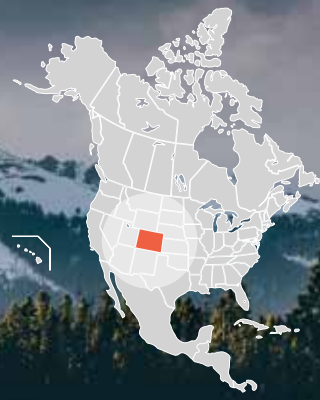




# UNDERGROUND GEMSTONE

## CASE STUDY



### PROJECT OVERVIEW >

**INDUSTRY**  
Gemstones

**CLIENT**  
Major Developer

**LOCATION**  
CO, US

**TIMELINE**  
2017

**BIG ROCK EXPLORATION** partnered with a major gemstone mining company to reopen and capitalize on a previously overlooked opportunity. High in the Colorado Rockies, a historic silver mine sat idle. Under the guidance of Big Rock, a client planned to repurpose the mine to excavate gemstones. They needed turn-key services from acquisition to production to bring the mine up to modern safety compliance and develop a mine plan.

### TARGET

REOPEN HISTORIC MINE  
TO MODERN COMPLIANCE  
FOR NEW GEMSTONE  
PRODUCTION



**PROJECT & DATA  
MANAGEMENT**



**MAPPING  
& GIS**



**MODELING**



**EVALUATIONS  
& REPORTING**

### < SERVICES

### OPPORTUNITY

Big Rock assessed the needs of the client, the property, and the geological challenges to target the new mineral. Big Rock began permitting with the United States Forest Service (USFS) Colorado Division Reclamation, Mining and Safety (DRMS) immediately.

Further work involved gathering historic data and maps from many mines and sources in the region. Big Rock also provided the necessary safety oversight to ensure that the mine would be in compliance with all MSHA regulations. This included developing several mine safety policy manuals and training documents.

Additionally, Big Rock provided MSHA underground-trained staff to evaluate and structurally map the existing tunnels and stopes to identify potential gemstone targets. Once all the data was compiled, Big Rock developed a 3-D model of the mine as well as a full model the neighboring gemstone mine. The model was used to develop a mine production plan as well as advanced targeting between both mine sites.



### RESULTS

The mine was reopened in 2017, beginning with development work (blasting and excavation) and safe guarding. Prior to the end of the 2017 mining season, several gemstone targets were successfully reached that will be excavated in 2018. Through utilization of Big Rock as their general manager, the client was able to successfully acquire, permit, develop and profit from this mine site in less than 5 years.

LET'S WORK TOGETHER



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