

Basic Engineering & Detailed Design for the Integrated Waste Management Facility (IWMF) at Skouries Gold Project

Chalkidiki, Northern Greece

Project

Elaboration of the Basic Engineering and detailed design for the Integrated Waste Management Facility (IWMF) at Skouries Gold project to accommodate the filtered tailings (FT) (@86% solids w/w) from ore processing and waste rock (WR) surplus from the open pit and underground mining

Construction Cost

Total cost: approx. € 290 million

Project Schedule

Design: 2016 – 2019
Construction: 2017 – on going

Project Description

Karatzas Lakkos IWMF

- Dam crest length: 645m
- Dam crest width: 15m
- Height: 215m (max) / ≈ 190m at dam axis
- Total dam volume: 12 Mm³
- Deposit total area : 522.000 m²
- Deposit total volume (FT+WR): 48Mm³

Contact Water Management Pond no1 (in embankment)

- Embankment volume: 3.2Mm³
- Embankment height : 180m
- Water storage capacity: 220.000m³

Contact Water Management Pond no2 (in cut)

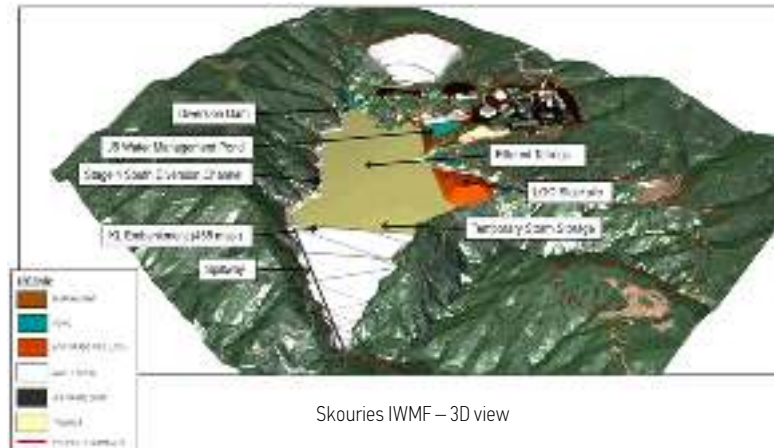
- Water storage capacity : 400.000m³

Geology

Porphyry intrusions, breccias, mica schists-gneisses, chloritic, biotitic, sericitic schists-gneisses, muscovitic, chloritic gneisses-schists, groundwater

Our Services

- Detailed IWMF design at Karatzas Lakkos ravine (including the earth-rockfill retaining embankment)
- Dam construction & deposition schedule (both for FT & WR)
- Water Balance* / Water Management*
- Detailed Design of the Diversion Works / Contact Water Management Ponds / Dam Spillways
- Detailed design of the earthworks
- Detailed design of the structures
- Detailed hydraulic design
- Dam risk analysis and break-out study
- Dam & slopes stability analysis & assessment
- Tailings geotechnical characterization under static loading and dynamic excitation (design of laboratory testing program & interpretation)
- Tailings liquefaction analysis & assessment of post-earthquake stability
- Dam risk assessment study & dam break analyses
- Internal road network design
- Material Take offs – Budget Estimate
- Designer on site services / Technical expertise consulting



Skouries IWMF – 3D view



Skouries IWMF for Filtered Tailings - Dam cross section



Skouries IWMF general plan view

Client

HELLAS GOLD S.A. {ELDORADO GOLD (CA) Subsidiary}

(*) Designs jointly elaborated with Golder Associates (UK) Limited

Geotechnical- Hydraulic Project

Technical designs for the Integrated Waste Management Facility of Skouries Mine

KT2 ditch – Outfall area

Skouries, Chalkidiki

Northern Greece

Project

Design of the outfall structure of KT-2 ditch to Lotsaniko watercourse.

Construction Cost

Total cost: approx. € 0.74 m.

Project Schedule

Design: 2018

Construction: 2018

Project Description

- Length of the main hydraulic structure (concrete chute): 380m
- Geotechnical Protection Works against continuous undercutting due to adverse geotechnical conditions (micro piles Ø300mm) of total length: 3,575m

Geology

- Schists
- Biotitic - Muscovitic gneisses

Our services

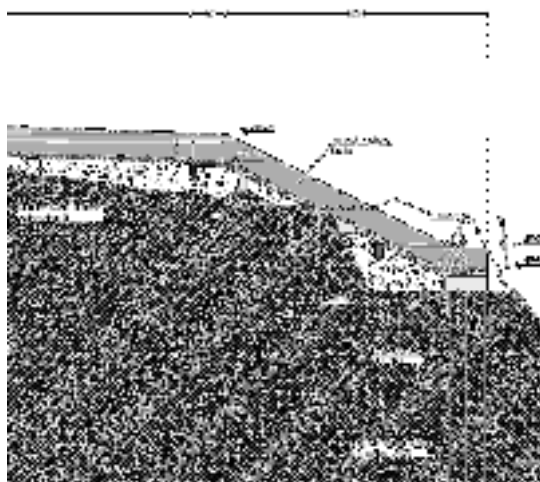
Technical designs in the frames of the Integrated Waste Management Facility of Skouries Mine. Design of the outfall structure of KT-2 ditch to Lotsaniko watercourse.

Client

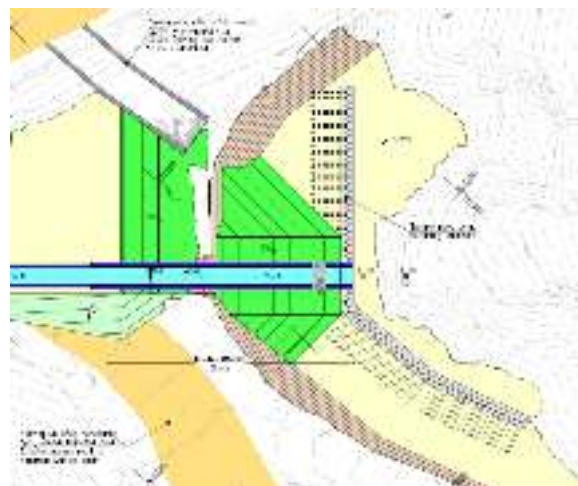
HELLAS GOLD S.A. (Subsidiary of ELDORADO GOLD, CA).



Construction works in the area of the outfall structure



Longitudinal profile of the outfall structure



Plan view of the outfall structure