Mine Rescue & Escape Training Laboratory

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Creating Virtual Mine Sites
Underground Coal Mine Map Reading Training

http://www.cdc.gov/niosh/mining/products/product165.htm
Underground Coal Mine Map Reading Training

“Miners” give directions to individual trainee.

Overhead view of travel path for debriefing.

http://www.cdc.gov/niosh/mining/products/product165.htm
Mine Evacuation Training

• Multiple trainees
• Networked together
• Can connect via internet
Mine Evacuation Training
Mine Rescue & Escape Training Laboratory

Immersive Environments

Cylindrical screen
10ft tall, 33ft diameter

Curved screen
10 ft tall x 26 ft wide

• Stereoscopic projection
• Surround sound
• Interactive

Immersive Display Systems

The National Institute for Occupational Safety and Health (NIOSH) chose Commercial Training Solutions to deliver a Mine Rescue and Escape Training (MRET) Laboratory with two immersive display systems (one 360 degree and one 120 degree system) and four training modules related to mine rescue and emergency escape.
MRET Lab
Construction Timeline

Jan – May 2011: building renovation
June – July 2011: equipment installation
Aug – Sept 2011: system testing
October 2011: virtual environments operational
MRET Lab
Underground Coal Mine

OFFICE OF MINE SAFETY AND HEALTH RESEARCH

Graphics provided by Commercial Training Solutions, L.L.C. 2011
MRET Lab
Modules – Mine Rescue

• Hands-on Simulation
• Lake Lynn Laboratory

• Virtual Simulation
• MRET Lab
• Comparable in complexity to mine rescue contest problems
MRET Lab
Training Module – BG4

- Benching a Virtual BG4
- 3D delivery to trainees
- Tasks
  - Teach or test sequencing
  - Conduct fault checks
  - Practice multiple error scenarios
- To be drafted by Fall 2011
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The Office of Mine Safety and Health Research is a division of the National Institute for Occupational Safety and Health (NIOSH)
www.cdc.gov/niosh/mining

NIOSH is a division of the Centers for Disease Control and Prevention within the Department of Health and Human Services
www.hhs.gov

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