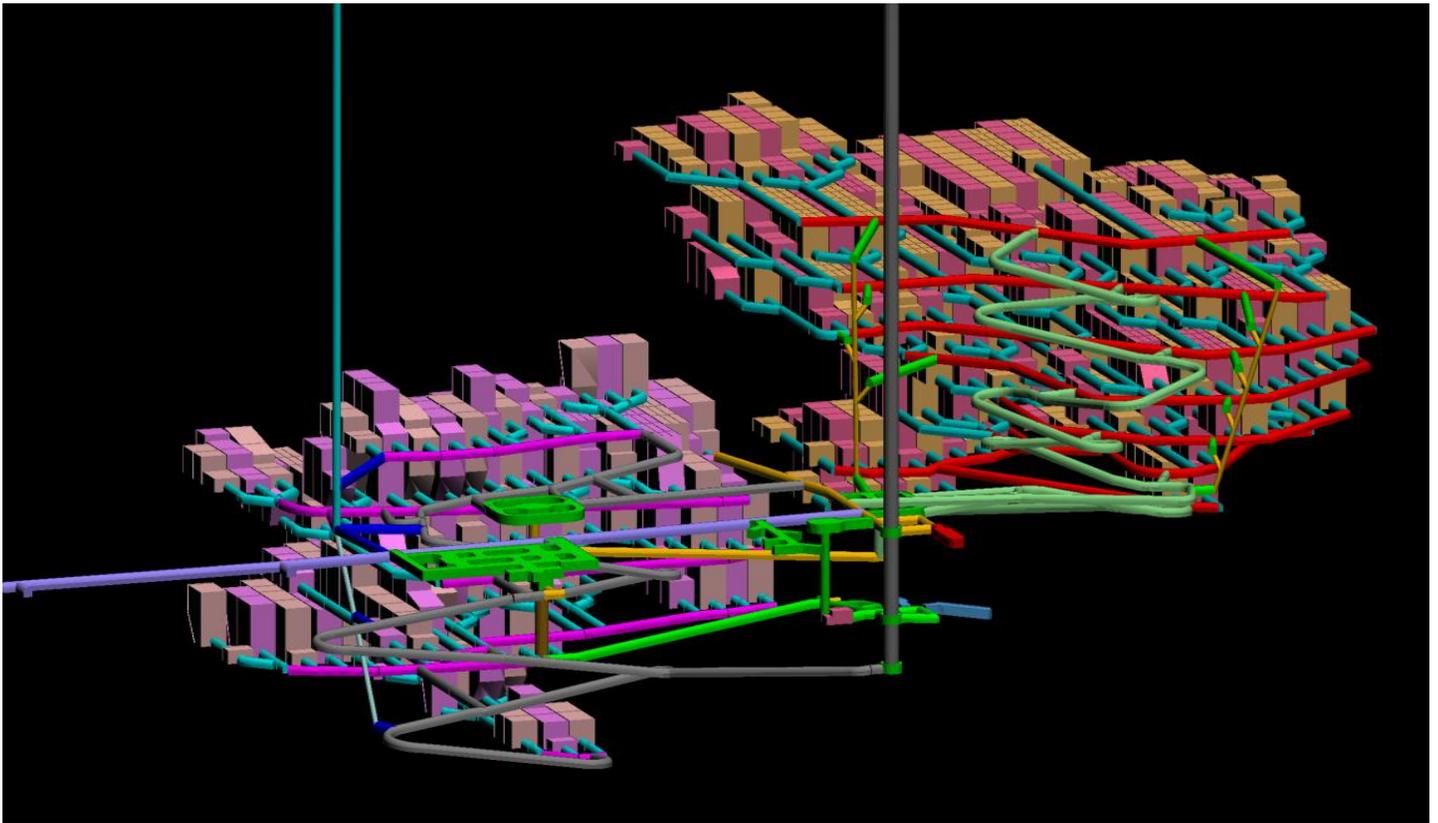


Mine Planning and Design

Many of Tetra Tech's senior mining engineers have held senior positions in engineering and operations at the world's largest mines, where they gained insight into the realities of what makes active producing mines successful. Our engineers know what it takes to realize safe, productive, and profitable operations for surface, underground, and in situ extraction operations and processing facilities.

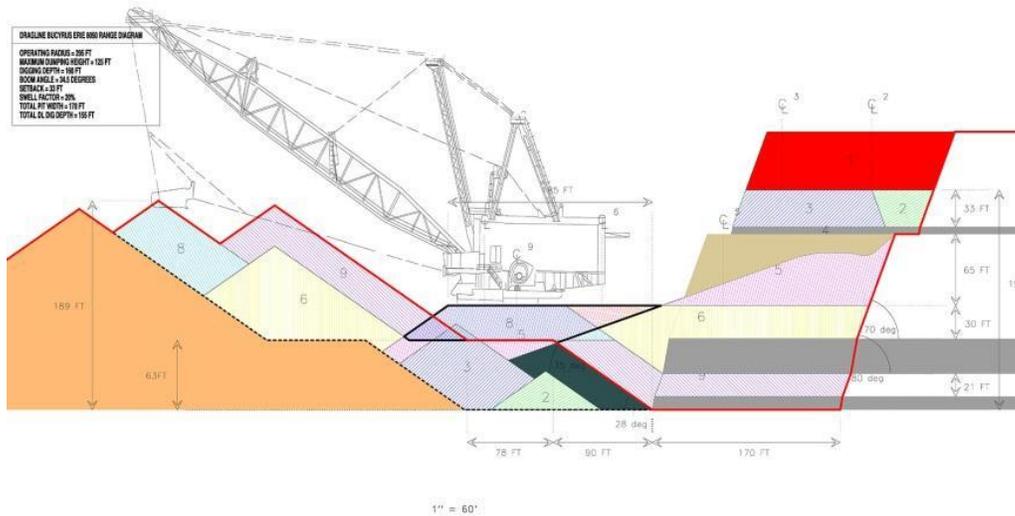


Mine Planning

Tetra Tech's experienced professional engineers and mining geologists provide insight on key aspects of preliminary mine planning, including the critical components of water, energy, and access requirements, as well as mining method. Our personnel support the early planning and design stages, relying on their decades of experience with the mining industry and their knowledge of current technologies to plan for:

- Water and energy needs
- Facility needs
- Site access and transportation (routes in and out of the site)
- Mining method (open pit, in situ recovery, long-wall, room and pillar, and block caving methods)
- Ore access (shaft location, pit sizing)
- Mining sequence
- Waste management and removal
- Equipment sizing
- Mine scheduling
- Cash flow analysis
- Labor requirements
- Political and social aspect identification
- Reclamation plans

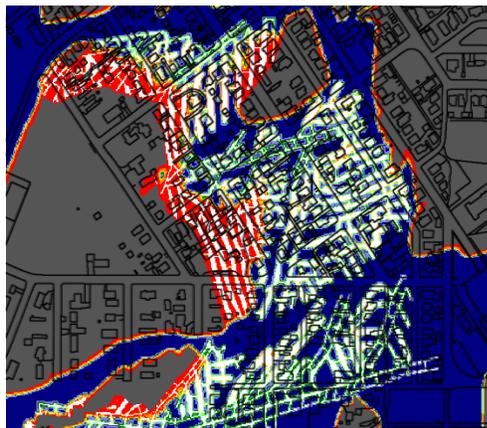
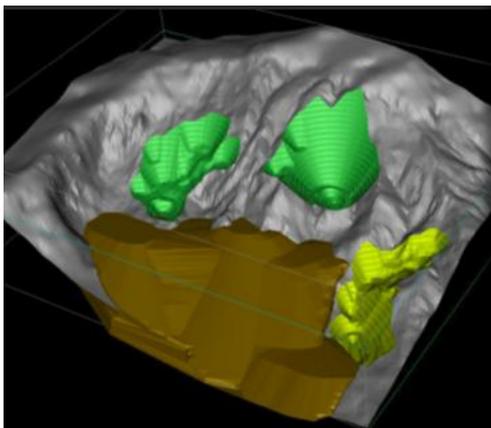
Tetra Tech is a leading provider of consulting, engineering, program management, construction management, and technical services. The company supports government and commercial clients by providing innovative solutions to complex problems focused on water, environmental, energy, infrastructure, and resource management. With 13,000 employees worldwide, Tetra Tech's capabilities span the entire project life cycle.



Mine Design

Tetra Tech's mine design engineers provide design for open-cut, underground, and in situ extraction operations and processing facilities:

- Mine layout and design, facility design, and infrastructure
- Processing facilities
- Access roads, haul roads, rail, conveyors, and pipelines
- Energy management plans
- Water management plans
- Tailings and heap leach facilities
- Scheduling and sequencing
- Underground and surface handling systems, including crushing
- Blasting design and implementation, including casting
- Spoil design
- Load-out design
- Equipment design and selection (long wall, continuous haulage, and continuous miners)
- Firefighting systems
- Reclamation design



Open-cut

- Short- and long-term pit excavation designs
- Volume balancing
- Pit slope stability

Underground

- Stopes and mitigation plans
- Long-wall, room and pillar, and block caving methods
- Shafts and tunnels
- Ventilation and mine auxiliary systems

Worldwide Project Locations

including the United States, Canada, Europe, South America, Eurasia, and Australia

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