SUMMARY AUDIT REPORT

for the August 2019
International Cyanide Management Code Recertification Audit

Prepared for:
Tüprag Metal Madencilik Sanayi ve Ticaret AS
Eldorado Gold Corporation/ Kışladağ Gold Mine

Submitted to:
International Cyanide Management Institute
1400 “I” Street NW, Suite 550
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SUMMARY AUDIT REPORT

Name of Mine: Kışladağ Gold Mine

Name of Mine Owner: Eldorado Gold Corporation

Name of Mine Operator: Tüprag Metal Madencilik Sanayi ve Ticaret AS (Tüprag)

Name of Responsible Manager: Mr. Matt Badylak, General Manager

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Location detail and description of operation:

The Kışladağ Gold Mine is the largest operating gold mine in Turkey. The mine is located in Usak Province, on the western edge of the Anatolian Plateau between the major cities of Izmir, lying 180 km to the west on the Aegean coast, and the capital city of Ankara, 350 km to the northeast. The site is 35 km southwest of the provincial capital of Usak, near the village of Gümüşkol and several other small villages. The site is situated at an elevation of approximately 1,000 m above sea level, in gently rolling topography. The climate is temperate with an average annual rainfall of 425 mm, most of which occurs during the winter months. The surrounding region is rural, characterized primarily by subsistence farming and grazing. Access to the mine is provided by a 5.3 km long paved mine access road, which connects to a paved regional highway between the towns of Ulubey and Esme. Electricity is provided from the national grid via a 25 km power line from a substation near Usak. Water for the operation is pumped from wells near Ulubey to the site through a 13 km pipeline.

Kışladağ is an open pit mine and heap-leach operation. The ore is processed in a conventional heap leach facility which consists of a three-stage crushing plant, an overland conveyor from crushing plant to heap leach pad, mobile conveyors, a radial stacker for placing the crushed ore onto the leach pad, and a carbon adsorption facility for recovering dissolved gold onto activated carbon. The gold-loaded carbon is then stripped on site in a refinery and the final product is a gold doré bar. Facilities added since the 2016 ICMC recertification audit include the installation of two additional carbon columns; a second cyanide mix plant at the Adsorption, Desorption Recovery (ADR), and a back-up set of booster pumps, generators and piping to lift pregnant solution to the top of the leach pad.
The designed heap height is 120 m, which is placed in 10 m lifts. The heap leach pad is a permanent facility employing a two-part liner system of a compacted layer of low permeability clay soil and a synthetic liner. Solution is managed using pregnant, intermediate, and barren solution ponds and the ADR plant. The water management system includes several event ponds added as the leach pad expanded and designed to manage precipitation in excess of a 100-year, 24-hour storm event.

In 2018, Eldorado Gold Corporation (Eldorado) stopped mining operations at Kişladağ due to concerns regarding recoveries and leach kinetics. The feasibility of constructing a carbon-in-pulp mill was considered to improve recoveries; however, after evaluating different recovery methods and improving leach kinetics, Eldorado was able to increase leach pad recoveries based on an extended 250-day leach cycle. Mining operation restarted in the second quarter of 2019. As part of the evaluation program three inter-lift test cells (T1, T2 and T3) were constructed on the top of the leach pad to test leach recovery options. At the time of the site audit two additional cells (C1 and C2) were under construction. During the period the mine was shutdown pad leaching and carbon-column recovery operations continued. The mine’s production forecast for 2019 is 9 million tonnes. Gold production in 2017 and 2018 was about 171,000 oz/year with a forecast between 145,000 oz to 165,000 oz for 2019. The general location of the Kişladağ Gold Mine is shown in the following figure.

**Figure 1: Location of Kişladağ Mine, Turkey**
SUMMARY AUDIT REPORT
Auditors’ Finding

The operation is: ■ in full compliance
in substantial
compliance not in
compliance

with the International Cyanide Management Code.

Except for the supplemental cyanide transportation chain certification issues and associated corrective actions discussed under Standard of Practice 2, Tüprag has experienced no ICMC compliance issues since the last ICMC recertification audit in 2016.

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Date(s) of Audit: 5 August 2019 through 9 August 2019

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 (SAR) 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 latest version of the International Cyanide Management Code Mining Operations Verification Protocol; Guidance for Recertification Audits for the International Cyanide Management Code, and using standard and accepted practices for health, safety and environmental audits.
SUMMARY AUDIT REPORT

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

   **Standard of Practice**

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

   The operation is:  ■ in full compliance
   ■ in substantial compliance
   ■ not in compliance...with Standard of Practice 1.1

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

   Tüprag continues to procure both boxed and solid to liquid system (SLS) forms of cyanide from CyPlus GmBH (CyPlus) as their primary supplier. Procurement is by purchase orders specifying the cyanide form and quantities and issued against a master supply contract which has been in effect since 2013. The master contract includes the commitment of both parties to obtain and maintain cyanide certification which also extends to the CyPlus supply chain and transporters.

   Since 2016, to increase the number of supplier options due to increased cyanide demand and reduce risk of supply interruption from a single source, Tüprag procured supplemental cyanide from the following sources:

   - Box form cyanide was purchased from Hebei Chengxin Co. Ltd (Hebei) in China under purchase order agreement. The Hebei facility was last recertified in February 2019.
   - Cyanide in bag-in-box from Tongsuh Petrochemical Corporation, Ltd (Tongsuh) in Ulsan City South Korea under a supply chain managed by Beecom Inc. (Becom) and Anhui Anqing Shuguang Chemical Co. Ltd (Anhui) in Anqing China. Review of the ICMI webpage confirms that the Tongsuh Ulsan City facility was recertified in March 2017 and the Anhui Anqing facility in January 2017.
   - Procurement of cyanide from Orica Australia Pty Ltd (Orica) produced at the Orica Yarwun facility, Australia and supplied to site in June 2019. The Orica Yarwun facility was recertified to ICMC in February 2017.

   All cyanide used since the 2016 recertification audit was confirmed as being obtained from ICMC certified production facilities.
2. **TRANSPORTATION** Protect communities and the environment during cyanide transport.

**Standards 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.

The operation is: ■ in full compliance
  in substantial compliance
  not in compliance...with Standard of Practice 2.1.

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

Since the 2016 recertification audit, Tüprag has purchased cyanide from several different producers (CyPlus, Tongsuh, Anhui, Hebei and Orica) and delivered to Tüprag through the Ports of Izmir and Pendik depending on the supply chain and form of cyanide used.

**CyPlus Turkey Supply Chain (2016 – 2019)**

Delivery arrangements remain unchanged from the 2016 audit. The CyPlus Cyanide Supply Agreement places responsibility on CyPlus and its transportation contractors for the production and delivery of cyanide in compliance with the ICMC. Tüprag continues to take cyanide ownership at the point that boxed cyanide in shipping containers is lifted from the delivery truck. SLS type containers are delivered to a dedicated warehouse (the SLS Storage Warehouse) prior to transfer to the ADR plant for mixing. Packaging requirements are addressed in the Supply Agreement. Except for unloading, all other responsibilities are allocated to the CyPlus Turkey supply chain. The certified CyPlus supply chain from the CyPlus Wesseling production plant comprises several elements including transport through the Ports of Izmir (boxed cyanide) and Port of Pendik (SLS form cyanide) and road transport to the operation by TO-PET and Zafer Nakliyat respectively.

**Beecom Turkey Supply Chain (2016, 2018)**

The Beecom supply chain was used for supply of supplementary sodium cyanide. Cyanide supplies were sourced from Tongsuh and Anhui in December 2016 and March 2018 respectively. Beecom was an ICMC signatory in 2016 and certified a Turkey Supply Chain in January 2017. The key elements of the supply chain comprised transport from Tongsuh to the mine included road and rail transport to Port of Busan, ocean transport to the Port of Izmir and road transport to the operation by TO-PET.
Tüprag notified ICMI of their intention to procure Anhui cyanide through the Beecom supply chain in August 2017. The transport route was to utilize the certified Anhui supply chain from the Anhui Anqing China production facility to the Port of Shanghai which was ICMC certified in October 2016. Thereafter, Beecom used an ocean carrier to transport cyanide to the Port of Izmir; however, the ocean carrier was not incorporated into a certified supply chain at that time. Beecom subsequently notified ICMI of their intention to add the Port of Shanghai and an ocean carrier to their certified supply chain in September 2017, which was noted on the ICMI webpage. Tüprag subsequently notified ICMI in January 2018 of a further cyanide shipment to be received from Anhui. A review of the Beecom SAR for the Turkey Supply chain and correspondence with ICMI indicates that a revised audit report incorporating the Port of Shanghai and an Ocean carrier for transport to Port of Izmir was not completed. It is the auditors opinion that Tüprag demonstrated a good faith approach to procure cyanide through a certified supply chain to the best of their knowledge for the following reasons: Tüprag’s correspondence with ICMI on the change of supplier within the required notification period, the stated intention of Beecom to include Shanghai and the ocean carrier into the certified supply chain, and the face value description on the ICMI webpage that the supply chain was fully certified.

Hebei Chengxin Transport Supply Chain (2018 and 2019)

Cyanide was procured from Hebei since May 2018. The first consignment delivered to Tüprag was under Hebei’s Global Ocean Supply Chain which was certified in August 2017 and included Road Transport from Hebei Chengxin’s production facility to departure ports of Qingdao, Shanghai, Tianjin and Lianyungang and ocean transport using ocean carriers (Hapag Lloyd, Maersk, Mediterranean Shipping Company (MSC), Compagnie Maritime d’Affrètement (CMA), Compagnie Générale Maritime (CGM), Korea Marine Transport Company (KMTC)). Delivery was to the Port of Izmir with subsequent road transport by TO-PET directly under contract to Hebei. Neither the Port of Izmir nor the road transporter TO-PET were included within Hebei’s certified supply chain at the time of first procurement (May 2018). However, the Port of Izmir was subsequently included as an addendum to the Global Ocean Supply Chain in November 2018 and a Turkey Supply Chain was certified in March 2019, with inclusion of road transport from Izmir to Tüprag using TO-PET. Certification was achieved within nine months of the date of initial shipment.

Orica Supply Chain (2019)

In June 2019, Tüprag procured cyanide through the Orica Australia Supply Chain certified in August 2018, covering transport of sodium cyanide from the Orica Yarwun production facility by road and rail to the Port of Brisbane and further transport using the Orica Global Marine Supply Chain certified in January 2018 and amended on 26 August 2019 to include the Port of Izmir. Transport from the Port of Izmir to Tüprag mine was by TO-PET directly contracted to Tüprag.
Tüprag notified ICMI of the intended change of supplier to Orica; however, did not provide notification that a portion of the supply route comprising the Port of Izmir and road transportation by TO-PET was not included in the certified Orica supply chain.

Subsequent to the field visit component of the audit, TO-PET completed an ICMC audit and submitted the audit report to ICMI for review. The TO-PET report was accepted on 13 November 2019 as certified to the code.

Except for CyPlus, allocated responsibilities for cyanide transport were not explicitly set out in written agreements with the other cyanide suppliers. Following the field audit, Tüprag subsequently updated and reviewed agreements with Orica, Hebei, CyPlus and TO-PET to include written agreements allocating responsibilities for the various elements of transport amongst the parties.

Tüprag did not notify ICMI regarding the use of uncertified portions of supply chains (TO-PET road transport for the 2018 Hebei supply and the 2019 Orica supply in 2019). This was an oversight by Tüprag to meet the requirements of the ICMC. Nevertheless, it is the auditor's opinion that a good faith effort was made to procure cyanide through certified supply chains and that a determination for full compliance can be made for the following reasons:

- Tüprag endeavored to procure cyanide from certified suppliers namely Hebei and Orica who have updated their certified supply chains to include the Port of Izmir and, also in the case of Hebei, road transport from the Port of Izmir to the mine.
- Tüprag’s selection of TO-PET for road transport of Orica source cyanide from Port of Izmir to the mine is considered reasonable on the basis that TO-PET has been included in three existing certified supply chains (CyPlus, Beecom, and Hebei) along the same road route. Similarly, at the time of procurement of Hebei sodium cyanide in 2018, TO-PET was used as an appropriate transporter due to its inclusion in certified CyPlus and Beecom supply chains.
- TO-PET was audited and achieved certification to the ICMC on 13 November 2019 for the Port of Izmir to Tüprag road route.
- Recognizing the deficiency, Tüprag revised their purchasing and procurement procedure and retrained personnel to consider certification of all elements of the supply chain and notification of ICMI.
2.2 Require that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.

The operation is: ■ in full compliance
               in substantial compliance
               not in compliance...with Standard of Practice 2.2.

Summarize the basis for this Finding/Deficiencies Identified

The CyPlus Sodium Cyanide Agreement states that CyPlus and its transporters are responsible for production and delivery of cyanide in accordance with the ICMC. The Hebei contract states that cyanide is produced and supplied in accordance with the ICMC code. Procurement documentation with Beecom and Orica do not contain specific language requiring that transporters are ICMC certified; however, Tüprag’s procurement specifies that only ICMC certified suppliers and transporters be used. Both Beecom and Orica were contracted based on providing and delivering sodium cyanide in full compliance with the ICMC.

All cyanide suppliers and transporters were ICMC certified with except for TO-PET for delivery by road of Orica and Hebei sodium cyanide and, initially, the use of Port of Izmir by Orica and Hebei supply chains. The certified Orica and Hebei supply chains were subsequently updated to include the Port of Izmir, and Hebei also included TO-PET in its certified chain.

TO-PET is directly contracted by Tüprag for road delivery of Orica sodium cyanide and subsequent to the field visit component of the audit, TO-PET was certified as a transporter to the ICMC on 13 November 2019.

3. HANDLING AND STORAGE Protect workers and the environment during cyanide handling and storage.

Standards of Practice

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

The operation is: ■ in full compliance
               in substantial compliance
               not in compliance...with Standard of Practice 3.1.

Discuss the basis for this Finding/Deficiencies Identified:

Tüprag purchased cyanide from several suppliers as discussed in Standards of Practice 1 and
2. Cyanide is received as dry briquettes in nonreturnable and returnable bag-in-box (1-tonne plywood crates) as well as in reusable steel 20 tonne SLS containers, which serve as both delivery containers and mixing vessels.

During the 2016 recertification audit cyanide boxes were stored in the ADR cyanide warehouse and the Kişladağ Concentrate Treatment Plant (KCTP) cyanide warehouse located south of the leach pad. In May 2017 Tüprag discontinued using the KCTP cyanide warehouse and relocated cyanide storage to the former carbon storage building for boxed cyanide storage (New Cyanide Warehouse). The KCTP warehouse was decontaminated and decommissioned from use as a cyanide facility. The New Cyanide Warehouse is much closer to the ADR mix plant. This warehouse is metal clad construction with natural ventilation and a concrete floor with drainage that discharges to the barren pond. The yard outside the storage area is concrete paved and there is a concrete ramp for unloading cyanide boxes from shipping containers. Prior to commissioning, the warehouse was inspected and approved by CyPlus as of suitable design and construction for cyanide storage. The ADR cyanide warehouse and SLS Storage Warehouse remain in use and are unchanged since the 2016 audit. The warehouses are secured, fully enclosed, and metal-roofed, with concrete containment vessels, audible/visual Hydrogen Cyanide (HCN) alarms, spill containment kits, and dry chemical fire extinguishers. The warehouses are locked when cyanide is not being handled and are surrounded by perimeter security fences and locked gates and are monitored 24/7 by security cameras. The warehouses are also located within the mine property which is also has restricted access and surrounded by a security fencing.

Prior to 2019 the intermodal shipping containers were lifted from the delivery truck trailer onto the ground using contracted mobile cranes to allow unloading by forklift. In 2019 Tüprag constructed loading ramps near each of the cyanide warehouses that allow the cyanide boxes to be unloaded from the container directly from the truck using a standard forklift, thereby eliminating the need for mobile cranes and riggers. Each unloading area is concrete paved, and drainage is directed to one of the storm water or solution ponds.

The cyanide mixing and storage tanks for bag-in-box form cyanide are located within a concrete containment on the west side of the ADR, a short distance from the primary cyanide storage warehouse. The mixing and storage area, the gold room, stripping vessels, other reagent storage tanks and other major components of the ADR are open to the atmosphere, but under a common metal roof. The acid storage and wash tanks remain within a physically separate berm concrete containment within the ADR footprint. In 2018 Tüprag installed an additional cyanide mix tank unit at the ADR next to the existing mix tank. Tüprag does not purchase cyanide in liquid form. However, the dedicated SLS offloading and facility was designed with a concrete tank mixing offloading apron, reporting to a sump that can be evacuated to the permanent onsite storage tank.

All cyanide mixing and storage tanks are located within concrete containments designed to contain greater than 110% of the largest tank volume and to prevent seepage to the subsurface. The mixing and storage tanks are fitted with tank level indicators and alarms.
that can be monitored from both the sparging control station and central control room at the ADR facility. The level indicators and alarms are on a six-month preventative maintenance schedule. Operating procedures also require the tank levels to be checked prior to mixing operations to ensure enough capacity is available in the tank to safely conduct the mix.

The mine is located several kilometres from the nearest residencies and all unloading, storage and mix facilities including the changes noted above are located several hundred metres from the mine’s administration buildings. All facilities have been designed so that cyanide releases would report to the solution or stormwater ponds and not be released to surface water.

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

The operation is:
- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 3.2.

Summarize the basis for this Finding/Deficiencies Identified:

All shipping-containers used for the transportation of cyanide boxes are inspected after cyanide crates are removed and released for other service. The wooden boxes from CyPlus are knocked down when empty, folded, and returned to the supplier for re-use. Empty nonreturnable boxes from other suppliers are disposed at a licensed hazardous waste facility.

Since the 2016 Tüprag installed water jets on the bag cutters in each of the cyanide mix hoppers to allow triple rinsing of the empty (cut) cyanide bags prior to disposal of as hazardous waste. Prior to installation of the jets the mixing tank operator, wearing full personal protective equipment (PPE) folded and rolled the bags on the mixing deck without rinsing.

The SLS containers are inspected after sparging to check that all briquettes have been dissolved and the containers properly rinsed before they are sealed by replacement of the blank flanges. The placards on the containers are changed to UN3414 (cyanide solution) for return to the vender to notify the potential for residual cyanide solution in the container.

Written procedures are in place to prevent exposures and releases during cyanide unloading storage and mixing. These include transport and unloading of shipping containers and SLS containers, unpacking of shipping containers and storage of cyanide boxes, cyanide mixing and handling and disposal of waste boxes and bags, and sparging of SLS containers.

Prior to 2019 the intermodal shipping containers were lifted from the delivery truck trailer onto the ground using contracted mobile cranes to allow unloading by forklift. In 2019 Tüprag
constructed loading ramps near each of the cyanide warehouses that allow the cyanide boxes to be unloaded from the container directly from the truck using a standard forklift, thereby eliminating the need for mobile cranes and riggers to handle the shipping container. Each unloading area is concrete paved, and drainage is directed to one of the storm water or solution ponds. The procedures include requirements for personal protective equipment (PPE) and checking for potential HCN gas and use of synthetic colourant dye to assist with identification of potential reagent leaks.

The cyanide mix procedure requires operators to wear full Tyvek coveralls, rubber gloves and boots, and full-face respirator and for a separate observer in identical PPE at ground level during the mix. Mixes are also observed remotely by the control room operator by video camera. The procedure that the hopper doors are closed prior to cutting the bag and an extrusion fan for the mix tank prevents the release of dust outside the hopper. The mix tank, hopper and working platforms were observed to clean and free of residual cyanide or dust. In the event of a spill within the containment area, this would be treated as a Level 1 Incident and addressed as required in the Emergency Response and Crisis Management Plan.

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

Standards of Practice

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

The operation is: ■ in full compliance
                                   in substantial compliance
                                   not in compliance...with Standard of Practice 4.1.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag has developed an environmental and occupational health and safety management system (EMS) based on International Organization for Standardization (ISO) 14001 and Occupational Health and Safety Assessment Series (OHSAS) 18001. The mine was recertified to ISO 14001 and OHSAS 18001 in December 2018. Within the context of its OHSAS 18001 OHS management system, Tüprag’s ICMC compliance program continues to be led by its Health, Safety, and Security (HSS) department, with the assistance of the Environmental, Process, Preventive Maintenance, and other operational departments. The Cyanide Management Plan (CMP) provides a detailed description of Tüprag’s ICMC compliance program. The Plan was revised and reissued in September 2019 and is supported by the Emergency & Crisis Management Plan and a suite of detailed operating and safety procedures. These measures are based on the results of risk assessments undertaken to safeguard health and environment and to provide the capability to respond to any emergencies. The plan integrates best practice procedures for the design, construction
and operation of cyanide facilities; reception, storage, handling, use and disposal of cyanide; water management; and inspection and maintenance of facilities.

The current version of the CMP provides general information on cyanide chemistry, toxicity, and safety handling; it also establishes overall requirements for:

- cyanide procurement and transport;
- cyanide unloading, handling, and storage (for both bag-in box and SLS delivery forms);
- cyanide mixing operations;
- management of leach pad construction, ore placement, and placement of leach solution drip-lines;
- leach pad leak detection monitoring;
- management of solution collection trenches and pipelines;
- management of pregnant, barren, and intermediate solution ponds;
- management of stormwater event ponds;
- decommissioning considerations;
- health and safety;
- risk assessment;
- preventive maintenance;
- training and planned task observation (PTO) program;
- dialog with external stakeholders; and
- emergency preparedness and crisis management.

Heap-leach operations continue to be conducted in compliance with the CMP, the technical guidance provided in final phase-specific design reports, and by regular review of the site water balance. Procedures are also in place to mitigate ponding on the leach pad and to monitor for potential liner leakage of the pad and ponds. The ADR operations are also managed in accordance with a suite of standard operating procedures based on the Safe Work Procedures.

As noted in the 2013 and 2016 certification audit reports, all operational assumptions and parameters (including required freeboard in the solution, stormwater, and event ponds) are documented in phase-specific design reports for the heap leach pad and the site’s water balance model. The Weak Acid Dissociable (WAD) cyanide concentrations in solutions held in solution ponds and applied to the leach pad exceed 50 mg/L and protective measures and operations procedures have been implemented to prevent the access of birds to these solutions. Kışladağ is a heap leach operation and does not use mill based mineral extraction and tailings technology.

The operation continues to inspect cyanide facilities on an established frequency sufficient to
assure and document that they are functioning within design parameters. Documented inspections are conducted each shift. These inspections address key aspects of ADR operations including signs of potential leakage of tanks, piping and pumps; salt build-up; adequacy of bird ball coverage on solution ponds; integrity of netting on leach pad collection basins; integrity of hydrogen peroxide dosing system; cracks in containments, shower/eyewash operation, and condition/adequacy of signage. Documented daily inspections are also conducted to manage and eliminate ponding on the leach pads, monitor leach pad leak detection ports; and available freeboard in the solution ponds and other aspects of cyanide management. Also, the HSS Department conducts routine documented inspections of all cyanide facilities at least monthly and the Environmental Department conducts semi-annual integrity inspections of surface water diversion channels, constructed to prevent stormwater run-on to the leach pad. In addition, preventative maintenance (PM) routine inspections of critical equipment are undertaken on pumps, power generators, safety showers and instrumentation to ensure they operate reliably as designed.

Inspection practices are substantially the same as were in place during the 2016 recertification audit. Daily and Shift inspections are recorded on specific operator sheets that include inspection date, the name or initials of the operator or supervisor, and note any specific actions required as a result of the inspection. Repairs, maintenance, or other corrective actions required from inspections are reviewed in the next day’s planning meeting and specific PM actions initiated where appropriate. Any observations of deficiencies that have potential occupational health and safety or environmental impacts will prompt the generation of an occupational health and safety incident or a corrective action report that include the date, identify the individual reporting the issue, and summary of the corrective/preventive action required as a result of report review. These actions are tracked to completion electronically on INX Software (INX) management system. Monthly reports are generated and distributed to department heads that include information on the number of open and closed action items.

Tüprag has continued to implement their Change Management Procedure to evaluate the environmental and safety impacts of new or modified processes, equipment, or materials. The proposed change is documented on a Change Request Form and routed to the HSS Manager and Environmental Manager for review and approval prior to the implementation. The procedure applies in addition to the Authorization for Expenditure (AFE) process, which is required for major capital expenditures that must be conducted outside of regular annual budgets, as well as any other change, regardless of monetary value. Since July 2016, the procedure has been applied to 36 cyanide management infrastructure improvements.

The CMP addresses procedures in the event of a temporary shutdown. Specific procedural guidelines have been developed that document planned responses to non-emergency temporary shutdown needs, including shutdown for economic reasons, or as required in response to a regulatory action or the routine recovery from a water balance upset from prolonged rains and prolonged drought. Prior to startup after a temporary shutdown the relevant departments will meet to ensure that the necessary measures are implemented for
active recommissioning. When a shutdown extends more than one-month employees will be required to attend health, safety and environmental induction training before operations are restarted. In situations where a shutdown could extend for many months closure procedures would follow the procedures set out in the site closure plan.

The CMP addresses contingency actions in response to a variety of emergency/non-emergency scenarios, including:

- Hydrogen cyanide gas leak;
- Transportation accidents;
- Leak during unloading, mixing and preparation,
- Leak as a result of explosion or fire,
- Pipe, valve or tank leaks,
- Overflows in ponds or solution limiting areas,
- Power cuts and pump failures,
- Uncontrolled leaks,
- Other emergencies that may occur in heap leach or other cyanide plants.

Depending on the severity of the incident these actions may require the implementation of the Emergency and Crisis Management Plan.

Tüprag continues using the SAP software for managing the preventative and corrective maintenance. The PM system addresses major machinery, tanks, pumps, valves, sensors, and other equipment associated with the management of cyanide (the exception being the fixed and hand-held HCN monitors, which are managed directly by the HSS Department). The SAP system generates PM actions based on a predetermined maintenance schedule, or upon generation of work orders in daily response to specific inspection observations or observed operational needs. The system manages electrical and mechanical maintenance as well as non-destructive testing programs for tanks, piping and pumps.

As noted in the 2016 recertification audit, periodical maintenance for major machinery, tanks, pumps, valves, sensors, and other cyanide solution transport and management is tracked via the (Systeme, Anwendungen und Produkte in der datenverarbeitung) SAP maintenance management system. Work orders generated from the SAP system can be supported with substantial annotations, sketches or photographs, or other procedural detail for proper performance of the required work. Work orders are generated by the maintenance planner and passed onto the maintenance supervisor who attaches relevant Job Safety Analysis (JSA) procedures for the required maintenance tasks prior to issuing the work order to the maintenance crew. In a recent initiative Tüprag modified the work orders cover page for all cyanide related maintenance work to include a specific JSA for cyanide hazards. Records maintained with SAP are available since the startup of operations in 2004. The HSS department is responsible for maintaining procedures and hyperlinks in the department on-line documentation system to all controlled procedures and JSAs.
The Kişladağ mine is connected to the national grid via a local substation that reduces the supply from 154 KV down to 34.5 KV and 400 V. Tuareg indicates that this power supply is stable and reliable. At the time of the 2016 ICMC recertification audit, there were four 1600-kVA diesel generator sets onsite dedicated to the backup operation of major pumps and other key infrastructure associated with the heap leach pad and ADR. One of these gensets is located just north of the solution ponds; the other three sets are installed adjacent to the ADR. In 2018 two new gensets, also 1600-kVA diesel, were installed next to the existing genset north of the solution ponds. These new gensets were installed in conjunction with the installation of the Set 4 Booster Pumps to provide additional backup power as needed in the event of an emergency. Tüprag indicated that only three gensets are required to operate the leach pad and ADR; with four gensets needed to also support all other power requirements. With six gensets now on standby Tüprag has considerable reserve backup power to deal with a power-outage emergency. The genset maintenance are included within the mine’s PM system. In addition to routine mechanical inspections, the gensets undergo monthly load and unload testing.

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

The operation is: ■ in full compliance
in substantial compliance
not in compliance...with Standard of Practice 4.2.

Summarize the basis for this Finding/Deficiencies Identified:

This standard of practice is not applicable, as the Kişladağ Gold Mine is strictly a heap leach operation and does not use mill-based mineral extraction technology.

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

The operation is: ■ in full compliance
in substantial compliance
not in compliance...with Standard of Practice 4.3.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag continues to use the water balance described in the 2013 and 2016 audit reports. As noted in previous audit reports, The Mines Group, Reno, NV, USA, (the designer of the heap leach facility) was contracted to develop the water balance and to provide continued liaison support for the maintenance of the water balance and ongoing operational guidance and technical support for emergency or contingency situations. This support remains ongoing.
The water balance is constructed using Excel™ software and is used for site wide water balance management. It consists of a series of water management components, all brought together into a single spreadsheet and linked to reflect the interactions between the components. The model is a deterministic water balance for use as an operational water management tool to predict and manage the risk of potential discharge. Among other factors, the model specifically considers solution application rates, precipitation infiltration rates, evapotranspiration rates, and potential power outages. Freezing and thawing impacts were not considered appropriate in the development of the model, as although the site has experienced snow and freezing temperatures, there has never been a snowpack with a duration greater than 30 days and a spring snowmelt event has never occurred. A stochastic version of the model has been discussed but has not been developed. However, the current deterministic version of the model can integrate frequency distributions for precipitation, and hence, may be considered “probabilistic” in the sense intended by this standard of practice. The water balance model has features that permits Tüprag to quickly quantify the risk of overtopping the lined pond systems (and potentially releasing process solution to the environment over the emergency spillway) or of running out of makeup water. A procedure sets out roles and responsibilities of relevant departments to complete monthly data entry into the model.

The recently constructed inter-lift pad on the top of existing leach pad has altered the drainage behavior of the pad due to the resulting shorter flow path and retention time of solution through the inter-lift pad. In addition, the original water balance model conservatively assumed zero retention and 100% discharge of precipitation in the event of a storm. The shorter flow path through the leach pad coupled with the assumed zero retention time for precipitation discharge recently resulted in the model falsely predicting pond spill events in early 2019. At the time of the site audit Tüprag was in discussions with Mines Group to adjust the model to account for these factors and recalibrate the model. In the interim, the Tüprag is maintaining the pond levels conservatively low to ensure pond capacities are maintained to retain the maximum probable storm plus drain down of the pads in the event of a 24-hour power outage. Review of the available pond capacities for the months January to July 2019 show that Tüprag is maintaining a total storm pond capacity to retain 1.30% to 1.48% of the volume of a 100-year 24-hour design storm plus event plus the leach pad drain-down volume from a 24-hour power outage.

Inspection and monitoring activities are essentially unchanged from the 2016 recertification audit. Full meteorological data continue to be recorded daily from the onsite meteorological station located just north of the mine pit. Daily shift inspections are conducted to monitor the condition and functionality of solution risers, distribution collection lines, leak detection arrangements, as well as surface levels, adequacy of bird balls and condition of the solution, stormwater, and event ponds. Operators also record solution pond levels on the Tüprag ADR Log Form. These inspections are conducted each shift by the operators. Operators on both shifts also complete a daily record that records hourly or shift-specific readings of key operational data including pond levels. This information is reviewed daily and forms the basis...
for operational adjustments to maintain targeted mineral recovery rates.

The solution and stormwater pond system for management of the ADR and leach pad is the same as was in place during the 2016 verification audit except that the intermediate pond is now used as a pregnant pond as pregnant solution is no longer recycled back to the leach pad. All ponds are designed with 1 m freeboard above the design capacity, which considers a 100-year, 24-hour design storm event, as well as the potential for drain down from a 24-hour power loss.

Precipitation and evaporation data are collected daily from the onsite meteorological station located just north of the mine pit as well as an additional precipitation gauge located near Pond PRP-2. This data is input to the water balance model using the operational monitoring tool included as a tab in the Excel™ water balance model. This allows Tüprag to assess the risk of overtopping the lined pond systems and supports decisions to make specific operational adjustments. The meteorological station is sent to the State Meteorological Calibration Centre based in Ankara for calibration every 2 years.

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

The operation is:  ■ in full compliance
            ■ in substantial compliance
            ■ not in compliance...with Standard of Practice 4.4.

Summarize the basis for this Finding/Deficiencies Identified:

Wildlife access prevention measures are essentially identical to those in effect in the 2016 certification audit. The entire Kışladağ operation is surrounded by a well-maintained security fence designed to prevent ingress by livestock. Secondary chain-link fencing is also installed around the perimeter of the pond areas.

Tüprag continues to maintain a series of solution, stormwater, and event ponds located along the western side of the leach pad. Each pond is separately fenced and those ponds which have (or could potentially have) solution concentrations of WAD Cyanide greater than 50 ppm are adequately provided with bird balls.

High-Density Polyethylene (HDPE) collection pipelines at the western (downslope) edge of the heap leach pad are for the most part buried in a gravel-filled HDPE lined trench. Small open concrete and HDPE-lined collection basins have also been constructed at intervals to facilitate the collection of pregnant solution from each cell. Solution accumulating in these basins is routed through a concrete header to a pipeline that drains to the pregnant solution pond. Because pregnant solution concentrations are greater than 50 ppm WAD cyanide, these small open basins of solution are covered with plastic bird netting and provided with cutouts to
permit routine dip sampling of solution. Since the 2016 ICMC recertification audit Tüprag has installed steel access walkways at each of these solution collection headers that also include steel netting support bars. In addition to improving safety for operators that access these sampling points, the netting supports provide a much-improved system to maintain the netting in place and prevent it from sagging into the solution. All netting was observed to be in place and protective of wildlife during this recertification audit.

The ADR and heap leach areas are monitored daily by the Process Department and monthly by the Environmental Department. Workers are trained to report all mortalities as part of induction training and periodic toolbox meeting refresher training. In the past three years Tüprag recorded 15 wildlife mortalities; none of which occurred in the vicinity of the ADR or leach pads and could be attributed to cyanide. In the event of a cyanide suspected mortality the carcass would be forwarded to a veterinary laboratory for necropsy examination. Given the presence of significant bird populations observed in and around the ADR area, these results suggest that the measures taken to protect birds, other wildlife, and livestock from the adverse effects of cyanide are generally effective. Leach solution application process has generally not changed since the 2016 recertification audit. Solution emitters are buried to minimize the potential for ponding; no spray emitters are used. On side slopes that are required to go under leach, emission lines are placed on the surface at evenly-spaced intervals.

A procedure is in place to manage the occurrence of ponding on the top of the leach pad. The procedure includes photographs depicting acceptable and unacceptable levels of ponding and the conditions in which corrective actions need to be applied by the leach pad operators to eliminate ponding. The procedure allows operators to anticipate areas of the pad becoming susceptible to ponding. At the time of the site visit approximately 500,000 m² of a total area of 1.29 million m² of leach pad were actively being leached. In general, the pad appeared to be well managed although a few isolated areas of ponding were observed at one area of the leach pad during the site visit. These areas were actively being addressed by pad operators at the time of the visit. When ponding occurs, irrigation is locally stopped, and the area is left to dry adequately prior to a dozer re-ploughing the surface and installing replacement emitters. Leach pad cell irrigation is managed to allow switching of active irrigation areas to prevent ponding without the need to reduce total flow of barren solution pumped to the pad. In addition to ponding management five bird scarer units are moved around the leach pad as needed to minimize potential for birds to encounter solution where ponding occurs.

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

The operation is: ■ in full compliance

in substantial compliance

not in compliance...with Standard of Practice 4.5.
Summarize the basis for this Finding/Deficiencies Identified:

As noted in the 2016 recertification audit, the Kışladağ process circuit is designed and operated as a closed circuit with zero discharge to surface and groundwater. Nevertheless, Tüprag monitors water quality for the mine site on a monthly basis at a station downstream of the heap leach pad, ADR, and solution ponds. The samples are collected monthly by Dokuz Eylül University Geology Department (DEU) and selected samples are sent to Analytical Laboratory Services (ALS) in Vancouver and to DEU’s laboratory for Total and WAD cyanide analysis. Water quality standards for the mine are currently regulated under Classes I through IV of the 2004 Water Pollution Control Regulation in which the strictest standard is Class I is a Total Cyanide limit of 0.05 mg/L for protection of drinking water and aquatic life. Based on review of monitoring results to date for Kışladağ, Total cyanide meets this strictest standard. The results for 2016, 2017, 2018, and 2019 show that WAD cyanide concentrations have consistency been below the detection limit of 0.005 mg/L.

In addition to existing containment measures to prevent discharge to the environment, Tüprag installed a flood containment barrier constructed of Trapbags® along the foot of the north slope of the heap leach pad in December 2018 to prevent potential surface runoff from the leach pad entering the environment in the event of a large precipitation event.

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

The operation is:

■ in full compliance
■ in substantial compliance
not in compliance...with Standard of Practice 4.6.

Summarize the basis for this Finding/Deficiencies Identified:

The same solution management and seepage control systems established to protect groundwater observed in the 2016 ICMC recertification audit are still in effect. The cyanide facilities consist of cyanide storage warehouses, heap leach pad, ADR plant, process solution ponds, event ponds, and interconnecting pipelines. The heap leach pad is constructed with synthetic 2 mm thick linear low-density polyethylene (LLDPE) liner over a 0.3 m (0.5 m for Phase IV, V, and VI) compacted low-permeability clay layer. During Phase V and VI construction a geosynthetic clay liner (GCL) has also been used below the compacted clay liner. A leak detection system is installed between the clay layer or GCL liner and the synthetic liner under all Phases of the leach pad. The leak detection system is monitored each shift. In addition to the leak detection system, the same eight downgradient monitoring wells noted in the 2016 certification audit are also employed to monitor the integrity of the leach pad.

The solution ponds and ADR containment arrangements are essentially the same as evaluated in the 2016 ICMC recertification audit, except for the construction of carbon-in-
column (CIC) lines D-E on the east side of Pond ISP-1. These lines are constructed within a concrete containment basin with secondary barriers on three sides and a base sloping to a solution pond. As noted in the 2016 ICMC recertification audit report, the ponds are double lined using 1.5 mm thick HDPE liner separated by a geonet leak detection system. The original ADR plant (CIC lines A-C) is constructed with a concrete floor and stem walls, which provide adequate spill containment for the tanks located within the plant; any spillage within the ADR not captured in local sumps is directed to a solution pond.

Groundwater samples are collected monthly from each of the wells. The sampling is undertaken by DEU and the samples analyzed by ALS and DEU. In addition, the Environmental Department collects samples for Total cyanide and WAD cyanide every two weeks, in conjunction with the Inspection and Monitoring Committee formed by the Usak City Governor. Based on review of monitoring results covering the period 2016 to date, Total cyanide in groundwater meets the strictest standard (Class I) for protection of drinking water and aquatic life. The results also show that WAD cyanide concentrations have consistency been below the detection limit. Remedial activity has therefore not been warranted.

### 4.7 Provide spill prevention or containment measures for process tanks and pipelines.

The operation is:  
- in full compliance  
- in substantial compliance  
- not in compliance…with Standard of Practice 4.7.

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

Spill prevention or containment measures are provided for all cyanide process tanks and solution piping. The cyanide mixing, storage, and process tanks and piping for CIC trains A, B and C are located within the footprint of the ADR in a concrete secondary containment area, interconnected with concrete floor drains and HDPE lined solution pipeline corridors. Separate concrete containments are provided for the storage tank and offloading apron for the SLS process, and for the new CIC trains D and E.

The cyanide storage warehouses have concrete floors and the warehouse forecourts and off-loading delivery ramps are also concrete paved. These concreted areas drain to the one of the solution ponds in the event of a spill.

The total available containment for cyanide areas within the original ADR footprint was calculated at 227.95 m$^3$, well in excess of 110% of the largest contained tank volume (the cyanide holding or storage tank, at 70 m$^3$). Since 2016 an additional concrete containment with a capacity of 35.5 m$^3$ was constructed for the new cyanide mix tank (volume 10 m$^3$). The acid storage, neutralization, and wash tank are located within a separate containment. The cyanide mixing and storage tanks, the carbon strip vessel and tank area, and the acid storage, neutralization, and wash tank areas are all under roof. Precipitation collected in the
open-air CIC trains A, B and C section of the ADR containment reports to a concrete sump on the west side of the second train that drains (or can be pumped) to a solution pond. The new CIC trains D and E are constructed on a 622 m³ concrete floor bounded on three sides with concrete walls. The concrete floor drains west to a solution pond thereby providing containment in excess of 110% of the largest tank (volume of 40 m³) plus any precipitation.

The SLS offloading and facility is roofed and was designed with a concrete tank mixing offloading apron that reports to a sump that can be evacuated to the permanent onsite storage tank. The onsite storage tank itself is within a concrete containment designed to hold substantially greater than 110% of the SLS container volume, plus flowback.

Cyanide contaminated water collected within the secondary containment at the ADR reports to a concrete sump on the west side of the carbon columns A-C, from where it could be pumped (or in overflow conditions to a solution pond. Similarly cyanide contaminated water from carbon columns D-E would report to a solution pond. The cyanide storage warehouses have concrete floors and the warehouse forecourts and off-loading delivery ramps are also concrete paved. These concreted areas drain to one of the solution ponds in the event of a spill. The solution ponds are interconnected by weirs to allow overflow to an adjacent pond if one or more ponds overfill.

All process solution pipelines are located with containment. These include the solution pipelines at the SLS sparging facility and ADR complex that are located within a concrete containment; the pregnant and barren solution pipelines between the ADR complex and the leach pad that are placed within an HDPE-lined trench; the transfer pipelines between the pregnant, barren, stormwater, and event ponds that are placed in HDPE-lined trenches, pipe-in-pipe connections, or the concrete channels; and the newly installed Set 4 Booster Pumps that are provided with their own concrete containment.

The only surface water features down gradient of the site are ephemeral streams that may exist for short periods of time in the spring. In the low probability of a pond overtopping emergency, a concrete collection trench and spillway arrangement is in place and an active hydrogen peroxide dosing system is maintained to neutralize any residual cyanide prior to permitting emergency discharge through the spillway. The quality of the peroxide is checked annually and operator training in the dosing procedure is undertaken every year to ensure readiness and effective response if discharge through the spillway was ever required. A flood containment barrier was also constructed along the foot of the north slope of the heap leach pad in December 2018 to prevent surface runoff from the leach pad entering the environment in the event of a large precipitation event.

As noted in the 2016 ICMC recertification report, all cyanide mixing, storage, and solution tanks are constructed from carbon steel, and cyanide solution pipelines and piping system components are constructed of HDPE or carbon steel; both materials are compatible with cyanide and high pH conditions. Based on site inspection, review of engineering records and specifications, and discussion with Tüprag, the materials used for these facilities are also
compatible with cyanide and high pH conditions.

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

The operation is:
- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 4.8.

Summarize the basis for this Finding/Deficiencies Identified:

As of the 2016 ICMC recertification audit Tüprag had completed the final (Phase V and VI) expansion of the leach pad system. The final inspection results for Phase V/VI, including test reports and construction photographs for this construction, are compiled in bound reports and are retained on file with all previous engineer and quality control and quality assurance (QA/QC) documentation for the leach pad, ponds and ADR construction.

QA/QC programs have been implemented for all new construction. Since the 2016 ICMC recertification audit the following engineering projects have been undertaken:

- Installation of Carbon Column Trains D and E,
- Installation of a second cyanide mix plant at the ADR,
- Installation of Set 4 Booster Pumps and piping, and
- Construction of Inter-Lift pad.

With exception of the inter-lift pad the engineering design drawings and QA/QC records for these projects are held by the process department. The inter-lift pad construction was still underway at the time of the recertification audit site visit and final sign-off and handover has yet to be completed.

In addition to the above construction there have been several other facility changes or smaller construction projects including:

- Conversion of the carbon storage building to a cyanide storage building;
- Construction of cyanide off-loading ramps near the ADR cyanide storage; and
- Upgrade of cyanide piping between SLS container and Cyanide Holding Tank at ADR and former carbon storage building.

Engineering drawings and QA/QC for these smaller projects are retained with the Change Management files. QA/QC for these projects is usually performed by Kışladağ Construction Operations (KCO) Management as part of the construction approval sign-off process.
As referenced in the 2016 ICMC recertification report, soil density/compaction tests were performed on underlying soils and clay liner areas, and integrity of the HDPE liner components and individual weld seams were also tested during construction of the leach pads and ponds.

Review of engineering records for construction completed since 2016 indicate QA/QA programs were also in place to confirm the suitability of materials used in construction of cyanide facilities and the adequacy of installation. The records include as-build drawings and QA/QC records signed by appropriately qualified persons indicating that the facilities have been built as proposed and approved.

Engineering and QA/QC records are stored in an archive library maintained in a shipping container located at the old construction yard. Records of recent construction are currently held in the Construction Operations office prior to archiving.

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

The operation is:  ■ in full compliance
                         ■ in substantial compliance
                         ■ not in compliance...with Standard of Practice 4.9.

Summarize the basis for this Finding/Deficiencies Identified:

The Monthly Water Quality Monitoring Procedure continues to be the basis for Tüprag’s surface and groundwater monitoring program. This procedure defines the requirements for undertaking quality monitoring in accordance with Environmental Impact Assessment (EIA) commitments, the Turkish Water Pollution Control Regulation (2004); the regulation on Protection of Underground Water against Pollution, (2012), and the regulation on Surface Water Quality (2012). The procedure sets out responsibilities; equipment; parameters to be monitored; monitoring locations, time and methods; and reporting and file management requirements. The procedure also includes maps showing the location of sampling points.

Tüprag also continues to apply the Wildlife Mortality Monitoring Procedure, which establishes responsibilities, monitoring locations, frequency, reporting procedures, and file management protocols. The procedure requires daily and monthly monitoring of the ADR and heap leach areas by the Process Department and Environmental Department, respectively.

In addition, the Leak Detection Monitoring Procedure is applied for daily interstitial monitoring at solution ponds and the heap leach liner, and for weekly monitoring at event ponds, to monitor for potential liner leakage.

As noted in the 2016 ICMC recertification audit report, the environmental monitoring programs were developed by appropriately qualified personnel. These programs continue to...
be applied and have changed little since they were implemented. The Environmental Department is currently headed by Mr. Nurullah Yiğit who received his bachelor’s degree from Istanbul Technical University Environmental Engineering Department in 2005. He has worked in the environmental field in the mining industry for the past 11 years. As Senior Environmental Engineer he is responsible for managing the environmental programs, preparing environmental reports for submission to the Turkish Government, and reviewing and updating environmental procedures as needed. He is supported by Environmental Technicians that hold current certificates in “Water and Wastewater Sampling Training” with the Ministry of Environmental Impact. These certifications are required to be renewed every five years.

The Monthly Water Quality Monitoring Procedure details the sampling methods including purging monitoring wells, selection and labeling of sample containers, filtering and preservation of samples, and completion of laboratory request forms and shipment instructions. The procedure specifies the parameters to be analyzed, including the cyanide species to be analyzed. Tüprag continues to use the Surface and Underground Water Sampling Log Sheet in the field to record sampling events. Information entered onto the form includes date of sampling, location, well purge data (temperature, conductivity, pH, volume pumped), weather conditions, visual characteristics of the sample, sampling device calibration date, and any anthropogenic influences that may impact sample quality.

Kışladağ is operated as a closed circuit with zero discharge to surface and groundwater. Nevertheless, as discussed in Standards of Practice 4.5 and 4.6, surface and groundwater monitoring are undertaken monthly for various parameters including Total and WAD cyanide. In addition, interstitial monitoring systems are installed at the leach pad and solution ponds to monitor for potential leakage of the pond and pad liners. The ADR and heap leach areas are monitoring daily for wildlife mortalities. In the past three years Tüprag recorded 15 wildlife mortalities; none of which occurred in the vicinity of the ADR or leach pads and could be attributed to cyanide. Details and investigation results are posted in the INX system. In the likelihood of a mortality being caused by cyanide the carcass may be forwarded to a veterinary laboratory for necropsy.

Based on the consistency of monitoring data since 2016 and the low occurrence of cyanide related cyanide mortalities, Tüprag is continuing to conduct monitoring at frequencies that are adequate to characterize surface water and groundwater quality and wildlife mortalities.
5. DECOMMISSIONING  Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

**Standards of Practice**

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

The operation is:  ■ in full compliance
                in substantial compliance
                not in compliance…with Standard of 5.1.

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

Reclamation planning is an integral part to the environmental impact assessment (EIA) process that must be implemented with each major leach pad expansion. A new EIA was submitted in 2013 to support the Phase V/VI expansion. During this stage, the Government Forestry Directorate was responsible for review and approval of the rehabilitation plan. As a result of this review, it was requested that annual reclamation plan updates be submitted to the local Forestry Directorate. Updated plans were prepared and submitted in 2013, 2014, and 2015 and the most recent version was submitted in December 2016. As no significant changes to the heap leach operation occurred in 2017 and 2018 due to suspension of mining in 2018 through early 2019 and a feasibility study initiated in 2017 for a proposed carbon-in-pulp mill and dry stacked tailings facility to improve recoveries that if it were to proceed would have prompted another EIA. Updated plans have therefore not been warranted because of the limited mining activity and leach pad expansion during this period. It is understood that Tüprag is in the process of preparing a 2019 update of the Plan for submission later this year.

The 2016 Reclamation and Closure Evaluation report presents conceptual procedures for decommissioning the ADR plant and processing facilities, and for flushing and regrading the heap leach facilities. Decommissioning and reclamation procedures include for leach fluid management and stabilization; regrading and revegetation of the heap surface; management of solution ponds, which will be maintained open until the volume of fluid has been reduced to the level that will permit management via natural evapotranspiration; conversion of the solution ponds to zero-discharge evapotranspiration cells, and eventual closure of those cells; decontamination and closure of the ADR and the bag-in-box and SLS system mixing and storage facilities, the bag-in-box and SLS warehouses, and associated infrastructure; final decommissioning and decontamination of the KCTP (this has been completed); and sale of unused cyanide reagent stocks or return to the vendor. The plan is supported by a cost estimate to fully fund third-party implementation by independent contractors.
The cost estimate included in the Reclamation and Closure Evaluation presents description of the general order in which planned actions will be conducted, which constitutes a conceptual schedule. Prioritization and sequencing of the specific closure actions upon which a final schedule would be based is also discussed within the conceptual procedures.

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

The operation is: ■ in full compliance  
         in substantial compliance  
         not in compliance...with Standard of Practice 5.2.

Summarize the basis for this Finding/Deficiencies Identified:

Eldorado has commissioned The Mines Group to annually update the Reclamation and Closure Evaluation plan and cost estimate for the whole mine property. The latest available estimate is documented in the 2016 Reclamation and Closure Evaluation, dated December 2016. This report also presents conceptual procedures and costs for decommissioning the ADR plant and processing facilities, and for flushing and regrading the heap leach facilities.

As stated in the CMP Tüprag is committed to review the cost estimate for closure of the cyanide plant every five years, or more often whenever there are changes affecting the closure of such plant. In practice because the local Forestry Directorate has requested annual updates of the Closure and Reclamation Evaluation the cost estimate is reviewed annually for inclusion in this report. In addition, Eldorado conducts quarterly reviews of the Asset Recovery Obligations of all its projects, including Kışladağ.

Since 2013 Eldorado Gold has used a “self-insurance” type of financial assurance mechanism for the Kışladağ mining operation. The details of this financial assurance mechanism are consistent with the Canadian Generally Accepted Accounting Principles and are documented in corporate practice “Internal Code for Self-Insurance of Decommissioning and Closure Liabilities”. Eldorado periodically engages KPMG (a Canadian limited liability partnership affiliated with KPMG International Cooperative (“KPMG International”, a Swiss entity) to conduct independent reviews and provide statements on Eldorado’s financial strength to fulfil its obligations for cyanide-related decommissioning.

The latest review of Financial Information prepared in accordance with the Company’s Internal Code for Self-Insurance of Decommissioning and Closure Liabilities was undertaken by KMPG in 2019 and presented in a statement dated 13 August 2019. The statement is based on Eldorado’s consolidated financial statements as of 31 December 2018 and the cyanide-specific decommissioning costs with the corresponding dollar amounts provided in the “2016 Reclamation & Closure Evaluation” report prepared by the

Kışladağ Gold Mine
Name of Mine

4 December 2019
Date
Mines Group dated December 2016. KPMG agreed with the findings of each of specified auditing procedures used to demonstrate that Eldorado is in good financial standing and has substantial cash reserves to satisfy the ICMI requirements for self-insurance.

6. WORKER SAFETY Protect workers’ health and safety from exposure to cyanide.

Standards of Practice

6.1 Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

The operation is: ■ in full compliance
                                        in substantial compliance
                                        not in compliance...with Standard of Practice 6.1.

Summarize the basis for this Finding/Deficiencies Identified:

The mine continues to manage safety around cyanide related tasks primarily through implementation of the CMP which has remained in place since the 2016 audit and was last revised in September 2019. The plan is applicable to all employees, contractors, visitors and service providers and references safe working procedures and standard operating procedures in the form of Management Procedure Instructions, Non-procedure Instructions and Job Safety Analysis (JSA) procedures for the use and management of cyanide.

The Kışladağ Emergency and Crisis Management Plan remains in effect and identifies emergency situations that may be encountered and defines the we may encounter during the tasks and responsibilities that should be carried out. Where relevant, the plan refers to the same procedures and management plans as noted above including for cyanide related emergencies. The Tüprag Gold Recovery Operating Manual (2005) remains as a reference source for gold recovery and includes general operating procedures for non-cyanide specific mine operating tasks.

Tüprag has mandatory workplace requirements for all employees and contractors including the use of safety goggles/glasses, safety footwear with toe protection, high visibility protective clothing, hard hat, hearing protection, gloves and Golden Rules handbook. Use of additional PPE is required in work areas where there are potential risks from cyanide exposure including respirators, chemical suites or coveralls and rubber gloves. Various work instructions also stipulate PPE requirements for specific tasks including those tasks that involve management of cyanide and require the use of portable HCN monitors for certain cyanide related work tasks.

Workplace inspections are undertaken at the start of each shift and include integrity and operation of pipes, valves, tanks, secondary containments, showers, eyewash stations and noting any evidence of leakage. Prior to cyanide unloading and mixing, pre-work inspections are conducted. Pre-work inspections continue to be a requirement of JSA procedures when
undertaking non-routine tasks and for confined space entry. The JSA process describes the work to be undertaken, the risks likely to be encountered and control measures to reduce such risks including the PPE and permits required.

Observations during a cyanide mix noted that while a pre-shift inspection of shower function was completed, the operators did not conduct their own pre-mix test of the emergency shower. Additionally, the mix procedure requires that the cyanide bag is checked for any briquette clumping prior to introduction to the mix tank hopper, which was not carried out by the operators. The auditors also noted that there was potential for access of unauthorized personnel to the rear of the mix plant during mixing operations. Tüprag subsequently updated the mix procedure to include placing a temporary barrier behind the mix plant during a mix to prevent unauthorized access and adding showers as an item in the pre-work inspection. Retraining was provided on these inclusions as well as the requirement to check for clumping and ensure that single person activities are monitored by security cameras.

Auditors observed a 4-inch diameter barren solution pipe discharging into a sonic drill well installed in the heap leach pad. During operation of the headworks valve, significant solution spray was observed with potential for the cyanide solution to contact operators. Tüprag subsequently updated its operating procedure for sonic boreholes to include requirements for appropriate PPE to be donned during operation of valves and safe working practices to reduce the risk of spray, and the installation of a water container was installed in the leach pad operator’s vehicle for decontamination.

Tüprag’s Change Management Procedure which provides for systematic evaluation of environmental and safety impacts arising from changes involving new processes, procedures, property, materials, personnel, organization, critical equipment changes and hazardous materials storage, environmental conditions and legal and other requirements that may have an impact on the management system. All changes are communicated to employees and contractors and any necessary training related to the change is provided. A review of a sample of change request processes confirms that the management of change system is in place and implemented.

Since the 2016 audit, flange guards have been installed where there is a risk to workers from potential exposure to cyanide solution from flange failures in areas of the ADR Plant where cyanide solution is in circulation. Additional improvements in worker protective measures have included the installation of sampling platforms at the leach pad collective basins to minimize the risk of workers encountering cyanide containing solution while conducting sampling. During the audit, uneven ground surfaces were noted on the approach to some of the leach pad collection basins presenting a potential trip hazard. Subsequently Tüprag graded ground surfaces to reduce the likelihood of slips/trips in the vicinity of these basins.

Tüprag continues to engage workers to obtain input into work procedures to improve workplace safety. Worker input is obtained through informal workplace daily discussions between operators, supervisors and managers and formal workplace meetings including weekly toolbox talks, Monthly Safety Performance Report and monthly Worker Health and
Safety Committee Meetings whereby workers can provide inputs. JSAs, which are undertaken prior to work tasks, are prepared with input from workers and their supervisors prior to submission to the HSS department for review and authorization. Annual health and safety targets also require that at least six new or revised JSAs that include worker input are prepared by each department. Where JSA procedures are absent Hazard Awareness Card (SLAM) are used which is then provided to a supervisor in lieu of a JSA. A system of Hazard Reporting Cards (HRC) remains in place and is used where a safety hazard is identified and includes near-miss reporting.

Engagement of workers with the health and safety system is encouraged by providing incentives to achieve health and safety targets. This system has resulted in a more transparent and open system of communication. Workers also participate in departmental Health and Safety (H&S) meetings and departmental tool box talks and can raise issues regarding improvement of workplace conditions.

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
in substantial compliance
not in compliance...with Standard of Practice 6.2.

Summarize the basis for this Finding/Deficiencies Identified:

The CMP details the requirements for and importance of maintaining pH at levels within the leach circuit at levels such that the generation of hydrogen cyanide is minimized. Solid sodium cyanide briquettes are typically delivered with a mixture of 0.2 to 1.0% caustic soda as a buffer to ensure that pH remains above 12 during mixing. Tüprag have also developed a calculation for the quantity of caustic to be added to the leach circuit depending on the supplied source of cyanide.

To prevent the generation of HCN gas Tüprag continues to maintain the leach circuit at a pH between 9.5 and 11. The barren solution delivery line is maintained at a pH range of between 10.3 and 10.6 with caustic added as needed to maintain this range. Lime is also added at the end of the crusher conveyor to manage pH. Barren, pregnant and intermediate solutions are sampled hourly and analyzed for pH and cyanide and pH maintained with the addition of caustic as required. Procedures for the preparation of warm and hot stripping solution require pH to be maintained above 12.

Tüprag has installed 19 stationary fixed Draeger Polytron 7000 monitors, five more than was noted in the 2016 audit, distributed in areas where there is a potential for HCN generation. The monitors are set to visually and audibly alarm at 4.7 ppm and 10 ppm HCN. At the beginning of each shift, HCN gas levels are also manually checked with portable monitors at six locations. Tüprag also maintain 21 portable HCN gas monitors for use by personnel on
tasks where there is a risk of exposure to HCN gas. Operating procedures also specify which
tasks require the use of portable monitors. The Cyanide Management Plan describes actions to
be undertaken in the event of an HCN release. Emergency instructions on actions to be taken
in the event of an HCN release and alarm triggers are prominently posted at locations around
the ADR Plant. There are fourteen emergency escape devices placed within the ADR Plant and
the Gold Room for use in the event of emergencies. The fixed and portable HCN monitors are
serviced and calibrated on a minimum six-monthly basis by Draeger Safety Korunma Tekno
Ltd in Ankara. A review of calibration records and the control form indicates that equipment
maintenance and calibration is up to date. One portable HCN device was noted to have a
missing serial number label, which was subsequently addresses following the field audit.

Cyanide mix procedures requires the use of standard PPE, safety boots, chemical gloves,
Tyvek coveralls and full-face filter masks and portable HCN monitors. The same level of PPE
protection is required when entering the warehouse for delivery or transfer of boxed cyanide
except for use of dusk masks in lieu of full-face filter masks.

Cyanide warning signs are prominently displayed on mixing and process tanks and piping is
color coded to identify contents. Reagent cyanide piping is color coded purple with flow
direction indicated. Warning signage is prominently displayed at the ADR, new D-E CICs
(installed in 2016), and SLS mixing areas and cyanide storage areas. Information displayed
includes warnings on cyanide hazards; PPE requirements; prohibition on eating, drinking,
smoking, open flames; and indicating access for authorized personnel only. Cyanide hazard
warnings and the name and use of ponds are posted on fencing surrounding cyanide ponds.
Pipework between the leach pad and between process ponds are color coded and labelled as
containing barren or pregnant solutions. Signs with a color-coded key for pipework are also
posted at key areas around the ADR plant and the process ponds.

Carmoisine dye is added to each cyanide mix of bag-in-box or SLS container form cyanide.

Thirteen emergency showers and eye wash stations are located where there is potential for
exposure to cyanide. The shower and eye wash stations are fed directly from a water supply
line and maintained at a pressure of approximately 2 bar (30 psi); or gravity fed from
overhead supply tanks at a safe pressure for eye wash and that are refilled after every
operation. Showers and eyewash stations are inspected every shift for working condition and
the HSS Department also conducts monthly inspections.

Fire extinguishers within the ADR Plant and other cyanide use areas are dry chemical (KKT)
type extinguishers and are inspected monthly by the HSS Department. Powder fire
extinguishers are refreshed annually with replacement fire retardant and undergo hydrostatic
pressure testing every five years.

MSDS data sheets are maintained at cyanide storage and use areas and short form MSDS
sheets are posted at cyanide mix tanks and other strategic areas where cyanide is used or
stored. All departments maintain their own MSDS forms in paper form in departmental folders
which are accessible by all employees. Additionally, MSDS are located in the ADR Plant office

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and the Administration Building. Electronic copies are also accessible on the mine intranet. MSDS sheets are available in Turkish and English.

First aid procedures are described in the *Cyanide Management Plan* and includes a description of the properties of cyanide, use of PPE and first aid response to cyanide exposure. First aid response information in Turkish, the primary language of workers, is also posted at strategic areas within the ADR Plant describing the actions that are to be taken in the event of an HCN alarm being triggered.

Tüprag continues to maintain an incident investigation procedure. Upon an incident or near miss, the observer is required to report to complete an Incident Investigation and Reporting Form. Following an incident, an incident investigation is conducted to determine the root causes by the responsible departments (chiefs, superintendents, supervisors etc.) and to identify measures to remove or minimize risk and prevent future occurrence.

Nine cyanide related incidents have occurred since the 2016 ICMC recertification audit. Most of these were related to forklift or delivery vehicle incidents which did not result in cyanide release, a lifting crane rope malfunction and one near miss involving release of cyanide solution onto a worker’s trousers from a flange during maintenance but did not result in an exposure. Corrective actions were implemented for each of these incidents.

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

The operation is: □ in full compliance
□ in substantial compliance
□ not in compliance...with Standard of Practice 6.3.

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

Emergency eye wash stations and showers are located at strategic areas of the site and within areas where cyanide related tasks are undertaken and are accessible to workers in the event of exposure to cyanide. There are twenty-five medical oxygen resuscitator kits strategically located in the event of a cyanide exposure. The units are inspected monthly by clinic personnel. At the time of the audit the Fire and Rescue Team (FRT) comprised 46 members and are all trained to use medical oxygen, application of first aid, fire emergencies, confined space entry, vehicle rescue and chemical emergency responses. The site has a total of 284 trained first aiders which represents more than 50% of Tüprag’s workforce.

The clinic retains 20 Hydroxocobalamin antidote kits (Cyanokits) that are stored in refrigerators within the clinic under supervision of the clinic medical staff. The antidote and can only be administered intravenously by a Doctor, paramedic or nurse. Cyanokit expiry dates and monthly inspections are recorded by clinic staff and is responsible for replacing Cyanokits prior to expiry. The site ambulance is equipped with medical oxygen and first aid
kits and which are managed by clinic personnel. A supply of activated carbon tablets is also maintained for oral ingestion in the event of cyanide ingestion.

First Aid Kits are present at strategic locations within buildings and emergency response vehicles (ambulance, chemical response/HAZMAT vehicle, rescue vehicle and fire truck) are inspected by clinic personnel with observations noted on a control form. First aid kits and response equipment are also included on the checklist control form used by the HSS Department for their monthly inspections.

Communications are primarily through cellular telephones and landlines with radio communications also available for ADR. Two satellite phones are also available. The *Emergency and Crises Management Plan* sets out emergency phone numbers in the event of an emergency and the use of radios as required.

Certain areas in the ADR Plant including the cyanide mix areas are monitored by camera which is linked to security, the Process Manager and to the HSS Manager. Additionally, emergency push buttons are located at key areas with 21 distributed within the ADR Plant and cyanide storage area, gold chamber, new cyanide storage warehouse and SLS Storage Area. Except for the new cyanide storage area, all emergency buttons are linked to a SCADA (Supervisory Control and Data Acquisition) screen where any alarms may be easily detected.

Specific emergency response procedures to cyanide, cyanide solution or HCN gas releases are detailed in the CMP. The Plan describes emergency scenarios including cyanide spills within and outside of the mine boundary, medical emergencies from cyanide contact or HCN gas, HCN emissions on or outside the mine, fires involving cyanide, heap leach slides, overflows from ponds containing cyanide solution, cyanide solution leaks from heap leaches and ponds, and temporary shutdowns or process and equipment failures. The CMP also refers to the *Kışladağ Emergency and Crisis Management Plan*.

Tüprag continues to subscribe and remain committed to the Mining Association of Canada’s Towards Sustainable Mining (TSM) initiative. To address the TSM Crisis Management and Communications Planning Protocol, Tüprag continues to implement the *Emergency and Crisis Management Plan* (ECMP). The ECMP objectives are to ensure pre-emergency preparations are in place, put in measures intended to be protective of people and the environment, carry out activities required by a responsible company, minimize commercial damage and prevent reoccurrence of any incidents. Management structure, roles, responsibilities, procedures and responses for various emergency scenarios are detailed including spill or releases of chemicals such as cyanide.

Tüprag has the capacity to respond to most medical emergencies at the site. The site continues to operate a clinic which is staffed with a medical Doctor, a nurse and four paramedics who provide 24-hour medical support. The nurse and paramedics receive cyanide awareness training and instruction from the medical Doctor on the application of medical oxygen and intravenous use of Cyanokits. Emergency response vehicles are available including an ambulance, fire truck, HAZMAT and rescue vehicles which can provide rapid
response to emergencies and are located a few minutes journey from the ADR Plant. The clinic is subject to annual inspections by the Health Ministry.

All workers received cyanide awareness training including recognition of the symptoms of cyanide exposure and poisoning and first response actions to follow; however apart from the FRT and medical personnel, are not expected to apply medical first aid. In the event of an emergency, workers are required to first ensure his/her own safety and to notify others in the vicinity of the situation, thereafter to report the emergency to security or the area supervisor who will take the role of a Local Emergency Officer (LEO). The LEO initiates first actions and the incident will be notified to security if not already done so and the HSS or Environmental Department depending on the type of incident. The FRT members are also trained to provide cyanide exposure first aid and the use of medical oxygen until the arrival of medical personnel for further treatment. Each shift in the ADR Plant has at least three FRT members present.

The facility has the capacity to provide initial response and treatment of cyanide exposure. The ECMP provides protocols for response to medical emergencies including transfer to a hospital. The clinic has an all-wheel drive ambulance accredited to the European Union standard for ambulance (Comité Européen de Normalisation (CEN) 1789:2007) with a response time to the ADR plant estimated to be below 5 minutes. If required the ambulance can transport patients to government hospitals in Eşme (20 km), Uşak (55 km) and Ulubey (20 km) and two private hospitals. Transport to a hospital would only be required for more intensive care out with the capability of the clinic or for follow up monitoring.

The mine Medical Doctor conducts periodic meetings with hospitals at which support for cyanide related exposures was discussed and the Public Relations Manager maintain at least annual communication with hospitals in surrounding communities.

Tüprag conducts regular emergency drills for workers and the FRT in accordance with an Annual Drill Plan and which include theoretical and practical exercises. These include:

- **ADR Plant:** Four “Man-Down” drills conducted annually to simulate cyanide exposure with one carried out for each shift team.
- **FRT Drills:** Consisting of drills that consider the following scenarios on an annual basis: electrical shock (4 times), fire and explosion (8 times), "Man-Down" cyanide exposures in ADR Plant (4 times), eye wash/shower scenarios (4 times), confined space entry (4 times), HAZMAT scenarios (16 times) covering different chemical groupings (cyanide, fuels, caustic and acids and explosives), rescue at height (once) and vehicle rescue (2 times).
- **Evacuation Drills:** Conducted monthly and with observations and follow up actions and improvements recorded in INX. Information recorded includes a timeline for response, the actions of the responders, positive and negative observations, recommendations and corrective actions. Responsible persons are allocated to implement the corrective actions.
In July 2019, a joint emergency drill involving a chemical release scenario was carried out involving opportunistic collaboration with Meke-Hydra, a company providing specialized hazmat response services and provided opportunities for comparison between the mine’s FRT response and that of Meke-Hydra.

The ECMP requires that emergency drills are carried out throughout the year to test if Emergency Control Group (ECG) members understand roles and responsibilities and requires that annual planned drills are carried to test the Fire and Rescue Team. The ECMP also requires that desk-based simulations be conducted at least annually to ensure that to ensure that Kışladağ Crisis Management Group (KCMG) members and their alternates understand their special roles and responsibilities. Since 2016, four desk-based simulations considering four scenarios were carried out in September 2016, November 2016, June 2017 and December 2018. Simulations records follow the same format for information collation comprising a description of the scenario, a list of attendees, a register of responses, debriefing notes and an action plan to implement improvements and responsiveness and minimize potential for reoccurrence. A mock drill involving a cyanide spill outside of the mine was also undertaken in October 2017.

7. EMERGENCY RESPONSE Protect communities and the environment through the development of emergency response strategies and capabilities.

Standards of Practice

7.1 Prepare detailed emergency response plans for potential cyanide releases.

The operation is:

- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 7.1.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag continues to implement the Kışladağ ECMP which details management structure, roles, responsibilities, procedures and responses for various emergency scenarios are detailed including spills or releases of chemicals such as cyanide.

Specific emergency response procedures to cyanide releases are detailed in the Cyanide Management Plan. Various cyanide emergency scenarios are described in the Plan and include procedures for initial response, first aid, medical response, spill response, spill control and cleanup.

Between 2016 and 2019 Tüprag has purchased cyanide from suppliers and transporters who are responsible for cyanide transport to the port of embarkation including route planning and emergency response. The CyPlus supply chain includes an assessment of the routes, the
shipping lines and emergency response capability and the contracting of Meke-Hydra to provide emergency response for road vehicles.

The Beecom supply chain includes consideration of the transport routes, supplier and subcontractor evaluations, due diligence assessments of railroads, ports and road transporters within the Turkey supply chain and emergency response plans for cyanide releases. While the Anhui supply to Turkey was not incorporated within a certified supply chain, Beecom indicated their intention to do so at the time of procurement and would likely have followed the same process to develop emergency response plans considering transport routes, cyanide form and transportation vehicles.

Orica cyanide is procured using the Orica supply chain. Orica requires that transporters develop plans for spill response and procedures from outside of the Yarwun gate to the point that the end user takes ownership of the shipment. Carriers are also required to have capability to handle any cyanide incident that falls under their responsibility. Road transport from Port of Izmir is by TO-PET under direct contract with Tüprag. TO-PET have developed a Travel Risk Management Plan for the Port of Izmir to Mine road route dated May 2019 and are supported by Meke-Hydra to provide response in the event of an emergency along the road route.

The CMP provides instruction on cyanide incidents that may occur on the mine including transport related incidents and actions to be taken. Cyanide transport outside of the mine area is the responsibility of the emergency response unit (Meke-Hydra) providing escort to the road vehicles. However, any requests for assistance from Kışladağ for any incidents will be evaluated by the Tüprag Crisis Management and assistance provided upon General Manager’s approval. The ECMP provides response protocols for emergencies resulting from chemical/hazardous waste releases (including cyanide) within the mine site including during transport, as well as response procedures for vehicle accidents both inside and outside of the site.

Cyanide deliveries are escorted to cyanide storage warehouses. The procedures are in place that detail driver alcohol testing, routes to be followed, emergency response equipment to be made available and actions to be undertaken when arriving at the delivery point.

The ECMP sets out response actions for the following defined emergency scenarios:

- **Level 1 Emergencies** which are incidents that are small and limited to an area of work and can be dealt with by resources available in the area of work.

- **Level 2 Emergencies** are responded to and dealt with using the resources in the mine site by implementing protocols in the ECMP. Mine site resources may also be needed in addition to the resources available in the incident locality.

- **Level 3 Emergencies** are defined as crisis level situations that cannot be responded to or controlled under the operation’s resources, which involve serious hazards, cover a wide area or pose a serious threat to life, the enterprise and surrounding community, and require the use of external resources.
Upon discovering an emergency, workers are required to notify the area supervisor or manager who takes on the role of LEO. The LEO will check if security has also been notified, initiates first actions and assesses the situation and if determining that the emergency is a Level 2 or Level 3 will contact the Emergency Coordinator (EC) who will coordinate efforts of the ECG. The EC, and members of the ECG are listed within the ECMP including their contact information. Actions to be undertaken by the Coordinator/Public Speaker including to develop communication plans for surrounding communities.

In the event of an evacuation the ECMP requires evacuation of personnel to one of ten assembly points located throughout the operation. The LEO ensures that workers and contractors under his/her care are evacuated in an emergency in a safe manner and have reached the assembly point. The Security Coordinator is responsible for providing head counts of the number of employees at assembly points and the EC is responsible for providing instruction to leave the assembly point once safe to do so.

Tüprag retains a FRT comprising 46 members distributed over each shift such that FRT members will always be present. The FRT will be triggered by security and/or the EC in the event of a Level 2 or Level 3 emergency. Additionally, Tüprag has approximately 284 trained first aides/responders (including the FRT members). The site retains a medical clinic which is manned 24 hours / day with medical personnel (medical Doctor, nurse and four paramedics) permanently on call. The clinic retains 20 Hydroxocobalamin cyanide antidote kits (Cyanokits) and medical personnel are trained to apply the antidote intravenously. The Cyanokits are stored in a refrigerator and checked monthly for expiry dates. Medical oxygen resuscitator kits are inspected monthly by clinic personnel and recorded on control forms which also note the expiry date of cylinders. Emergency shower and eyewash stations, first aid stations, assembly points, fire and rescue stations are shown on site layout maps which are posted at locations around the site.

The site continues to operate emergency response vehicles comprising an ambulance, chemical response (HAZMAT) vehicle, rescue vehicle and fire truck and which contain emergency response equipment including PPE, spill kits and waste containers for dealing with cyanide spills. Fire and rescue stations are also located at the ADR Plant and the ADR carbon building near to the new cyanide storage building.

The ADR Plant process areas have secondary containment or hard-standing areas that drain to process ponds to prevent contamination of soil and groundwater. Secondary containment is of sufficient capacity to contain the largest tanks and designed to consider storm events. Spill kits, absorbent pads, portable containment ponds, drums for receiving waste materials are sited at strategic locations and readily available in the HAZMAT vehicle.

The CMP sets out procedures to be followed in the event of cyanide spills and specifies the use of calcium hypochlorite which is available at strategic locations around the ADR Plant. Tüprag also maintains a dosing system at the SWP-1 pond that would allow for neutralization of any residual cyanide.
7.2 Involve site personnel and stakeholders in the planning process.

The operation is: ■ in full compliance
■ in substantial compliance
not in compliance...with Standard of Practice 7.2.

Summarize the basis for this Finding/Deficiencies Identified:

Response planning procedures have remained largely similar to that noted in the 2016 audit and include processes that involve workers and affected communities in response planning. These include:

- Monthly Worker Health and Safety Committee Meetings which are attended by worker representatives, employer’s representative, members of the HSS Department (including the company doctor), Human Resources representative, foreman and contractor representatives and provides a discussion platform for worker input and suggestions.
- Quarterly health and safety meetings held by all departments at which health and safety targets are discussed including topics related to cyanide management;
- Toolbox talks at which workers can provide feedback for inclusion in emergency response planning;
- Desk-top simulations and mock emergency drills which are assessed and evaluated and include feedback provided by the workforce with actions implemented as necessary;
- Preparation of JSAs to assess task hazards and risks and which include worker input and supported by SLAM Cards and Environmental Hazard and Near Miss Reporting Cards where safety hazards may be identified by workers;
- Departmental risk assessment update meetings where departmental health and safety risks are formally assessed, and mitigation measures implemented;
- Health and safety target incentivization scheme where workers are encouraged to provide input and feedback into health and safety matters.

Approximately 82% of the mine workforce is sourced from local communities and Tüprag views this as an important source of indirect community input into the mines operating processes and procedures.

Tüprag continues to be actively engaged in community outreach programs and includes ongoing discussions with external stakeholders and communities related to mine operations including the use of cyanide. The Public Relations (PR) Department holds meetings, approximately weekly, with community elders at nearby villages and towns (Ulubey, Eşme Gümüşkol, Söğütüllü, Katrancilar, Bekişli, Emirli) to discuss concerns around mine operations and obtain feedback.
In accordance with the TSM Aboriginal and Community Outreach Protocol, Tüprag hosts Community of Interest Group meetings every six months and shares information of mining operations, including of cyanide management. Feedback is solicited and recorded on meeting minutes.

The ECMP contains requirements to develop communication plans and notify external stakeholders in the event of an emergency. Annual meetings are also held with the provincial Governor, Police Chief, University Director, Army and Gendarme commanders and with surrounding local hospitals. Complaint forms are retained at two of the mine entry gates to record community feedback and placed into complaint boxes. As necessary, feedback is included as part of emergency response planning. Complaint boxes are also located in the villages of Gümüşkol and Bekişli and Public Enquiry Forms are completed for anyone contacting the mine by telephone with a concern or issue and are provided to the General Manager for consideration. Follow up actions are taken as necessary and verbal or written feedback provided to the complainant.

Tüprag hosts approximately 50 mine tours per annum with approximately 2,000 visitors passing through the facility in 2018. Information provided includes cyanide awareness and an information booklet “Kışladağ Gold Mine, General H&S and Environmental Rules Brochure for Visitors” which includes information on cyanide management and actions to be taken in the event of an emergency.

Tüprag has developed and maintained emergency response capacity within the mine comprising personnel and equipment that can respond to the most probable emergency incidents. If additional support may be required, medical and emergency response assistance can be requested from the fire departments and hospitals of Ulubey, Eşme or Uşak, and regular dialogue with these services is maintained by Tüprag. Involvement with potential responders such as hospitals and fire departments is maintained through meetings and dialogue. Kışladağ’s medical team are trained to respond to cyanide exposure emergencies and would inform by phone local hospitals in Ulubey, Eşme or Uşak should additional medical support be required.

The site has an onsite ambulance accredited to CEN 1789:2007 standard for ambulances and should additional medical response vehicles be required, these can be dispatched from Ulubey, Eşme or Uşak upon request.

The CMP and ECMP are reviewed periodically and following emergency drills with input obtained from site personnel, workers and internal stakeholders. There are no other external stakeholders with direct involvement with the CMP and ECMP. Consultation with communities, government agencies, hospitals, emergency services and other external stakeholders by the PR Department provides opportunity to provide indirect input into the ECMP, CMP and site procedures.
7.3 Designate appropriate personnel and commit necessary equipment and resources for emergency response.

The operation is: ■ in full compliance
                    in substantial compliance
                    not in compliance...with Standard of Practice 7.3.

Summarize the basis for this Finding/Deficiencies Identified:

Emergency response coordinators are designated depending on the level of severity of emergency defined in the ECMP. Level One emergencies identify the LEO with responsibility for first response and to allocate local resources available in the area of work to respond to the emergency. For Level 2 emergencies, an overarching Emergency Management Organization is defined comprising the General Manager, EC, ECG and Fire Rescue Team Leader (FRTL). Control is allocated to the ECG to lead responses, coordinated by the EC and to commit mine resources in addition to resources available at the emergency location. Responsibilities and roles are also designated to the Health Coordinator, Environment Coordinator, Security Coordinator, FRT and FRTL. Specific persons and their alternates are named for each of the roles. For Level 3 Emergencies, the KCMG is activated and is responsible for managing the crisis. Other roles and responsibilities are defined, including the General Manager who acts as, the Kışladağ Crisis Coordinator (KCC), the Kışladağ Communication Coordinator/Spokesperson responsible for stakeholder communication, the EC responsible for managing and directing the emergency and coordinating with the KCC, the Kışladağ Human Resources Coordinator responsible for preparing incident history and the Kışladağ Legal Support for determining legal responsibilities. The KCMG will coordinate directly with the Eldorado head offices in Ankara and Vancouver and the personnel assigned to the roles have the authority to respond to cyanide emergencies and respond as necessary. Members of the KCMG and their alternates are listed in the ECMP.

Emergency response personnel comprise 46 FRT members from different departments and distributed across shifts. FRTLs and their alternates are listed in the ECMP as are the FRT members. The FRT members are posted at strategic locations around the operation. The FRT members are trained in accordance with a training plan with training sessions conducted monthly. Training is conducted by the HSS Department with some external training provided by the Izmir fire emergency services. Mock drills have included training with Meke-Hydra a company specializing in HAZMAT response to provide observational feedback to FRT members.

The EMCG has a call out procedure with a notification chart of key response personnel and contact numbers. A 24-hour security service is retained with an updated list of contacts and telephone numbers. The site continues to maintain an extensive store of emergency response and protective equipment to respond to emergencies. Equipment and emergency response equipment applicable to cyanide management is listed within the CMP and the ECMP and is inspected monthly by the HSS Department. The CMP lists emergency response equipment required by truck drivers transporting cyanide and escort vehicles.
Contact information for outside responders such as fire departments, hospitals, police and civil defense are provided in the ECMP. Outside responders, if required to provide support in the event of an emergency will be under the direction of the KCMG.

Tüprag continues to hold annual meetings with external stakeholders such as hospitals, fire departments, government and civil service representatives, Gendarmerie and Army representatives and communities through weekly community meetings, Community of Interest Group meetings every six months, and annual stakeholder meetings. In July 2019, a joint mock drill for a sodium cyanide briquette spill scenario along the mine road was held with Meke-Hydra, a company specializing in HAZMAT emergency responses.

At the time of the audit, in accordance with Turkish regulations, Tüprag are currently undertaking a site assessment aligned with the EU Seveso Directive for control of major accident hazards. An outcome of this assessment will be the development of an Emergency Action Plan which will be shared with the Disaster and Emergency Management Authority (AFAD) and may include requirements for joint responses in the event of a major accident potentially including cyanide release.

7.4 Develop procedures for internal and external emergency notification and reporting.

The operation is: ■ in full compliance
                  ■ in substantial compliance
                  not in compliance...with Standard of Practice 7.4.

Summarize the basis for this Finding/Deficiencies Identified:

Notification procedures are described in the CMP and the ECMP and contain contact information for responsible managers, external fire and medical responders (regional fire stations and hospitals), community representatives (provincial and district Governors and Mayors), town civil defense organizations, police and town gendarmes. The ECMP places responsibility on the Environmental Coordinator/Spokesperson to coordinate and communicate with the local and provincial government including the Uşak Governor who in turn would contact the relevant regulators including the Environment and Urban Directorate, Directorate of General Mining and Petroleum and Directorate of Labor and Social Security. Contact phone numbers for the Uşak Governor and the Majors of Eşme and Ulubey are listed in the ECMP. The ECMP also provides detailed community and media guidelines on preparation of media statements, next of kin notification and spokesperson actions.
7.5 Incorporate into response plans monitoring elements and remediation measures that account for the additional hazards of using cyanide treatment chemicals.

The operation is:  ■ in full compliance
                   in substantial compliance
                   not in compliance...with Standard of Practice 7.5.

Summarize the basis for this Finding/Deficiencies Identified:

The CMP sets out the measures to be taken in the event of a cyanide release both on and off the mine site. Dry cyanide material spills onto soils are collected along with any contaminated soils and placed in sealed containers or bags. Residual contamination is neutralized with 5% calcium hypochlorite prepared for spray application onto the affected area. Spill response kits, disposal containers, emergency response equipment and supplies of calcium hypochlorite are stored in cabinets located at the ADR and SLS storage areas. The HAZMAT vehicle is also equipped with spill kits, disposal containers, appropriate PPE and other equipment necessary to manage and control a cyanide spill. Contaminated soils are disposed to the heap leach pad as the first appropriate location for disposal under instruction of the Environment Department. Subsequent to the field audit, the CMP was revised to include more detailed instruction on actions to be followed for disposal of contaminated soil.

Spills of cyanide solution or liquids require that these are collected with absorbent pads or vermiculite which are collected in containers for disposal and that the area is decontaminated with dilute calcium hypochlorite. Major spills are directed to a containment point (permanent or temporary pond), collected in a suitable container and the area decontaminated with diluted calcium hypochlorite. In the unlikely event that alternate water supplies are needed, Tüprag would be able to obtain adequate drinking water supplies from the larger towns.

The CMP specifically requires that sodium hypochlorite and ferrous sulphate are not to be used to treat cyanide releases to natural surface waters and hydrogen peroxide is noted as being harmful to aquatic life.

The CMP details requirements for monitoring for likely cyanide emergency and release scenarios including validation sampling with a threshold of 0.1 ppm applied. For situations such as overflow from ponds or leaks from ponds and the heap leach pad, the CMP requires monitoring of receiving water environment.
7.6 Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is:
- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 7.6.

Summarize the basis for this Finding/Deficiencies Identified:

The ECMP and CMP are reviewed annually or as required following observations and corrective actions that may arise from a mock drill or emergency response. Annual review requirements are incorporated into both plans. Tüprag continues to maintain OHSAS 18001 and ISO 14001 accreditation which require management procedures and plans to be reviewed and maintained up to date to account for changes in operation, procedures and legislation. The ECMP was last reviewed in May 2019 and the CMP in September 2019 by the HSS Manager.

As described in Section 6.3 Tüprag has continued to conduct mock drills since the 2016 audit with emergency drills conducted throughout the year that consider both environmental releases and worker exposures. Since 2016, four desk-based simulations considering four scenarios were carried out in September 2016, November 2016, June 2017 and December 2018. A mock drill involving a cyanide spill outside of the mine was also undertaken in October 2017.

All incidents including cyanide related incidents are recorded, reported and investigated. Incidents are categorized as lost time, injuries of different grade of severity, property damage, spills and near misses. Since 2016, there has been one classified near miss incident related to a minor release of cyanide solution onto a worker's trousers and eight other cyanide related incidents which did not result in releases or spills. These were subject to formal root cause analyses and corrective actions implemented as necessary. There have been no cyanide related emergencies that have required implementation of the ECMP; however, in the event of an emergency both the ECMP and CMP are reviewed to determine if any changes are required.
8. TRAINING Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

**Standards of Practice**

8.1 Train workers to understand the hazards associated with cyanide use.

The operation is:  ■ in full compliance  
■ in substantial compliance  
not in compliance...with Standard of Practice 8.1.

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

All workers and contractors are required to attend induction training which includes workplace health and safety training, workplace and chemical hazards, PPE, signs, color coding meanings, emergency response plans and actions, incident reporting and safety meetings. Induction specifically includes topics related to cyanide management including the CMP, ECMP, Cyanide Code, cyanide properties, exposure symptoms, hazards, use and management and safety systems.

Prior to undertaking cyanide related tasks, all workers receive further training on management systems and JSA Work procedures including those specific to cyanide tasks. Each new worker receives pre-work training for a minimum of two hours specific to the department or area of work. New employees to the ADR plant receive on the job training from experienced operators for at least one week and thereafter a further four weeks of training requiring a competency score of 70% before being allowed to work under less supervision. New employees to the heap leach receive training by the shift supervisor for one week and are evaluated at the end of that period. A minimum evaluation score of 70% is required for lone working. Subsequent to the field audit, Tüprag formalized on the job evaluation processes and evaluations. The FRT are trained on specific responses to cyanide emergency situations including symptoms of cyanide exposure, hazard recognition, responses to emergency situations and the appropriate use of PPE, spill kits and neutralizing agents.

Refresher training is provided to all workers annually and includes 8 hours of health and safety refresher training of which 1.5 hours is cyanide awareness training. All training records including induction and refresher training are retained by the HSS.

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  
■ in substantial compliance  
not in compliance...with Standard of Practice 8.2.

*Summarize the basis for this Finding/Deficiencies Identified:*
Tüprag continues to maintain a detailed training program including for cyanide related tasks and related health and safety procedures. New employees are required to attend induction training over two days with one day basic health and safety training provided by the H&S Department and one day by the environmental department and which includes cyanide awareness. Employees understanding are tested with pre- and post-training tests.

Tüprag has 3874 JSA work instructions for mine operation. A training matrix provides records of related requirements and there are 38 JSA procedures specific to the ADR plant. These include those specific to transport, unloading/loading, storage, mixing, preparation of stripping solutions, cleaning of pits/tanks/screens, sample collection, disassembly of cyanide boxes, activation of the hydrogen peroxide dosing system, and other production and maintenance tasks. All JSAs contain instructions to be followed for each task, the hazards identified, PPE to be used and precautions to be followed for safe working. All workers receive annual cyanide awareness refresher training, emergency response training and additional training in cyanide risk and management for specific work tasks to manage risks as required. The heap leach pipe irrigation crew receive training based on an annual schedule including on JSAs, pipe installation and maintenance specific tasks.

The Turkish legal requirement for provision of an Occupational Certificate for each worker before being allowed to work still applies. For ADR Operators, this entails a minimum of 40 hours training provided by trainers with qualifications specified by government. The training content is still based on the Tüprag Metal Mining Gold Recovery Plant Operation Manual and provides an understanding of the gold recovery process including the use of cyanide.

Task training continues to be provided by experienced plant managers, supervisors and senior operators/employees. Health and safety training undertaken by the HSS Department is provided by professionals who are Government certified with each trainer required to sit an exam to be qualified. Trainers are certified by experience into classes A, B and C. The FRT is trained by a certified health and safety expert from within the HSS Department with four years of experience and a Master’s degree in health and safety.

Each department is required to undertake 16 safety observations per annum and at least four times a quarter and includes observing operator activities, behavior and their management of task related risks. The employee name and employee number, the task observed, date of observation, comments and any corrective actions are recorded into Safety Task Observation Form. At the time of the audit, the ADR Plant had completed seven task observations in 2019, and the maintenance department four tasks related to cyanide management.

Cyanide refresher training is held annually with understanding tested on a multiple-choice test paper comprising 20 questions with a 70% pass mark required. If this is not achieved, additional training is provided.

Training records comprise signoff sheets that include the date, trainer and trainee names and signatures, the course name and topics covered. Training materials comprise the JSAs and
operating procedures, videos and power point presentations. Training records are stored primarily as electronic copies but also as paper copies and are retained for the duration of the employee’s tenure.

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

The operation is:
- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 8.3.

Summarize the basis for this Finding/Deficiencies Identified:

All new employees are required to attend induction training that includes emergencies, response procedures, the CMP and emergency management. Refresher training is provided annually to all personnel and includes cyanide awareness as a specific topic, hazard signage, safe working with cyanide, the CMP, ICMC requirements, emergencies and actions required to be taken. Workers involved with the unloading, mixing, production of cyanide and maintenance are trained on JSA procedures which include actions to be taken in the event of an alarm or cyanide release. Upon a cyanide release, workers are trained to evacuate a work area and contact the LEO and/or security, isolate and abandon the area and report to assembly points. Workers undertaking cyanide related tasks are equipped with portable HCN monitors and trained to respond if these or fixed monitors are triggered. The Shift Supervisor and a least two other persons on a shift from part of the FRT who are trained in responding to cyanide emergencies and releases.

The CMP contains procedures for decontamination and rescue operations which are carried out by the FRT. At least three members of the FRT are always present at the ADR Plant during each shift. The pipe irrigation team on the heap leach pad has at least one FRT member present per shift. The FRT receive training on HAZMAT response, firefighting and annual cyanide first aid training. In the event of a cyanide emergency, workers are trained to isolate and abandon the affected area. The FRT are trained to respond and apply first aid including medical oxygen. Medically trained personnel from the mine’s clinic provide further assistance.

Routine emergency drills including four “Man-Down” drills to simulate cyanide exposure are conducted annually. The FRT also conducts emergency drills throughout the year to simulate different scenarios including cyanide and chemical releases and monthly evacuation drills which include worker participation. The ECMP also requires that desk-based simulations are carried out annually to test the readiness of the ECG, KCMG and FRT to respond to emergencies include cyanide release scenarios. The drill details and observations are recorded along with any corrective actions which are tracked to completion.

FRT members are required to attend induction and refresher training which includes cyanide awareness, cyanide hazards and emergency response. Additionally, FRT members receive specific training in HAZMAT including cyanide releases, cyanide exposures, first aid
firefighting, eye wash/shower scenarios and entry into enclosed spaces. The FRT members also take part in annual desk-top emergency scenarios in accordance with the ECMP intended to test understanding and readiness of the ECG members, the KCMG and the FRT in emergency response. The ECMP specifically includes emergency response coordinators are part of the drills. Emergency drills also test the adequacy of emergency response equipment and use.

The mine is not located near any noteworthy emergency response or medical services and has developed capacity to be largely self-sufficient to respond to most probable mine emergencies. This includes development of onsite capability in HAZMAT, firefighting and medical response to the extent that outside responder would only be required for a Level 3 emergency crises. Tüprag holds weekly community meetings and annual meetings with government and provincial entities including regional fire stations and hospitals, police, gendarmes and civil defense to provide information on mining operations, the emergency response plan and additional support or resources that may be requested in the event of an emergency. Tüprag also annually invites the nearest largest fire brigades to conduct joint emergency exercises, although these have not been accepted to date.

Emergency drills undertaken by the FRT include both environmental release and worker exposure scenarios. Desk top emergency simulation drills have been undertaken on five occasions since 2016. Emergency drills involve workers, emergency responders, emergency coordinators and the crises management organizational structures. The drills are subject to evaluation and feedback is provided at debriefing sessions. Any deficiencies or improvements required are recorded as corrective actions and tracked to completion. A review of mock drill records from 2016 through to 2019 confirmed that corrective actions arising from drills were recorded and tracked to completion including retraining of individuals where required.

Training records comprise signoff sheets that include the date, trainer and trainee names and signature, the course name and topics covered and are stored electronically or on paper copy for the duration of the employee’s tenure. Training materials comprise the JSAs and operating procedures, videos and power point presentations.
9. DIALOGUE Engage in public consultation and disclosure.

Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.

The operation is:
- in full compliance
- in substantial compliance
- not in compliance...with Standard of Practice 9.1.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag continues to maintain a transparent community outreach program similar to that noted in the 2016 ICMC recertification audit. Tüprag’s general policy remains to be as responsive and communicative as possible in relation to mining operations and the use of cyanide.

The PR Department continues to hold weekly meetings with community elders and representatives from nearby communities at Ulubey, Eşme Gümüşkol, Söğütlü, Katrancilar, Bekişli, Emirli. These meetings provide an opportunity to discuss the mine operations and for concerns to be voiced and which are recorded by Tüprag’s public relations team. Representative offices are maintained in Izmir and Ankara to maintain liaison contacts with appropriate authorities and at which concerns may also be raised.

Tüprag conducts ongoing mine information tours and has hosts approximately 50 mine tours per annum with approximately 2,000 visitors passing through the facility in 2018. Visitor information provided includes basic cyanide awareness information and an information booklet “Kısladağ Gold Mine, General H&S and Environmental Rules Brochure for Visitors” which includes information on cyanide management and actions to be taken in the event of an emergency. A mine visit evaluation form is provided for completion by visitors to solicit feedback and comments.

Complaint forms are retained at two of the mine entry gates to record community feedback which can be incorporated in emergency response planning if required. Complaint boxes are also located in the villages of Gümüşkol and Bekişli. Additionally, Public Enquiry Forms are completed should external stakeholders contact the mine by telephone with a concern or issue and are provided to the General Manager. Follow up actions are taken as necessary and verbal or written feedback provided to the complainant. A review of complaints records identified that Tüprag received 11 complaints from 2016 to 2019 related to issues around dust, noise and muddied roads.

In accordance with the TSM Aboriginal and Community Outreach Protocol, Tüprag hosts Community of Interest Group meetings every six months and shares information of mining operations, including of cyanide management with external stakeholders such as village headmen, union representatives and supplier representatives. Feedback is recorded.
Annual meetings are also held with the provincial Governor, Police Chief, University Director, Army and Gendarme commanders and with surrounding local hospitals. These representatives are invited to attend a meeting at the mine; however, if this not possible the PR Department will attempt to arrange a meeting onsite at the representative’s location. Regular dialogue is also maintained throughout the year with hospitals by the mine Doctor and the PR Department through phone calls or in person visits.

Tüprag periodically publish a magazine for distribution to the public to disseminate information related to the mining operation including topics on health and safety and the management of cyanide.

The Eldorado web page contains information about the Tüprag’s mining operations and provides contact forms where issues of concern can be raised for action by Tüprag's management or the PR Team.

Approximately 82% of the mine workforce is drawn from local communities many of whom have relatives or friends within those communities. Tüprag views this as an important source of community input whereby any concerns or issues from external stakeholders can be relayed by workers to the Public Relations Department.

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

The operation is: ■ in full compliance
■ in substantial compliance
■ not in compliance...with Standard of Practice 9.2.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag has continued to maintain a strong community outreach program and engages with community stakeholders on a weekly basis; and community leaders, majors, public officials, police and gendarmes, Disaster and Emergency Management Authority, local fire and hospital representatives on a six monthly and annual basis during which information about cyanide management and mine operations is provided. Regular mine tours are arranged throughout each year during which cyanide awareness and management information is provided in the form of booklets and presentations. A magazine containing information about mine operations is produced periodically for distribution and the Eldorado web page contains information about the operation and provides contact forms where issues of concern can be raised.
9.3 Make appropriate operational and environmental information regarding cyanide available to stakeholders.

The operation is:  ■ in full compliance
                   in substantial compliance
                   not in compliance...with Standard of Practice 9.3.

Summarize the basis for this Finding/Deficiencies Identified:

Tüprag has developed presentation materials for communities and stakeholders including brochures that describe the effects of cyanide on health and the environment and its management at the mine site. The presentation materials, both audiovisual and written, are freely distributed at public meetings and upon request. All visitors undergo a video induction including health and safety topics and receive a brochure “Kişladağ Gold Mine, General H&S and Environmental Rules Brochure for Visitors” that provides basic health and safety information including cyanide awareness and information on cyanide management. The Eldorado Gold corporate webpage contains information on cyanide management and presents an annual Sustainability Report which is accessible for download to the public. Tüprag also periodically publishes a magazine in which information on health and safety and the management of cyanide is presented to the public.

Literacy within the surrounding communities remains high and is not considered a significant issue. Nevertheless, materials presented at public meetings is done so in both verbally and in visual presentations (video and PowerPoint presentations). Visitors to the mine are presented with induction videos and receive verbal instruction.

Since 2016 there have been no cyanide releases resulting in hospitalization, fatality, response or remediation; or resulting in significant adverse effects to health or the environment. Should such an event occur, the procedures set out in the ECMP would apply. Communication protocols would be triggered whereby the Communication Coordinator/Spokesperson with the approval of the KCMG will arrange to contact public institutions, organizations and stakeholders and prepare press releases and public statements. The Communication Coordinator/Spokesperson would also coordinate communication with employees and their families and for any post incident arrangements for treatments of anyone potentially affected. The Communication Coordinator/Spokesperson also maintains an up to date list of local and regional public institutions, organizations and stakeholders and prepares draft press releases for various likely scenarios in readiness should a crisis occur.

In addition to the above, Eldorado Gold continue to prepare an annual Sustainability Report in accordance with the Global Reporting Initiative (GRI) guidelines. As part of these requirements the Sustainability Report includes information on cyanide exposures and release information and this report is available on the corporate website for public download.