NON-TECHNICAL SUMMARY
ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT

ÇÖPLER GOLD MINE SULFIDE EXPANSION PROJECT

APRIL 2017
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1.0 INTRODUCTION

The Çöpler Sulfide Expansion Project (Sulfide Expansion Project) involves the expansion of the world-class Çöpler Gold Mine located in a resource-rich, mining district within the Erzincan Province in east-central Turkey.

The mine site is located approximately 550 kilometres (km) east of Turkey’s capital city, Ankara, and 120 km south-west of Erzincan city. It is accessed from the highway connecting the cities of Erzincan, Sivas and Malatya. The nearest urban centre, İliç, is located about 6 km east of the Çöpler Mine.

Figure 1: Çöpler Mine Location Map

The Çöpler Gold Mine is owned and operated by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi (Anagold), a joint venture owned by Alacer Gold (80%) and Lidya Madencilik Sanayi ve Ticaret A.Ş. (20%).

The second largest gold producer in Turkey, the Çöpler Gold Mine is currently an open-pit, heap-leach operation producing gold from oxide ore. As at end December 2016, over 40 million tonnes (Mt) of oxide ore at an average grade of 1.5 grams per tonne (g/t) has been delivered to the heap leach pad for gold recovery since 2010, with Anagold spending considerable amounts in the Çöpler region during this time.

In addition to oxide ore, the Çöpler orebody contains refractory sulfide ore which requires a different processing method than heap-leaching to extract gold. A Definitive Feasibility Study for the Sulfide Expansion Project was completed and determined that the sulfide ore would be treated using pressure oxidation (POX). The outcome of the approved project can be found in the Çöpler Mine Technical Report, which is available on the Alacer Gold website.
This Non-Technical Summary of the Environmental and Social Impact Assessment (ESIA) relates to the integrated Çöpler Gold Mine operation, including its Sulfide Expansion Project. This Summary Report introduces the Çöpler operations and project and explores key aspects of the environmental and social studies, approach and management plans resulting from the 2015 ESIA process.

The ESIA was completed to international standards and in compliance with Turkish legislation, regulation and standards. In December 2014, the Sulfide Expansion Project was granted an Environmental Impact Assessment (EIA) Positive Statement by the Ministry of Environment and Urbanization allowing construction of the project to proceed.

With a strong focus on minimising harm to people and the environment, Anagold applies international standards across all aspects of its environmental and social management. It has developed its Environmental Management System in accordance with the ISO 14001 and is guided by OHSAS 18001 in the development of its Occupational Health and Safety Management System.

1.1 **Benefits to Turkey**

With a remaining mine life of more than 20 years, Anagold is committed to its long-term future in Turkey. Through its investment in its existing mine operation, its people and the region within which it operates, Anagold delivers significant benefits to Turkey.

**Economy**

As at end December 2016, 36.7 tonnes of gold had been produced since operations commenced in 2010 and in this time Anagold has significantly contributed to the Turkish national economy through various channels, including substantial direct investment, operating expenses, taxes, royalties and permitting fees.

**Employment**

Anagold is committed to employing and developing Turkish citizens, with particular focus on local employment. On average, 1,350 people are employed by Anagold and its contractors each year with 99% of these positions filled by Turkish citizens.

95% of unskilled workers, 43% of semi-skilled workers and 40% of skilled workers are recruited from İIiş and Erzincan. Many unskilled workers have been trained and promoted to semi-skilled and skilled positions and this number continues to increase.

*Figure 2: Community Training Center*
Regional Suppliers
Procurement practices are implemented fairly and transparently in accordance with Turkish laws and international standards. Regional suppliers are given priority for all procurement opportunities providing they meet the technical requirements and quality and price considerations.

The focus on using local suppliers is a priority in all areas of the business and regional suppliers provide various services and products including: personnel transportation services, exploration drilling, catering, fuel and cargo transportation, construction works, rental of vehicles, landscaping works, and subcontracting services to contractors.

Community Investments
Anagold invests in its regional communities targeting areas of identified need. While the primary focus of the investment is education, it also provides for health, local infrastructure, sport and agricultural projects.

Highlights of this program include construction of a secondary school in İliç to serve 480 students, financial support for many local schools and financial assistance for numerous health initiatives including medical equipment and a maternal and child health program.

To date, a total over $3.2 Million USD has been spent on community development and investments as well as donations totaling more than $2.5 Million USD.

1.2 MINING OPERATIONS
Çöpler Gold Mine is currently an open-pit, heap-leach operation. The orebody also contains refractory sulfide ore that requires treatment via pressure oxidation, which will be achieved through the Sulfide Expansion Project.

_Figure 3: Çöpler Mining Operation_
The mine produced 119,036 ounces of gold during 2016 and is forecast to produce 160,000 to 180,000 ounces in 2017. Çöpler has substantial Probable Reserves of 4 million recoverable ounces and Measured and Indicated Resources of 6 million ounces of contained gold, which provide the foundation for Çöpler’s remaining 20-year mine life.

**Site Layout**

New facilities and storage areas will be constructed to support the Sulfide Expansion Project, including the construction of a processing plant and tailings storage facility. Figure 4 shows the site layout, including plans for the Sulfide Expansion Project.

*Figure 4: Çöpler Mine Layout Plan*

**Mining Method**

Open-pit mining at Çöpler is a typical drill, blast, load, haul world-class mining operation that benefits from Anagold’s expertise and technology.

All mining at Çöpler is currently planned to be undertaken by conventional open pit mining techniques used for hard-rock truck-and-shovel operations.

Mining operations are currently conducted year-round, and will continue to be a year-round activity when the Çöpler Sulfide Expansion Project is in operation using local contractor resources.

1.3 **PROCESSING OPERATIONS**

Conventional technology and proven equipment is used to recover the gold to produce gold doré, Çöpler Mine’s sellable product. Figure 5 shows the heap leach process flowsheet for Çöpler’s oxide
Oxide Ore Heap Leach Processing

Figure 5: Process Flowchart for Heap Leach Processing

Construction of a heap leach facility commenced in 2008 with the first gold pour achieved in the fourth quarter of 2010.

The process was designed to treat approximately 6.0 million tonnes per annum (Mtpa) of ore by three-stage crushing (primary, secondary and tertiary) to 80% passing 12.5 mm, agglomeration (with cement and water) and heap leaching on a lined heap leach pad with dilute alkaline sodium cyanide solution.

Gold is recovered through a carbon-in-column (CIC) system, followed by stripping of metal values from carbon using a high-temperature, pressure elution process, and electrowinning, retorting and melting of the resulting product to yield a doré bar (containing gold and silver) suitable for sale.

Carbon is regenerated using acid washing and reactivation in a rotary kiln, and the carbon is recycled back to the CIC system. Subsequent to commissioning the heap leach operation, a sulfidization-acidification-recovery-thickening (SART) plant was constructed and commissioned to remove copper from the leaching solution and to regenerate and so reduce the overall amount of cyanide that is needed to be added to the process. The SART process operates intermittently, on an as-needed basis.
Sulfide Ore Pressure Oxidation (POX) Processing

Figure 6: Process Flowchart for Pressure Oxidation Processing

The Çöpler Sulfide Expansion Project process plant is designed to treat 1.9 to 2.2 Mtpa of sulfide ore, from which gold-silver doré will be produced. This ore cannot be processed via the current heap leach operation.

In line with Anagold’s commitment to international environmental management standards, the plant and processes have been designed to minimise the impact on the environment using proven technologies and drawing on global expertise.

The design has Run-of-Mine (ROM) sulfide ore being crushed and fed to the SAG and ball mills for grinding to about the size of fine sand. The grinding circuit has a closed-circuit thickener to help reduce water usage. Thickened slurry is then treated with acid (mostly recycled from the POX autoclave where acid is produced) to remove the carbonate from the slurry ahead of pressure oxidation.

Steam from the autoclaves is recycled and used to pre-heat the slurry coming in from acidulation. The hot slurry will then be pumped to two horizontal autoclaves. Pure oxygen is also pumped into the autoclaves and the sulphide minerals are oxidized under pressure (pressure oxidation). This reaction produces sulfuric acid and the heat for the autoclaves which operate at 250 degrees Celsius.

Slurry discharged from pressure oxidation is mixed with limestone to precipitate and lock up iron and arsenic into stable iron arsenate precipitates.

The treated slurry from the iron/arsenic precipitation system will be pumped to the two-stage counter current decantation (CCD) thickener to wash the gold-bearing solids.
Washed slurry from CCD will be pumped to the pre-leach tank (where lime is added). Sodium cyanide will be added in the leach tanks to dissolve the gold and the small amount of the silver from the oxidized solids. The leached slurry will feed a six-stage carbon-in-pulp (CIP) gold recovery system.

In the CIP tanks, the leached slurry will be mixed with activated carbon and the precious metals in the solution will load onto the carbon. Loaded carbon will be removed from the first CIP tank and pumped to the adsorption-desorption-recovery (ADR) plant. In the new ADR facility and refinery, loaded carbon will be stripped of gold and silver producing a pregnant solution. The pregnant solution will be sent to the existing electrowinning circuit and gold room.

The ADR plant and refinery will be equipped with air emissions control equipment to scrub the gas being vented to meet industry and Turkish air emission standards. Stripped carbon will be reactivated using a carbon kiln and reused in the CIP circuit.

CIP tailings will be processed in a cyanide destruction circuit utilizing SO2/air treatment technology. The system will reduce the slurry cyanide concentration to meet Turkish discharge regulations and European standards for a non-hazardous waste. The detoxified slurry will be pumped to the tailings neutralization circuit.

The detoxified CIP tailings will be combined with the CCD overflow in the neutralization tanks where milk-of-lime slurry (calcium hydroxide) will be added to raise the pH. By raising pH, manganese and magnesium are precipitated and the slurry is stabilised against decomposition in the natural environment. After this treatment, the tailings slurry meets European standards for classification as a non-hazardous waste. The tailings will be pumped through the tailings pipeline to the tailings storage facility. Tailings thickener overflow will be recycled to the process water tank for reuse in the process to reduce the plant water requirement.

1.4 TAILINGS STORAGE FACILITY

A new tailings storage facility (TSF) forms part of the Sulfide Expansion Project. The project has a planned nominal ore feed to the mill of 1.9 to 2.2 Mtpa. The current refining process and tailing deposition methods are expected to yield average end-of-filling tailings density of approximately 0.93 tonnes per m³.

The TSF has been designed to provide capacity for the disposal of 45.9 Mt of mill tailings in a fully lined tailings impoundment over an approximate 20-year mine life. Approximately 6,293 tonnes per day of tailings will be pumped at a slurry density of 28% by weight from the tailings thickener to the TSF.

The TSF design includes a zoned earth and rock-fill embankment with downstream raise construction, an impoundment under-drain system, a composite liner system and an over-drain system. The dam will be raised progressively by “down-stream” construction.

In designing the TSF, Anagold applied site-specific design criteria based on international best practice and recommendations and publications of expert bodies and regulators including:

- World Bank guidelines
- International Committee on Large Dams (ICOLD)
The materials used to construct the TSF will be sourced from within the TSF area, from mine waste or from a borrow area in close proximity to the TSF. The TSF embankment will act as a stable waste-rock storage area from the mining operation. The initial phase will require some 3.4 Mm$^3$ of mine waste. Materials have been tested to ensure that they meet the properties defined in the engineering specifications.

The TSF site location was determined based on a study of 12 sites ranked against a number of environmental, social, technical, and economic considerations. The TSF design included an assessment of the slope stability under earthquake, or dynamic loading conditions, and assessed the TSF performance under the Operating Basis Earthquake (OBE), a once in 475 year, magnitude 7.0, event, and the maximum design earthquake (MDE), a once in 2,475 year, magnitude 7.5 event.

The TSF is approved by the Ministry of Environment and Urbanization and a third-party company authorized by the MEU oversees its construction. This company has full time inspectors at the site and delivers regular reports to the MEU.

**Embankment Design**

The embankment design was based on considerations including earthquake resistance, environmental performance, ease of closure and ease of construction given the site conditions. The embankment is designed as a rock-fill structure with a composite geomembrane-GCL-soil lined upstream embankment face, and appropriate filter and transition zones to provide containment integrity. The structural element of the embankment is rock-fill which is highly tolerant to earthquakes.

Although the Sulfide Expansion Project tailings are classified as Class-II (non-hazardous) the liner system design for the TSF has been developed based on the requirements for Class-I waste.

The containment integrity is provided by a multi-layer system similar to that used in high-integrity dams containing more hazardous wastes. Similar systems are applied to both the impoundment floor and the embankment walls and features included use of High Density Polyethylene (HDPE), a high-performance material with proven effectiveness, a geo-synthetic clay liner to provide high integrity re-seal potential, a layer of low permeability clay, and two engineered drainage layers (fine and course) to direct any liquor to the under-drain system.

**Water Management**

The tailings storage facility is situated in natural valleys. The area experiences modest rainfall and as much as possible, precipitation that falls outside the TSF impoundment will be diverted around the TSF and remain within the natural environment. In some situations, water cannot be diverted around the impoundment and must be retained within coffer dams above the impoundment. This water can be allowed to pass under the TSF via the under-drain system. If water falls within the TSF, or enters it via above ground flows, it is captured with the TSF and returned to the process plant via the supernatant liquor system.

**Closure of the Tailings Storage Facility**

A closure plan for the TSF has been established in line with the highest industry standards. Examples of closure measures include active management of over-drain seepage over the life of the TSF, placement of a traffic layer of waste rock to act as capillary-breaker to prevent tailings water migration, long-term pumping of water in wet seasons, one metre of fine-grained cover material on the surface of the waste rock cover and revegetation of surface with grasses and bushes.
1.5 **MINE WASTE ROCK STORAGE AREAS**

Seepage from the waste rock storage areas (WRSAs) will be directed into the pits and treated as required. Diversions will be constructed to direct run-off surface water away from the waste rock facilities. In most cases the clean water will be directed to the open pits, however, the south waste rock diversion will empty into a settling pond and be directed to the Çöpler Creek. With the top of the north WRSA located topographically below the pit crest, seepage will be captured in a pond and pumped into the pit.

1.6 **INFRASTRUCTURE**

Infrastructure required for the heap leach operation is in place.

While some of the existing infrastructure will be used to support the Sulfide Expansion Project, the majority of the infrastructure for the project will be new. In planning and design, consideration was given to environmental and social impacts, topography, geotechnical information, space constraints and economical process flow requirements during construction and operation.

All aspects of the design reflect industry best practice and compliance with applicable Turkish national codes and local codes.

Major new infrastructure to be constructed as part of the Sulfide Expansion Project includes:

- Site access roads and upgrading of intersections with the regional road systems
- Maintenance building
- Warehouse
- Primary crushing control room
- Grinding building
- POX building and POX utilities building
- Carbon elution building
- Office space
- Construction camp (2,500 person) and new operating staff accommodation.

The new infrastructure requirements also include power transmission and distribution, buildings, water and sewage, communications, site roads, plant fire protection system, and a plant lighting system.
2.0 OUR SCIENTIFIC AND CONSULTATIVE APPROACH

Anagold is committed to excellence in environmental and social management. It has applied the same high standards of quality to the development of this project as it does to its existing operation. It has a strong focus on safety and on creating value for all stakeholders and minimising the impacts of its operation and project on the environment and the local community.

The existing oxide operation has implemented an environmental management system which has been certified under the International Organization for Standardization (ISO) 14001 and this will be transferred to the Sulfide Expansion Project on completion of construction.

The ISO14001 certificate was first achieved in 2014 and has been renewed each year on completion of external audit verification.

This ESIA has been undertaken to recognised international standards and guidelines including the Equator Principles, International Finance Corporation (IFC) Environmental and Social Performance Standards and IFC/World Bank Environmental Health and Safety Guidelines.

Underpinning the scientific and consultative approach are guiding principles including:

- Anagold is a business and its ongoing success is closely linked to its success in the areas of environmental and social stewardship
- A relentless drive towards continual improvement in our performance of environmental and social stewardship
- Ensuring environmental stewardship is considered across all our business decisions, and risks are adequately identified and addressed
- Effective training and communication about environment management and obligations of employees and contractors at Çöpler
- An acknowledgement or appreciation that environmental aspects and impacts are often as much of a social issue as they are a technical issue
- Open, timely and transparent communications with our host community and other relevant stakeholders about Anagold’s activities and projects including regular public reporting of company performance
- Compliance with all environmental laws, regulations, standards and voluntary undertakings which the company subscribes
- Search for opportunities for the efficient use of energy and water, and waste minimization
- Effective land use planning and rehabilitation of disturbed areas
- Closure planning is not left to the end of mining
- Respect for cultural values, traditions and beliefs of our host communities
- Commit to developing long-term partnerships that are mutually beneficial over a life of mine time scale.
2.1 Environmental Permitting

All Çöpler Gold Mine activities are undertaken in accordance with international best practice and relevant Turkish legislation, regulations and standards, and with required permits in place.

The Çöpler Mine production from oxide ores was initially permitted in 2008 with two additional EIAs relating to oxide resources of the Çöpler Mine undertaken in 2012.

Development of the Sulfide Expansion Project is also subject to the Turkish Environmental Impact Assessment (EIA) process in accordance with the 2013 EIA Regulation for Annex-1. The EIA permitting process for the Sulfide Expansion Project commenced in April 2014 and the EIA Positive Statement was received in December 2014.

As a former requirement of the Turkish EIA permit, construction activities were audited regularly by an independent third-party with respect to the environmental monitoring and mitigation commitments provided in the EIA report. In total, there were 24 construction audits for the oxide, SART and Sulfide Expansion Projects.

In addition to EIA approval, other permits required for the Sulfide Expansion Project involve an expanded workplace opening permit, additional operating permits and land acquisition permits for forest areas and pasturelands, etc.

Çöpler Studies

Turkish EIA study processes differ from international ESIA studies, particularly in relation to assessment of social impacts and the public disclosure processes. Across all its environmental and social practices, Anagold meets the more rigorous of the Turkish or IFC requirements.

In the period following the receipt of the 2008 EIA permit, Anagold conducted further studies to supplement the Turkish EIA study and subsequently meet IFC requirements. These studies involved a Resettlement Action Plan (RAP) for the Çöpler village, a socio-economic baseline study for Çöpler Village, a human rights assessment study, an Environmental Management Plan (EMP), and a biodiversity study.

Over the course of the Çöpler Gold Mine development, Anagold has conducted numerous environmental and social studies, including baseline studies associated with the 2008 and 2014 EIA applications, including:

- Geochemistry studies, including:
  - Geocharacterization of ore, waste rock and tailings
  - Static and kinetic tests
  - Geochemical models
- Hydrologic and hydrogeological studies, including:
  - Measurement of the quality of the ground and surface waters,
  - Groundwater wells, pump tests, sampling monitoring
  - Conceptual and numerical models
- Air quality studies:
  - Sampling and modelling
- Noise and vibration models:
  - Monitoring and modelling
- Biodiversity studies:
  - Identification of flora, fauna and aquatic fauna species.
Consultative Approach

Anagold is guided by principles of transparent, respectful and proactive engagement with its project stakeholders.


Its public consultation for the Sulfide Expansion Project met Turkish permit requirements and, like all consultation relating to Çöpler, was aligned with IFC guidelines. In addition to extensive public consultation, Anagold hosted an official Public Participation Meeting (PPM) in the residential area nearest the project.

At the PPM, Anagold presented the project to its stakeholders, including information on spatial coverage, mining and processing operations, baseline studies, potential impacts and the grievance mechanisms available to the public. Feedback and concerns were sought from stakeholders and incorporated into the project’s planning and decision-making processes.

Anagold has an effective grievance mechanism in place whereby grievances may be lodged by any individual or group who have concerns or grievances regarding Anagold’s employees, contractors or impacts. This process is in line with the IFC’s Guidance Note 1 regarding grievance mechanisms for affected communities.
**Closure Planning**

Anagold’s closure plan is underpinned by its sustainable development approach and a desire to leave a positive and lasting legacy with respect to the community and the environment.

Throughout the life of the Çöpler Gold Mine, Anagold will deliver value to affected communities through employment, training, supplier capacity building programs and community and regional investments. It will adhere to international and industry best practice for environmental management.

At closure, Anagold will meet its obligations relating to the reclamation of lands disturbed as a result of the Çöpler Gold Mine and its Sulfide Expansion Project.

The Turkish “Regulation on Reclamation of Lands Disturbed by Mining Activities,” published in December 2007 and amended in January 2010, requires that the operator abandon the site in a state that is physically, chemically, and biologically stable and which allows beneficial use by the public.

A reclamation plan for the integrated operation was developed as part of Anagold’s 2014 EIA application. The goals of reclamation and closure are aligned with the objectives of sustainable development. These objectives include mitigation of the effects of land disturbances by minimizing or eliminating public safety hazards, providing long-term stable landform configurations, and reclaiming surface disturbances for ongoing beneficial use.

The reclamation and closure process will be consistent with local land use objectives, the Project’s EIA, World Bank/IFC guidelines pertaining to reclamation and closure, and the Turkish Regulation for Reclamation of Mined Land.

Criteria relating to physical and chemical stability will be used to assess the required and beneficial rehabilitation works. Specific objectives have been established relating to open pits, waste rock dumps, heap leach facilities, TSF and infrastructure.
3.0 SOCIAL AND ENVIRONMENTAL MANAGEMENT PLANS

Anagold’s environmental and social management plans outline the relevant legislative or compliance framework and industry or corporate standards, assessment of impacts, controls in place to minimise harm, monitoring commitments and roles and responsibilities.

Figure 8: Çöpler Mine Site in Erzincan Province

Highlights of Anagold’s key management plans are as follows.

3.1 WATER RESOURCES MANAGEMENT

Excellence in water management practice is implemented across the Çöpler Gold Mine with effective controls built into the design of key facilities including the tailings storage facility, waste rock dump, pit lake and surface infrastructure.

Examples of best practice design controls include:

- The TSF is designed with a HDPE, geo-synthetic and compacted clay liner system, containment wall, monitoring systems, perimeter diversion and containment measures. In addition, tailings material is treated to meet EU non-hazardous waste classification and is thickened to reduce the amount of contained water.

- Construction of surface infrastructure will necessitate diverting storm water run-off and non-contact run-off water away from mine infrastructure, employing diversion channel construction around the project area and maintaining naturally vegetated exclusion zones.

- Laying of limestone of non-acid generating / neutralizing quality on the floor of the Waste Rock Dump storage area to form a drainage layer.

The Water Resources Management Plan applies to the water supply, water utilisation and wastewater disposal issues at the Çöpler Gold Mine.
The Turkish water quality regulations are aligned with European Union (EU) directives, and therefore, embody the main principles of sound water management practices. The Turkish ambient water quality limits provide more stringent water quality protections than IFC guidelines. These are therefore applied to water management at Çöpler.

Operational controls in place for water management are designed to avoid or minimise risk associated with construction of surface infrastructure, dewatering, discharge of dewatering water, onsite water usage, TSF pollutant overflow, structural failure of key facilities, seepage from key facilities, and pollutant build up at pit lake water.

To monitor the effects of its activities, Anagold conducts regular monitoring of surface and ground water quality, ground and spring water quantity, and more. A quarterly water quality sampling program has also been developed to determine the baseline conditions for the Sulfide Expansion Project.

3.2 MINING WASTE MANAGEMENT

Mining waste management at Çöpler Gold Mine covers waste streams generated by the Copler Mine activities in all phases of the mine. The Turkish Landfilling of Waste Regulation (LWR) issue permits for waste-stream management, however, the more stringent Mining Waste Management Regulation (MWMR) and the Waste Management Regulation (WMR) are applied to Anagold’s management of mining waste.

In addition to guidance provided by the IFC, the following international guidance is considered Good International Industry Practice (GIIP), and have been considered in the development of the Çöpler Mining Waste Management Plan (MWMP):


Preparedness for and reporting of emergency intervention for those waste disposal facilities that are classified as risky (Class A) is required under the Regulation for Prevention of Major Industrial Accidents and Minimization of Impacts (SEVESO).

With the design of the waste facilities completed in line with Turkish and international design criteria and practices, the MWMP instead focuses on the operational and closure aspects of the mine waste facilities. The MWMP was developed based on EIA-related studies, ESIA studies and the consideration of the environmental aspects, compliance obligations, and the risks and opportunities identified.

Under the MWMR, Çöpler operational controls are applicable to the following waste facilities: waste rock dumps, tailings storage facility, heap leach pads, and the low-grade ore stockpile.

Operational controls address key aspects of mining waste management including: exploration waste, waste rock model, ARD/ML testing, waste rock plan, waste rock dump construction, closure, water quality monitoring, stability monitoring, permitting, SEVESO reporting and financial guarantee.
A strict monitoring program has been established to demonstrate compliance with applicable standards, monitor the minimisation of waste-related impacts to identify possible non-conformances early, and provide feedback to decision makers and design engineers determining the managerial actions regarding mining waste management.

### 3.3 Hazardous Materials Management

Anagold maintains a Cyanide Management Plan and a Hazardous Substances Management Plan. Controls for hazardous materials management, including cyanide management, were developed based on the Turkish EIA and international ESIA studies conducted for the Çöpler Gold Mine and its Sulfide Expansion Project.

#### Cyanide Management

Turkish regulations do not specifically cover cyanide use, however cyanide as a regulated pollutant is covered under several regulations. Owing to its more unified and systematic approach, the principles of the International Cyanide Management Code (ICMC) are applied to cyanide management at Çöpler.

The ICMC includes principles and standards that are applicable to several aspects of cyanide use including its purchase (sourcing), transport, handling / storage, use, facilities decommissioning, worker safety, emergency response, training, and public consultation and disclosure.

Operational controls for Anagold’s cyanide management are aligned to the nine ICMC Principles: production, transportation, handling and storage, operations, decommissioning, worker safety, emergency response, training and dialogue.

A monitoring program is in place assessing performance against key parameters including tailings discharge, HCN emissions, HCN atmospheric levels and HCN concentration in water.

#### Hazardous Substances Management

The scope of this management plan includes hazardous substances generated by the Çöpler mine activities in all phases of the mine and applies to all employees, contractors, and visitors to all areas that use, store or handle any quantity of hazardous materials. This may include:

Several Turkish regulations apply to the management of hazardous substances. These are considered as stringent as international standards under the IFC and are therefore applied to Çöpler’s management of hazardous materials.

Key aspects of operational control management under Anagold’s Hazardous Substances Management Plan relate to hazardous substance assessment and inventory, contaminated materials and spill materials, hazardous substance storage and management of major hazards.

Anagold enforces regular and strict monitoring of the handling and storage of hazardous substances.

### 3.4 Stakeholder Engagement

Anagold adheres to international good practice guidelines, specifically the IFC’s Guidelines on Stakeholder Engagement, as well as complying with Turkish legislative requirements.

Anagold’s key stakeholders are local communities, government agencies, Anagold employees and contractors, special interest groups and non-governmental organizations. The external affairs team engages stakeholders on issues such as project operations and developments, community health and development programs, and procurement and employment opportunities.
From 2005 until end 2016, a range of consultation, disclosure activities and stakeholder engagement activities were undertaken resulting in 3,200 consultations. Engagement continues in the form of public meetings, focus groups, interviews and surveys, and communications occurs via community noticeboards and the site office.

External monitoring and evaluation of Anagold’s social management practices takes place on an annual basis. Affected communities are encouraged to participate in monitoring Anagold’s performance via input into the development of socio-economic indicators, participation in meetings, interviews, focus groups, review of external reports, and participation in the Joint Health Safety and Environment Committee for construction of the Sulfide Expansion Project.

3.5 OTHER ANAGOLD MANAGEMENT PLANS

Other key management plans relating to environmental and social management include:

- Biodiversity Management Plan
- Community Health, Safety and Security Management Plan
- Çöpler On-Site Incident Management Plan
- Hydrocarbons Management Plan
- Mine Closure Framework
- Mining Waste Management Plan
- Noise and Vibration Management Plan
- Non-Mining Wastes Management Plan
• Site-Wide Surface Water Management Plan
• Soil Management Plan
• Stakeholder Engagement Plan
• Traffic Management Plan
• Training Management Plan
• Visual and Lighting Management Plan
• Waste Rock Management Plan.

Figure 9: İliç Village
4.0 ÇÖPLER HEALTH & SAFETY

The health, safety and well-being of employees and contractors is of utmost importance. As such, Çöpler Gold Mine uses a recognised occupational health and safety program aligned with the international Occupational Health and Safety Assessment Series (OHSAS) 18001. International standards also guide safety management at Çöpler including IFC and Equator Principle standards.

Across the organisation, safety risks are managed through the risk-based Health, Safety and Environment (HSE) Management Standards and other dedicated safety systems. Contractors are encouraged to use similar safety systems and their performance is routinely monitored.

Anagold aims to optimise its safety management standards, achieving excellence in safety performance, by ensuring that all employees and contractors understand, rigorously apply, and fully comply with these standards.

Anagold’s HSE strategy is based on three principles: leadership effectiveness, behaviours and awareness, and rigorous standards and systems for managing risks and ensuring full compliance.

With a focus on people and systems, the strategy has two key objectives:

- Ensure that practices, procedures, conditions, equipment and behaviour contribute towards creating a workplace where it is possible to work without adverse impacts on people, the environment or the community
- Develop Anagold’s people, including contractors, to make the right decisions as they go about their day-to-day work.

4.1 KEY MANAGEMENT STANDARDS AND PLANS

Practical and quality safety management standards and plans are in place at Çöpler, including:

- Health and Safety Standard
- Safety Management Plan
- Risk Management Plan
- Emergency Response Plan
- Crisis Management Plan
- Security Management Plan
- Health Management Plan.

Critical Control Management

Anagold uses a Critical Control Management (CCM) process to identify ‘Major Unwanted Events’ focusing on specific controls to prevent or minimise such events. To prevent these events from occurring the critical controls are clearly defined and understood, with clarity as to who is responsible for implementation.

The critical control management approach requires:

- Clarity on which controls really matter
- Understanding of what these controls need to do to prevent an undesired event from happening
- Decisions on what checks are needed to ensure that controls are working as intended
- Accountability for the implementation of the controls
- Reporting on the performance of all critical controls.
4.2 **STRONG SAFETY CULTURE**

The foundations of Çöpler’s safety culture include:

- A robust CCM approach, emphasising the effective implementation of critical controls
- Demonstrable safety leadership across all levels of Anagold’s and contractors’ workforces
- Consistent, effective safety management systems
- Emphasis on speaking up for safety
- Continual improvement approach
- Monitoring and reporting on safety behaviours
- Shared responsibility to send employees home safely each day.
4.3 PERFORMANCE

Çöpler Gold Mine has a proactive and maturing safety culture and a strong safety record.

Identifying continual improvement opportunities and making safety the foremost consideration in all activities is what underpins Anagold’s strong safety performance.

Initiatives that support this continual improvement approach include a senior leadership incident review panel, monthly business unit performance reviews, line manager one-on-one coaching and mentoring program and annual operations and contracting partners HSE improvement plans.

Figure 11: Site Safety Management