COLORADOSCHOOLOF**MINES**

underground

AREA K ARTESIAN PILOT MINE MITIGATION, GLENROCK, WYOMING

January 8th, 12-1PM Petroleum Hall Green Center – NEW LOCATION

To mitigate the subsidence risk by mines inundated with water under high artesian conditions, and to eliminate communication between water in the mine and groundwater aquifer above and below the mine, a special design approach was developed for such conditions. To assess the risk associated with subsidence mitigation in artesian conditions and because of the lack of any precedent, a Pilot Program was conducted. The purpose of pilot program was to prove the viability of the newly developed design approach and to determine the feasibility of injecting high-mobility grout beneath a highly developed residential area in Glenrock, Wyoming with minimal impact on the groundwater regime.

Throughout this program, Brierley was successful in adopting means and methods to control artesian flow within the mined interval by installing a series of strategically located discharge wells. This allowed to maintain an optimal equilibrium between induced pressure increments developed by grout injection and the pre-existing pressure regimes in the affected aquifers.. In addition, surveying of monuments proved that no ground heave or settlement were observed as a result of the mitigations activities.



David Hibbard is a Project Geologist at Brierley Associates. He has a B.S. in Applied Geology from MSU, and specializes in geological sciences. His technical expertise includes; geologic hazards, spatial analysis, remote sensing and mapping, hydrogeologic investigation, inspection, and construction management.

With 6 years of extensive field experience, Mr. Hibbard has worked on an assortment of civil projects relating to soft rock mine mitigation, grouting methods, dam inspection, geophysical investigation, quality control and assurance, soil properties as it relates to geotechnical engineering methods, drilling sampling and coring, logging, reinforced steel inspection, post tension, storm sewer, and soil nail walls.



Jan. 8th, 12-1 PM – PETROLEUM HALL, GC

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