



TECHNICAL SERVICES



Project List

- Tailings Dam Raise and Reclamation, Hot Springs, AK
- Design of Tailings Storage Facility Ticaboo, UT
- Four Corners Pit Lake and Mine Assessment, Mulberry, FL
- Open Pit Analyses Brawley, CA
- Heap Leach Drain Down and Rinse, Peru
- Reclamation and Closure Plan East Gas Hills, WY
- Cover Design Uravan, CO
- Rosemont Copper Tucson, AZ

Clients

- Umetco Minerals Corporation
- Uranium One
- IMC Agrico
- Western Mesquite Mines/New Gold
- Cotter Corporation
- Newmont/Mineral Yanacocha
- Augusta Resources

We provide cost effective environmental and geotechnical solutions to the mining industry.

MINING & MINE RECLAMATION

Engineering Analytics, Inc (EA) provides technical expertise for mining clients that are permitting, operating, or closing open-pit and in-situ recovery mines. EA possesses particular expertise in integrating mineral deposit geology, environmental conditions, geologic structure, geochemical considerations, and hydrology into mine engineering designs.

Engineering Analytics provides technical expertise for mining clients requiring:

- environmental permitting and compliance,
- mine facility planning and engineering design,
- water supply, management, and treatment,
- operational engineering,
- construction management, and
- reclamation and closure support.

The best mine engineering designs consider the entire mining life cycle to accelerate permitting, maximize operational efficiency, minimize environmental liabilities, and expedite remediation and closure. Our mining team's approach is to provide exceptional, personalized service that leverages our scientific and engineering capabilities with our client's project knowledge and expertise.

Environmental Permitting/Regulatory Assistance

Engineering Analytics staff has successfully worked with clients and regulatory agencies to develop reasonable approaches for environmental permitting and remediation that satisfy regulatory criterion and meet project requirements. EA provides regulatory assistance for up-front permitting, operational compliance, closure, and remediation. We are experienced in developing:

- baseline environmental conditions summaries,
- aquifer protection permits,
- corrective action plans,
- consent orders, and
- reclamation plans.

Mine Facility Planning and Engineering Design

Our engineers and scientists work to optimize overall cost effectiveness by developing practical design solutions for heap leach pads, tailings dams, waste rock disposal, impoundments, water supply, water treatment, and open pits. EA design and analysis services include:

- facility siting, geologic mapping, and geotechnical evaluation,
- static and seismic stability analysis,
- stacking plans, tailings deposition, consolidation and densification,
- drains, liners, and collection system design,
- infiltration, flow, and geochemical modeling,
- water supply, conveyance, management, and treatment,
- open-pit design, dewatering, and slope stability, and
- process engineering and operations optimization.



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Water Supply, Management, and Treatment

Water is a major concern at many mine sites. Engineering Analytics (EA) staff is experienced at characterizing surface water and groundwater and in using all available data to diagnose the site-specific conditions that must be properly managed. By integrating our mine engineering designs with our hydrologic expertise, we are capable of ensuring that our client's water resources remain a valuable asset.

When necessary, we address water contamination issues to limit our client's liability and to restore the site to regulatory standards. Our scientists and engineers are experienced in resolving water contamination issues related to:

- acid-mine drainage,
- heavy metals,
- hydrocarbons,
- halogenated solvents,
- radionuclides, and
- explosives.

Engineering Analytics uses state-of-the-practice tools such as infiltration modeling, groundwater flow modeling, and reactive geochemical transport modeling to diagnosis problems and find practical solutions. Routine methods we employ to obtain basic data and site knowledge include:

- drilling,
- coring,
- geophysics,
- geologic mapping,
- aquifer testing, and
- geochemical analyses.

Our experience with natural and geosynthetic liners and caps ensures that our clients obtain a solution that best suits their project-specific needs.

Closure and Reclamation Support

We work with mining clients from the feasibility stage through the closure and reclamation phases. No matter where our clients are in the mining life cycle, we strive to find the most cost effective solutions for them. In collaboration with our clients, EA develops the best strategy to manage the environmental risks associated with closure and remediation of mine sites. We consider not only the technical issues, but also the business, economic, regulatory, political, and legal dynamics of a project.

Construction Management and Operations

In addition to diagnosing site-specific conditions and developing high quality engineering designs, EA's capabilities include ensuring that our client's needs are met through the project's construction and operational phases. On-site construction-method observations, construction material testing, workmanship quality, and conformance to project designs are closely monitored so that the project elements perform as designed.



Geotechnical &
Geoenvironmental
Engineering Consultants

