

*2014 National Metal and Nonmetal
Mine Rescue Contest*

JUDGES' PACKET
Day #1



August 5, 2014
Lexington, Kentucky

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Introduction

Welcome to the 2014 National Metal and Nonmetal Mine Rescue Contest. Before we begin, we want to commend each of you for the countless hours that you have volunteered, and your selfless dedication and willingness to participate as a mine rescue team member. We would also like to recognize each team for the hard work spent during this past year while training and preparing to help your fellow miners during a mine emergency. In addition, we want to thank each team's company for their support and financial backing for this important training function.

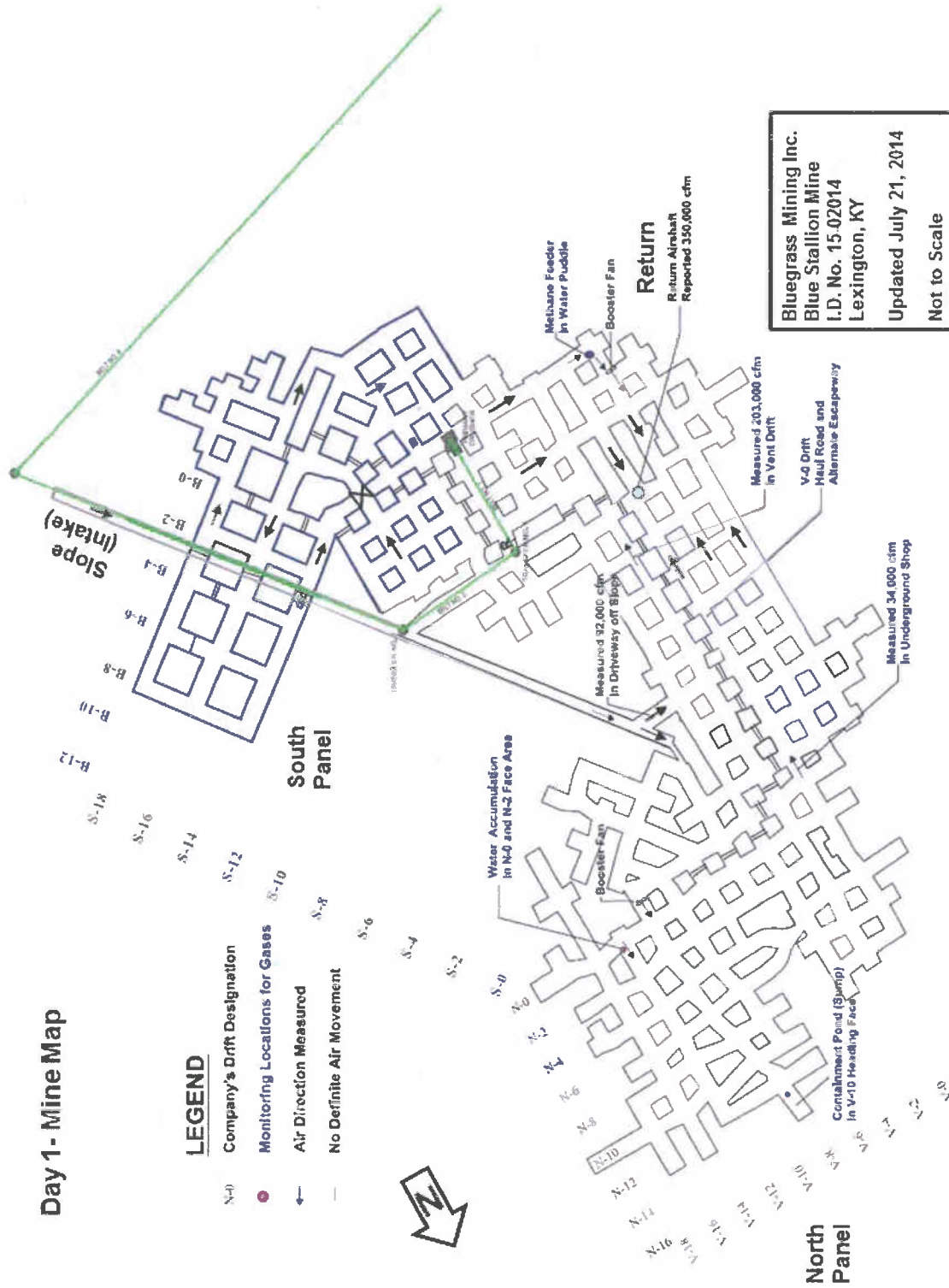
This year all teams will participate in a two-day field competition. We have put together a very challenging problem for each day. Both of which will make you think and exercise all of your mine rescue skills. Hopefully, every team will go away feeling that they are better prepared for an actual emergency based on what they have learned.

Your team's final placement will be based on your combined cumulative discounts for both day's field problems plus your written test discounts. Those teams with the least amount of total discounts will vie for the trophies.

Even though there can only be a handful of contest winners, the real winners are the miners and their families, the communities, and the companies you represent. It is for all of them that we are here today.

Now, let us continue with the briefing for this year's Day 1 mine rescue problem.

Day 1 - Mine Map



LEGEND

- N-0 Company's Drift Designation
- Monitoring Locations for Gases
- ← Air Direction Measured
- No Definite Air Movement

Bluegrass Mining Inc.
Blue Stallion Mine
I.D. No. 15-02014
Lexington, KY
Updated July 21, 2014
Not to Scale

Mine Information Sheet

Bluegrass Mining, Inc. – Blue Stallion Mine

Mining & Equipment:

The single-level mine uses a conventional room and pillar method to extract ore. The broken ore is loaded into rock trucks by face loaders and then transported to the feed hopper for the primary crusher. Conveyor belts are used to transport the ore to the surface via the Slope. The entries are initially driven 8 feet high and 10 feet wide. Typical pillar dimensions are 15 feet by 20 feet (W x L). All underground mobile equipment (including the loaders, rock trucks, scaling machines, face drills, roof bolting machines, and transport jeeps) is diesel-powered.

Recovery:

No recovery work (or second mining) has been performed.

Gas and Oil:

In accordance with Title 30 CFR Part 57.22003, the mine was classified as a Category IV mine, that is, any methane concentrations liberated are not explosive and are not capable of forming explosive mixtures with air, based on the geological area in which the mine is located. Historical hygiene data from the mine, both MSHA and Company's samples, have indicated the presence of methane in trace amounts. Presently, MSHA is reviewing this classification due to several reported methane feeders and two minor ignitions in the face areas. In addition, crude oil is now oozing from the face and side walls in the active workings. Although, to date, it has been only a nuisance, the inflow rate is increasing in the Northern Panel. The accumulating oil is more of a safety hazard, due to its combustible characteristics, than a health hazard from any associated organic components.

Water:

The ore body dips toward the North; therefore, standing water is typical in the northern panels. However, although a nuisance, the water has never caused any significant production problems.

Pumps:

Portable pumps and discharge lines are used to remove water from the working faces to several underground containment ponds. Larger pumping stations have been installed at these locations to keep the water level to a minimum. Permanent discharge lines had been installed to remove the water from the mine via the Slope.

Mine Openings:

The 16-foot wide, arched Slope is 423-feet in length and houses the main line conveyor belt. The slope is also used to transport personnel and supplies and is designated as the primary escape way from the mine. The 480-foot deep, 16-foot diameter Return Shaft is equipped with a 5-man escape hoist and is designated as the secondary escape way from the mine.

Day 1 - Mine Map



Bluegrass Mining Inc.
 Blue Stallion Mine
 I.D. No. 15-02014
 Lexington, KY
 Updated July 21, 2014
 Not to Scale

LEGEND

- N-0 Company's Drift Designation
- S-12
- S-10
- S-8
- S-6
- S-4
- S-2
- S-0
- N-18
- N-16
- N-14
- N-12
- N-10
- N-8
- N-6
- N-4
- N-2
- N-0
- S-18
- S-16
- S-14
- S-12
- S-10
- S-8
- S-6
- S-4
- S-2
- S-0
- R-18
- R-16
- R-14
- R-12
- R-10
- R-8
- R-6
- R-4
- R-2
- R-0



Mine Information Sheet (continued) **Bluegrass Mining, Inc. – Blue Stallion Mine**

Ventilation:

The Main Fan is located on the surface and is not reversible. The fan produces approximately 350,000 cfm and operates in the stable portion of its performance curve at the lowest available blade setting. The electrical power to the fan is on, and the fan is operating. The air enters the mine through the Slope and exhausts from the Return Shaft. Air is directed to the faces using permanent (concrete block) and temporary (brattice cloth) ventilation controls. The normal airflow direction is shown on the mine maps.

Ground/Rib and Roof Control:

The immediate roof or back is supported by 6-foot long roof bolts, installed on 4-foot centers. Wooden timbers or wooden crib blocks are available for additional support in problem areas.

Mine Map:

The mine map was updated on July 21, 2014, by the onsite Engineering Department.

Other Mines:

There are no known mines, active or abandoned, located within a 5-mile radius from the mine.

Explosives:

Explosives are available and stored on the surface. They are used during the mining cycle, and blasting is conducted at the end of each shift while all persons are out of the mine. Only enough explosives for a day's use are stored in day boxes on the blaster's jeep.

Materials:

Most available equipment and materials to work the problem are located in the mine and are identified with placards. 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.

Note: The new brattice material available for use by the team is relatively lightweight and compact (10-foot strips of brattice cloth with a clip on each end). For the sake of realism, the team will only be allowed to carry two sets of material at any one given time.

Communications:

Pager phones are available in the mine and normally have contact with the surface. The current phone locations are marked on the mine map. At this time, we do not know the status of the communication system because there has been no contact with the missing miners.

Day 1 - Problem Map

