

The **Spokane Mining Research Division (SMRD)** is part of the **National Institute for Occupational Safety and Health (NIOSH)**. SMRD works to eliminate mining fatalities, injuries, and illnesses across all mining sectors, focusing on mining in the western United States. SMRD partners with labor, mining associations, equipment manufacturers, mine operators, and other government agencies to study worker health and safety problems, and to develop products and interventions that offer solutions to workplace challenges.

SMRD conducts field research at various mine sites across the western United States, as well as laboratory research at the SMRD testing facilities.

SMRD Soil/Rock Properties Laboratory:

This laboratory is where various soil, rock, and shotcrete samples are prepared, characterized, and tested. The laboratory has multiple test machines to simulate ground stresses and test a support sample's strength characteristics.



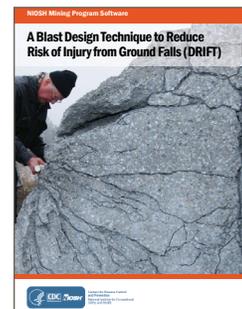
SMRD Thermal Chamber:

This chamber provides a controlled environment where temperature and humidity can be varied to simulate mining conditions and tasks. It is also used for heat stress and other health-related studies.



Technology & Product Highlights

DRIFT Software: This software provides blast design engineers a tool for developing initial conceptual blast designs. The software uses current methods of perimeter blasting with the added design element of a buffer row to reduce perimeter damage. Underground blasting with perimeter damage control can reduce the requirement for loose rock scaling and reduce the risk of ground fall injury.



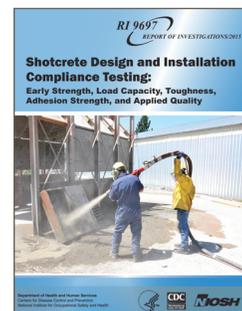
Heat Stress Fact Sheets:

This series of six fact sheets and poster offer practical information about working in hot mining conditions. They provide an overview on heat stress and focus on risk factors, acclimatization, hydration, work and rest schedules, and first aid. Miners can use these fact sheets to promote safe behavior while working in the heat.



Shotcrete Design and Installation Compliance

Testing Report: This report provides recommendations for the safe application of shotcrete in underground mines. Tools are described to assist with measuring shotcrete strength at the mine site, assessing quality, and improving performance.



OUR SAFETY AND HEALTH RESEARCH AREAS



Metal Mine Ground Control



Emerging Technologies



Miner Health and Chronic Disease



Stability and Seismic Monitoring

Centers and Programs

Miner Health Program: A long-term, multi-disciplinary initiative that engages with mining community partners to establish a systematic, collaborative, and proactive approach to improve our understanding of the health status and disease burden in the mine worker population. This approach will ensure that targeted research benefits miners by maximizing worker protections, minimizing exposure, preventing disease, and improving overall functional well-being.

OUR STAFF

SMRD has 50 full time positions and has offices and labs in Spokane, Washington. Staff have experience in the following areas:

Engineering: General Engineers | Mining Engineers | Mechanical Engineers | Chemical Engineers | Electrical Engineers | Metallurgical Engineers

Physical Science: Geophysicists | Physical Scientists

Epidemiology and Surveillance: Epidemiologists | Industrial Hygienists

Human Factors and Workplace Health: Behavioral Scientists | Medical Officers