Construction in Mining

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### Presenters

<table>
<thead>
<tr>
<th>Michael Herges</th>
<th>Pete Rice</th>
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| • Director of Safety and Health Services at Graniterock, a leader in building materials supply, general engineering and construction.  
• Strengths in worker engagement and empowerment Safety/Health programs.  
• Over 30 years of experience in OSH.  
• Broad range of safety experience in the mining, construction, distribution, manufacturing and trucking industries.  
• Masters Public Health - Tulane University  
• A Certified Safety Professional  
• ASSE member for more than 20 years. | • Subject Matter Expert at ClickSafety since 1999.  
• 40 years experience at Cal/OSHA, construction, engineering, manufacturing, labor law.  
• Broad range of occupational and environmental OSH experience.  
• Masters in Public Health – Cal State University  
• A Certified Safety Professional, Certified Industrial Hygienist and Registered Environmental Health Specialist (California.  
• Member of ASSE and AIHA for 35 years. |
Construction in Mining

- Most Construction Contractors have no mining experience
- Similarities between Mining and Construction
- There are also differences
Agenda

- Mining Industry Overview
  - Categories of Mining
  - Categories of Surface Mining

- Overview of MSHA and Regulations
  - MSHA – Is Not OSHA
  - Training requirements for MSHA
    - Part 48
    - Part 46
  - Daily Workplace Examinations
  - Accident and Injury Reporting
  - MSHA vs. OSHA regulations

- MSHA Inspections

- Questions and Answers
Categories of Mining

- **Surface Mining**
  - Mining where soil and rock covering/above mineral deposits are removed

- **Underground mining**
  - Mining where *mineral deposits* are removed through shafts and tunnels
  - Examples of minerals extracted through underground mining:
    - Hard rock (gold, silver, lead)
    - Soft rock (coal, oil shale, sedimentary rocks)
Categories of Mining

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Underground mining
Principle Types of Surface Mining

- Strip mining
  - Extract minerals (e.g. coal and lignite) by removing soil and rock which are deposited on the surface. Uses the largest machines on earth.

- Open-pit mining
  - Extract rock or minerals by forming an open pit

- Mountaintop removal
  - Mining the summit or the long and narrow edge of the mountain for minerals (i.e. coal which is mined by removing the land above the seams).

- Dredging
  - Extract underwater minerals
  - Also often used as a time-efficient way to make waterways for boats and navigation canals for the passage of container ships
MSHA Is Not OSHA

- MSHA and OSHA are both Dept. of Labor Agencies (but separate!)
- Mine Safety & Health Administration (MSHA)
  - Oversees safety in mining industry including surface mining and quarries
  - Administers the provisions of the Federal Mine Safety and Health Act of 1977 (Mine Act)
- Carries out mandates of Mine Act at *all US-based mining and mineral processing operations regardless of size, number of employees, commodity mined, or method of extraction*
- Divisions include:
  - Coal Mine Safety and Health Division
    - 12 districts covering coal mining in different portions of the United States.
  - Metal-Nonmetal Mine Safety and Health Division
    - 6 regions of the United States.

https://www.msha.gov/
Who is Covered Under MSHA?

- All mine operators and miners throughout the U.S., including the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Trust Territory of the Pacific Islands

- Who is a mine "operator":
  - "any owner, lessee, or other person who operates, controls, or supervises a mine or any independent contractor performing services or construction at such mine.” (e.g. cement plants are considered mines)

- Who is a "miner"
  - Any “individual working on a mine.” (e.g. electrician working at a mine is considered a “miner”)

- As of 2015, the Mine Act covered approximately 350,000 miners and over 13,000 mines
# Construction Contractor Work at Mines

<table>
<thead>
<tr>
<th>Construction Contractors hired to work at mines</th>
<th>Construction Contractors hired to perform non-mining work at mines</th>
<th>Construction Contractors providing support services at mines</th>
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<tbody>
<tr>
<td>Mine Construction (including steel erection, concrete, electrical)</td>
<td>HVAC Installation and Repair</td>
<td>Mobile Crane Services</td>
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<tr>
<td>Earthmoving, Road Building, Dam/Levee Building</td>
<td>Plumbers</td>
<td>Environmental/Vegetation Rehab</td>
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<tr>
<td>Drillers/Blasters</td>
<td>Roofing</td>
<td>Mine Reclamation</td>
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<tr>
<td>Commercial Trucking (moving material inside mine, water truck for haulage roads)</td>
<td>Fencing</td>
<td>Commercial Trucking (fuel/lube truck services, sweeping services)</td>
</tr>
<tr>
<td></td>
<td>Road Maintenance</td>
<td>Commercial Trucking (moving material inside mine, water truck for haulage roads, fuel/lube truck services)</td>
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MSHA Legal ID

- All mine operators are required to have a MSHA Mine ID number prior to starting operations.
- Construction contractors who will be working at a mine or mines frequently or for extended periods (more than 5 days) may be required to request a MSHA Contractor ID number.
- Mine operators may require prior to beginning work.
- MSHA may require depending on circumstances.
- MSHA can issue a contractor a MSHA Contractor ID number during an inspection.
MSHA Regulations and Standards


- Parts 1 & 2 are Administrative
- Parts 5 – 36 are for the Testing, Evaluation and Approval of Mining Products
- Parts 40 – 45 are Filing and Other Administrative Requirements
- Parts 46 – 49 are Education and Training
- Part 50 is for Notifications, Recordkeeping and Reporting
Parts 56 – 58 are the Metal/Non-Metal Mine Safety and Health Standards

- [56.9300a](#) Berms and guards
- [56.12028](#) Testing grounding systems
- [56.14107a](#) Moving machine parts
- [56.14132a](#) Horns and backup alarms
- [56.18002](#) Examination of working places
- [56.18002T](#) Examination of working places
- [58.620](#) Drill dust control
MSHA Regulations and Standards


- Parts 56 – 58 are the Metal/Non-Metal Mine Safety and Health Standards
- Part 62 is the Occupational Noise Exposure Standard for all mine types
- Parts 70 – 90 are the Coal Mine Safety and Health Standards
- Part 100 is for Assessment of Civil Penalties
- Part 104 is for Pattern of Violations
Companies and workers under MSHA fall into two regulatory categories:

**Part 46:** Training and Retraining of Miners Engaged in Shell Dredging or Employed at Sand, Gravel, Surface Stone, Surface Clay, Colloidal Phosphate, or Surface Limestone
- Cement plants
- Sand and gravel pits
- Stone quarries, rock quarries, and their processing plants
- Any operation where non-metals are being mined or processed (except boron and talc)

**Part 48:** Training and Retraining of Underground Miners
- A mine where any section is underground
- Any coal mine or processing plant
- Any mine that is digging up metal or mineral
MSHA Training Regulations and Standards

- Site-Specific Safety Training (required at all mining operations)
  - PPE
  - Emergency Procedures and Evacuation
  - Traffic Patterns
  - Equipment Safety Requirements
    - Backup alarms
    - Horn
    - Parking brake
  - Warning Systems
MSHA Regulations and Standards

- What are the differences?

  - Training Plan
    - Part 48 requires a training plan that is approved by the MSHA District Manager
    - Part 46 requires a training plan that meets all the training plan requirements
    - Part 48 does not require the contractor to have their own training plan
      - Cooperative training program
    - Part 46 requires contractors to have their own training plan

Link to 30 CFR Part 46
Link to 30 CFR Part 48
MSHA Regulations and Standards

- What are the differences?
  - Training Instructors Requirements:
    - Part 48 requires the training instructor to be certified by MSHA
    - Part 46 requires the training instructor to be a competent person
      (Competent person through training, experience or knowledge)
Safety Training for New Miners

- **Part 46** New Miners (or first time workers)
  - 24 hours of new miner training for before being assigned work duties at a sand, gravel, surface stone, etc. mine within 90 days. (4 hours before they can begin assigned work duties. Additional topics such as review of first aid methods and self-rescue respiratory devices in 60 days.
  - All MSHA safety training (Part 46 and Part 48) must be equal to or exceed the number of hours required by MSHA regulation.
Safety Training for New Miners

- Part 48 New Miners (or first time workers)

- Need to complete a minimum of:
  - 40 hours of new miner training before being assigned work duties at an underground mine. (8 hours of the training must be conducted at the mine site.)
  - 24 hours of new miner training for surface mine or surface area of an underground mine. (8 hours before they begin assigned work duties. Remainder of training in 60 days.)
New Miner Training Requirements – Part 46.5b

No less than 4 hours of training on the topics below before starting work:

- Introduction to the work environment, including a tour;
- Instruction on the recognition and avoidance of hazards at the mine;
- Review emergency medical procedures, escape and emergency plans;
- Instruction on the health & safety aspects of the tasks to be assigned;
- Instruction on the statutory rights of miners and their representatives;
- Review of the line of authority of supervisors and miners’ reps;
- Introduction to your rules and procedures for reporting hazards;
New Miner Training Requirements – Part 46.5b

Must complete these topics within 60 days

- Instruction on self-rescue and respiratory devices; and
- Review of first aid methods

Must complete all 24 hours of training no later than 90 days after a new miner begins work
Surface New Miner Training Requirements – 48.25b

No less than 8 hours of training before a new miner can start work

- Instruction in the statutory rights of miners and their representatives; under the Act; authority and responsibility of supervisors.
- Self-rescue and respiratory devices, where applicable.
- Transportation controls and communication systems.
- Introduction to work environment, including a tour of the mine. explained.
- Escape and emergency evacuation plans; firewarning and firefighting.
- Ground control; working in areas of highwalls, water hazards, pits and spoil banks; illumination and night work.
Surface New Miner Training Requirements – 48.25b

- Health
- Hazard recognition
- Electrical hazards
- First aid
- Explosives
- Health & safety aspects of the tasks the new miner will be assigned
- Other courses as may be required by the District Manager

All training must be completed in 60 days
Annual Refresher and Task Safety Training

- **Annual Refresher Training**
  - 8 hours of annual refresher training is required for all miners.
  - There are some differences between Part 46 and Part 48 in when training is conducted.

- **Task Training**
  - Safety training specific to task to be performed.
  - Conducted by a competent person/instructor.
  - Re-evaluated annually (Part 48).
Workplace Examinations

- Required by Part 56, Part 57 and Part 77
- Examine where miners will be working for hazards
  - 56/57.18002 by a competent person designated by the mine operator at any time during each shift in each working place at the mine
  - 77.1713 by certified person designated by the miner operator at any time during each shift each active working area and each active surface installation
- Hazards/hazardous conditions that will adversely affect the safety and health of the miners
- Documentation of examination
  - 56/57 who, date, areas examined
  - 77 who, date, hazards identified and corrective actions taken
Part 50 Notifications and Reporting Regulations

- **Immediate Accident Reporting Requirements**
  - Fatality
  - Injury that has reasonable potential to cause death
  - Entrapment that has reasonable potential to cause death
  - One call number 800-746-1553

- **Injury/Illness Reporting**
  - Report all injuries/illnesses except first aid within 10 working days
    - Some differences in first aid criteria between MSHA and OSHA
  - Reporting of return to full duty work within 5 days

- **Quarterly Report**
  - Quarterly report of average number of employees and hours worked
Differences in MSHA and OSHA Regulations

- Fall Protection
- Confined Space Entry
- Hazard Communication
- Control of Hazardous Energy
- Guarding of Equipment
- Mobile Equipment
- Housekeeping
Inspections Conducted by MSHA

- Underground mines 4 times a year
- Surface mines 2 times a year
- Complaints
- Accident
Inspections Conducted by MSHA

- Citations are issued at the mine

- Citations are required to be abated and terminated by designated date

- Disputed citations
  - Informal Conference
  - Formal Contest
To help you comply here are a few resources available on MSHA’s website:

Title 30 Code of Federal Regulations Parts 1 – 199
MSHA Coal Program Policy Manuals
MSHA Metal/Nonmetal Program Policy Manuals
MSHA Guarding Conveyor Belts at Metal/Nonmetal Mines
MSHA Guarding Machinery at Metal/Nonmetal Mines
Part 46 Training Assistance
Part 46 and 48 Compliance Manual
Part 50 Reporting Guide
Educational Field and Small Mine Services
ClickSafety Provides MSHA Part 46 Training

MSHA Part 46 4-hour New Miner Site-Entry Training (Part 1)

MSHA Part 46 4-hour New Miner General Safety Training (Part 2)

2018 MSHA 8-hour Annual Refresher Training

ASSE CPS Bonus- ClickSafety’s online 4-hour New Miner Site-Entry (Part 1) course 50% off! Coupon Code: MSHA50 - Code applies to ClickSafety’s MSHA 4-hour New Miner Site-Entry (Part 1) course only. Coupon code must be entered at checkout to receive discount. Valid from now until 03/15/2018 at midnight

https://www.clicksafety.com/courses/detail/msha-4-hour-new-miner-training-part-1-site-entry
Questions?
Thank you !!!

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