

*2012 Nevada Mine Rescue  
Contest  
Judges Packet*



*Winnemucca, Nevada  
March 14<sup>th</sup> & 15<sup>th</sup>*

## **Mine Information Sheet**

### **Mill City Mining Company - Puckerbrush Mine**

#### **Mining & Equipment:**

The 150 feet deep two-level adit mine is in the developmental stage of establishing the infrastructure of this underground mine. The mine is using a conventional room and pillar method for developing the ore body. At this time there are two vertical 6 foot diameter raises, which one is up cast (exhaust) and one is down cast (intake). There are two adits, 100 level adit and 150 level adit, which are both air locked. All of the waste rock, supplies, and men are transported in and out of the mine through the 150 level adit.

The mine currently operates two 12-hour shifts per day, and 7 days per week. The ore is drilled, blasted, and loaded from the faces using diesel-powered load-haul-dumps (LHD's). The ore is then transported by LHD and haul trucks to the surface.

#### **Ventilation:**

Air enters the mine through the #2 vent raise and exhausted through the #1 raise. The #2 raise, intake, has also been designated as the primary escape (manway) from the mine and is located on the 150 level. The 150 level adit has been designed as the secondary escape and the 100 level adit has been designated as the tertiary escape. The 300 horse power main fan is located on the 100 level at the bottom of the #1 raise and the fan is not reversible. Air is directed to the faces using stopping's and temporary (check curtains) ventilation controls.

The main fan had been pulling approximately 200,000 cfm of intake air into the mine. After the mine was evacuated the fan was shut down. The fan chart shows that it was operating in a stable portion of their performance curve. The fan has not been restarted. The electrical power to the fans is available, but locked out and guarded.

#### **Gas:**

In accordance with Title 30 CFR 57.22003, the mine is classified as Category VI. That is, the presence of methane has not been established in this mine and there is no history of methane gas in any other mine in the area.

**Mine Information Sheet (cont.)**  
**Mill City Mining Company - Puckerbrush Mine**

**Ground/Rib and Roof Control:**

The immediate roof or back is supported by 6-foot long roof bolts, installed on 4-foot centers. Additional posts and crib blocks are used in problem areas.

**Water:**

The mine has not encountered any water problems at this time.

**Electric Power:**

The electrical power to the fans is available. However, all other underground power has been de-energized, locked out, and guarded.

**Mine Map:**

The mine map was updated about 1 month ago.

**Other Mines:**

There are several active mines in the area. However, this mine does not connect to any of the mines.

**Explosives:**

Explosives are available and stored on surface in the explosives magazine about .5 miles from the 150 level adit. They are used during the mining cycle and blasting is conducted at the end of each production shift.

**Refuge Chamber:**

The mine has built a miner refuge chamber (mine office) between cross cut #1 & #2 in entry #4. The refuge chamber meets all regulatory requirements listed in 30 CFR 57.11052.

**Communications:**

Pager phones are available in the mine and normally have contact with the surface. The phones are located at the mine office, auxiliary fan, and raises.

## **Team Briefing Statement**

### **Mill City Mining Company - Puckerbrush Mine**

You are located at a fresh air base of the Mill City Mining Company, Puckerbrush Mine. The mine is a two level underground development with one exhaust raise and one intake raise. This is a new mine that is operating on a limited budget until they can finish developing the ore body.

Recently the mine has encountered a large fault between entry #3 and #4. Up until this point they have been using 6 foot rock bolts, but in this area they may need to utilize some posts and/or crib to control the ground. The ground is very heavy and blocky in this area, but the ground is being maintained.

Last night at 3:45 a.m., the shift supervisor, and 8 miners were working underground, when a call was received on surface that there was a fire underground. Stench was immediately dumped into the compressed air and in #2 intake raise. A mechanic on surface shut down the power to the main fan and all the power to the underground to prevent the spread of the fire.

At 4:15 a.m., all but 3 miners evacuated the mine.

At 4:50, the company mine rescue team went underground and explored the 150 level and did not find any miners, smoke, or fire. They attempted to climb the #2 intake raise but there was loose ground over head so they barricaded it off. When the team returned to surface they locked and barricaded the airlock on the 150 level.

At 6:00 a.m., mine management dedicated persons to check the top of both raises and to take gas readings at the top the #1 exhaust raise. When they were at the top of the #2 intake raise it was determined that the top three ladders of the #2 raise were unsafe to use.

Early gas readings at the top of the #1 exhaust raise showed: 10% oxygen (O<sub>2</sub>), and 10,000 ppm carbon monoxide (CO). It was reported that the top of the #2 intake raise was not safe to use. The intake (#2 raise) readings showed Clear Air. Both the airlocks at the 100 level adit and 200 level adit show clear air.

It is now 6:30 a.m. If your team is willing to help, we would like you to account for all missing miners; bring any live miners to the surface; extinguish or seal any fires; and explore and map all accessible areas of the mine. Most available equipment and materials to work the problem are located in the mine and are identified with placards.

All power to the underground has been de-energized, locked out, and guarded.

We have called all of the government agencies for help. Guards have been posted at the adits and raises. The 150 level has been explored by the previous mine rescue team and the audit airlock has been locked and secured.

There is a fully equipped mine rescue team located at the Fresh Air Base and they are ready to serve as your team's backup. The backup team will be sent into the mine to relieve you after 60 minutes.

The materials are stored in several areas underground and can be readily located if needed. If there is something else deemed necessary by the team, upon request, it can be delivered in a reasonable amount of time.

When you reach the mine rescue course, the Mine Manager (Judge #1) will introduce you to the #2 judge. Once the Team Captain has started the timer, the Mine Manager (Judge #1) will provide you with any changes to the briefing information that you have received. The Mine Manager (Judge #1) will not answer any additional questions concerning the team briefing statement. The Manager will only respond to questions allowed by the rules while you are working the problem.

The fresh air base attendant and alternate will be assigned a location where they can study the team briefing information, mine information, and map. The fresh air base attendant can assist the team and communicate with them while they advance past the fresh air base using wireless communication system. He must maintain an accurate map indicating all initial information that the team relays to him. He may also assist the team by relaying information to the mine manager when required by the problem. He may also assist the team when they retreat to the fresh air base.

The fresh air base attendant and mine rescue team alternate are not allowed to speak to anyone during the working of the problem except their team members and the mine manager.

**GOOD LUCK!**

## **Team Instructions**

- Extinguish or seal any fires
- Account for the missing miners
- Bring any live miners to the surface
- Explore and map all accessible areas of the mine

## **Fresh Air Base Instructions**

- The fresh air base attendant and alternate will be assigned a location where they can study the team briefing information, mine information, and map. (Fresh Airbase)
- Only one attendant or alternate will be allowed to assist at the fresh air base. This person can assist the team and answer any questions the team may ask. However, this person cannot physically assist the team beyond the fresh air base unless that person becomes an active team member in the event that someone drops out.
- The fresh air base attendant and mine rescue team alternate are not allowed to speak to anyone during the working of the problem except their team members and the mine manager.

JUDGE #1  
**Problem Orientation**

Judge #1 introduce yourself to the team as the Mine Manager and Judge #1, then introduce #2 Judge to the team. **Note: The team has been briefed on the problem and the mine information, and been provided with the mine maps.**

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***Read the following instructions to the team:***

At this time, I have no new information to report to you. I cannot answer any questions concerning the team briefing statement. I can, however, define any term that the team did not understand. During the working of the problem, I will answer any question that you may have; however, by problem design, my response may be limited in scope.

The fresh air base attendant or mine rescue team alternate will be required to locate at a designated area where he/she can study the map and team briefing information. He/she can assist the team and answer any questions that the team may ask. Only one attendant or alternate will be allowed to assist at the fresh air base. He/she cannot physically go beyond the fresh air base to assist the team unless he/she becomes a team member when someone drops out.

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**CAUTION** - the fresh air base attendant or mine rescue team alternate is not allowed to communicate with anyone except the team members, the mine manager, or the judging officials.

At the end of the problem, both the team map and the fresh air base attendant's map will be collected and scored. All map editing must take place prior to stopping the clock. Make sure that the maps are NOT compared, if the maps are compared the team must be discounted.

Ask if they understand these instructions?

When they verify understanding the instructions, have the Team Captain start the clock and hand the team the Team Briefing Information, the Mine Information Sheets, and the Mine Maps.

Good Luck!

# 2012 Nevada Mine Rescue Contest

## Placards

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| <p>1. Airlock</p> <p>2. Light Smoke 2b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>3. Light Smoke 3b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>4. Haul Truck CO#2</p> <p>5. Light Smoke 5b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>6. 2 sets brattice material</p> <p>7. Barricade</p> <p>8. WeeMan ID#0001</p> <p>9. Light Smoke 8b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>10. 4 timber posts</p> <p>11. Door</p> <p>12. Door</p> <p>13. Water Over Knee Deep</p> <p>14. Water Over Knee Deep</p> <p>15. Diesel Hydraulic Drill</p> <p>16. Light Smoke 5b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>17. Regulator (closed) b(Open)</p> <p>18. Regulator (closed) b(Open)</p> <p>19. Two Sets Brattice Material</p> <p>20. Phone</p> <p>21. Door</p> <p>22. #2 Raise (to surface w/ladders)</p> <p>23. #2 Raise (down to lower level w/ladders)</p> <p>24. Light Smoke 21b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>25. Loose ground not scalable</p> <p>26. Loose ground not scalable</p> <p>27. Permanent Stopping</p> <p>28. Permanent Stopping</p> <p>29. Light Smoke 31b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> | <p>30. Caved Airtight</p> <p>31. Haul Truck CO#1</p> <p>32. Light Smoke 31b Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>33. Door</p> <p>34. Door</p> <p>35. Door</p> <p>36. Door</p> <p>37. Regulator (closed) B (Open)</p> <p>38. Regulator (closed) B (Open)</p> <p>39. Light Smoke 39B Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>40. Fire</p> <p>41. Loose not scalable</p> <p>42. Fire</p> <p>43. Loose not scalable</p> <p>44. Barricade</p> <p>45. Johnnie Knoxville ID#1134</p> <p>46. LHD CO#1</p> <p>47. Heavy Smoke 47B Clear Air<br/>02 – 10%<br/>CO – 10,000PPM</p> <p>48. Heavy Smoke 47B Clear Air<br/>02 – 10%<br/>CO – 10,000PPM</p> <p>49. Mine Phone</p> <p>50. #1 Exhaust Raise</p> <p>51. Door</p> <p>52. Door</p> <p>53. Caved Tight</p> <p>54. Light Smoke 54B Clear Air<br/>02 – 15%<br/>CO – 500PPM</p> <p>55. Brattice Material (Two Sets)</p> <p>56. Mine Office Door</p> <p>57. Steve-O ID#OU81</p> <p>58. Mine Phone</p> <p>59. Decline to 150 Level</p> <p>60. Loose Not Scalable</p> <p>61. Fresh Airbase</p> |
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