SUMMARY AUDIT REPORT

for the May 2016
International Cyanide Management Code Certification 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
Washington, D.C. 20005, USA

DRAFT
January 4, 2017

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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. Richard Miller, General Manager

Address: Kışladağ Gold Mine
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Location detail and description of operation:

The Kışladağ Gold Mine is the largest operating gold mine in Turkey. It is located in west-central Turkey 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 Gümüskol 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 winter. 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.

Construction of a crushing and screening plant; the adsorption, desorption, and recovery (ADR) plant; the initial phase of the leach pad; and supporting infrastructure began in 2004 and was completed in 2006. Commercial gold production commenced in July 2006. The mine's current throughput production is 12.5 million tonnes/yr., and gold production in 2015 was 281,280 oz.

Ore is processed in a conventional heap leach operation. Crushed and screened ore is transported to the heap leach pad by a series of overland conveyors, and placed on the pad using a radial stacker. The designed heap height is 60 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 a large event pond, and the overall system has been designed to manage precipitation in excess of a 100 year, 24 hour storm event. Gold from the heap solutions is loaded onto activated carbon in the ADR plant and recovered from the carbon in a standard Zadra process, consisting of pressure stripping, electrowinning, and smelting. The final product is a gold doré ingot suitable for final refining.

It should be noted that the Kışladağ Concentrate Treatment Plant (KCTP) has been permanently removed from service. Therefore, except for a cyanide storage warehouse which remains in use, KCTP area facilities were not included in the scope of this recertification audit.

The general location of the Kışladağ Gold Mine is shown in the following figure.

SUMMARY AUDIT REPORT

Auditors' Finding

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

with the *International Cyanide Management Code.*

With the exception of 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 initial ICMC certification audit in 2013.

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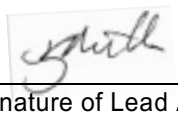
USA

Audit Team Leader: Glenn Mills, EP(CEA)
e-mail: gmills@ramboll.com

Names and Signatures of Other Auditor:
Ata Utku Akcil, PhD

Date(s) of Audit: May 23 – May 27, 2016

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the *International Cyanide Management Institute* for Code Verification Auditors. I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the *International Cyanide Management Code Verification Protocol for Gold Mine Operations*; *Guidance for Recertification Audits for the International Cyanide Management Code*; and using standard and accepted practices for health, safety and environmental audits.



Kışladağ Gold Mine
Name of Mine

Signature of Lead Auditor

January 4, 2017
Date

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

Discuss the basis for this Finding/Deficiencies Identified:

Tüprag continues to purchase both bag-in-box and solid to liquid system (SLS) delivery form cyanide from CyPlus GmbH (CyPlus), Hanau-Wolfgang, Germany, under a master supply contract. Purchase Orders (POs) are periodically issued against the contract that specify the cyanide delivery form(s) and the specific quantities to be delivered. The master contract for CyPlus reviewed in 2013 is still in effect; it recognizes the commitment of both parties to obtain and maintain ICMC certification, and the requirement extends to the CyPlus supply chain transportation subcontractors. All CyPlus cyanide originates with the CyPlus production facility in Wesseling, Germany, which was last recertified in August 2015.

CyPlus remains Tüprag's primary cyanide supplier. However, in 2014, in order to address anticipated delivery shortfalls, Tüprag entered into an agreement to purchase supplemental quantities of bag-in-box form cyanide from Tongsuh Petrochemical Corporation, Ltd., Republic of Korea (Tongsuh) via a supply chain managed by Beecom Inc. (Beecom), Seoul, Korea. Review of the ICMI website (http://www.cyanidecode.org/ signatory-company/ tongsuh-petrochemical-corporation) indicates that Tongsuh was last recertified in March 2014.

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.

Discuss the basis for the Finding/Deficiencies Identified:

In the years since the 2013 ICMC certification audit, Tüprag purchased cyanide from both CyPlus and Tongsuh via the CyPlus Turkey Supply Chain and the Beecom Turkey Supply Chain, respectively. CyPlus was the primary producer and provided cyanide in both bag-in-box and SLS delivery forms; Tongsuh provided supplemental supplies of cyanide in the bag-in-box delivery form. Observations for each supply chain are presented as follows:

CyPlus Turkey Supply Chain

As noted in the 2013 certification audit, the CyPlus Cyanide Supply Agreement indicates the CyPlus and its transportation contractors are responsible for production and delivery of cyanide in full compliance with the ICMC. Tüprag takes ownership of the cyanide on site at the point the sea-containers are lifted from the delivery truck (for cyanide in "bag-in-box" form) at the ADR and KCTP cyanide storage warehouse. SLS delivery form cyanide is delivered to a dedicated SLS tank storage warehouse east of the ADR. Packaging requirements are addressed in detail in the Supply Agreement, and it is clear that although requirements for unloading [see 2.1(1)h below] reside with Tüprag, responsibilities for items 2.1(1)(a) through 2.1(1)(g) and 2.1(1)i through 2.1(1)(l) are held by the current CyPlus Turkey supply chain. Per the latest Summary Audit Reports (SARs) posted on the ICMC website, CyPlus's Turkey Supply Chain is comprised of:

- the CyPlus Wesseling production facility [assisted by Loxx Holdings GmbH (Loxx); contracted to manage the entire supply chain on CyPlus's behalf];
- truck transport to the Container Terminals at the Ports of Hamburg or Bremerhaven, Germany by Frisch Spedition und Transport GmbH & Co [managed for Loxx and CyPlus by Transfracht Internationale Gesellschaft für kombinierten Güterverkehr mbH &Co (TFG)];
- ocean transport by Mediterranean Shipping Company(MSC) to Izmir, Turkey;
- Limar Port and Ship Operators (Limar), the operating contractor for the Port of Izmir;
- Anhan Nakliyat Transportation Company (Anhan) was responsible for transportation of cyanide from the Port of Izmir to the mine site until 2015, when the company reportedly went bankrupt. However, Anhan's assets were acquired by TO-PET A.S. (TO-PET), and as all Anhan equipment, procedures, and trained personnel transferred to the new company, it is understood that Anhan's certification status also transferred to TO-PET. Discussions with CyPlus representatives indicate that ICMI was advised of

the change in July 2015. Anhan was formally removed from the list of ICMC approved transporters in April, 2016; and

- Meke Environmental Protection Services Ltd (Meke); Meke was contracted to CyPlus to provide emergency response assistance and support to Anhan Nakliyat (and to TO-PET in after July 2015), including provision of a fully equipped Emergency Response Team (ERT) to accompany each shipment.

Discussions with Tüprag, CyPlus, and ICMI representatives indicate that CyPlus has also advised ICMI that it is currently seeking to modify its supply chain for SLS delivery form cyanide to include transportation from the CyPlus production facility in Wesseling, Germany, to the Port of Trieste via railway (DB Schenker Rail), to a roll-on/roll-off ocean carrier (U.N.RO-RO Isletmeleri A.S.), to the Port of Pendik, trucked on to the Kisladag site using the Zafer Nakliyat trucking service, supported by a Meke ERT. CyPlus's practice is to conduct test shipments to ensure the viability of new routes, and Tüprag has accepted SLS form cyanide from a successful test shipment. CyPlus advised ICMI of the positive results from the test shipment and has engaged a qualified ICMC transportation auditor to conduct the new supply chain certification; as of the submittal date of this report, the audits have been completed for all elements of the new supply chain and report preparation is in progress.

Beecom Turkey Supply Chain

In order to better ensure a steady flow of cyanide to the site to accommodate growing heap leach process needs, Tüprag issued three POs (2013, 2014, and 2015) to Beecom for delivery of supplemental quantities of cyanide sourced from Tongsuh Petrochemical Co., Ltd (Tongsuh), Nam-gu, Ulsan-city, Republic of Korea. Tongsuh is an ICMC-certified producer as noted above, and the POs specifically require delivery of Tongsuh cyanide. However, ICMI was not informed with respect to the changes in the transportation chain as required by Section V(C)(1) of the ICMI Signatory and Certification Process guidelines (see http://www.cyanidecode.org/become-signatory/signatory-and-certification-process) nor were ICMC requirements for transportation specifically applied until a *pro forma* invoice contract for more supplemental quantities of cyanide was issued in 2016. Beecom recognized its contractual responsibilities at this point in time and (as noted on the ICMC website) became a signatory several weeks after the contract was issued (February 25, 2016). Beecom recognized its contractual responsibilities at this point in time and (as noted on the ICMC website) became a signatory several weeks after the contract was issued (February 25, 2016). Review of the ICMI website indicates that Beecom also successfully certified its Turkey Supply Chain on January 3, 2017. The supply chain is comprised of:

- SAM IK Logistics Co., Ltd,
- Korean Railroad,
- Port of Busan,
- Hanjin Shipping,
- MAERSK,
- Port of Izmir, and
- TO-PET A. S.

Prior to the submittal date of this report, Tüprag issued an advisory letter to ICMI acknowledging the delay in notification and explaining the need for the use of the Beecom Supply Chain before it could be certified. Tüprag also prepared a new standard operating procedure (SOP) KGM-HSS-0048-MP-e, *Specific Guidance for Purchasing and Transportation of Sodium Cyanide and Notification of ICMI.* The purpose of this SOP is to guide Tüprag purchasing staff in proper protocols to follow if alternate suppliers and transporters need to be used in future. Copies of the advisory letter, the new SOP, and training records for affected purchasing personnel were provided for audit team review and found to be satisfactory.

Failure to notify ICMI with respect to pending changes in the transportation supply chain for supplemental cyanide prior to placing Beecom under contract was an oversight on Tüprag's part. However, it is the audit team's judgment that a determination of full compliance for this standard of practice is warranted for the following reasons:

- Tüprag's primary source of cyanide remains with a fully certified supply chain (the CyPlus Turkey Supply Chain No. 5) and CyPlus's current efforts to certify an additional supply chain for this mine through the Ports of Trieste and Pendik are in compliance with ICMI requirements;

- Tüprag made a good faith effort to locate a certified source of supplemental cyanide, and selected a certified source (Tongsuh);

- the cyanide stocks involved are supplemental to Tüprag's main source of supply;

- no transportation issues involving Tongsuh-sourced cyanide have occurred in the years since the 2013 certification audit;

- correspondence with Tüprag and Beecom confirmed that Beecom contracted an ICMI-approved lead/transportation auditor to complete the supply chain audits; as of the submittal date of this report, Beecom's Turkey Supply Chain is fully certified;

- Tüprag immediately notified ICMI when the notification oversight was brought to their attention, and immediately developed and issued an appropriate SOP to prevent such oversights in future; and

- Tüprag purchasing staff have been trained in the requirements of the new SOP.

This standard of practice was evaluated via discussions and correspondence with Tüprag management and CyPlus and ICMI representatives, and by review of:

- the ICMI website, http://www.cyanidecode.org/signatory-company/cyplus-gmbh [CyPlus Turkey Supply Chain (Supply Chain # 5); CyPlus Wesseling Plant to International Ports of Entry (Supply Chain #1); and the Beecom Turkey Supply Chain];

- the ICMI Signatory and Certification Process guidelines (see http://www.cyanidecode.org/become-signatory/signatory-and-certification-process);
- the current CyPlus Sodium Cyanide Supply Agreement;
- the three Beecom POs (2013, 2014, and 2015) and the *pro forma* invoice contract from 2016;
- correspondence with Beecom representatives;
- SOP KGM-HSS-0048-MP-e, *Specific Guidance for Purchasing and Transportation of Sodium Cyanide and Notification of ICMI* and associated training records; and
- a sample of associated POs and delivery bills of lading/chain of custody forms for cyanide deliveries form CyPlus and Beecom conducted in 2013, 2014, 2015, and 2016

Except for the final unloading of cyanide when received at the mine site, all responsibilities for packaging, transporting, labeling, storage in transit, route selection, security, safety, training, and emergency response reside with the CyPlus Turkey Supply Chain and Beecom Turkey Supply Chain.

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.

Discuss the basis for the Finding/Deficiencies Identified:

See Section 2.1 above; review of CyPlus Sodium Cyanide Supply Agreement indicates that CyPlus and its transportation contractors are responsible for production and delivery of cyanide in full compliance with the ICMC. Per the Summary Audit Reports (SARs) posted on the ICMC website, CyPlus's Turkey Supply Chain is currently certified, and includes

- the CyPlus Wesseling production facility, assisted by Loxx (contracted to manage the entire supply chain on CyPlus's behalf);
- truck transport to the Container Terminals at the Ports of Hamburg or Bremerhaven by Frisch Spedition und Transport GmbH & Co (managed for Loxx and CyPlus by TFG);
- ocean transport by MSC to Izmir, Turkey;

- Limar, the operating contractor for the Port of Izmir;
- TO-PET (formerly Anhan), who have been responsible for transportation of cyanide from the Port of Izmir; and
- Meke (provide emergency response assistance and ERT support to each Anhan/TO-PET shipment.

With respect to pending certification efforts for the new CyPlus Port of Trieste – Port of Pendik SLS supply chain and the Beecom Turkey Supply Chain, please see 2.1(1) above. The CyPlus Port of Trieste – Port of Pendik SLS supply chain has been submitted for ICMI completeness review, and the certification of the Beecom Turkey Supply Chain is in progress as of the submittal date of this report. Chain of custody records were available from the Port of Izmir to the mine site that confirm Anhan Nakliyat as the road transporter until 2015, after which all deliveries were made by TO-PET. MSC was the ocean transporter, and CyPlus was the original producer. Upstream chain of custody records/bills of lading between Wesseling and the Ports of Hamburg or Bremerhaven are not provided to Tüprag. However, review of the ICMI website indicates that the entire CyPlus Turkey Supply Chain has been certified. With respect to pending certification efforts for the new CyPlus Port of Trieste – Port of Pendik supply chain and the Beecom Turkey Supply Chain, please see 2.1 above.

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.

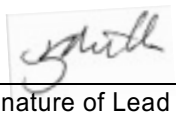
Discuss the basis for this Finding/Deficiencies Identified:

Cyanide purchased from Tongsuh/Beecom is delivered as dry briquettes in nonreturnable bag-in box delivery form (i.e., 1-tonne polypropylene bags, with internal polyethylene moisture barriers, overpacked in palletized plywood crates and delivered to site in steel intermodal sea-containers). CyPlus cyanide is delivered in as dry briquettes, in bag-in-box delivery form (with returnable plywood crates) as well as in reusable steel SLS container tank trailers, which serve as both delivery containers and mixing vessels. All briquettes are delivered buffered with sodium hydroxide to maintain high pH in mixing operations. SLS containers are stored in

a dedicated warehouse as noted in the 2013 certification audit. The mixing, offloading, and storage facilities and associated infrastructure for SLS delivery form cyanide (located on the northwest corner of the ADR complex) was designed and purpose-built in accordance with CyPlus's instructions; it has been commissioned and has been in regular use since shortly after the 2013 audit. The offloading facility is roofed but is open on the sides and is well-ventilated. Offloading involved staging of the SLS trailer on a concrete apron reporting to substantial secondary containment. Once the plant air and water connections are made, the sparging operation is highly automated.

Cyanide receiving and storage areas for bag-in box delivery form cyanide are the same as observed in the 2013 certification audit. Sea-containers containing 20 one-tonne boxes of cyanide are routinely delivered to concrete pads adjacent to secure, dedicated warehouses adjacent to the ADR. Intermodal containers are lifted from the trailer using contracted mobile cranes. Reserve stocks are stored at another dedicated cyanide warehouse at the KCTP. Both of these warehouses are secured, fully enclosed, and metal-roofed, with concrete containments, audible/visual HCN alarms, spill containment kits, and dry chemical fire extinguishers. Cyanide stocks are rotated so that oldest stocks are used first. 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 bermed concrete containment within the ADR footprint. Based on observation of a mixing event, the cyanide mixing arrangements for bag-in–box delivery form cyanide are essentially identical to those observed in the 2013 certification audit. Bags are removed from boxes using a dedicated jib crane and positioned within a steel cabinet over a steel hopper, bag cutter, and mechanical ventilation arrangement installed on the top of the mix tank. The cabinet arrangement permits full enclosure of the bag prior to being lowered onto the cutter assembly. A tempered glass viewing port was provided for the operator. A combination safety eyewash and shower is located on the mixing deck as well as a ground level within the mixing tank impoundment. It is noteworthy that polyvinyl chloride (PVC) and high-density polyethylene (HDPE) piping system components observed in the mixing and storage bay in the 2013 certification audit had been upgraded to carbon or stainless steel.

During the mix, it was observed that the closest HCN monitor was positioned 2-3 m above ground level in the rear of the mixing and storage tank containment; the viewing port in the mixing cabinet was also cracked and scratched, and the operator was observed to manually shake the cut bag. No emergency shower/eyewash check was observed on the upper deck shower. Prior to the submittal of this report, and in response to the auditors' request, 1) the HCN monitor was relocated to the mixing deck; 2) the viewport was replaced; 3) additional training was provided to the operators with respect to prohibitions on direct manual shaking of the bag, and a remote handing device was provided for shaking the bag. Photographic evidence of the noted modifications and repairs was provided, along with a copy of the training records for affected operators.



As noted in the 2013 certification audit, no bag rinse arrangement is provided at the mixing facility; regulations require empty cyanide bags to be disposed of offsite at a licensed hazardous waste disposal facility. A risk assessment had been conducted by Tüprag prior to the 2013 certification audit; because of the potential for residual HCN generation in the rinsed bags, dry folding and storage of empty bags in dedicated waste containers (covered plastic barrels) pending offsite shipment is the preferred practice. Bags are folded on the mixing deck by the operator immediately after their contents have been emptied, and the folded bags placed in waste barrels. There has been no change in solid or mixed liquid cyanide storage locations since the 2013 certification audit except for the addition of the SLS offloading facility storage tank; cyanide briquettes delivered in bag-in-box form continue to be stored in dedicated warehouses near the ADR and at the KCTP facilities, well within the security perimeter of the site and distant from any permanent or seasonal surface water feature. SLS containers are kept in a dedicated, purpose-built warehouse to the east of the ADR facility.

Tuprag does not purchase cyanide in liquid form. However, it should be noted that the 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. The onsite storage tank itself is within a new bermed concrete containment designed to contain substantially greater than 110% of the SLS container tank volume, plus flowback. SLS containers have a maximum mixed volume of 25.5m^3; the containment volume of the facility is 212m^3. All other cyanide mixing and storage tanks are located within bermed concrete containments that were observed to be in good condition and provide a competent barrier to leakage. The bag-in-box form cyanide mixing and storage tanks are still located in a bay with bermed concrete knee walls with interconnecting concrete floor drains that report to a concrete sump on the west side of the second carbon train. All cyanide mixing and storage tanks are fitted with tank level indicators and alarms that can be monitored from the central control room at the ADR facility.

Storage practices are essentially identical to those observed in the 2013 certification audit. Dry briquette warehouses at the KCTP and ADR are both provided mechanical ventilation arrangements; the cyanide storage tank in the ADR is under a roof, but is otherwise open to the atmosphere. The SLS storage tanks is located in a roofed structure with open sides that provide substantial ventilation. Cyanide is stored in dedicated warehouses at the KCTP and ADR and the SLS offloading facility that prevent contact with water; these facilities are secured, enclosed, and metal-roofed, with concrete containments, hydrogen cyanide (HCN) alarms, and dry chemical fire extinguishers. The cyanide warehouses at the KCTP and ADR and the SLS facility near the ADR are well within the security perimeter of the project; they all have locked doors/gates and are located within secondary security fencing with locking gates. Apart from cyanide storage, the only permitted storage function of the ADR and KCTP warehouses is the storage of knocked-down wooden crates pending accumulation of sufficient quantities to justify shipment back to CyPlus in Germany or (in the case of nonreturnable Tongsuh boxes) shipment to a licensed hazardous waste disposal facility. Acid wash and storage areas in the ADR are located within their own dedicated concrete berms.

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.

Discuss the basis for this Finding/Deficiencies Identified:

With the noted exceptions that apply to the handing of the Tongsuh cyanide boxes, current packaging waste disposal protocols are identical to those observed in the 2013 certification audit. All sea-containers used for the transportation of cyanide boxes are inspected after cyanide crates are removed, and released for other service. The wooden boxes form CyPlus are knocked down when empty, folded, and returned to the supplier for re-use. Empty (cut) cyanide bags and the empty (nonreturnable) boxes from Tongsuh are disposed of as hazardous waste at İZAYDAŞ (Waste and Residue Treatment Incineration and Utilization Corp.), a licensed hazardous waste disposal facility. Empty (cut) cyanide bags are required to be disposed of as hazardous waste. As noted in the 2013 certification audit, Tüprag's practice is to fold and roll the empty dry cut bag on the mixing deck without rinsing, immediately after deposition of briquettes in the mixing tank. Washdown of the mixing deck and hopper occurs after the rolled bag is removed. Folding of the dry, empty cut bag is performed by the mixing tank operator, wearing full personal protective equipment (PPE). The folded bag is reduced to a small bundle, which is then transferred to an empty, dedicated plastic waste barrel. Barrels are labeled as hazardous waste, secured with fitted plastic lids, and retained in a controlled area adjacent to the ADR pending shipment offsite to İZAYDAŞ. CyPlus's wooden boxes are designed to be knocked down and returned for re-use; the empty Tongsuh boxes are nonreturnable and are disposed of as hazardous waste along with cut bag bundles at İZAYDAŞ. Knocked-down boxes are kept in the cyanide warehouse until shipment (to CyPlus or to the İZAYDAŞ hazardous waste disposal facility, as appropriate).

Tüprag has issued an updated *Cyanide Management Plan* (document KGM-HSS-0004-MP-e) for the Kisladag operation, as well as updated procedure KGM-ADR-NP-JSA-011, *Preparation of Sodium Cyanide Solution* for bag in box delivery form cyanide and a new procedure for the SLS delivery form (KGM-ADR-NP-JSA-044, *Cyanide Preparation with SLS System).* Updated procedures (KGM-ADR-NP-JSA-015, *Unloading of Sodium Cyanide Boxes from Trucks* and KGM-ADR-NP-JSA-042, *Lowering of SLS Container to the Warehouse*), and KGM-ADR-NP-JSA-016, *Storage of Sodium Cyanide* collectively address the safe handling of intermodal sea-containers as they are unloaded from the delivery trailer, as individual cyanide boxes are removed from the container, and as cyanide boxes and SLS containers are stored in their respective warehouses.

The offloading and unpacking of a sea-container with bag-in-box form cyanide was observed; several procedure implementation and safety issues were noted and brought to the attention of Tüprag management, including structural/fitment issues with the steel ramp used to provide forklift access to the sea-container interior; the accidental puncture of a box with a forklift tine (the inner bag was not breached and no spill occurred); and the unchocking of a flatbed trailer wheel by a contractor truck driver while the suspended load was still overhead. However, Tüprag immediately issued a near-miss report for each observations, conducted a safe work practice analysis, rebuilt the steel access ramp, and retrained all affected operators, all prior to the submittal date of this report. Copies of the near miss reports, safe work p4racices analyses, and associated training records were provided for audit team review and were deemed satisfactory.

KGM-ADR-NP-JSA-016, *Storage of Sodium Cyanide* limits stacking of individual cyanide boxes within the warehouse to three high; KGM-ADR-NP-JSA-042, *Lowering of SLS Container to the Warehouse* limits the stacking of SLS containers to two high. KGM-ADR-NP-JSA-011, *Preparation of Sodium Cyanide Solution* provides direction on the cleanup of spills of dry briquettes that may occur in the bag-in-box mixing operation. KGM-ADR-NP-JSA-011, *Preparation of Sodium Cyanide Solution* provides direction on personal protective equipment (PPE) requirements (full Tyvek coveralls, rubber gloves and boots, and full-face respirator) and requires a separate observer in identical PPE at ground level during the mix. In addition, a remotely monitored video camera is trained on the mixing facility.

***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.

Discuss the basis for the Finding/Deficiencies Identified:

Tüprag has developed an environmental management system (EMS) based on ISO 14001, and further to the preparatory efforts noted in the 2014 certification audit, also established an OHSAS 18001-based occupational health and safety (OHS) management system that was independently certified in 2015.

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

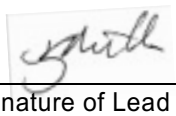
assistance of the Environmental, Process, Preventive Maintenance, and other operational departments. The *Cyanide Management Plan* (document KGM-HSS-0004-MP-e) was revised and reissued in early 2016, and is supported by KGM-HSS-0005-MP-e, *Emergency & Crisis Management Plan* and a suite of detailed procedures. The current version of the *Cyanide Management Plan* provides general information on cyanide chemistry, toxicity, and safety handling.

Heap leach operations continue to be conducted in compliance with the *Cyanide Management Plan,* the technical guidance provided in final phase-specific design reports, and by regular review of the site water balance. ADR operations are also managed in accordance with a suite of standard operating procedures based on the Safe Work Procedures originally noted in the 2013 certification audit.

Change management practices are essentially unchanged since the 2013 certification audit, Tüprag has continued to implement procedur*e K*GM- ENV-0012-MP-P-001-e, *Change Management Procedure* in evaluating the environmental and safety impacts of new or modified processes, equipment, or materials. The proposed change is documented on a KGM-ENV-0012-MP-F-001 *Change Request Form* and routed to the HSS Manager and Environmental Manager for review and approval prior to the implementation. KGM- ENV-0012-MP-P-001-e 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 2013, the procedure has been applied to a number of cyanide management infrastructure improvements, including:

- Replacement of PVC and HDPE piping system components in the bag-in-box mixing bay in the ADR;
- Installation of drip trays in walkway areas beneath solution pipelines within the ADR facility;
- Extension of interior wall in ADR cyanide warehouse;
- Construction of the Phase V and Phase VI leach pad extensions;
- Replacement/upgrade of solution pipelines between ponds and leach pads;
- Installation of reinforced concrete fire/explosion barrier walls between diesel generators;
- Installation of a new substation and booster pumps for the solution ponds;
- Installation of additional fixed HCN monitors in the SLS mixing facility, SLS warehouse, and ADR;
- Upgrade of the site ambulance; and
- Installation of crash barriers at stormwater and process ponds.

Prior to the 2016 update of the *Cyanide Mangmeent Plan,* Section 4C contained a general requirement for implementation of contingency plans and procedures that would apply in case of an upset in the site's water balance or a temporary shutdown. If such a situation constituted a site emergency, the Cyanide Emergency Action Plan (CEAP) requirements would apply; the CEAP was included as Appendix 1 of the *Cyanide Management Plan.* As noted in the 2013 certification audit, specific procedural guidelines were developed that documented 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.



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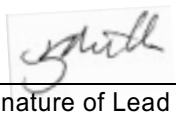
Section 6 of the updated version of the *Cyanide Management Plan* also addresses contingency operations in response to a variety of emergency/non-emergency scenarios.

There also has been no substantive change in the water balance model since the 2013 certification audit; the Excel-based model is still designed to permits Tüprag managers and operators to quickly quantify the risk of overtopping the lined pond systems (and potentially releasing solution over the emergency spillway) or running out of makeup water.

Inspection practices have also not changed substantially changed since the 2013 certification audit. In the audit team's judgment, inspections of cyanide facilities are conducted at an appropriate frequency for ensuring they are operating within design parameters.
Mixing, storage, and processing tank integrity, corrosion, and/or leakage is inspected by the operators on a per shift basis using an annotated checksheet (i.e., the *Tüprag ADR Shift Inspection Form*). In addition, operations supervisors conduct documented daily inspections that address general housekeeping, fire safety, machinery safety, adequacy of signage, ventilation, environmental issues, and other more general concerns. The HSS Department also conducts routine documented inspections of all cyanide facilities on at least a monthly basis in accordance with procedure HSS-014-SOP-01-e, *H&S Inspections*. Secondary containment areas; pipeline, pump, and valve integrity; and pond freeboard are also inspected on a per shift basis, and periodically overchecked by supervisory staff. Operations personnel continue to conduct documented inspections on each shift using an updated version of the *Tüprag ADR Shift Inspection Form*, which addresses key aspects of ADR operations as well as the condition/available freeboard in the solution ponds and event ponds, monitoring for the adequacy of birdball coverage in the barren solution pond, monitoring of the leach pad leak detection ports or potential ponding on the leach pad or in the solution collection trenches, integrity of bird netting on the pad discharge collection basins, spill management reagent expiry dates, the integrity of the hydrogen peroxide dosing system, and other aspects of cyanide management. In addition, operations supervisors conduct documented daily inspections that considers general housekeeping, fire safety, machinery safety, adequacy of signage, ventilation, environmental issues, and other concerns. The HSS Department also conducts routine documented inspections of all cyanide facilities on at least a monthly basis in accordance with procedure HSS-014-SOP-01-e, *H&S Inspections*.

Shift-specific operator inspection reports and daily supervisory inspections 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 Report or a "*Nonconformance, Corrective and Preventive Action Form*" per KGM-ENV-0009-MP-P-001-e, *Nonconformity, Corrective and Preventive Action Procedure.*
These reports include the date, identify the individual reporting the issue, and summarize the corrective/preventive action required as a result of report review.



Tüprag has the same SAP software-based PM system in place that was in effect during the 2013 certification audit, which addresses major machinery, tanks, pumps, valves, sensors, and other equipment involve in the management of cyanide (the exception being the fixed and hand-held HCN monitors, which are managed directly by the H&S department). PM actions are generated based on a predetermined maintenance schedule, or upon generation of work orders in daily response to specific inspection observations or observed operational needs. Work orders generated from the SOP system can be supported with substantial procedural detail to support the proper performance of the required work.

The operation is powered by the national grid via a local substation, but has four 1600- kVA diesel generator sets dedicated to the backup operation of major pumps and other key infrastructure associated with heap leach pad and ADR (one more genset than observed in 2013). One genset has been added in a location near the SLS container warehouse; the other three sets are installed adjacent to the ADR, and have been recently provided with reinforced concrete blast shields. Operational tests are still routinely conducted on a monthly basis.

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.

Discuss the basis for this Finding/Deficiencies Identified:

This standard of practice is not applicable, as Kışladağ 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.

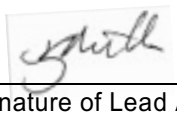
Discuss the basis for the Finding/Deficiencies Identified:

The probabilistic water balance described in the 2013 audit is still in use. It is maintained by the designer of the heap leach facility; the consultancy's scope of services includes continued liaison support for the maintenance of the water balance, and provision of ongoing operational guidance and technical support for emergency or contingency situations.

The water balance is constructed using Excel™ software and is documented in a report entitled "*Site Wide Water Balance Model – Kisladag Mine Site; Description of Deterministic and Stochastic Modeling and Draft Operating Manual*" that remains on file. 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 is capable of integrating frequency distributions for precipitation, and hence, as noted in the 2013 certification audit report, 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.

At its maximum development (i.e., with the Phase V and VI expansions built), the current leach pad is expected to have a draindown volume of 57,600 m^3, which when added to a theoretical design storm volume of 239,649 m^3 yields a total design volume of 297,249 m^3. The total available volume of all currently constructed ponds is calculated at 544,480 m^3. A synthetic precipitation history was developed for Kışladağ using over 80 years of Usak data; a similar synthetic record of rain days per month was also developed based on Usak data. Run-on area contribution volumes are specifically considered in the water balance model, but freezing and thawing impacts are not considered applicable. As noted in the 2013 certification audit, although the site has experienced light snowfalls and freezing temperatures, there has never been a snowpack with duration greater than 30 days, and a spring snowmelt event has never occurred. No solution losses to factors other than evaporation are predicted or reflected in the water balance model, with the exception of water that may be captured in the ore from the difference between initial and operating water content. The facility design has no other major aspects that affect water balance; however, advance planning is in process for a major expansion of the leach pads to the north which, if authorized, will require the development of additional process, stormwater, and emergency ponds

Inspection and monitoring activities are essentially identical to those observed in the 2013 certification audit. Full meteorological data continue to be recorded from the onsite meteorological station on a daily basis. Inspections are also conducted to monitor the condition and functionality of solution risers, distribution collection lines, leak detection arrangements, as well as surface levels, condition, and available freeboard for the solution, stormwater, and emergency ponds. These inspections are conducted by the operators each shift. Operators on both shifts also complete a daily record that records hourly or shift-specific readings of key operational data. This information is reviewed daily and forms the basis for operational adjustments to maintain targeted mineral recovery rates.



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The process and stormwater pond system is identical to that inspected in the 2013 verification audit. All ponds are designed with 1 m freeboard above the design capacity, which is considers a 100-year, 24-hour design storm event, as well as the potential for draindown from a 24-hour power loss. Precipitation and evaporation data are collected daily from the onsite meteorological station and input to the water balance model using the operational monitoring tool included as a tab in the Excel™ water balance model. This permits Tüprag to quickly quantify the risk of overtopping the lined pond systems and supports decisions to make specific operational adjustments.

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.

Discuss the basis for the Finding/Deficiencies Identified:

Wildlife access prevention measures are essentially identical to those in effect in the 2013 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 installed around the perimeter of the pond areas. As also noted in the 2013 certification audit, Tüprag estimates that 20-30% of the pregnant solution captured from the heap flows over the top surface of the pad over liner rather than infiltration to the buried perforated collection pipes. Although perforated 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. Solution accumulating in these basins combines with the flow from the perforated pipelines and is routed through a concrete header to a pipeline that drains to the pregnant solution pond. Because solution concentrations are $\geq$ 50 ppm, these basins are covered In plastic bird netting, and provided with cutouts to permit routine dip sampling of solution. The netting arrangement has been substantially improved since 2013; however, during the recertification audit, minor gaps in the bird netting over these basins were observed at several locations. Tüprag management was advised and prior to the submittal of this report, the bird netting arrangement was adjusted for each basin to eliminate any gaps in the netting. Photographic evidence was provided to the audit team attesting to the satisfactory completion of this rework, and a control form was issued with visual (photographic) standards established for what would be considered to be acceptable and unacceptable gaps. Training records were also provided for affected operations personnel.

In addition to the aforementioned solution collection basins, Tüprag also continues to maintain a series of solution, stormwater, and emergency ponds. Each pond is separately fenced and those ponds which have (or could potentially have) solution concentrations >50 ppm WAD_{CN} are also provided with birdballs, and coverage at all ponds was satisfactory.

ENV-0014-OP-P-001-e, *Wildlife Mortality Monitoring Procedure* requires the ADR and heap leach areas to be monitored daily by the Process Department and weekly by the Environmental Department. Workers are trained to report all wildlife mortalities immediately to the Environmental Department. All mortalities are reported on a *Wildlife Mortality Reporting Form.* Tüprag recorded only 7 events in the vicinity of the laboratory, process ponds, the ADR, and associated security fences since the 2013 certification audit; a total of 4 mortalities (jackal, cat, duck, and frog) have been noted in or very near to cyanide facilities. Details and investigation results are posted in the INX system. 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 processes are identical to those observed in the 2013 certification audit; emission lines are buried on the top surfaces of the heap to minimize 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.

Several relatively minor areas of ponding were observed on the top of the leach pad that were brought to management's attention; prior to the submittal date of this report, a control form was issued with visual (photographic) standards established for what would be considered to be acceptable and unacceptable levels of ponding on the top of the leach pad and hence defining the conditions in which corrective actions will be required by the leach pad operations staff. Training records were also provided for affected personnel.

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.

Discuss the basis for the Finding/Deficiencies Identified:

The Kışladağ process circuit is designed and operated as a closed circuit with zero discharge to surface and groundwater. As noted in the 2013 certification audit, Tüprag monitors surface water quality to ensure that indirect discharges to surface water are not occurring. The monthly surface water monitoring program for the mine site is documented in *ENV-0008-OP-001-e – Monthly Water Quality Monitoring Procedure* and includes sampling at a station downstream of the heap leach pad, ADR, and process 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 own laboratory for analysis. The analyses include Total and WAD cyanide, and results for 2013, 2014, 2015, and 2016 have been consistently below detection limits.

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.

Discuss the basis for the Finding/Deficiencies Identified:

The same solution management and seepage control systems established to protect groundwater that were observed in the 2014 certification audit are still in effect. The cyanide facilities consist of cyanide storage warehouses, heap leach pad, ADR plant, process solution ponds, emergency ponds, and interconnecting pipelines. As-built drawings show 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 monitoring wells noted in the 2013 certification audit are also used to monitor the integrity of the leach pad. As with the surface water monitoring program, groundwater samples are collected monthly from each of the wells. The sampling procedures are contained in ENV-0008-OP-001-e – *Monthly Water Quality Monitoring Procedure*. 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. The latter committee includes members from government organizations as well as non-governmental organizations (NGOs).

The solution ponds and ADR containment arrangements are essentially the same as evaluated in the 2013 certification audit, except that substantial sections of interconnecting pipelines have been upgraded to steel, and are provided with HDPE lined containment channels directing any leakage towards the adjacent solution pond. As noted in the 2013 audit report, the ponds are double lined using 1.5 mm thick HDPE liner separated by a geonet leak detection system. The ADR plant 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 towards pond BSP-1.

The original location of the monitoring wells and the design of the monitoring program was supervised by Hasan Yazicigil, professor of hydrogeology at Middle East Technical University in Ankara, and forms the basis for the monitoring program approved by the Government.

Water quality standards for the mine are currently regulated under Classes I through IV of the 2004 *Water Pollution Control Regulation*. Based on review of monitoring results to date for Kışladağ, Total cyanide in groundwater meets the strictest standard (Class I) for protection of drinking water and aquatic life. The results show that WAD cyanide concentrations have consistency been below the detection limit and have consistently remained below the Class I standard in Turkey for protection of aquatic life.

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.

Discuss the basis for the Finding/Deficiencies Identified:

All cyanide mixing, storage, and process tanks are located within the footprint of the ADR in a concrete secondary containment area, interconnected with concrete floor drains and HDPE solution pipelines. Separate concrete containment is provide for the storage tank and offloading apron for the SLS process. As noted in the 2013 certification audit, total available containment for cyanide areas within the ADR 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). The acid storage, neutralization, and wash tank is located within a totally 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 carbon-train section of the ADR containment will report to a concrete sump on the west side of the second train that drains (or can be pumped) to the barren solution pond (BSP-1). The SLS offloading and facility is roofed, and was designed with a concrete tank mixing offloading apron, reporting to a sump that can be evacuated to the permanent onsite storage tank. The storage tank itself is within a new bermed concrete containment designed to contain greater than 110% of the SLS container tank volume, plus flowback. SLS containers have a maximum volume of 25.5m^3; the containment volume of the facility is 212m^3.

Apart from the separate containment provided for the SLS facility and described in 4.7(2) above, environmental discharge prevention arrangements are essentially identical to those observed in the 2013 certification audit. Cyanide-contaminated water collected within the

secondary containment at the ADR reports to a concrete sump on the west side of the second carbon train, from where it could be pumped (or in overflow conditions, would drain by gravity) to the intermediate pond (ISP-1) or the BSP-1 barren solution pond. Overflow from ISP-1 will report to BSP-1 in upset conditions. Interstitial leak detection systems are proivded for all ponds that are checked on a daily basis, in addtion to several monitoring wells. If pond overtopping emergencies were to occur that could not be contained within the existing series of process, stormwater, and emergency ponds, a concrete collection trench and spillway arrangement is provided to the west of the ADR. Tüprag maintains contingency procedures in the *Cyanide Management Plan* and KGM-HSS-0005-MP-e, *Emergency & Crisis Management Plan,* and maintains an active hydrogen peroxide dosing system at the PRP-1 pond that would allow for neutralization of any residual cyanide by routing excess solution or contaminated water through the PRP-1 pond, prior to permitting emergency discharge through the spillway.

All process solution pipelines within the footprint of the SLS sparging facility and ADR complex are contained within a concrete containment. Pregnant and barren solution pipelines between the ADR complex and the leach pad are placed within an HDPE-lined trench. Transfer pipelines between the pregnant, barren, stormwater, and emergency ponds are placed in HDPE-lined trenches, pipe-in-pipe connections, or the concrete channel upstream of the emergency spillway. There are no permanent surface water features downgradient of the heap leach pads, ADR, or solution, stormwater, and emergency pond areas; ephemeral streams may exist for short periods of time in the spring, but the overall surface water contamination risk is very low. All solution pipelines are routed within (or are placed to drain to) secondary containment. If pond overtopping emergencies were to occur that could not be contained within the existing series of process, stormwater, and emergency ponds, a concrete collection trench and spillway arrangement is provided. Tüprag maintains contingency procedures and an active hydrogen peroxide dosing system at the PRP-1 pond that would allow for neutralization of any residual cyanide by routing excess solution or contaminated water through the PRP-1 pond, prior to permitting emergency discharge through the spillway. The peroxide storage tanks are located at the NE corner of the PRP-1 impoundment and are scheduled to be replenished in 2016. All process solution pipelines within the footprint of the SLS sparging facility and ADR complex are contained within a concrete containment. Pregnant and barren solution pipelines between the ADR complex and the leach pad are placed within an HDPE-lined trench. Transfer pipelines between the pregnant, barren, stormwater, and emergency ponds are placed in HDPE-lined trenches, pipe-in-pipe connections, or the concrete channel upstream of the emergency spillway.

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. It is noteworthy that polyvinyl chloride (PVC) and high-density polyethylene (HDPE) piping system components observed in the ADR mixing and storage bay in the 2013 certification audit had been upgraded to carbon or stainless steel. Substantial portions of the interconnecting pipelines in the pond

system have also been upgraded to steel. Solution, stormwater, and emergency ponds are all double-lined thermally welded HDPE geomembrane construction.

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.

Describe the basis for the Finding/Deficiencies Identified:

As noted in the 2013 certification audit, the team of contractors that have been responsible for each phase of the heap leach and solution/stormwater/emergency pond construction have been supervised by the Kışladağ Construction Management (KCM) department. The construction has been subject to multiple-level quality inspections and final approvals by the KCM Construction Manager.

Since the 2013 audit Tüprag has 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, are compiled in bound reports and are retained on file. The audit team also verified that the bound volumes of QA/QC data reviewed for leach pad Phases I through IV in 2013 also remain on file, as well as the report from the independent engineering review for the ADR that was conducted pursuant to standard of practice 4.8(5). Separate QA/QC data packages are also on file that address the containment repairs between the ISP-1 and BSP-1 ponds as well as the modification of the mixing tank deck and hopper area made during the 2013 certification audit.

Review of inspection reports and photographs for the Phase V and VI leach pad and pond liner construction indicate that soil density/compaction tests were performed on underlying soils and clay liner areas, and the integrity of the HDPE liner components and individual weld seams were also tested. The audit team also verified that the bound volumes of QA/QC data reviewed for leach pad Phases I through IV in 2013 remain on file, as well as the report from the independent engineering review for the ADR that was conducted pursuant to standard of practice 4.8(5). Separate QA/QC data packages are also on file that address the containment repairs between the ISP-1 and BSP-1 ponds as well as the modification of the mixing tank deck and hopper area made during the 2013 certification audit.

Final inspection results for Phase V/VI construction, including test reports and construction photographs, are compiled in bound construction reports and are retained on file. The audit team also verified that the bound volumes of QA/QC data reviewed for leach pad Phases I

through IV in 2013 remain on file, as well as the report from the independent engineering review for the ADR that was conducted pursuant to standard of practice 4.8(5). Separate QA/QC data packages are also on file that address the containment repairs between the ISP-1 and BSP-1 ponds as well as the modification of the mixing tank deck and hopper area made during the 2013 certification audit. All phases of heap leach and solution/stormwater/ emergency pond construction have been supervised by the KCM department. KCM department managers are experienced degreed engineers; no professional certification process for engineers current exists in Turkey. Tüprag conducted an independent engineering review of the ADR via Ümit Ekinci of CH Engineering and Consultancy CO (Ankara) (CH) to conduct this study, which was completed and provided for review prior to the submittal of the 2013 certification audit report, along with Mr. Ekinci's academic credentials and professional resume. This documentation remains on file with the other QA/QC records.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag continues to apply ENV-0008-OP-001-e, *Monthly Water Quality Monitoring 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 ENV-0014-OP-P-001-e, *Wildlife Mortality Monitoring Procedure*, which establishes responsibilities, monitoring locations, frequency, reporting procedures, and file management protocols. The procedure requires the ADR and heap leach areas to be monitored daily by the Process Department and on a monthly basis by the Environmental Department. Any mortality is reported on the "Wildlife Mortality Reporting Form." If any employee from the Mine notices any wildlife mortality in and around the mine site, the wildlife report form shall be filled and submitted to the Environmental Department. The company recorded only 7 events in the vicinity of the laboratory, process ponds, the ADR, and associated security fences. Since the certification audit, a total of 4 mortalities (jackal, cat, duck, and frog) have been noted near cyanide facilities. Details and investigation results are posted in the INX system.

KGM-ENV-0009-OP-001-e, *Leak Detection Monitoring Procedure* also applies to the interstitial monitoring performed to detect leakage from the solution and stormwater

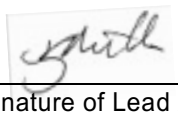
ponds; process solution ponds are checked weekly by the Environmental Department, and the stormwater pond is checked monthly (also by the Environmental Department. The heap leach area leak detection systems are checked daily by the Process Department.

The location and design of the original monitoring well installation was overseen by Hasan Yazıcıgil, Professor of Hydrogeology at the Middle East Technical University in Ankara. It is understood that Professor Yazıcıgil continues to provide advisory services on hydrogeology at the mine and design and location of new monitoring wells as the heap leach pad expands. ENV-0008-OP-001-e – *Monthly Water Quality Monitoring Procedure* was designed by Tüprag's Environmental Manager, who has a bachelor's degree in environmental engineering from 9 Eylül University in Izmir, Turkey, and completed a Master's study on the treatment technologies of cyanide containing industrial wastewater. She also worked as an Environmental Superintendent at the Ovacik Gold Mine (subsidiary of Newmont) in Turkey between 1997 and 2004, and has been Tüprag's Environmental Manager since 2004.

The *Monthly Water Quality Monitoring Procedure* details 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 also 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.

The leaching process is designed and operated as a closed circuit with zero discharge to surface and groundwater. A monitoring program is in place to monitor for potential leakage and release of cyanide to surface and groundwater. A monthly surface water monitoring program is in place for the mine site that includes sampling a perennial stream at WEIR-2, a sampling station located downstream of the heap leach pad, ADR and process ponds. There are also seven monitoring well locations upgradient and downgradient of the leach pad and ADR that is comprised of three single wells and four sets of two nested wells that are sampled every two weeks for Total and WAD cyanide. In addition, interstitial monitoring systems are installed at the leach pad and process ponds to monitor for potential leakage of the pond and pad liners.

There have been no substantive changes to the wildlife mortality monitoring program noted in the 2013 certification audit. ENV-0014-OP-P-001-e – *Wildlife Mortality Monitoring Procedure* defines responsibilities, monitoring locations; frequency, reporting procedure, and file management. The procedure requires the ADR and heap leach areas to be monitored daily by the Process Department and weekly by the Environmental Department. All workers also complete environmental induction and annual refresher training. Workers are trained to report all wildlife mortalities immediately to the Environmental Department. Any mortality is reported on a *Wildlife Mortality Reporting Form.* Tüprag recorded only 7 events in the vicinity of the laboratory, process ponds, the ADR, and associated security fences since the certification audit; a total of 4 mortalities (jackal, cat, duck, and frog) have been noted near cyanide facilities. Details and investigation results are posted in the INX system.



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Tüprag continues to conduct monitoring at frequencies that are adequate to characterize surface water and groundwater quality and wildlife mortalities. ENV-0008-OP-001-e, *Monthly Water Quality Monitoring Procedure* also presents the surface water and groundwater monitoring schedule and parameters to be analyzed. Surface water and groundwater monitoring points are sampled for cyanide, at minimum, on a monthly basis. The liner leak-detection systems for the process ponds and heap leach pad are monitoring each shift by process operators via visual inspection. Wildlife monitoring at the ADR and heap leach pad areas is conducted daily by operators and weekly by the Environmental Department. All workers are also trained to monitor for wildlife mortality.

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.

Describe the basis for the Finding/Deficiencies Identified:

As noted in the 2013 certification audit, Tüprag was originally required to develop a reclamation plan in compliance with relevant regulations in 2008 (*Regulation about Reclamation of disturbed areas due to Mining Industry Activities*, issued by the Ministry of Environment). However, the regulations changed in September 2010; Forestry legislation now takes precedence, and the former reclamation plan format was no longer valid for the mine due to the extent of its forestry area. Reclamation planning is now integral 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 rehabilitation plan (which is included as Section 5 of the EIA in the format specified by the Forestry Directorate). As a result of this review, it was requested that annual reclamation plan updates be submitted to the local Forestry Directorate. A plan was prepared and submitted in 2013, 2014, and the most recent version was submitted in 2015. This plan is documented in the *2015 Cyanide Facilities Decommissioning Plan* (The Mines Group, October 2015), and will form the basis for versions submitted in future. Section 9 of the *Plan* presents conceptual procedures for decommissioning the heap leach operation, including procedural detail for leach fluid management and stabilization (i.e., the recycling of barren solution and mechanical evaporation to reduce volumes and foster the natural

breakdown of residual cyanide); 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 4-5 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 (including sale or transfer of decontaminated tanks and equipment); final decommissioning and decontamination of the KCTP and the KCTP cyanide warehouse; and sale of unused cyanide reagent stocks or return to the vendor. The *Plan* is supported by a third party cost estimate, rinseate quantity calculations, and conceptual drawings of the configuration of the operation in closure. The plan also acknowledges that it will undergo annual review and updates, and that such updates are likely to include the testing and evaluation of proposed closure methods to ensure their ultimate suitability, and to revise or improve such planning if improved technologies are developed over time.

The cost estimate included in the *2015 Cyanide Facilities Decommissioning Plan* presents 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 documented in Section 9 of the *2015 Cyanide Facilities Decommissioning Plan*. The 2015 version of the Plan was submitted to the local office of the Forestry Directorate in September of 2015, and will be updated on an annual basis.

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.

Describe the basis for this Finding/Deficiencies Identified:

The Mines Group developed and maintains a cyanide facility decommissioning plan and third party closure cost estimate for Tüprag. The latest available estimate is documented in ELD-KIS-CNCloseEval20151016mpd, *2015 Cyanide Facilities Decommissioning Plan*. The cost estimate includes a number of facilities that are beyond the scope of this audit, but all cyanide management facility decommissioning activities required by this standard of practice to be included in the cost estimate were properly represented. These included costs for: return of unused stocks of cyanide to the vendor (from the SLS warehouse and the bag-in-box warehouses at the ADR and KCTP); rinsing of warehouse floors and disposal of rinseate; detoxification of residual cyanide in tanks, pipelines, and piping system components within the SLS and ADR facilities, and disposal of residues within the heap; and solution pumping and management of leach pad draindown and evapotranspiration in converted solution ponds. Section 4.5 (Implementation – Decommissioning) of the *Cyanide Management Plan* commits

Tüprag to review the cost estimate at least every five years, or more often whenever revisions to the *Plan* are made that affect the decommissioning of cyanide management infrastructure.

Turkish law does not currently require a financial mechanism to cover the cost of cyanide-related decommissioning activities. However, a new Mine Waste Regulation is scheduled to go into effect in July 2016. It is expected that any changes in financial surety requirements will be clarified as the regulation is implemented, and Eldorado and Tüprag will adjust their practices accordingly relative to the requirements of this Standard of Practice.
As noted in the 2013 certification audit, Eldorado Gold has established a "self-insurance" type of financial assurance mechanism for Tüprag; the details of this financial assurance mechanism are consistent with the Canadian Generally Accepted Accounting Principles and are documented in a corporate practice which was referred to a certified financial auditor (KPMG) for independent review. KPMG is operating under an engagement letter that commits Eldorado to the satisfactory resolution of any comments. The amount of the financial assurance proposed by Eldorado in the financial calculations generated in compliance with the aforementioned corporate practice for the Kışladağ Gold Mine in calendar year 2012 substantially exceeds the estimated decommissioning costs for relevant elements of cyanide infrastructure. The KPMG report concluded that the financial assurance mechanism was satisfactory, and was provided for the auditors' review prior to the submittal date of this report. Publically available financial information also indicates that Eldorado is in good financial standing and has substantial cash reserves at least two orders of magnitude above what would be required to close the cyanide management facilities at Kışladağ.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag has updated its *Cyanide Management Plan* (KGM-HSS-0004-MP-e), which describes the steps and procedures that are implemented at the Kışladağ Gold Mine for the safe management of cyanide. The *Cyanide Management Plan* refers to Safe Working Procedures (SWPs) and SOPs that provide step by step requirements for undertaking specific cyanide related tasks. In addition there are is an operating manual that details gold recovery operation (*Tüprag Gold Recovery Operating Manual*, 2005) and general operating procedures for non-cyanide specific mine operating tasks, of which there are forty workers that are required to be trained. Over 20 SWPs have been developed or maintained for cyanide-related tasks for unloading, mixing, and plant operations, including confined space entry and decontamination during maintenance operations. A Job Hazard Assessment (JHA) is also

required to be completed prior to any maintenance operation and is performed with each work order issued. Use of appropriate personal protective equipment (PPE) is a mandatory workplace requirement for all employees and contractors. Hard hat, steel toed boots, safety vest, and safety goggles with side shields are required in all workplace areas. There are also requirements detailed in operating procedures to wear additional items of personal protection (e.g., rubber gloves, boots, Tyvek and Tychem coveralls, and full face respirators with appropriate filters) as well as use of portable HCN meters when undertaking specific tasks or when working in specific areas where there is a risk of exposure to cyanide. PPE requirements are also posted in areas of the plant where specific PPE is required.

Workplace inspections are undertaken at the start of each shift to check operation of shower/eyewash stations, pipes, valves, tanks and secondary containments for any signs of leakage. Pre-work inspections are conducted prior to cyanide unloading and mixing operations. These inspections include inspecting PPE, checking for proper operation of forklift and shower/eye wash station. Pre-work inspections are also required as part of confined space entry and JHA/SWP procedures when undertaking non-routine tasks.

Change management practices are essentially unchanged since the 2013 certification audit, Tüprag has continued to implement procedur*e K*GM- ENV-0012-MP-P-001-e, *Change Management Procedure* in evaluating the environmental and safety impacts of new or modified processes, equipment, or materials. The proposed change is documented on a KGM-ENV-0012-MP-F-001 *Change Request Form* and routed to the HSS Manager and Environmental Manager for review and approval prior to the implementation. Review of examples of major and minor change management exercises indicated that the process is used effectively. In addition, production staff toolbox meetings and engineering staff toolbox meetings are usually held in Turkish, and potential change needs are channeled to management for review in regular health and safety meetings.

Worker input protocols are also very similar to those observed in the 2013 certification audit. Employees are encouraged to seek ways to continually improve workplace safety; this ethic was noticeable in the audit with respect to workforce attitudes supporting the concept of continual improvement (a key element of the site's ISO 14001 and OHSAS 18001 OHS management systems), and general excellent housekeeping practices. In addition to informal discussions with supervisors, there are several other formal ways in which workers have an opportunity to communicate and provide input into the development and evaluation of health and safety procedures, including worker health and safety committee meetings, toolbox meetings, completion of Hazard Reporting Cards (HRCs), suggestion boxes, and completion of Hazard Awareness Card (SLAM) cards. The suggestion box continues to be a very popular communication method. In 2014 and 2015 there were 525 suggestions submitted. In the first half of 2016 there have been 173 suggestions, several involving ideas to improve health and safety procedures.

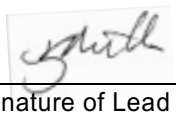
6.2 Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation is:
- ■ in full compliance
- in substantial compliance
- not in compliance…with Standard of Practice 6.2.

Describe the basis for the Finding/Deficiencies Identified:

The importance of maintaining appropriate pH is emphasized in the updated *Cyanide Management Plan.* 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 the mixing process, thereby preventing the generation of HCN gas. There is a pH meter at the mix plant that is visually checked during mixes to confirm that pH is greater than 12. As was also noted in in the 2013 certification audit, Tüprag have never found it necessary to add caustic.

Tüprag maintains the leach circuit between pH 9.5 and 11.0 and has set an operating goal of pH 10.5 for the barren solution. Lime is added at the end of the crusher at a rate of 5.5 kg per tonne of ore conveyed to the leach pad to control effects of sulphate in the ore. Samples are collected from barren, intermediate, and pregnant solution each hour for pH and cyanide analysis, and, if the pregnant solution falls below pH 9.5, caustic is added to the circuit. Tüprag also controls pH in the stripping and acid wash processes. The procedures specify that pH should be checked and caustic added to ensure that the pH is greater than 12.5 and 10.5, respectively for these operations. Tüprag has also installed stationary HCN monitors in areas of the ADR plant and SLS mixing and storage area where there is a potential for HCN gas generation, and personnel use portable HCN monitors when conducting tasks where there is a potential for HCN gas generation. Stationary monitors are installed in the stripping /cyanide mix area of the ADR Plant, the SLS tank storage warehouse, and in the bag-in-box form cyanide storage warehouses at the ADR and KCTP. As also noted in 3.1, during the recertification audit, one HCN sensor was moved to a more appropriate workplace location on the mixing deck. In addition, there are two stationary HCN monitors on the top of the leach pad that are moved as required to monitor active leach areas. The alarms are audio-visual with trigger points set at both 4.7 ppm and 10 ppm. HCN gas is also regularly monitored each shift at six locations (i.e., the pregnant and barren pond area, stripping area, carbon columns, chemical storage area, booster pump areas, and cyanide storage areas) using a portable HCN meter. Review of records selected form 2013, 2014, 2015, and 2016 indicates that HCN readings in these areas are normally less than 1 ppm. Operating procedures specify those tasks where portable monitors are required to be used. Procedure KGM-ADR-NP-SWP-027 HCN, *Safe Response to HCN Emission* describes actions to be taken in the event of a HCN release. If HCN concentrations exceed 4.7 ppm, workers must exit the work area and proceed to a designated muster area outside the laboratory. A worker with full face respirator and appropriate filter cartridge and portable HCN meter then investigates the reason for the upset.



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If HCN concentrations exceed 10 ppm, this investigation is undertaken by two ERT members wearing chemical suits and self-contained breathing apparatus (SCBA).

As noted in the 2013 certification audit, a risk assessment was conducted prior to plant startup (and before SLS mixing plan startup) to identify those areas of the operation where there is a potential for significant cyanide exposure. Based on the results of the assessment, fixed HCN monitors were installed in the cyanide storage buildings and stripping/mixing area at the ADR and SLS mixing and storage areas. In addition, HCN gas is regularly monitored each shift at six locations using a portable HCN device to check for potential concerns.

In addition to standard PPE, rubber gloves and boots, Tyvek or Tychem overalls, and full face respirators with ABEK2P3R dust and HCN gas filters are required during cyanide mix operations. Dust filters and Tyvek overalls are also required when handling sealed IBC boxes during delivery or transfer from the cyanide storage warehouse. In the event that HCN concentrations exceed 10 ppm the area is evacuated and re-entry to the area is only permitted by two emergency responders wearing chemical suits and SCBA units. All ADR and SLS plant operators are fit tested and trained in the use and maintenance of full face respirators. Filters are required to be replaced monthly or as required. Refresher training is undertaken annually; also, all emergency responders are trained in the use of SCBA.

There are now seven static Draeger Polytron 7000 HCN meters (stripping /mix area of the ADR, mixing and control room of SLS Plant, cyanide boxes and SLS storage warehouse at the ADR, cyanide storage warehouse at the KCTP, and two on the leach pad). There are now twelve Draeger PAC 7000, five Draeger XM-5600 and two Draeger XM-5000 portable HCN meters. The portable and fixed monitors are externally calibrated on a six month schedule. Calibration of monitors is tracked on an Excel spreadsheet maintained by the Safety Department. Review of the spreadsheet indicated that calibration of all equipment is current. Copies of calibration records for each monitor are stored on INX and were available for review.

Signage is clearly posted at entrances to the ADR and SLS mixing/storage facilities and associated cyanide storage warehouses, and includes cyanide hazard warning signs; prohibitions on open flames, smoking, eating and drinking; restricted entrance to authorized persons only; PPE requirements, and a color coding key for pipelines. Cyanide hazard warning signs are also posted on fencing around the cyanide ponds, and the upgraded steel pipelines installed to and from the leach pad and between the process ponds are clearly color-coded and labeled to identify pregnant and barren solutions. Signs are also posted at each pond to identify the name and use of the pond.

Shower/eye-wash units are located in areas where there is a potential for exposure to cyanide and have been increased since the 2013 certification audit. Units are now provided on the ground floor of the ADR mix plant, the upper deck of the ADR cyanide mix facility, the upper deck of the carbon columns, the ground floor of the carbon columns, the ground floor of the ADR plant, the mixing and control room areas of the of SLS mixing and storage facility, and at the peroxide addition station near the Surge Pond (PRP 1). The shower/eye-wash units at the ADR are feed directly via a water supply line that is regulated to about 30 psi. The other

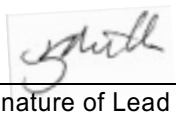
shower/eye-wash units are gravity-fed from an overhead supply tank that provides a safe operating pressure to the eyewash and is automatically filled after the unit is operated.

The operation has continued and improved the practice of identifying areas and activities with potential high levels of cyanide. Cyanide mixing and process tanks are clearly labeled with cyanide warning signs. Piping is color-coded to identify contents, and color-code keys are posted at the ADR and SLS mixing/storage facilities. Reagent cyanide piping is color-coded purple and flow direction is clearly marked. Pregnant and barren solution pipelines, transfer cyanide solutions between ponds at the ADR, leach pad and ponds were clearly labeled with name and flow direction as well as color-coded yellow and cream, respectively, to identify their contents. Tanks and piping containing cyanide are properly identified. Piping signage indicates the direction of cyanide flow. Safety signage is in place, and Material Data Safety Sheets (MSDSs) in Turkish and English are available at all areas where cyanide is managed. MSDS stations are located in the Administration Building and at the ADR Office/Laboratory Building. The MSDS are filed in binders and segregated by mine area for ease of reference. MSDS are also posted in strategic areas of the plant where chemicals are used (e.g. MSDS for sodium cyanide are clearly posted at the cyanide storage warehouses and outside the cyanide mix plant). In addition, first aid response information is posted on the cyanide mix tank and posters are displaced strategic locations that provide actions to be taken in the event of an HCN gas alarm. The MSDS and signage are in Turkish.

Tüprag has not experienced any cyanide exposure incidents since operations began in 2006. In the event that an incident was to occur Tüprag has systems in place to investigate. Procedure KGM-HSS-0008-MP-e, *Incident Reporting* provides instruction and guidance to ensure that investigations (including those that involve cyanide) are completed, and applies to all employees and contractors. In the event of an accident or near miss workers are required to complete an *Incident Reporting and Investigation Form* either in hard copy or online. This form requires information on the level of injury; description of the event; actions taken and the equipment, people and witnesses involved. The information is saved into the INX system, which automatically notifies all affected managers. A moderator, usually a representative from the HSS or the Environmental department, conducts a root cause investigation and risk analysis to ensure that all measures are implemented to remove/minimize the risk in the workplace and prevent future occurrence. Once measures have been implemented the investigation is closed. Review of incident report records maintained on INX and previously in hard copy since the 2012 ICMC certification audit revealed four cyanide related incidents, none of which resulted in a cyanide exposure.

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.



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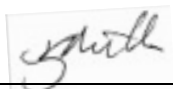
Describe the basis for this Finding/Deficiencies Identified:

Safety shower/eyewash stations are located in strategic areas of the site to provide immediate access to workers in the event of contact with cyanide. All ERT members are trained in application of medical oxygen. At the time of the recertification audit there were 64 trained emergency responders, 10 more than noted in 2013. There are now four medical oxygen units at the clinic, which is only a few minutes from the ADR plant. Four units are now also kept in the ADR emergency response equipment storage locker; one additional unit is kept in the chemical emergency vehicle, and three are also kept in the ambulance. These units are inspected monthly by the clinic. Tüprag continues to have stores of hydroxocobalamin (Cyanokits) available in the event of a cyanide first aid emergency. Hydroxocobalamin can only be administered by a qualified nurse, paramedic or doctor.

Communication is through radio, cell phone, or land line. There is also an alarm system that can be activated in the event of an emergency. The emergency response plan includes radio protocol, a call channel, and emergency phone numbers in the event of an emergency. Radios are available for all workers and are used by all security personnel. However, most workers prefer and use cell phones in place of radio. Light vehicles are equipped with hands-free systems for cell phones. Cell phone reception is reliable across the site. Also, there are now four medical oxygen units at the clinic, which is only a few minutes from the ADR plant. Four units are now also kept in the ADR emergency response equipment storage locker; one additional unit is kept in the chemical emergency vehicle, and three are also kept in the ambulance. These units are inspected monthly by the clinic and a tag on each unit is signed by a nurse or doctor after inspection. Hydroxocobalamin (Cyanokits) and activated carbon are also maintained at the clinic. The Cyanokits are kept in a refrigerator. The expiry date on each kit is clearly marked and all of the kits were observed to within the manufacturer's specified expiry date. The clinic is responsible for replacing the kits prior to expiry and uses a *Cyanokit Tracking Control Form* is used to track the expiry date of each kit and monthly inspections.

In response to an Eldorado Gold corporate request, Tüprag has recently committed to comply with the Mining Association of Canada's Towards Sustainable Mining (TSM) initiative, which, among other specific focus areas includes the TSM Crisis Management and Commujnicaitons Planning assessment protocol. The CEAP orignially appended to the *Cyanide Management Plan* that was reviewed in the 2013 certification audit was therefore udpated in earloy 2016 to a stand-alone document, KGM-HSS-0005-MP-e, *Emergency & Crisis Management Plan*. The *Emergency & Crisis Management Plan* specifically details the roles and responsibilities and response actions for potential cyanide release situations. Specific emergency response procedures to respond to cyanide or HCN gas exposures are also clearly presented in the *Emergency & Crisis Management Plan,* Section 5.10.1, "Elements of Cyanide Related Emergency Responses." First aid procedures for cyanide exposure and included in MSDSs that are posted at the ADR and SLS cyanide mix facilities and the ADR, KTCP, and SLS cyanide warehouses. As noted in the 2013 certification audit, although workers are trained to



recognize the symptoms of cyanide poisoning and first response actions in the event of cyanide exposure, they are not expected to apply medical first aid. Workers are required to immediately report the emergency to the local incident commander (LIC) or directly to security, ensure his/her own safety and to make other personnel in the area aware of the situation. The LIC is responsible for ensuring security is notified, and security will start the emergency call-out procedures. The ERT members, many of which are plant operators, are trained to provide cyanide first aid including use of medical oxygen pending arrival for a paramedic or doctor. The site has two paramedics since July 2013, and only the doctor and the paramedics are authorized to administer cyanide antidote. At the time of the audit there were 64 trained emergency responders. During the day shift the medical clinic is manned by a doctor, one nurse, one paramedic and one health secretary. The clinic is also staffed with one paramedic during the night shift.

Tüprag has an ambulance located at the clinic for emergency response, which had been recently upgraded to a four-wheel drive vehicle. The ambulance driver is also a paramedic and the response time to the ADR plant in the event of an emergency is estimated at less than 5 minutes. This ambulance is available to transport patients to a regional hospital in Uşak, approximately 50 minutes away by paved highway if needed. Tüprag also has the in-house capability at the medical clinic to treat cyanide exposure cases, and transport to a hospital would only be required for follow-up care and monitoring.

The current *Emergency and Crisis Management Plan* (KGM-HSS-0005-MP-e) requires that simulation exercises be undertaken annually to test the understanding of the Crisis Control Group (CCG) roles and responsibilities and adequacy of the *Plan*. The CCG coordinator is responsible for coordinating the simulations which may be in the form of a table top exercise or mock drill to an emergency scenario. In July 2014, December 2015 a "table top" drill and a mock drill were completed for different scenarios. The simulation reports are filed in INX and included a description of the scenario; a list of participants; a diary of the response actions; notes from a debriefing meeting; and an action plan to implement improvements to minimize the potential for future occurrence of the incident and to improve overall responsiveness. Another table top exercise and mock drill was conducted in May 2016, which simulated a failure in the leach pad area causing a potential overflow of cyanide solution. In addition, the ERT conduct monthly training exercises to test responses to various emergency scenarios. Since the beginning of 2013 these included: a cyanide solution spill and HCN release in the ADR; vehicle rollover and solid cyanide spill on snow with release of HCN; a vehicle accident and solid cyanide spill during heavy rain with release of HCN; and a man-down cyanide exposure scenario tested during both a night and day shift.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag has replaced the Cyanide Emergency Action Plan (CEAP) formerly carried as an Appendix to the *Cyanide Management Plan* with a standalone E*mergency and Crisis Management Plan* (KGM-HSS-0005-MP-e). This plan specifies the emergency management organization, emergency reporting structure, emergency response protocols, roles and responsibilities, evacuation procedures and emergency communication details. Cyanide related emergencies are also addressed, in Section 5.10.1, Elements of Cyanide Related Emergency Responses" in the updated *Cyanide Management Plan.* The *Cyanide Management Plan* identifies the potential release scenarios and addresses the response protocols for each of the scenarios including the initial response, first aid, medical response, spill response, spill control and clean-up activities in a systematic order.

In its updated *Cyanide Management Plan,* Tüprag has identified and evaluated possible emergency response protocols for a range of different scenarios. Protocols suggested for each scenario include specific actions and identifies the steps to be taken during emergency by personnel with different roles as identified in the plan.

Under terms of their current supply agreements, both CyPlus and Beecom are responsible for the delivery until the product arrives at the Kışladag site. As noted in standard of practice 2, designated responsibilities extend to any subcontractors used as transporter, or the operation of any transportation-related activities by written agreements. Cyanide is transported in both bag-in=box and SLS container delivery forms.

Cyanide transportation supply chain contracts have been signed with Loxx GmbH, the main logistics contractor for CyPlus, and TLM Logistics, the main contractor for Beecom, for shipment of bag-in-box form cyanide. Additionally, contracts have been signed with TO-PET for the 290 km highway transportation to the Kışladağ Gold Mine from the Port of İzmir. Contracts have also been signed with Talke Logistics, the main logistics contractor for CyPlus, for transportation of 20-ton SLS containers, and with Zafer Nakliyat Company for 560 km highway transportation to Kışladağ Gold Mine after the Port of Pendik. Meke, an emergency response company, will be accompanying both the TO-PET and Zafer transportation convoys

to respond to any possible emergencies. The Meke emergency response vehicle is equipped with spill response kits, SCBA units, impermeable chemical overalls, and other response equipment to respond to cyanide related emergencies and route. Each convoy is subjected to highway regulations to ensure speed limits and driving hours are not exceeded.

Certification of the Beecom Turkey Supply Chain and CyPlus's new Port of Trieste to Port of Pendik routes to Kışladağ is in progress as noted in Standard of Practice 2.1

The route for the delivery of bag-in-box delivery form cyanide from the CyPlus production plant to the Port of İzmir is by ocean transport Sealed intermodal shipping containers are directly loaded on to trucks in İzmir and transported to the mine site via paved public highways. Between the Port of Izmir and the mine site, each truck convoy is accompanied by escort command and emergency response vehicles.

As soon as the trucks arrive at the Kışladag gate, Tüprag personnel escort the cyanide trucks to the cyanide storage buildings (the ADR and KCTP warehouses and the dedicated SLS container warehouse). Tüprag has developed safe work procedures for transportation and off-loading of shipping containers at the above mentioned locations.

The new *Emergency and Crisis Management Plan* classifies emergencies as follows:

- **1st Level emergencies** are defined as small and limited incidents that occur in a specific work area, and can be responded to and eliminated in a short period of time by resources available in the area of work.

- **2nd Level emergencies** are responded to and stopped using resources available on the mine site, and the protocols established in the *Emergency and Crisis Management Plan* are implemented.

- **3rd Level emergencies** are defined as situations which cannot be responded to or taken under control by the mine's own resources; they involve serious hazards or cover a wide area or pose a serious threat for life, the enterprise, and the surrounding community, and will require use of external resources to being under control.

A person discovering an emergency situation is required to report the emergency to the LIC (Area Supervisor) and Security to initiate action. The LIC assesses the situation and notifies the Site Emergency Coordinator (SEC) if the emergency is ~~a~~ Level Two or Level Three. The LIC and SECs and their contact numbers are pre-defined in the *Emergency and Crisis Management Plan*. The *Emergency and Crisis Management Plan* also defines the actions to be followed in case of cyanide releases which may affect communities. These include notification of potentially affected communities and downstream villagers/village leaders to minimize the exposure to cyanide.

In the event of a cyanide related emergency, personnel are required to evacuate to one of ten designated emergency rallying points (TNs). Security officers are assigned to account for personnel and verify that no personnel are missing.

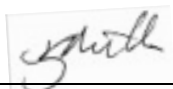
There are 64 emergency response team (ERT) members distributed over several shifts. The ERT is activated by the SEC to respond to Level Two and Level Three cyanide related emergencies. Tüprag has more than 200 certified first responders, including the members of the ERT. First responders are provided 3 year refresher training by Government-authorized private training organizations. Tüprag also has a site clinic with a doctor, nurse, paramedic, and medical secretary during the day and a paramedics on the night shift; the medical tem conducts drills on a weekly basis. The doctor holds certificates in first aid, advanced cardiovascular life-support, and is an expert health and safety trainer. Fifteen cyanide antidote (hydroxocobalamin) kits are maintained at the clinic. The antidote kits are stored in a refrigerator and checked monthly by clinic personnel to ensure they are available and have not expired. Medical oxygen sets are located in the ADR, the HAZMAT vehicle, and site clinic; and the ERT are trained on how to apply oxygen and resuscitator in case of cyanide exposure. There are 13 mobile medical oxygen cylinders on site (5 in the clinic, 3 in the ambulance, 4 in the ADR, and 1 in the HAZMAT vehicle). The oxygen sets are visually inspected monthly.

Tüprag continues to maintain a fire truck, rescue vehicle, and HAZMAT vehicle specific to chemical (including cyanide) emergencies stationed in the Administration Buildings compound. These mobile vehicles contain considerable emergency and spill response equipment that is maintained in good condition. The ADR and KCTP areas both have fire- rescue stations and all necessary fire-rescue materials are available. Locations of first aid stations, assembly points, fire and rescue stations, emergency response vehicles and other facilities are shown on site layout drawings and posted for reference by response personnel.

The ADR and KCTP areas are all bunded with concrete containments to control potential spills or releases of cyanide. Secondary containment volumes have been designed to considering the largest tanks and storm events. Spill kits and heavy duty mobile equipment is available to quickly respond and contain and recover cyanide spills and releases. Tüprag also maintains contingency procedures and an active hydrogen peroxide dosing system at the PRP-1 pond that would allow for neutralization of any residual cyanide by routing excess solution or contaminated water through the PRP-1 pond, prior to permitting emergency discharge through the spillway. The peroxide storage tanks are located at the NE corner of the PRP-1 impoundment and are scheduled to be replenished in 2016. Calcium hypochlorite is also available as neutralizing agent for addressing small cyanide spills. Conditions for use of these neutralizers are defined in the updated *Cyanide Management Plan*, which states that they should never be used to treat cyanide released into natural surface water sources.

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.



Signature of Lead Auditor

January 4, 2017
Date

Kışladağ Gold Mine
Name of Mine

Describe the basis for the Finding/Deficiencies Identified:

Tüprag continues to maintain a number of processes in place where the workforce can provide input into the emergency response planning process. These include conducting risk assessment sessions in which groups of employees assess the risks and formally propose mitigation measures; JHAs, in which potential emergencies situations are identified and minimized; a hazard reporting system that encourage workers to report any deficiencies in the emergency response planning process. The hazards reported are reviewed and action plans are developed; drills and table-top simulations are evaluated and actions addressed as per the observed and reported deficiencies by the workforce; suggestion boxes where workers can post suggested improvements when they observe a deficiency in emergency response processes; safety meetings (toolbox meetings) in which workers can discuss issues with their supervisors; and Hazard Awareness Card (SLAM) completion, in which workers are required to complete a SLAM Card to identify hazards, if there are no JHA procedures in place before starting of work. Tüprag also has a policy to actively involve local (indigenous) communities, and public and private stakeholders to address questions and concerns on the use of cyanide in mining. The newly issued *Emergency and Crisis Management Plan* includes requirements for notification of external stakeholders in case of emergencies and annual meetings are conducted with the attendance of Private Administration Office, police and gendarme chiefs, sub-governors, village leaders, mayors and local fire and hospital representatives to provide information about cyanide and discuss with them about the possible cyanide emergencies. The *Emergency and Crisis Management Plan* has been shared with stakeholders and their formal feedback has been received and remains on file. Formal communications with external stakeholders have also been executed by the Public Relations Department.

Since the 2013 ICMC certification audit, Tüprag has continued to hold regular meetings with community representatives, and meeting records and attendance lists were provided for review. A meeting was held in April 2014 with the attendance of government representatives from Uşak and the nearby villages of Ulubey and Eşme. Follow up meetings were held in April 2015 and March 2016 with government stakeholders and village leaders of Eşme, Ulubey, and Uşak. Participation of attendees was recorded in meeting minutes. Attendees were informed about the risks of cyanide, possible emergencies, emergency preparedness of Tüprag, planned actions in the event of an emergency and the potential additional services and support that may be requested in the event of an accident. Their consultation has been received and recorded by Tüprag management. Tüprag plans to hold similar community meetings annually.

Because of the relative remoteness of the site, Tüprag has put in place the skills, materials and equipment to respond to all probable emergencies. In the unlikely event that additional backup is required, the Uşak, Ulubey or Eşme Fire Departments can be called upon for assistance; communications with these services is maintained through the periodic meetings discussed above.

All clinic medical personnel are trained and qualified to treat cyanide exposure victims on site. If there is a need, site clinic would communicate with the local hospitals in Uşak. There are two large well-equipped hospitals in Uşak that are capable of responding to cyanide related medical emergencies. 24 hour ambulance service is available on the site (the ambulance had been recently upgraded to 4-wheel drive), and additional ambulance and medical personnel can be requested from Ulubey, Eşme, and Uşak emergency medical services. Air ambulance response may take up to 1-2 hours; contact numbers are included in the *Emergency and Crisis Management Plan*. CyPlus and Beecom are the only stakeholders with direct involvement/ responsibility in the emergency response plan, and are notified of any changes in the plan. Off-site emergencies associated with transportation are the responsibility of CyPlus, Beecom and their subcontractor, TO-PET Nakliyat and Zafer Nakliyat. TO-PET and Zafer Nakliyat periodically review their Transporter Emergency Response Plan and when changes are made provides an updated copy to Kışladağ Gold Mine.

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.

Describe the basis for the Finding/Deficiencies Identified:

Emergency response commitments are essentially identical to those observed in the 2013 certification audit. The LIC and SICs are designated in the *Emergency and Crisis Management Plan* with roles and responsibilities for initial response in a cyanide related emergency. Alternates are also defined in the plan. Tüprag has a total of 64 ERT members (fire and rescue team members) from different departments, distributed in multiple shifts. The ERT participate in regular training managed by the Emergency Response Coordinator (ERC). The ERC has a safety expertise certification issued by the government and coordinates all the training needs of the ERT. The distribution of the ERT among the shifts is communicated via monthly e-mail to all departments. Contact information for ERT Members is included in the *Emergency and Crisis Management Plan*. ERT members are trained according to an annual training plan. Training sessions are conducted every month with the attendance of ERT members in four groups to accommodate members from different areas and shifts. Most of the training is provided in-house by the ERC. Training records have been retained and were reviewed.

Tüprag has a 24 hour security service. Security personnel manage the call out procedures for appropriate coordinators and ERT members. An up-to-date list of emergency contacts and telephone numbers is maintained at the main security office. Tüprag has an extensive store of emergency response equipment and personal gear on site to respond to cyanide related emergencies. The main fire and rescue station, secondary fire and rescue stations (two,

located in ADR and KCTP), fire truck, rescue vehicle, and HAZMAT vehicle contents are listed in *Emergency and Crisis Management Plan*. Emergency response equipment is inspected monthly by the Health and Safety Department. Emergency Response Equipment Inspection checklist records continue to be maintained and records were reviewed during the audit. The *Emergency and Crisis Management Plan* also provides contact information for outside responders, medical facilities and communities to be notified in emergencies.

Tüprag continues to conduct meetings held with external stakeholders [see 7.2(1)] to provide awareness on potential emergency situations where outside emergency response assistance may be requested. There was no drill or implementation exercises that outside entities have been involved. Tüprag currently plans to conduct drills with external stakeholders in 2017 as changing regulation sets out requirements companies to conduct mutual exercises with outside entities.

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.

Describe the basis for the Finding/Deficiencies Identified:

Procedures for internal and external emergency notification and reporting are essentially identical to those in effect during the 2013 ICMC certification audit. The newly issued *Emergency and Crisis Management Plan* includes contact information for Tüprag and Eldorado corporate management personnel, regulatory agencies, external responders (i.e., fire and ambulance), hospitals, call out procedures, and other emergency response protocols. The *Emergency and Crisis Management Plan* defines which communities the Crisis Management Group will notify in case of the event of a cyanide emergency. Communities will be notified through communications with village and public leaders that will be conducted by Tüprag Public Relations staff. Community and media relations guidelines in the *Emergency and Crisis Management Plan* provide detailed information on media statement preparation, next of kin notification, and spokesperson/news briefing procedures.

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.

Describe the basis for the Finding/Deficiencies Identified:

Section 5.1 of the updated *Cyanide Management Plan* addresses recovery and neutralization of cyanide solution and solid cyanide spills. Calcium hypochlorite is the neutralizing agent selected for use and supplies are included site spill response kits The leach pad has been designated as the first appropriate location for disposal of contaminated soil and spill clean-up debris. There is a very low risk of cyanide impacting drinking water supply lines for surrounding villages. In the unlikely event that an alternate drinking water supply is needed for local communities, Tüprag has confirmed that it will be able to purchase adequate drinking water supplies from Ulubey, Eşme, or Uşak. The updated *Cyanide Management Plan* also clearly states that use of ferrous sulfate or calcium hypochlorite for cyanide neutralization is specifically prohibited in natural surface water bodies due to the toxicity of those chemicals to aquatic life. Tüprag also continues to maintain an active hydrogen peroxide dosing system at the PRP-1 pond that would allow for neutralization of any residual cyanide by routing excess solution or contaminated water through the PRP-1 pond, prior to permitting emergency discharge through the spillway.

The *Cyanide Management Plan* also defines spill clean-up procedures in detail and refers to sampling after the residue has been cleaned up to confirm that remediation has been completed. The *Emergency and Crisis Management Plan* defines a monitoring program for water quality to be applied in cases where cyanide solution overflows into surface water. The program defines the sampling locations, sampling frequency, sampling quantity and reference values (total cyanide concentration of 0.1 ppm according to Turkish regulations). Tüprag has an accredited laboratory capable of analyzing the water samples, as well as arrangements with university laboratories in Turkey and ALS Laboratory in Canada, if required.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag's ISO 14001 EMS and OHSAS 18001-based OHS management systems require that all plans and procedures (including those specifically addressing the management of cyanide) be reviewed on an annual basis to ensure they are up to date and reflect changes in operations, legislation, and procedural improvements. The date of review and any revision is documented in each procedure, together with sign-off by the author of the change and the approval of General Manager. The HSS Manager is responsible for review and update of the *Emergency*

and Crisis Management Plan and *Cyanide Management Plan*. The last revision date of the *Emergency and Crisis Management Plan* was in March 2016. Records indicate that this is the tenth revision of this document since 2013. The last (eighth) revision of the *Cyanide Management Plan* was in March 2016.

Tüprag continues to conduct mock drills are undertaken that include both worker exposures and environmental releases. The *Emergency and Crisis Management Plan* requires that simulation exercises are undertaken annually to test the understanding of the ECG roles and responsibilities and adequacy of Plan. The ECG coordinator is responsible for coordinating the simulations which may be in the form of a table top exercise or mock drill to an emergency scenario. In July 2014, December 2015 a "table top" drill and a mock drill were completed for different scenarios. The simulation reports are filed in INX and included a description of the scenario; a list of participants; a diary of the response actions; notes from a debriefing meeting; and an action plan to implement improvements to minimize the potential for future occurrence of the incident and to improve overall responsiveness. Another table top exercise and mock drill was conducted in May 2016, which simulated a failure in the leach pad area causing a potential overflow of cyanide solution. The simulation report is filed in INX and included a description of the scenario; a list of participants; a diary of the response actions; a debriefing meeting; and action plan to implement improvements to minimize future occurrence of the incident and improve response. Review of information provided by Tüprag after the completion of the onsite portion of the audit indicates that another table–top simulation was conducted on November 23, 2016 with participants from Tüprag's Ankara Office. In addition, the ERT conduct monthly training exercises where various emergency scenarios are tested. Each drill has been evaluated to critique the effectiveness of the ERT and the *Emergency and Crisis Management Plan* and to provide and complete follow up actions as needed to fix any deficiencies identified and to improve the response of the ERT.

Since the 2013 certification audit, Tüprag has not experienced any cyanide related emergencies requiring implementation of the *Emergency and Crisis Management Plan* or its predecessor (the CEAP). However, the *Emergency and Crisis Management Plan* is required to be reviewed following an emergency. The Emergency Response Coordinator is responsible for conducting this review which would be completed as part of the debriefing and critique undertaken by the ECG. Tüprag also has maintained its formal incident reporting and investigation program which categorizes incidents as lost time, restricted work injuries, medically treated injuries, first aid injuries, property damage, spills, and near-misses. For any incident, including, a cyanide related incident, an investigation is required to be undertaken to identify the root causes and corrective actions implemented to prevent a reoccurrence. Corrective actions may include modifications to the *Emergency and Crisis Management Plan*. Since the beginning of 2013 incident reports and corrective actions plans have been filed and tracked using the INX system.

***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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag has maintained the same essential training program observed in the 2013 certification audit. All workers and contractors receive induction training prior to being permitted on the mine site. The training program is well organized and the related records are maintained. Safety training records were readily available and complete. All personnel including new employees and contractors are trained on all aspects of operating health and safety procedures. Induction training is a full one day program that addresses health and safety at the mine including workplace hazards, PPE, chemical hazards, MSDS, signage and alarms, emergency response, incident reports and safety meetings. The program also includes instruction on the ICMC; Tüprag's *Cyanide Management Plan*; cyanide properties, use, hazards, and management; PPE requirements; exposure symptoms, and cyanide first aid. All workers are trained prior to being allowed to work with cyanide. Personnel are trained on the use of personal protective equipment (PPE). For visitors that enter areas where cyanide is present, basic cyanide hazard awareness training is included.

Cyanide refresher training (including cyanide awareness, risks of cyanide, cyanide handling procedures and emergency response) continues to be required for all workers on an annual basis. For those that work with cyanide (including ADR operators and supervisors, leach pad operators (piping crew), security officers, maintenance workers, electricians, firefighting and rescue teams) this refresher training is required every 6 months. Refresher training for management is a two hour program whereas for other employees the training is a single day program.
All induction and refresher training records are tracked on the INX system. Review of a sample of training records including attendance sign-off sheets for selected operators and managers confirmed that the records were available for 2013, 2014, 2015, and 2016.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag has maintained the same essential training program observed in the 2013 certification audit. As a legal requirement, plant operators must receive Occupational Certification before being permitted to work. Certification is gained through a 5-day program provided by government trainers. The course is based on the *Tüprag Metal Mining Gold Recovery Plant Operation Manual*, and provides a general understanding of process operations. Prior to undertaking the tasks without direct supervision, the workers are required to undertake training in standard operating procedures.

There are 40 general operating procedures for non-cyanide specific mine site operating tasks that all workers are required to be trained. In addition, those workers that have job tasks involving cyanide are required to complete training in specific procedures for each of the applicable cyanide related tasks conducted as part of their job role. This task training includes training in cyanide unloading, storage and mixing operations; cleaning screens, preparation of stripping solutions, and operation of the hydrogen peroxide neutralization system. Training requirements associated with the operation tasks must be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised in on the task/ process. Additional training in cyanide and risk management procedures applicable to specific work assignments is also provided to the workforce by ICMC specialists or other qualified staff. All staff receive cyanide awareness and emergency response training, which is regularly updated. Current ooperating procedures collectively form the basis for training materials. Training requirements associated with the operational procedures applicable to each task/ process in the plant must be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised on that task or process.

Task training continues to be provided only by experienced plant supervisors. The cyanide awareness training is provided by experienced health and safety trainers led by the HSS Manager who has over 8 year of direct health and safety experience including completion of "train-the-trainer" and HAZMAT training. All employees and contractors are provided with induction training that includes cyanide hazard awareness prior to working on the site. Trainees are required to undertake and pass an examination. Also, operational training must also be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised on that task or process.

Cyanide refresher training (including cyanide awareness, risks of cyanide, cyanide handling procedures and emergency response) continues to be required for all workers on an annual basis. For those that work with cyanide (including ADR operators and supervisors, leach pad operators (piping crew), security officers, maintenance workers, electricians, firefighting and rescue teams) this refresher training is required every 6 months. Refresher training for management is a two hour program whereas for other employees the training is a single day program. Tüprag continues to implement a formal task training tracking system that is managed through INX, which defines the task training required for each job role. Matrices have developed to track each workers required task training on an annual basis. The latest version of the matrix indicates that workers had all completed their required task training as well as approximately 90% of the refresher task training for 2016.

Cyanide induction and refresher training is evaluated through examination using a multiple-choice test paper. The pass mark is 80% and additional instruction and examination is required for trainees that do not make the grade. As noted in the 2013 certification audit, Tüprag does not have a written examination process for task training; rather, competence is assessed by supervisors before a worker is allowed to perform the task on their own. At the time of the field component of the audit, Tüprag was also undertaking task observant. In the years since the 2013 certification audit, Tüprag has implemented a formal task observation program whereby supervisors and Health and Safety Department personnel are required to conduct two and one observations a month, respectively, and to document the time, location, task, name and company identification of the employee(s) observed, along with the specific observation items; records are entered and tracked on INX. Record retention protocols are identical to those observed in the 2013 certification audit. Training records are retained throughout an individual's employment. Records are in the form of signoff sheets; that include the training topic(s), trainers name and signature; date of training, and sign-off by each attendee. The course materials are either PowerPoint presentations, as in the case of induction training and cyanide awareness refresher training, or the actual standard operating procedures in the case of task training. Hard copies of training records are kept by the Health and Safety Department, with electronic backup in INX.

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.

Describe the basis for the Finding/Deficiencies Identified:

All employees that work with cyanide complete the induction and refresher training for cyanide awareness. This training includes emergency response procedures in the event of a cyanide

release or if a HCN alarm is triggered. Operators are also provided with ~~in~~ the use of personal HCN monitors, which in addition to the fixed HCN monitors are strategically located in the ADR alert operators of HCN gas releases and when to evacuate a work area. In the event of an emergency, including a cyanide spill, workers are trained to contact the LIC or security. The worker is only required to isolate and abandon the area, warn others to do the same and go to the designated emergency assembly points. The emergency response team is trained in responding to chemical releases including cyanide. Many ADR operators are members of the emergency response team.

Tüprag continues to require that all employees that work with cyanide complete cyanide hazard training and refresher training. This training includes recognition of cyanide exposure symptoms, decontamination and first aid. In an emergency a worker is not expected to administer first aid but is trained to contact the LIC or security in the event that the LIC cannot be reached, isolate and abandon the area, warn others to do the same and go to the designated emergency assembly points. LIC/Security will alert the ERT, whose members have been trained to apply first aid including the use of medical oxygen. Many of the 64 ERTs are also ADR operators and would therefore be at hand to provide immediate first aid assistance. A doctor or paramedic is based at the clinic, a 5 minute drive from the ADR. Hydroxocobalamin, if needed, can only be administered by a doctor or paramedic.

The ERT also receives annual cyanide first aid training from the clinic doctor, and conducts monthly emergency response training exercises. In July 2014, December 2015 a "table top" drill and a mock drill were completed for different scenarios. The simulation reports are filed in INX and included a description of the scenario; a list of participants; a diary of the response actions; notes from a debriefing meeting; and an action plan to implement improvements to minimize the potential for future occurrence of the incident and to improve overall responsiveness. Another table top exercise and mock drill was conducted in May 2016, which simulated a failure in the leach pad area causing a potential overflow of cyanide solution. Reviews of drills are considered in updates to the *Emergency and Crisis Management Plan.*

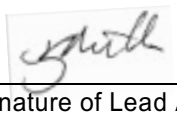
The ERT is trained in firefighting, HAZMAT, and vehicle rescue. They also undertake regular emergency response exercises that include cyanide spill and exposure scenarios to test *Emergency and Crisis Management Plan* implementation. The emergency coordinators also conduct table top and mock drills. In July 2014, December 2015 a "table top" drill and a mock drill were completed for different scenarios. The simulation reports are filed in INX and included a description of the scenario; a list of participants; a diary of the response actions; notes from a debriefing meeting; and an action plan to implement improvements to minimize the potential for future occurrence of the incident and to improve overall responsiveness. Another table top exercise and mock drill was conducted in May 2016, which simulated a failure in the leach pad area causing a potential overflow of cyanide solution. Reviews of drill results are considered in updates to the *Emergency and Crisis Management Pla*n.

The mine is not located near any significant emergency response and medical services. Tüprag has therefore developed its own independent onsite firefighting, HAZMAT, and medical emergency response resources, capable of responding to all plausible emergency scenarios at the site. Tüprag meets annually with local community stakeholders and has also communicated with local government agencies, including the Ministry of Health department in Uşak; the latest letters are dated 29 April 2014, 21 April 2015, and a meeting was also held 22 March 2016. The purpose of these communications was to provide information on the Kışladağ mining operation, the use of cyanide in the gold recovery process, the potential risks associated with the operation, the emergency response plan and in house response capability, and the potential additional services and support that may be requested in the event of an accident. The nearest hospitals are in Uşak; however, local ambulance service is available from Ulubey and Eşme, approximately 20 km from Kışladağ, if needed.

Cyanide refresher training is provided annually to all employees and every 6 months to those employees that work with cyanide. The training is provided by the H&S Department. This training includes recognition of cyanide exposure symptoms, decontamination and first aid. In case of an emergency a worker is not expected to administer first aid but is trained to contact the LIC or security() in the event that the LIC cannot be reached, isolate and abandon the area, warn others to do the same, and go to the designated emergency assembly points. LIC/Security will alert the ERT. The ERT members have been trained to apply first aid including the use of medical oxygen. Many of the 64 ERTs are also ADR operators and would therefore be at hand to provide immediate first aid assistance. A doctor or paramedic is based at the clinic, located within 5 minutes' drive. Hydroxocobalamin, if needed, can only be administered by a doctor or paramedic.

The ERT undertake regular emergency respond exercises that include cyanide spill and exposure scenarios. The emergency coordinators also conduct table top and mock drills to hone their response skills and test the *Emergency and Crisis Management Pla*n. As discussed in standard of practice 6.3(7), table top and mock drills conducted in December 2015 included failure of a leach pad area causing the threat of overflow of cyanide solution. The exercises involve workers, in order to test emergency notification response; security, for communication during an emergency; and medical staff.

Emergency drills and table top scenarios are critiqued following these exercises to assess the response performance and determine lessons learned and areas for improvement.
Training records are retained throughout an individual's employment. Records are in the form of signoff sheets; that include the training topic(s), trainers name and signature; date of training, and sign-off by each attendee. The course materials are either PowerPoint presentations, as in the case of induction training and cyanide awareness refresher training, or the actual standard operating procedures in the case of task training. Hard copies of training records are kept by the H&S Department. Electronic copies of training records are also entered into INX, and may be searched and retrieved through this system.



Signature of Lead Auditor

January 4, 2017
Date

Kışladağ Gold Mine
Name of Mine

***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.

Describe the basis for the Finding/Deficiencies Identified:

Stakeholder communication practices are consistent with those observed in the 2013 certification audit. Tüprag community relations staff continue to undertake periodic outreach campaigns in local villages that provide an opportunity for external stakeholders and members of the public to ask questions or voice any concerns related to the use of cyanide. Offices are maintained in the cities of Usak, Izmir, and Ankara to support community relations outreach activities and liaison contacts with appropriate national, regional, and local government representative. Stakeholder concerns can be raised at any of these office.

Tüprag continues to implement a general policy to be as responsive and open as possible with respect to questions or requests for information on the use of cyanide. Tüprag also maintains a policy of openness and direct access to the Kışladağ operation, and on an annual basis organizes and conducts dozens of site tours for external stakeholders and interested members of the public. As of the date of the audit, over 10,000 people have visited the site, and the currently receives about 1,500 visitors per year. Visitors receive basic information on the use of cyanide in the mining process as well as basic practices employed for the safe management of cyanide in transportation and use. In addition, as noted in 7.2(1), Tüprag organizes annual community meetings in open-forum formats that permit participants to ask questions or voice any concerns regarding the use of cyanide. These meetings are recorded by the public relations staff. Additionally, reports and records of communication meetings, attendance lists are reviewed and all employees are made aware of cyanide and related issues.

The Community & Public Relations Department holds meetings with interested local stakeholders at least twice a year. If proposals and/or complaints are received from outside parties, they are documented on "KGM-PR-0001-OP-F-001-te Form of Feedback from Public Inquiry", as mentioned in the Kışladağ Gold Mine Community & Public Relations Procedure. Any such complaints, requests or proposals received from the communities of interest or local people are examined by the Community & Public Relations Department, and, where necessary, discussions are held with other concerned departments as a result of which necessary responses are communicated to the relevant party in person or by telephone.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag continues to communities and stakeholders through annual meetings that engage public officials, police and gendarmerie commanders, sub-governors, village leaders, mayors, and local fire and hospital representatives in order to provide information about cyanide and to seek their continuing support in maintaining the currency and adequacy of the *Emergency and Crisis Management Plan*. It should also be noted that over 50% of the Tüprag workforce is drawn from the local communities, with over 80% of the workforce coming from Usak province. As a consequence, many external stakeholders are related or acquainted with Tüprag employees, each of whom is able to alert the Public Relations Manager or Public Relations department staff with respect to specific stakeholder questions or concerns. Tüprag policy is to evaluate and respond to any such contacts, and a register of such contacts and responses is maintained by the Public Relations Manager. To date, the preponderance of interest in the site appears to be related to employment or potential commercial opportunities. Periodic training meetings are conducted which include cyanide awareness and question and answer sessions. Reports of related meetings were reviewed and the meetings' documents are recorded by the public relations. Attendance lists were also reviewed.

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.

Describe the basis for the Finding/Deficiencies Identified:

Tüprag has developed a wide range of written materials describing the use of cyanide in mining and management of cyanide during transportation and operations; varying levels of detail are distributed as appropriate for the needs, interests, and technical backgrounds of specific stakeholder groups or meeting purposes. In addition to appropriate verbal briefings, all site visitors are provided a double-sided, four-fold brochure presenting basic site safety information and the used of cyanide in mining; the brochure has been expanded beyond the version in effect in 2013 to specifically included more information on cyanide. Update video presentations are also made available that provide a basic overview of the use of cyanide in

gold mining and the precautions taken in the transportation, storage, and use of cyanide. First aid training material related to cyanide and formal training sessions are also available. Additionally, training materials as hand outs are available in case of any request for information. All visitors receive a video presentation at the main gate, after there is also a quiz about health and safety rules. In addition, an employee magazine/ newsletter is published periodically that provides another means of communicating information on ICMC certification and other aspects of cyanide management at the site; as over 50% of the Tüprag workforce is drawn from the local communities, such publications represent another written source of public information. Eldorado also maintains a corporate website that contains summary and technical information on the Kışladağ Gold Mine as well as an annually published Sustainability Report; the latter document contains general information on cyanide management and company commitments to ICMC compliance. Literacy is not an issue in the local population; the site has developed a descriptive video of site operations, however, and all visitors to the site are provided verbal briefings. Public meetings are supported by verbal presentations as well as visual materials.

As of the date of this recertification audit, no such exposures have occurred that involved hospitalization or a fatality, nor have there been any releases of cyanide requiring response or remediation, resulting in significant adverse effects to health or the environment, requiring reporting, or that caused applicable limits for cyanide to be exceeded. However, if any such incident were to occur, the same protocols noted in the 2013 certification audit would apply. Communications will be controlled via the *Emergency and Crisis Management Plan,* and the ECG for the incident would coordinate with the Public Relations Manager and General Manager to ensure that 1) responsible regulatory agencies and officials are immediately notified; 2) ICMI is notified; and 3) the causes of the incident and associated corrective/preventive action is discussed in subsequent meetings with communities and regulatory authorities (special or regularly scheduled). Other Tüprag and Eldorado management staff may be involved in the coordination of such discussions, as appropriate for the nature and scale of the incident.

With respect to the wider release of such information to additional stakeholders, Turkish regulatory agencies are not obliged to share information of this type to the general public. However, it should be noted that Eldorado prepares an annual Sustainability Report in accordance with Global Reporting Initiative (GRI) guidelines. As the GRI guidelines specifically require the inclusion of information on environmental or social impacts to properly inform external stakeholders, information on cyanide exposures or releases information from this mine site would be reported on the Eldorado website in the next issue of the Eldorado Gold Sustainability Report, and hence would be available to the general public, beyond those individuals engaged as part of the community meetings discussed above.