to verify that reactive maintenance is completed.

The auditor also observed that Los Filos has standby pumps installed and ready to run for certain critical functions. Likewise, Los Filos has replacement parts on hand for other critical components.

Los Filos has two emergency generators of 2 MW (Mega Watts) each to operate the critical pumps in the plant, ponds, the booster station, and Areas 250, 420, and 800. There is sufficient fuel to run the generators for at least 24 hours with the ability to resupply from the diesel tank farm at the mine site. Los Filos has prepared two procedures and a work instruction to guide use of the emergency generators. The auditor reviewed monthly startup records and quarterly preventative maintenance records to verify that the generators were operable throughout the recertification period. The auditor also observed the generator room to confirm that the generators were visually in good condition.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 4.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Standard of Practice 4.2 is not applicable to the Los Filos operation as the mine does not have a mill and does not produce tailings. Gold production is achieved through heap leach operations only.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has a probabilistic water balance that considers the uncertainty and variability inherent in the prediction of precipitation patterns. It considers the frequency and distribution of precipitation events along with the extremes and seasonal variations.

The auditor reviewed Golder Associates' technical memorandum from February 16, 2017 summarizing the update to Los Filos water balance model performed in GoldSim software. The update adds data collected from December 2011 through November 30, 2016 to the original model developed in 2011. The 2017 update focuses on model infrastructure and operational logic to address significant changes to site operational strategies and infrastructure that has occurred since model development and to provide for a more accurate forecast tool amid rising solution storage volumes.

The updated water balance includes in addition, the rainfall event of 152 mm in 24 hours registered in 2013, the Leach Pad No. 2, Process Pond No. 2, Contingency Pond No. 2, ADR plant, springs and crushed mineral among others.

The water balance includes all necessary factors: cyanide solution application rates to heap leach pads, tailings deposition rates, solution application rates, precipitation, evaporation, run-on water from up gradient areas, and potential power outages and the capacity and availability of evaporators.

Los Filos surveys the water levels in the recirculation ponds and excess ponds daily for input into the water balance spreadsheet. A topography crew measures ponds levels daily reporting the data to those responsible for the water balance. In addition, Los Filos Ponds Supervisor carry out weekly inspections and performs monthly water balance reports to ensure water balance. The ponds are operated with a minimum freeboard of 2m to ensure additional capacity for upset conditions and the design storm event.

The operation evaluates precipitation data to update the water balance, with internal data from their own meteorological station and pluviometers located in strategic areas of the cyanide installations. In addition, Los Filos compares this data with external data from Mezcala, Chichihualco and Zumpango meteorological stations.

The auditor reviewed records of the ponds inspections performed during the seasonal rainy months between June and October for years 2013 to 2016. On the 14th, 15th and 16th of September 2013, heavy rains were registered. The auditor reviewed the Excel spreadsheet monthly water balance reports with info updated to January 2017. Per the revised data reviewed, on average the available pool volume was around 23% in the rainy season. Golder memorandum from February 2017 recommends to maintain 70% of availability in the excess pond 2.

Among the measures that Los Filos is considering to manage excess water, is relocating 3 water evaporators to go into operation in March and depending on their efficiency, installation of 2 additional evaporators.

a) Los Filos water balance considers the rates at which solutions are applied to the leach pads and tailings that are deposited into the tailing storage facilities.

b) The water balance considers 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. Due to the heavy raining event registered in September 2013, during last water balance update, Los Filos adjusted the maximum event of the model from 133 to 152 mm in 24 hours

c) Los Filos considers the quality of existing precipitation and evaporation data in representing actual site conditions. They record rainfall and evaporation from the weather station located in the CCM 250 B area by means off the Logger Net 3.3 software. They compare these logs with the rain gauges installed in the mine (5 in the pads and 1 in the plant area). They also compare records with data from nearby meteorological stations: Mezcala, Chichihualco and Zumpango. The auditor reviewed the spreadsheet Los Filos Data Evaporation and Precipitation and found it complete.

d) Los Filos has diversion channels to capture rainwater - it does not enter the system.

e) Not applicable to Los Filos. Freeze and thaw conditions are not possible due to the tropical climatic setting of the site.

f) The evaporation machines at the excess pond are included as a loss to the system in the model. There are no allowable seepage losses or discharges to surface water at Los Filos.

g) The model can simulate a power outage by zeroing out selected pumping rates for a given period, such as 24 hours.

h) Discharge to surface waters is inapplicable at Los Filos because such discharges are not permitted.

i) There are springs that occur beneath the pad liner. The flow from these springs is conveyed by an underdrain system to a small concrete seepage collection structure in the Arroyo Carrizallilo. The collected solution is pumped back to the excess pond. The model includes this seepage return flow.

Recently Golder Associates reviewed and updated the water balance model performed in GoldSim software. The update adds data collected from December 2011 through November 30, 2016 to the original model developed in 2011. The 2017 update focuses on model infrastructure and operational logic to address significant changes to site operational strategies and infrastructure that has occurred since model development and to provide for a more accurate forecast tool amid rising solution storage volumes.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has implemented measures to restrict access by wildlife and livestock to the cyanide facilities. The perimeter of the pad is fenced by a combination of barbed-wire fence and cyclone fence. The pregnant ponds, recirculation pond, and the ADR Plant are surrounded by a cyclone fence with a concrete foundation. The excess pond is surrounded by a barbed-wire fence. In addition, the north and south pregnant ponds are gravel-filled such that there is no exposed solution. There is also a small open-topped concrete tank in Arroyo Carrizallilo to capture seepage from the pad underdrains. This tank is covered by a steel grate to prevent animal access even though cyanide concentrations are very low in the underdrain seepage.

The site has improved housekeeping measures around the carbon fines storage area to minimise spillage of carbon fines that can be mistaken by birds for edible seeds.

The auditor observed that the fencing generally was in good condition,

Los Filos does not have a Tailings Storage Facility (TSF). The leach pads use a buried dripper system to avoid surface ponding of leach solution. The pregnant ponds are filled with gravel to avoid there being open water with WAD cyanide >50 mg/L

Los Filos provided a graph of both external and internal laboratory data to demonstrate that WAD cyanide concentrations in the recirculation pond and contingency pond were below 50 ppm throughout the recertification period.

No wildlife mortality was reported associated with open water. However, 32 bird deaths were recorded during the recertification periods (10 in 2014, 22 in 2015 and none in 2016). These have mostly occurred in area 800 of the ADR plant, and have been attributed to birds eating grains of fine carbon that had spilled into the containment, based on autopsy reports. In 2014, 6 bird deaths were related to the birds drinking solution from a sump, which was not guarded against their entry, and 4 to birds drinking solution for a leaking pipe joint. The corrective measures taken by Los Filos (closing off the sump, ensuring leakage on the leach pad is corrected and housekeeping to avoid fine carbon spillage) have prevented further bird mortality during 2016.

Solution is applied using buried drippers to ensure that ponding does not occur. The auditor did not observe ponded solution on the leach pad surface nor any overspray.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos does not discharge any process water to surface water. Water monitoring data for a downstream monitoring well LF-36 in Cañada 23 shows that free cyanide is below detection limits (0.005mg/L).

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation 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 groundwater.

Los Filos has implemented measures to protect groundwater and these measures are unchanged from the 2010 and 2014 audits. The project construction and operations include a number of seepage control technologies such as composite liner systems below the heap leach pads consisting of compacted low-permeability soil liner overlain by geomembrane liners, double geomembrane liners with leak detection and leak collection systems underneath the process ponds, and concrete containments in process areas to protect the beneficial water use. Los Filos implements inspection and monitoring programs to ensure water management and leak detection systems are functioning properly, and that water quality is being protected.

According to Section 4.3 of the Los Filos written program for water quality monitoring, the beneficial use for groundwater in the vicinity of the mine is human consumption. Appendix A of the program shows that the SEMARNAT standard for this beneficial use of groundwater is 2 ppm total cyanide. Los Filos currently conducts quarterly sampling at two monitoring wells downgradient of the cyanide facilities:

- LF-47 located downgradient of the Pad 1 and adjacent to the Pad 1 recirculation pond
- LF-48 located in Arroyo Carrizallilo downgradient of Pad 1, Pad 2, the ADR Plant, and all process ponds

Los Filos provided spreadsheets groundwater sampling results from the recertification period. These results showed that that all samples had results less than 2 ppm total cyanide and the vast majority show levels below detection limits.

Los Filos does not have a mill and does not use tailings as underground backfill

Groundwater monitoring shows that the site is not impacting groundwater above levels protective of beneficial use.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has secondary containments for Areas 800, 420, and 250 at the ADR Plant. The concrete secondary containment for the offload area (Area 800) has two sumps; one sump for the offload ramp that drains by gravity to the recirculation pond and a second that for the mixing and storage tanks where solutions are pumped back to the tank or cleaning/rainwater is pumped to the recirculation pond, in accordance with a written procedure. For Area 420 (the plant itself), the curbed concrete secondary containment has two sumps for returning solution to the tanks or sending rainwater to the recirculation pond. Area 250 is located adjacent to the recirculation pond and the curbed concrete secondary containment drains to that pond via geomembrane-lined pipeline secondary containment ditches. The secondary containments for Areas 800, 420, and 250 at the ADR Plant were found acceptable during the 2010 audit, and therefore were not re-reviewed for the recertification audit. However, the auditor observed that Los Filos has maintained all of the secondary containments described in the 2010 audit report and 2014 recertification audit report in good condition.

An additional 2 trains of carbon adsorption have been installed in the plant since the 2014 recertification audit. These are within the secondary containment areas of the plant. The new carbon trains installed since the 2014 audit are of similar size to the existing carbon trains. The secondary containment has been designed to contain a design storm plus 110% of the contents of the largest tank. The additional carbon trains do not exceed this volume. The auditor observed that Los Filos has maintained all of the secondary containments described in the 2014 audit report in good condition and that no materials were stored within them to compromise their capacities.

The sizing of the secondary containments for Areas 800, 420, and 250 at the ADR Plant were found acceptable during the 2014 recertification audit, and therefore were not re-reviewed for the recertification audit. However, the auditor observed that Los Filos has maintained all of the secondary containments described in the 2014 audit report in good condition and that no materials were stored within them to compromise their capacities.

Solutions within the secondary containments for Areas 800, 420 (including the 6^{h} and 7th trains), and 250 are returned to the process circuit, either directly by pumping to columns or tanks, or by gravity flow to the recirculation pond. Solutions within the secondary containment for the booster station drain by gravity to the lined heap leach pad, thereby returning them to the process circuit. In no cases are solutions in secondary containment discharged to the environment.

All process tanks have secondary containment

Los Filos has provided secondary containment for all cyanide-bearing pipelines as follows:

- Pipe-in-pipe from the Area 800 sump to the recirculation pond.
- Pipe-in-pipe from Area 800 to the lined secondary containment ditch near the ADR Plant, and thence via the secondary containment ditch westward to Area 420 and eastward to Area 250.
- Concrete or geomembrane-lined secondary containment ditch from the ADR Plant to Area 250 and the recirculation pond, except in a short reach of pipe-in-pipe on a hillslope.
- Geomembrane-lined secondary containment ditch form Area 250 to the edge of the geomembrane-lined pad, and thence over the lined pad to the booster station.
- Over the geomembrane-lined pad from the booster station to the active areas of the pad

Los Filos has located facilities in areas that do not pose any undue risks to surface water that would require special protection. There is no risk to surface water in the area of the process facilities, because no perennial surface water streams or water bodies are present.

The auditor observed that all tanks and pipelines at Los Filos are constructed of materials compatible for cyanide and high pH, such as HDPE, mild steel, stainless steel, and YeloMine PVC. The auditor did not observe any pipes or tanks made of regular (white) PVC. All tanks and pipes were well supported and in good condition.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Lead Auditor:

QA/QC programs have been implemented during construction of the new cyanide facilities. To confirm the existence of QA/QC programs, the auditor reviewed the documentation for the following cyanide installations constructed during these recertification period:

- Seventh train of carbon columns at ADR Plant
- At heap leach pad 2 area:
  - Stages 1, 2 and 3
  - West diversion channel
  - Rich solution pond 2
  - Contingency pond 2
  - Inter pond spill channel
  - Collection System 2014-2015
  - Joining of pads 1 and 2
- At heap leach pad 1 area:
  - Phase 4 center enlargement 2
  - Phase 5 expansion
  - 2014 solution collection system

Geomex performed the CQA programs at the mine site for ponds and heap leach construction activities during the recertification period. The program included verification of soil erosion, pre-mixed concrete CQA, geomembrane testing and CQA for geosynthetics installation.

For train 7, the contractor's program consisted of welding certifications, non-destructive welding tests, weekly reports with construction progress photographs, tank manufacturing certificates, verticality test reports, material and Commissioning records. Golder supplied the CQA for earthworks, concrete and cladding.

The CQA program for the 7th train addressed the suitability of the metal materials via welding certificates, non-destructive testing of welds, materials certificates, and manufacturer's tank fabrication certificates.

The auditor reviewed the CQA documentation regarding earthworks, concrete, liners, for the cyanide installations constructed during this recertification period listed above, concluding the documentation adequately addresses the ICMC requirements.

Los Filos has retained the CQA records referenced in the 2010 and 2013 audits in bookshelves in the ADR Plant conference room. Los Filos has prepared an inventory of these documents to further ensure none are misplaced. The auditor observed the reports and randomly checked some of them to verify compliance.

Qualified personnel reviewed the cyanide facilities construction and provided documentation that the facilities have been built as proposed and approved. All CQA reports reviewed were signed by professionals of well reputed engineering firms as Geomex and Kappes, Cassiday and Associates. They reviewed quality, structures, containments, civil works, QA/QC, containment volume, construction specifications and characteristics of materials.

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

	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 4.9**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has a written plan for its water quality monitoring program. This plan is accompanied by nine procedures. Los Filos has a written plan for wildlife monitoring. This plan is accompanied by five procedures. The auditor obtained these plans and procedures to verify compliance.

The water quality monitoring program was originally prepared (as noted in the 2010 audit) by Noelle Overdevest, a Goldcorp corporate environmental scientist with 10 years of experience, and by Alicia Sierra, a Los Filos environmental engineer with 7 years of experience. During the recertification period, Rocio Martinez, a chemical engineer in the environmental department with 12 years of experience, has been responsible for implementing the program and updating the procedures as needed. The wildlife monitoring program was also originally developed by Noelle Overdevest, a Goldcorp corporate environmental scientist with 10 years of experience. During the first recertification period, Marcos Garcia, a biologist with 6 years of experience has been responsible for implementing the program and updating the procedures as needed. During this recertification period additional procedures for bird monitoring have been developed by Francisco Gonzalez Garcia

The analytical program is carried out by three certified laboratories: WAD and total cyanide by ALS Laboratory (Indequim), free cyanide by CALA Laboratory. Sampling and analysis for WAD and free cyanide is also undertaken by Intertek. The auditor reviewed letters of certification and website documentation to verify compliance.

The written water quality monitoring program and its associated procedures contain the required information. Section 10 of the plan contains a set of figures showing sampling locations for surface water, groundwater, potable, and residual water. Table 5.1a and 5.2a also list the monitoring stations for surface water and groundwater, respectively. Sampling methods (field techniques, preservation, packaging, shipping, etc.) are generally described in the plan, but are detailed in the accompanying written procedures. The analytes, including the cyanide species, are listed in Tables 5.1.2a and 5.2.2 for surface water and groundwater, respectively.

Los Filos documents sampling conditions on the field sheets. The auditors noted examples where the weather, general water appearance, and anthropogenic activities were noted. The field forms also document the date, time, temperature, pH, conductivity, number bottles, sample volume.

Los Filos currently monitors surface water and groundwater at the site via monitoring wells, springs (i.e., pad underdrains), and surface water stations. Los Filos monitors groundwater at two wells downgradient of the cyanide facilities:

- LF-47 Downgradient of Pad 1 and adjacent to the Pad 1 recirculation pond
- LF-48 located in Arroyo Carrizallilo downgradient of Pad 1, Pad 2, the ADR Plant, and all process ponds

Los Filos monitors five springs via underdrains risers and outlet pipes downgradient of the cyanide facilities:

- LF-PS1 located adjacent to the south pregnant pond for Pad 1
- LF-PN1 located adjacent to the north pregnant pond for Pad 1
- LF-34 located in Arroyo Carrizallilo downgradient of Pad 1
- LF-35 located in Arroyo Carrizallilo downgradient of Pad 2

- LF-36 located in Arroyo Carrizallilo representing the combined quality from LF-34 and LF-35

Los Filos monitors surface water at one station downgradient of the cyanide facilities:

- LF-18 in Arroyo Carrizallilo immediately downstream of LF-34, -35, -36, and -48

However, the previous wells, underdrains, and surface water stations served the same purpose as the current wells and stations (with the exception of LF-35 and LF-36, which were installed in conjunction with Pad 2).

Los Filos also has other monitoring wells and surface water stations much farther downgradient in Arroyo Carrizalillo, as well as in other watersheds without cyanide facilities. However, the list above contains the monitoring locations closest to, and relevant to, the cyanide facilities. Los Filos does not discharge process water and therefore this type of monitoring is inapplicable.

32 bird deaths were recorded during the recertification periods (10 in 2014, 22 in 2015 and none in 2016). These have mostly occurred in area 800 of the ADR plant, and have been attributed to birds eating grains of fine carbon that had spilled into the containment, based on autopsy reports. In 2014, 6 bird deaths were related to the birds drinking solution from a sump, which was not guarded against their entry, and 4 to birds drinking solution for a leaking pipe joint. The corrective measures taken by Los Filos (closing off the sump, ensuring leakage on the leach pad is corrected and housekeeping to avoid fine carbon spillage) have prevented further bird mortality during 2016.

Los Filos monitors surface water, groundwater, and wildlife at frequencies appropriate for each medium. Table 5.5.1 from the water quality monitoring program summarizes the frequency for water monitoring stations by cyanide species and laboratory (i.e., external or internal). For analysis by external laboratories and depending on the species and station, groundwater and surface water are sampled weekly, monthly, bimonthly, quarterly, or annual. For analysis by the internal laboratory, only key stations (e.g., ponds) are sampled but on a tighter frequency (i.e., daily, weekly, biweekly). Wildlife is monitored daily at the pad, plant, and ponds.

PRINCIPLE 5 – DECOMMISSIONING

Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos provided the auditors with an updated decommissioning plan for cyanide installations, dated 2014. This plan includes all cyanide facilities and is updated every 3 years. This plan contains the decontamination of cyanide equipment, structures and foundations; elimination of any sludge contaminated with cyanide; and dismantling and demolition of equipment, structures and foundations. Los Filos has developed a dismantling program for cyanide facilities and activities in terms of years after the closure of the mine planned for 2025.

The decommissioning plan presents a closure schedule, assuming life of mine until 2025. The closure plan has 4 stages described:

- Stage 1: Area 800 (unloading area), Pad 1 pipes and booster station.
- Stage 2: Pad 1 drainage and solution management (ie evaporation).
- Stage 3: Evaporation of the solution in the converted evapotranspiration basin.
- Stage 4: ADR Plant dismantling when precious metals no longer economically recovered from solutions; Foundation Demolition.

The 2014 decommissioning plan includes the following revision and revision statement:

"Goldcorp also has among its internal requirements that all closure plans be reviewed and updated as needed each year."

The Closure Plan is updated every three years, and has an annual review. Currently the life of mine is estimated until 2025.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has developed a closure cost model that includes the dismantling of cyanide facilities. The auditors confirmed that the cost estimate includes the applicable facilities and activities. The closing cost model uses third party fees based on quotes from Mexican suppliers and contractors. The associated decommissioning plan states that closing costs will be updated annually and auditors observed cost models confirming that this occurs (Asset Retirement Obligation (ARO) cost estimate dated November 2016).

The 2014 decommissioning plan includes the following revision and revision statement:
"Also as part of its Asset Retirement Obligation Policy, corporate financial accounting procedures require that mine closure liabilities be assessed each year."

The auditors reviewed the 2014, 2015, and 2016 versions of the Nevada Standardized Reclamation Cost Estimator (SRCE) model used for reclamation cost estimation.

Los Filos has been updating cost models annually. The auditor understands that this process will continue under the new ownership.

DMSL provided documentation from a Certified Public Accountant who verified the compliance of Goldcorp Inc., DMSL's parent company at the time of the audit, with the financial evidence for a self-guarantee mechanism to cover the estimated costs of cyanide-related decommissioning activities. Deloitte & Touche LLP, in a letter report for the year 2016

DMSL provided a letter from Deloitte dated 11th July 2017 affirming that DMSL meets the requirements of U.S. Code of Federal Regulations at 40 CFR 264.143(f), 30 CFR 800.23, 10 CFR 30, Appendix A demonstrating sufficient financial strength to self guarantee the costs of decommissioning of the cyanide facilities.

PRINCIPLE 6 – WORKER SAFETY

Protect Workers' Health and Safety from Exposure to Cyanide

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

DMSL has procedures describing how cyanide-related tasks prior to maintenance should be conducted to minimize worker exposure.

Los Filos has a complete set of working procedures and instructions that identify potential cyanide risks and measures to control those risks. The auditor reviewed each of these procedures and work instructions to confirm that they cover the purpose of the work, scope, responsible persons, definitions, materials, equipment, tools, PPE, precautions, waste management, Procedural steps, safety measures and the protection of the environment.

Los Filos continues to develop procedures and work instructions for cyanide-related activities.

Each procedure covers the purpose of the work, scope, responsible persons, definitions, materials, equipment, tools, PPE, precautions, waste management, procedural steps, references and distribution.

In area 800 (discharge and storage), area 420 (ADR plant), area 250 (tanks and pumping station), reinforcement station, Transportation. The new 5th, 6th and 7th carbon adsorption trains in the ADR Plant is operated with the same procedures as the other four trains. No new procedures were needed for this expansion. Procedures and work instructions include discharge, mixing, plant operations, confined spaces, decontamination and many other cyanide-related activities.

Pre-work inspections are completed for cyanide offloading. These inspections include the condition of the truck, PPE, sealed connections, presence of the paramedic, showers/eyewashes, cyanide antidote/oxygen, initial and final solution pH, and the name of the supervisor that completed the checks.

Both procedures and work instructions contain sections on the selection and use of proper PPE. Areas where cyanide is used also have signs listing the PPE requirements. In addition, the cyanide training materials (i.e. Modules 1 and 2 and the cyanide emergency response plan contain information on PPE requirements.

During the site visit, the auditor observed that Los Filos staff used the PPE as prescribed by the procedures and work instructions. Workers were observed at the ADR Plant, the offload area, and Pad 1, area 420.

Los Filos has a change management procedure and uses it regularly to evaluate changes with respect to cyanide releases and exposures. The auditors reviewed change forms throughout the recertification period to confirm the regular use of the procedure, for example for theisntallation of the new carbo adsorption trains.

Los Filos regularly solicits information from workers through the interactions of management with workers. The PROSE (Programa de Seguridad) program has five required elements in which the 20-member management team must regularly interact with the workers, thus providing input opportunities. The auditor observed database entries that tracked these interactions throughout the recertification period. Los Filos requests information from workers to improve procedures through direct communication between supervisors and workers, through daily safety meetings and monthly meetings of the Code Committee. Los Filos provides many opportunities for workers to provide input to improve procedures and tracks these opportunities in the PROSE database. Safety information concerning workers, contractors, and visitors is stored in PROSE. PROSE contains five elements where the management team is required to regularly interact with workers.

Los Filos solicits worker input to improve procedures via direct communication between supervisors and workers, via daily safety meetings (charlas de 5 minutos), and monthly Code committee meetings. Los Filos

provided a list of daily safety meetings from the PROSE database that showed cyanide-related topics were regularly discussed during the recertification period. In addition, Los Filos holds meetings with workers on special topics when needed.

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.**

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The Los Filos procedures specify a minimum pH of 9.7 for the ADR Plant and the pad, and a minimum pH of 11.5 for the discharge area. Los Filos has carried out site-specific risk assessments that include data showing that these minimum pH values are effective in controlling the formation of HCN given their mineral characteristics. The auditor reviewed data that showed, in general, that Los Filos actually maintained pH levels in values above the minimum values prescribed in the procedures.

Los Filos has installed four fixed HCN monitors in the ADR Plant and a fixed HCN monitor in the booster station. Los Filos has portable HCN monitors for use of plant, pad, emergency response brigade and environmental staff. Auditors noted that staff were using these portable monitors in the field as required by the procedures. Los Filos presented records showing that fixed and portable HCN monitors have been maintained, tested and calibrated in accordance with the manufacturers' requirements.

Los Filos has identified areas and activities where workers may be exposed to high levels of HCN gas. Fixed HCN monitors have been installed in these areas and staff use portable HCN monitors when working in these areas. Los Filos has also installed signs that alert staff to limit their time in areas known to have high HCN levels (e.g., carbon screens).

Los Filos has identified areas and activities in which workers may be exposed to HCN gas. Fixed monitors have been installed at sites at risk of cyanide incidents, for example in the following locations:
1. Area 800
2. Area 420

In addition, Los Filos has portable meters that workers carry when working at cyanide facilities. Procedures require the use of a portable HCN monitor when performing maintenance activities or when working in confined spaces. The auditor observed that workers carried portable monitors on the plant and on the platform, including the stacker operator.

The procedures and work instructions define the activities where HCN monitoring and appropriate PPE are required. Los Filos has identified these areas and activities notwithstanding the results of the site-specific risk assessments that showed HCN concentrations are low at the plant, process ponds, and heap leach pad.

Los Filos has identified the areas and activities where workers may be exposed to HCN concentrations greater than the thresholds of 4.7 ppm (prevention) and 10 ppm (evacuation). The locations of the fixed HCN monitors at the plant are targeted to the areas where the risk of HCN formation is the highest. Los Filos has placed signs at the screens where they have determined HCN formation is the highest at the ADR Plant. These signs alert workers to limit their time near the screens. The auditor took spot measurements of HCN levels in the ADR Plant which showed no levels greater than 2.6 ppm, except at the screens where the aforementioned signs were installed.

Los Filos has developed written procedures for calibration and maintenance of the HCN monitors. The fixed HCN monitors are calibrated every 6 months as required by the manufacturers. In addition, the fixed HCN monitors are checked and maintained every 3 months. The auditor reviewed records showing the fixed HCN meters were calibrated and maintained in accordance with manufacturers' recommendations throughout the recertification period.

The auditor noted that Los Filos has good signage to warn workers that cyanide is present and that smoking, eating and drinking are not allowed in those areas.
The plant has many signs indicating the presence of cyanide, prohibitions and appropriate PPE use.
Los Filos has placed signs in different sectors such as on fences around the heap leaching platform to delineate it as an area where cyanide is present.

The auditor noted that eyewashes and showers were present at strategic locations throughout the plant. The auditors tested them randomly to verify that they worked and that the eyewashes did not have high pressure. The auditors reviewed the inspection records of the recertification period in recent years which showed that eye washes and showers were inspected weekly by operations personnel.
The auditor noted that dry powder fire extinguishers were present at strategic locations throughout the plant. Fire extinguishers are inspected monthly by security personnel and analyzed annually or as required by the results of the inspection by an external supplier (i.e. Miguel de la Mora). The auditors reviewed examples of extinguisher inspection records from the 3-year recertification period and randomly checked the labels on extinguishers to confirm that they were properly maintained and inspected.

The auditor observed signage indicating contents and direction of flow on the pipelines in the cyanide unload and mix areas, the heap leach pads, pumping stations and in the carbon adsorption area.

Los Filos maintains MSDS at places where cyanide is used such as the cyanide unloading, mixing and storage area, and the ADR plant. In addition, the auditor observed that each cyanide antidote kit included first aid instructions and MSDS sheets for cyanide in Spanish, the language of the work force.
The auditor also observed that MSDS sheets were posted on the window of the control room and were available in the clinic and ambulances.

Los Filos has developed a written procedure for investigation of incidents, non-conformities, corrective actions, and preventative actions. The procedure applies to the mine as well as to contractors. It is applicable to all types of incidents, including cyanide-related incidents. Los Filos has developed another procedure for environmental incidents, which is again applicable to all types of incidents, including cyanide-related incidents.

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

☒ **in full compliance with**

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

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has antidote kits and communication systems available for use in multiple locations in the plant leach pad and site clinic. Cyanide antidote kits with oxygen tanks and amyl nitrate ampoules are kept in the clinic and in sectors at risk of exposure to cyanide.

Los Filos has a dedicated radio channel for paramedics as well as dedicated landline extensions for paramedics and security. Los Filos has ambulances, located in the clinic.

The emergency response brigade has portable radios. Each ambulance is equipped with a radio. A radio and a telephone are available in the control room at the ADR plant. All offices in the process area have landlines and the auditor noted that managers, supervisors and many operators had personal radios.

Cyanide unloads are observed from the control room on the ADR Floor via video, as well as by a paramedic parked nearby. Finally, there are push button alarms at various locations on the ADR plant, including the unload area. The auditor tested the alarm button and verified that the siren was working and that the paramedics responded immediately.

Los Filos medical staff inspect the cyanide antidotes kits and oxygen cylinders weekly at the plant, pad, and clinic and document these inspections in the relevant logbooks.

The auditors observed that none of the amyl nitrate ampoules in the cyanide kits had expired and were stored at the correct temperature. The auditor also noted that all oxygen tanks with kits, in the clinic and ambulances were full and operable.

Los Filos regularly inspects cyanide kits, emergency equipment, and ambulances to ensure that equipment and supplies are present and working.

The emergency response brigade coordinator inspects the ambulances and their contents weekly using a checklist. The auditor inspected two of the three ambulances to make sure they started, the gas tanks were full, sirens / horns / lights were working, radios were working, and emergency equipment was present and in good condition.

The brigade coordinator also inspects the emergency response equipment on a monthly basis using different checklists. Inspections cover Tyvek suits, firefighting equipment, fully encapsulated suits, rubber boots / gloves, face shields, fall harnesses, traffic cones, shovels, spill cleanup kits, decontamination supplies, a spray washer, and an air compressor.

Los Filos has developed two emergency response plans. The Master Plan for Emergency Response (hereinafter referred to as Master Plan) is general for all types of emergencies, but also contains guidance on cyanide-related emergencies with reference to the Emergency Response Plan (ERP) for Sodium Cyanide. ERP for Sodium Cyanide is specific for cyanide-related emergencies; ERP addresses first aid for cyanide exposure and section 5 deals with medical treatment.

Los Filos has on site medical staff and facilities for providing first aid and medical assistance, such as a clinic, ambulances and trained medial and paramedical staff.

Los Filos has developed a procedure to transport workers exposed to cyanide to qualified off-site hospitals (i.e., the IMSS hospitals in Iguala and Chilpancingo). This procedure is applicable to either land transport by ambulance or air transport by airplane or helicopter. The site doctor stated that land transfer with the site ambulances is preferable because of the longer response time to call up air transport, wait for the air transport to arrive, load the patient, and fly to a hospital. Nonetheless, Los Filos has the ability to transport intoxicated workers by air ambulance. There are is a helipad on a hilltop and a landing strip at the mine perimeter.

Los Filos carries out emergency response mock drills to test the site's emergency response plans. The drills are evaluated to check that the emergency response systems worked as anticipated and feedback given on them. Where shortcomings are identified, these are evaluated and corrective actions developed which are then incorporated in the emergency response plans.

PRINCIPLE 7 – EMERGENCY RESPONSE

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

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

☒ in full compliance with

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has developed two emergency response plans. The Master Plan is general to all types of emergencies, but also contains guidance on cyanide-related emergencies with reference to the ERP for Sodium Cyanide. The ERP for Sodium Cyanide is specific to cyanide-related emergencies.

Los Filos has addressed the possible specific scenarios of the site in the following documents:

a) Catastrophic releases.

f) Accidents of transport.

g) Releases during discharge and mixing.

h) Releases during fires and explosions.

i) Breakage of pipes, valves and tanks.

j) Overcoming ponds.

k) Loss of energy and failure of pumps.

l) Uncontrolled infiltration.

m) Failure to comply with the cyanide treatment system.

n) Heap leach pad failure

The ERP addresses specific transport accidents to the Los Filos containers, although Chemours (formerly DuPont) owns the isotainer container and its contents until the cyanide is transferred to the storage tank in Area 800.

The ERP does not consider alternative routes within the mine property because there is only one main road to the ADR plant. The isotainer is escorted at all times inside the mine property to ensure that the truck driver operates in accordance with the site conditions. The response plan considers specific actions with respect to transport accidents where no cyanide is spilled; those that involve isotainer rupture and cyanide briquette release, both onto dry land and into or near surface water and in the event of a truck fire.

The Master Plan describes actions for site evacuation and coordination with surrounding communities. The ERP describes first aid measures for exposure to cyanide, also describes medical treatment, including the use of antidotes. Control of cyanide emissions is covered in the ERP.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has involved its workers by including them in reviewing procedures through discussions during safety and training meetings and buy seeking feedback during and after drills. The auditors reviewed the topics of the daily safety meetings (5-minute talks) at the plant to verify that cyanide-related procedures were discussed.

Los Filos has engaged its stakeholders by providing feedback opportunities on the ERP. The site has held mutual assistance meetings with the external responders of Iguala and Chilpancingo, where emergency procedures were discussed with community leaders. Los Filos held meetings with community leaders in Mazapa, Mezcala and Carrizalillo in 2016 to discuss the use of cyanide in gold mining, potential risks, control measures and community concerns

Los Filos met with community members and leaders in Mezcala, Carrizallilo and Mazapa in 2016 to make them aware of the risks of cyanide and the role of the Code in managing those risks. Topics on the agenda included the use of cyanide in gold mining; Potential cyanide risks; Properties of cyanide; Consequences of intoxication; Measures to prevent damage to flora and fauna; And security measures. In previous years, Los Filos staff said that undocumented communication with community members and leaders was conducted through members of the brigade who lived in the communities.

Los Filos has involved local response agencies and medical facilities to the extent necessary because of their limited role in the emergency planning and response process. According to the Master Plan

Los Filos has involved external responders through workshops, meetings and trainings.

Los Filos has participated in consultations with stakeholders through meetings with community leaders in Mezcala, Mazapa and Carrizalillo, as well as in meetings with people outside of Iguala and Chilpancingo.

The auditors reviewed the meeting reports to confirm this consultation.

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

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Master Plan contains the following elements common to all emergencies, including cyanide emergencies:

a) The Master Plan Introduction designates the Emergency or Crisis Management Committee as those who have authority to implement the plan. This committee is headed by the general manager followed by the managers and superintendents of each department. Section 8 of the Master Plan states that the shift supervisor for the affected area is in charge of an incident until they are relieved by the superintendent or manager. To coordinate the details of a response, Hugo Belmares (Brigade Coordinator) or his replacement (Mario Emmanuel) would be in charge.

b) The Master Plan contains a table with contact information for brigade members. Appendix A contains contact information for all external entities that may assist the site brigade in an emergency.

c) Los Filos has a written program that covers all training related to the Code. This program details the first responders training required for all plant personnel and the emergency response training required for the brigade.

d) A table in the Master Plan Introduction contains 24-hour contact information for the entire brigade, including its department, role, address, telephone, radio frequency and shifts. The notification procedure is also described in the Introduction. Contains a table with 24-hour contact information for Chemours and Segutal.

e) The Master Plan contains a subsection that specifies the functions of the incident commander. Additional tables describe obligations for brigade members.

f) The Master Plan contains a table listing the Medical Team and First Response Team and their location.

g) The Master Plan includes an annex specifying the inspection program for emergency equipment. The type of inspection, the department responsible, the frequency of inspection and the location of the equipment are listed.

The Master Plan Introduction indicates that the role of external responders is to assist with hospital arrangements, patient transportation, off-site traffic control, and off-site evacuations. Los Filos has not assigned external responders a role on the site. The Master Plan Introduction also contains a table listing external responders, the type of assistance they can provide and their travel time to Los Filos.

Los Filos has involved selected external entities in the joint classroom training. The doctors of the two contracted hospitals participated in a joint training with the Los Filos brigade.

External entities have not participated in mock drills or implementation exercises because the Master Plan does not assign them a role on the site.

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Master Plan describes the procedures for notifications. The Master Plan includes contact information for mine management, Leagold management, federal agencies (e.g. SCT, PROFEPA and SEMARNAT), state and local agencies, off-site medical services, Red Cross and Firefighters). The Master Plan also contains contact information for the cyanide manufacturer i.e. Chemours and the cyanide carrier, Segutal.

The Master Plan describes the procedures for notifications. The Master Plan includes contact information for communities potentially affected, specifically the table titled "Telephones for Communities and Neighboring Unions". Media Control and Declarations, the Master Plan describes procedures for communications with the media.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 7.5**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

ERP and related procedures address remediation measures for cyanide releases:

a) Procedures specify that spills are swept or pushed into designated containers and that the material is kept dry. Berms or dykes should be constructed as necessary to prevent further spread of the spill and prevent it from reaching streams.

b) Procedure on the neutralization of soils affected by cyanide. The procedure allows the use of sodium hypochlorite or hydrogen peroxide, as long as there is no risk of it affecting surface water. Appendix A contains a table showing the amount of these chemicals to be used depending on the concentration and volume of the spill. The remediation endpoint is defined as 0.5 ppm WAD cyanide or less.

The procedures specify that the cyanide solutions in the plant are returned to the process circuit; that the cyanide solutions outside the plant be returned to the process ponds or the heap leach pad; and that the soils affected by the cyanide are placed in the heap leach pad.

ERP specifically prohibits the use of sodium hypochlorite, ferrous sulfate, and hydrogen peroxide to surface water or runoff because these chemicals are hazardous to aquatic life.

The ERP describes the monitoring measures for areas affected by cyanide spills. This section describes the spacing, depth and volumes for soil confirmation sampling, along with the required analyzes and detection limits for total, WAD and free cyanide. Samples will be analyzed both in the internal laboratory of Los Filos and in an external laboratory. For confirmation sampling of surface or groundwater, the ERP refers to two working instructions for the monitoring of groundwater and surface water / drinking water.

Provision of an alternative drinking water supply is inapplicable for the three nearby communities. Los Filos already provides bottled drinking water to Mazapa and has done so since the community relocated away from the Arroyo Carrizalillo as a condition of mine development. The potable water supply for Carrizalillo is upgradient of the mine and Mezcala is in a different watershed to the mine.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

DMSL evaluates and updates its emergency response plans regularly and at least annually. Three emergency response drills were performed during this audit cycle. Corrective actions were identified during each drill and incorporated into response planning. In addition the ERP was reviewed following the four cyanide incidents that occurred during this audit cycle, and was updated as necessary.

PRINCIPLE 8 – TRAINING

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

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

- Los Filos has developed a written training program for all personnel who may encounter cyanide during their work onsite. This program details the requirements for initial training and refresher training. The program is administered by the superintendent of safety supported by human resources training staff. All visitors, contractors and mine personnel are covered by this program with increasing training requirements with an increasing potential for cyanide exposure.
- Staff are classified to determine what training is applicable:
  - Brief introductory talk. Visitors are given a brief introductory safety talk. This 0.5 hour presentation covers general topics of cyanide.
  - Module 1. This module applies to site staff and contractors. The presentation of 2 hours covers cyanide in general, risks, exposures, symptoms, environmental impacts and an overview of the Code.
  - Module 2. This module applies to process staff. This 4 hour presentation covers an overview of ERP, first aid, use of portable HCN monitors, a tour of the process area and an introduction to the emergency equipment.
  - Module 3. This module applies to process staff. The training includes oral and practical training on the procedures applicable to each area of the plant, including exams.
  - First aid training. This training applies to process supervisors. The training covers the first response to cyanide releases.
  - Training of the brigade. This training applies to members of the brigade. It includes in-depth training on ERP, use of emergency equipment, practical exercises and use of cyanide and oxygen antidotes.
  - Training of external responders. This training applies to hospitals and other external entities that can assist with emergency response, including cyanide emergencies.
  - Simulated exercises. This training applies to both the process staff and the brigade. Training involves the practice of responding to cyanide releases and exposures.

The Los Filos training program requires staff and contractors to receive yearly refresher training in Module 1 and Module 2.

The auditor interviewed eight employees of Los Filos and two contractors in the field.

The Los Filos training program requires training department staff to maintain training records for each worker. The training records are kept in physical copy in the training archives since 2010. The records are available for all personnel of Los Filos, contractors and visitors.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos provides task training for all staff to perform their tasks so that they minimise the risk of exposure and releases. In general, task training does not apply to contractors because they are not responsible for operating the cyanide facilities. The written training program requires all plant and pad personnel to receive Module 3, which is defined as training in procedures and work instructions. Los Filos provided a follow-up to Module 3 of training annually. The written training program lists which departments must be trained on which procedures and area under Module 3 (i.e., instrumentation, plant maintenance, pad, ADR Plant, environment, crushing, and warehouse). The procedures and work instructions include details on how to safely conduct each cyanide-related task. The auditors reviewed these procedures to verify they contain appropriate training elements for PPE, equipment/supplies, safety, and methods.

For Modules 1 and 2, site paramedics and doctors provide training on cyanide poisoning and the first response. Experienced area supervisors provide training on work procedures and instructions (i.e. Module 3). Paramedics, doctors and supervisors have completed the "Train the Trainer" course offered by Chemours (DuPont) that qualifies them to teach cyanide-related topics.

Los Filos evaluates the effectiveness of training for Modules 1, 2 and 3 through written exams and documented observations. Written examinations are required for Operators A, B and C. Exam scores are recorded on a follow-up form. The auditors reviewed these test forms to verify that they included questions related to cyanide. The auditors questioned workers in the plant and leach pad on their knowledge of cyanide and its related risks in the tasks they were undertaking. The workers interviewed had a thorough understanding of this.

The training staff of Los Filos maintains training records from 2010 of each of the employees during the duration of the employment. Printed files contain certificates with the name of the trainer. Topics covered are not specifically listed, but when comparing training materials (e.g., presentations, procedures, work instructions) with written tests, the topics covered could be inferred. The auditors reviewed records for the entire recertification period to confirm compliance.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Los Filos Training Program trains all process personnel (i.e., all plant and pad personnel) in cyanide release procedures and in decontamination and first aid procedures. These procedures cover first aid for

exposures, as well as control and cleaning measures for environmental releases. Classroom training consists of reviewing procedures for incident response, the operation of the isotainer, and the MSDS for cyanide.

The site's first responders for cyanide related incidents take part in emergency drills to test and improve their response skills. The drills undertaken have included cyanide exposures and cyanide spills

Los Filos has established the training of the brigade (i.e. an emergency response team) trained in procedures and emergency response teams. The brigade is capable of responding to all types of mining emergencies, not just cyanide-related emergencies. The brigade was trained regularly in first aid, the cyanide responses, fires, incidents of hazardous materials, collapsed structures and mock emergency drills. The auditor reviewed the training materials in the database and photographic documentation to confirm that these trainings occurred.

The brigade training consists of courses, including practices with self-contained suits, SCBA, extraction equipment, rappelling equipment, fire fighting equipment as follows:

a) Hazardous Materials Management
b) Basic life support
c) Vehicle Extraction
d) Rescue of mines
e) Basic firefighting
f) Rescue in collapsed structures
g) Confined Space Rescue
h) Rescue at height I
i) Rescue at height II
j) Firefighting I
k) Six Actions to Save a Life
l) Module 1 of the STCW Code

The auditor reviewed the follow-up of the training of the brigade in 2016 to confirm that all members of the reorganized brigade have received all the required training. The auditor also interviewed selected members of the brigade to confirm that the training had been received.

Los Filos has coordinated training with local hospitals in Chilpancingo and Iguala; Civil protection, Red Cross and firemen in Chilpancingo and Iguala; And community leaders in Mezcala, Carrizallilo and Mazapa for a possible incident with cyanide.

Los Filos has designated that all personnel working in cyanide facilities is responsible for responding to cyanide emergencies at least at a basic level. All staff, including the emergency response brigade, receive training in basic response measures for exposures and releases annually. Additional personnel at the ADR Plant and the pad are designated as first responders to spend time between emergency notification and arrival of the brigade. The brigade has ultimate responsibility for responding to incidents. The auditor reviewed the consultations and photographs of the databases for the training of the 2016 brigade and training.

Los Filos performs drills approximately every year. These simulated exercises have covered both exposures and environmental releases. The auditors reviewed the simulated exercise reports to verify compliance. Los Filos has evaluated the outcomes of the mock emergency drills regarding the needs of amendments to the training requirements. Training requirement have also been reviewed and updated as necessary following the four cyanide incidents reporting during this audit period. The auditor reviewed the supporting documentation provided by Los Filos to verify that these elements of action were implemented in the 2015 and 2016 drills.

The training staff at Los Filos maintain training records for each employee throughout the duration of employment. The tracking spreadsheets include the employee's name, the training date, and the testing results. The hardcopy files contain certificates with the trainer's name. The topics covered are not specifically listed, but by comparing the training materials (e.g., presentations, procedures, work instructions) to the written tests, the topics covered could be inferred. The auditors reviewed records from throughout the recertification period to confirm compliance.

PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 9.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos provides opportunities for interested parties to communicate topics of interest through an open house policy, tours and fairs.

The local communities, which are the main stakeholders, are Carrizallilo, Mezcala and Mazapa. Carrizallilo is located upstream of the mine. Mazapa is located 12 kilometers downstream along the Arroyo Carrizalillo. Mezcala is located near the mine camp in a different basin of the mine.

Community leaders have phone numbers and e-mail addresses for Los Filos Sustainable Development staff.

Los Filos stated that door guards have their telephone numbers in case the stakeholders come directly to the doors with worries. If stakeholders have concerns or complaints, Los Filos has a written procedure with a form to document and resolve the problem. Los Filos staff noted that they did not receive any complaints during the recertification period.

Los Filos has an annual fair every November: In 2016 it did not take place on that date, postponing it to February 2017.

The fair takes place for two days on a weekend and approximately 4,000 people attend annually.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 9.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has opportunities to interact with stakeholders and provide information regarding cyanide management at the meetings, fairs and other community ventures that are in place.

This include the ‘open house’ policy, tours of the mine, plant and leach pads and an annual fair.

Los Filos held meetings with community leaders in Mazapa, Mezcala and Carrizalillo to create opportunities for stakeholder input in cyanide management and emergency response plans.

The auditor reviewed written reports for each of these meetings.

In addition, Los Filos added to those opportunities by actively reaching out to community leaders through meetings specifically to discuss cyanide issues.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Los Filos has developed three triptych pamphlets describing cyanide, community prevention measures, and the Code. These pamphlets are handed out during tours, meetings, and the annual fair. In addition, Los Filos has developed a PowerPoint presentation regarding cyanide and the Code that staff give to visitors as part of their site induction. The auditor reviewed copies of these pamphlets and the presentation.

Most people in the communities around the mine speak, read and write in Spanish. Los Filos staff said that approximately 30 percent of the local population is illiterate. Los Filos disseminates information to these people through annual fairs.
During this recertification period, Los Filos made information publicly available on issues and exposures, as necessary, through public statements, regulatory reports, and the Goldcorp website.

Los Filos has procedures in the Emergency Response Master Plan to follow in case of cyanide releases and / or exposures. Media and declaration control, including procedures for spill declarations, chemical releases on site and accidents (which would include exposures to cyanide). The procedure for chemical emission declarations in situ includes discussion on solution retention, soil remediation measures and disposal of affected materials.

Los Filos is required by Mexican law to report releases of hazardous materials, including cyanide. The auditors reviewed the PROFEPA blank form for the release report. In case of an exhibition, Los Filos would report the details of the exhibition to the Secretary of Labor and Social Prevention (STPS). These entities would make the information available to the public. Section 11, Telephone Directory of the Master Plan for Emergency Response contains the telephone numbers of PROFEPA and STPS. The four incidents recorded during the audit period were not reported publicly as they did not meet the listed criteria or Mexican regulatory requirements for public reporting:

a) they did not result in hospitalization or death

b) they were on site incidents

c) they did not result in significant adverse effects to health or the environment

d) they did not require reporting under applicable regulations

e) they did not cause applicable limits of cyanide to be exceeded

The Goldcorp website contains a compliance section in annual corporate sustainability reports which covers the Los Filos operation during the recertification period.

Report Signature Page

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