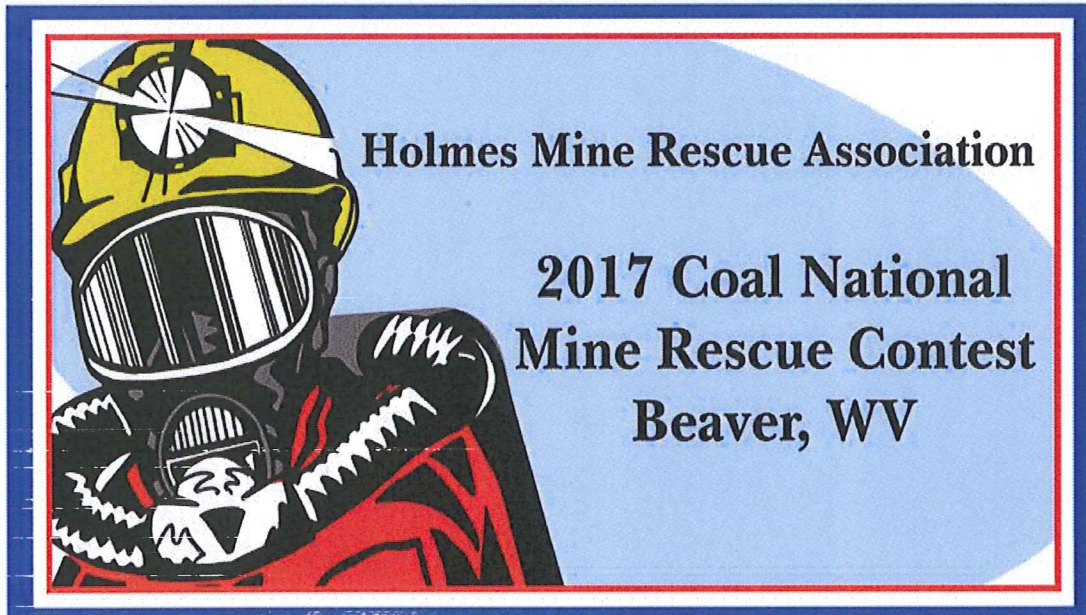


***PRESHIFT CONTEST***  
***September 14, 2017***



***NATIONAL MINE HEALTH & SAFETY ACADEMY***  
***Beaver, WV***

## 2017 National Preshift Contest

### Note from J. Denver, Mine Foreman

Thanks for coming in on your day off, I really appreciate it!! I know you normally work on the Mains Unit, so I'll give you the low down on this end of the mine.

We are developing this end of the mine for a longwall unit. This will be our first panel in what we're calling District #1. Headgate #1 Unit developed up to cross cut 95 and then turned right handed to drive toward the Tailgate. The Tailgate #1 Unit was developed up to cross cut 101 and then pulled back and turned left handed to develop the connector and set up face toward the Headgate. We left the belt feeder and installed an undercast to leave an Intake and belt up to cross cut 100 of the Tailgate. This was done so we could set up a unit here to load out cuttings from the raise bore bit excavating the bleeder shaft for this District. We're calling it the "Shaft Unit". Everything went good with the set up until the top started working in the No. 2 entry just outby cross cut 101. We used the continuous miner to cut out the bad roof and resupported it; it seems to be holding good now. We got everything set up and started the raise bore bit 2 days ago. I had a crew up there last night but they probably didn't get a lot done because we had the belts off most of the shift due to a gob out on the Main North belt at the bottom of the slope.

I need you to conduct a preshift examination of the Shaft Unit for a 4 person crew I plan on sending up there. The average mining height in this area of the mine is 9'. The No. 1 entry is the belt/alternate eascapeway, the No. 2 entry is the intake/primary escapeway and the No. 3 entry is the return. As you know, this mine is on a 10 day 103(i) methane spot and liberates over 600,000 cubic feet of methane in a 24 hour period.

I've made you a copy of the plans and anything else I thought you may need to conduct your exam of this area. I've got the Shaft Sinking Plan, a summary of our safeguards and the Roof Control Plan. All other areas of the mine will be examined by other examiners and I've got a Responsible Person and an AMS Operator on the surface if you need anything.

Again, thanks for coming out and helping us! Good Luck!!!

**Ventilation Plan Addendum  
Shaft Sinking Plan  
for  
District #1 Bleeder Shaft  
Country Roads Coal Co.  
Country Roads #1 Mine  
Mine ID 46-11111**

## District #1 Bleeder Shaft – 12 ft. Diameter

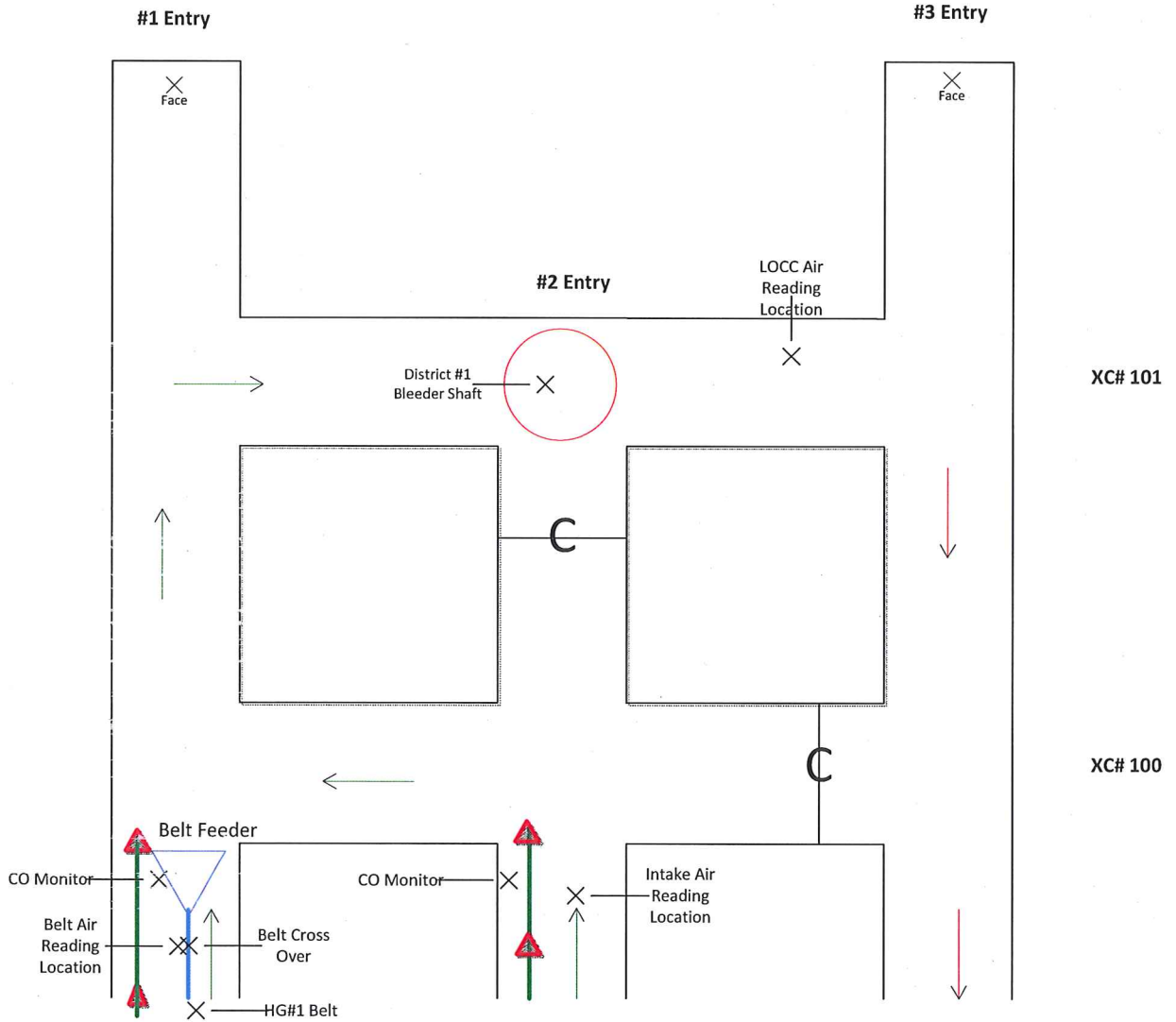
1. A 12-foot diameter bleeder airshaft will be raised-bored at the Country Roads #1 Mine. The shaft will provide ventilation for the future District #1 longwall.
2. The shaft pilot borehole will be drilled into existing workings of the Tailgate #1 at cross cut 101. There are no abandoned mined out coal seams or coal seams capable of being mined by underground methods overlying the Country Roads #1 Mine in this area.
3. The pilot borehole intersection will have a three entry approach. The current area is supported with a minimum of a 72" fully grouted rebar bolt system. Supplemental roof and rib support in the area will be installed as needed.
4. Raise-bore cuttings will be removed from the shaft bottom using a permissible continuous miner loading the cuttings onto a battery powered scoop that will haul the material to the unit feeder to be removed from the mine. Safety precautions during raise-bore activities:
  - a. All scoops will be equipped with a protective canopy.
  - b. Reflectors will be installed on the last full row of undisturbed roof bolts adjacent to the shaft. At no time will personnel including the equipment operators under protective canopies, proceed beyond the last full row of undisturbed roof bolts.
  - c. Methane test will be made with an MSHA approved gas detector at or near the last row of undisturbed roof support by means of an extendable probe, at least every 20 minutes when loading out shaft cuttings.
  - d. In the event of underground delays preventing timely removal of accumulated shaft cuttings, a minimum vertical opening of four feet will be maintained. Shaft cuttings will not be stored underground. If accumulated cuttings reach within four feet of the bottom station

roof, raise bore excavation will be idled until normal loading activity is resumed and a four foot vertical opening is achieved.

5. Ventilation of the Shaft Unit will be maintained by a dedicated intake split in combination with the use of air from the belt air course. The following requirements as outlined in 30 CFR 75.350 will be followed while using belt air to ventilate the Shaft Unit:
  - a. CO Monitors shall be located in the intake and belt air courses immediately outby the loading point as shown on the Typical Shaft Unit Ventilation Sketch.
  - b. Ventilation controls will be installed and maintained as shown on the Typical Shaft Unit Ventilation Sketch.
  - c. As part of the Preshift examination of the Shaft Unit a test for methane and oxygen deficiency will be made at the last full row of undisturbed roof support in at least 1 approach to the shaft. The results of this gas test will be recorded in the preshift exam record book.
  - d. Air measurements will be taken and recorded in the preshift record book at the following locations as shown on the Typical Shaft Unit Ventilation Sketch:
    - i. Belt air course immediately outby the unit feeder.
    - ii. Intake air course immediately outby cross cut 100.
    - iii. Last open cross cut between entries No. 2 & 3 at cross cut 101 (20,000 cfm will be maintained at this location).
  - e. The belt entry will be equipped with an AMS that is installed, operated, examined, and maintained as specified in 30 CFR 75.351. All miners will be trained annually in the basic operating principles of the AMS, including the actions required in the event of activation of any AMS alert or alarm signal.
  - f. No more than 50% of the total intake air, delivered to the Shaft Unit will be supplied from the belt air course.

- g. The air velocity in the belt entry must be at least 100 feet per minute and must not exceed 1,000 feet per minute.
  - h. Ventilation controls are not required in the idle faces of the Shaft Unit unless methane is detected above .5%.
6. Two separate and distinct escapeways will be provided from the Shaft Unit to the surface. All requirements of 30 CFR 75.380 will be followed.
  7. Primary communication between the Shaft Unit and the surface will be provided and maintained by two-way mine phones.

# Shaft Unit Typical Ventilation Sketch



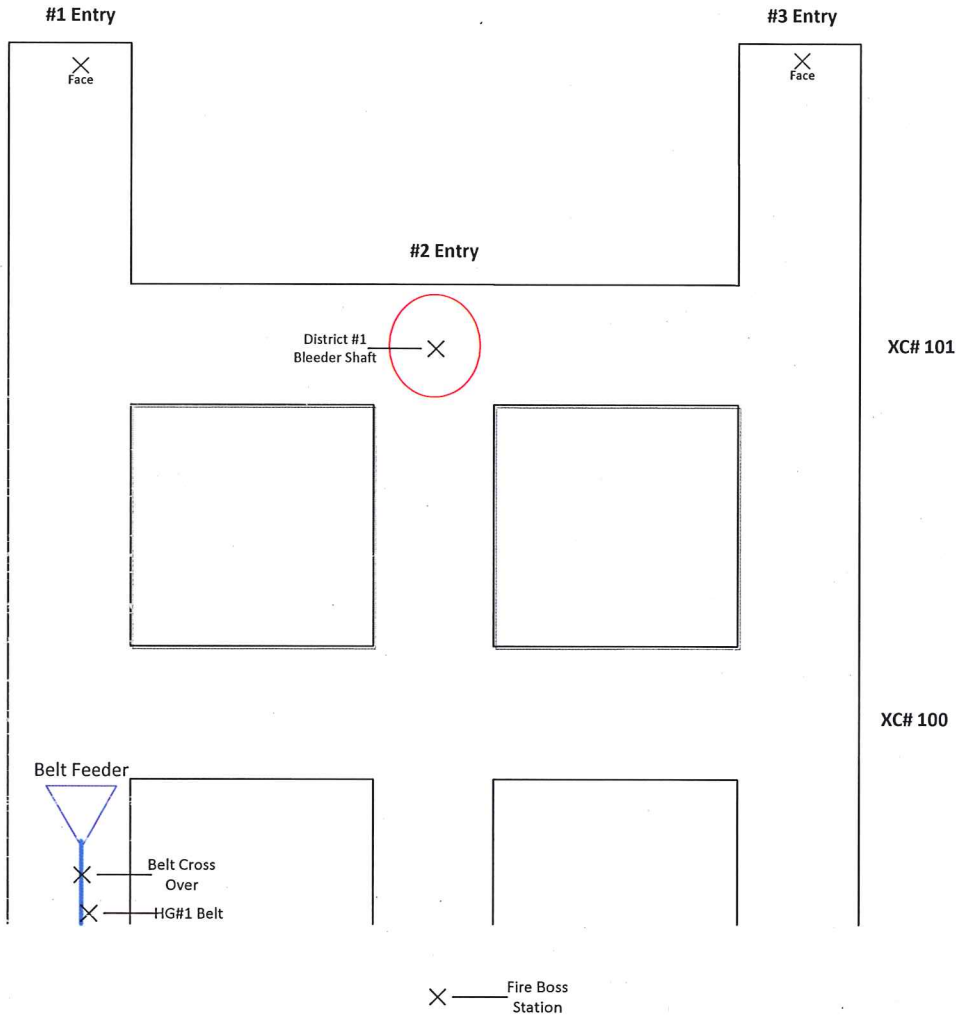
**Roof Control Plan**  
**Country Roads Coal Co.**  
**Country Roads #1 Mine**  
**Mine ID 46-11111**

1. The maximum cut depth of this mine is 30 feet.
2. Openings that create an intersection should be permanently supported or at least two rows of temporary supports should be installed on not more than 5 foot centers across the opening before any other work or travel in the intersection, except to conduct examinations or make safety corrections.
3. Sub-mains and panels will be driven on 50' x 50' centers minimum.
4. The maximum entry and crosscut width is 18' in sub-mains and 19' in panels.
5. Minimum roof support to be used is a 72" fully grouted rebar bolt system.
6. Minimum roof bolt spacing is 4' by 4'.

## Summary of Safeguards

Section	Number	Description
75.1403	001	Notice of safeguard requiring all scoops at this mine to be provided with a remote means to energize and de-energize the main breaker without persons entering the articulation area of the scoop.
75.1403	002	Notice of safeguard requiring that all water sumps at this mine, located where miners may travel, will be provided with adequate walkways with handrails to prevent miners from falling into the water sumps.
75.1403	003	Notice of safeguard to maintain all travelways and haulageways free of extraneous materials to facilitate safe travel of men and materials.
75.1403	004	Notice of safeguard that water shall not be allowed to accumulate in escapeways, travelways and haulageways above 12 inches in depth.

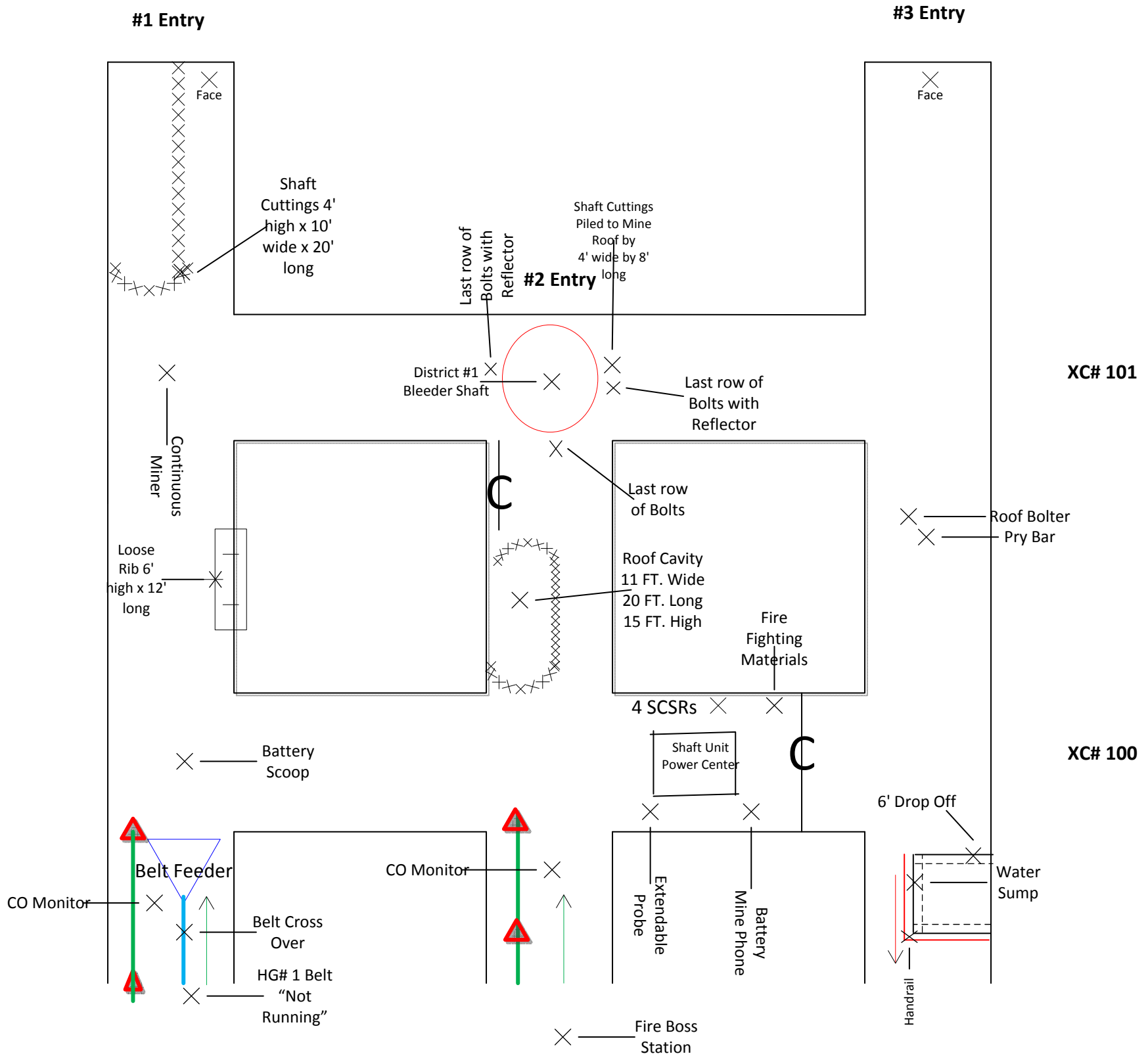
# 2017 National Preshift Contest Shaft Unit Blank Map



## 2017 National Preshift Contest Keys to the Problem

Location	Hazard	Corrective Action	Notes
No. 1 Entry outby x-cut 100	89 FPM Air coming up belt	Danger Card	75.350/Shaft Sinking Plan
No. 1 Entry outby x-cut 100	Belt air reading higher than Intake	Danger Card	75.350/Shaft Sinking Plan
No. 1 Entry x-cut 100-101	Loose Rib along right rib	Pulled Down	75.202(a)
No. 1 inby x-cut 101	Shaft Cuttings stored in face	Danger Card	Shaft Sinking Plan
No. 2 Entry Outby x-cut 101	Reflector not hung at last row of roof bolts	Danger Card	Shaft Sinking Plan
No. 2 Entry x-cut 100-101	Check Curtain Missing	Hang Curtain	Shaft Sinking Plan
No. 2 Entry x-cut 101	Shaft Cuttings piled to mine roof	Danger Card	Shaft Sinking Plan
No. 3 Entry outby x-cut 100	No Hailrails around water sump	Danger Card	Safeguard requiring physical barrier around sumps

# 2017 National Preshift Contest Map



## Air Readings

### Belt

Area – 9' High x 19' Wide = 171

Velocity – 89 FPM

Total = 15,219 CFM

### Intake

Area – 9' High x 18' Wide = 162

Velocity – 80 FPM

Total = 12,960 CFM

### LOCC

Area – 9' High x 18' Wide = 162

Velocity – 150 FPM

Total = 24,300 CFM

**PRE-SHIFT EXAMINATION CONTEST  
JUDGES DISCOUNT SHEET**

CONTESTANT \_\_\_\_\_ NO. \_\_\_\_\_ \*DENOTES DISCOUNT

**FIRE BOSS STATION**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT CHECK IN	___	___*	1
(2) DID CONTESTANT CHECK SCSR	___	___*	3
(3) DID CONTESTANT CHECK METHANE/OXYGEN DETECTOR	___	___*	19
(4) DID CONTESTANT HAVE ALL REQUIRED EQUIPMENT	___	___*	2
(5) WAS CONTESTANT EQUIPMENT MAINTAINED IN OPERABLE CONDITION	___	___*	14
(6) DID CONTESTANT CHECK OUT	___	___*	1

**NO. 1 ENTRY**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT TAKE GAS TEST IN ENTRY	___	___*	5
(2) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(3) DID CONTESTANT DTI ENTRY WHERE GAS TEST WAS MADE	___	___*	4
(4) DID CONTESTANT TAKE BELT AIR READING	___	___*	7
(5) DID CONTESTANT TAKE PROPER AIR READING	___	___*	8
(6) DID CONTESTANT IDENTIFY BELT AIR OVER 50% OF INTAKE *	___	___*	11
(7) DID CONTESTANT DANGER BELT AIR OVER 50% OF INTAKE *	___	___*	12
(8) DID CONTESTANT IDENTIFY BELT AIR LESS THAN 100 FPM	___	___*	11
(9) DID CONTESTANT DANGER BELT AIR LESS THAN 100 FPM	___	___*	12
(10) DID CONTESTANT IDENTIFY SHAFT CUTTINGS	___	___*	11
(11) DID CONTESTANT DANGER SHAFT CUTTINGS	___	___*	12
(12) DID CONTESTANT IDENTIFY LOOSE RIB	___	___*	11
(13) DID CONTESTANT PULL LOOSE RIB	___	___*	12
(14) DID CONTESTANT IDENTIFY ROOF & RIB TEST IN ENTRY	___	___*	10
(15) DID CONTESTANT TAKE GAS TEST AT THE FACE AREA #1 ENTRY	___	___*	5
(16) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(17) DID CONTESTANT DTI THE FACE AREA #1 ENTRY	___	___*	4

\*Contestant may Identify and Danger Belt or Intake entry for this condition.

**XC #100 BETWEEN 1 AND 2 ENTRIES**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT EXAMINE/TRAVEL	___	___*	18

**LAST OPEN XC #101 BETWEEN 1 & 2 ENTRIES**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT EXAMINE/TRAVEL	___	___*	18
(2) DID CONTESTANT TRAVEL PAST ROOF SUPPORT AT SHAFT	___*	___	16

**PRE-SHIFT EXAMINATION CONTEST  
JUDGES DISCOUNT SHEET**

CONTESTANT \_\_\_\_\_ NO. \_\_\_\_\_ \*DENOTES DISCOUNT

**NO. 2 ENTRY**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT TAKE GAS TEST IN ENTRY (CAVITY)	___	___*	5
(2) DID CONTESTANT DTI ENTRY WHERE GAS TEST WAS MADE	___	___*	4
(3) DID CONTESTANT TAKE A PROPER GAS TEST (With Probe)	___	___*	6
(4) DID CONTESTANT TAKE INTAKE AIR READING	___	___*	7
(5) DID CONTESTANT TAKE PROPER AIR READING	___	___*	8
(6) DID CONTESTANT IDENTIFY ROOF & RIB TEST IN ENTRY	___	___*	10
(7) DID CONTESTANT IDENTIFY CURTAIN MISSING	___	___*	11
(8) DID CONTESTANT CORRECT CURTAIN MISSING	___	___*	12
(9) DID CONTESTANT TAKE GAS TEST AT SHAFT *	___	___*	5
(10) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(11) DID CONTESTANT DTI THE SHAFT AREA #2 ENTRY	___	___*	4
(12) DID CONTESTANT IDENTIFY NO REFLECTORS AT SHAFT	___	___*	11
(13) DID CONTESTANT PLACE DANGER SIGN AT SHAFT	___	___*	12
(16) DID CONTESTANT TRAVEL PAST ROOF SUPPORT AT SHAFT	___*	___	16

\*Gas Test maybe made at any approach to the shaft.

**XC #100 BETWEEN 2 AND 3 ENTRIES**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT TAKE GAS TEST AT POWER CENTER	___	___*	5
(2) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(3) DID CONTESTANT DTI ENTRY WHERE GAS TEST WAS MADE	___	___*	4

**LAST OPEN XC #101 BETWEEN 2 & 3 ENTRIES**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT DETERMINE CORRECT SECTION VENTILATION	___	___*	7
(2) DID CONTESTANT TAKE LAST OPEN CROSSCUT AIR READING IN PROPER LOCATION	___	___*	9
(3) DID CONTESTANT TAKE PROPER AIR READING	___	___*	8
(4) DID CONTESTANT IDENTIFY CUTTINGS PILED TO ROOF	___	___*	11
(5) DID CONTESTANT PLACE DANGER SIGN CUTTINGS	___	___*	12
(6) DID CONTESTANT TRAVEL PAST ROOF SUPPORT AT SHAFT	___*	___	16

**PRE-SHIFT EXAMINATION CONTEST  
JUDGES DISCOUNT SHEET**

CONTESTANT \_\_\_\_\_ NO. \_\_\_\_\_ \*DENOTES DISCOUNT

**NO. 3 ENTRY**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT TAKE GAS TEST IN ENTRY	___	___*	5
(2) DID CONTESTANT DTI ENTRY WHERE GAS TEST WAS MADE	___	___*	4
(3) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(4) DID CONTESTANT IDENTIFY ROOF & RIB TEST	___	___*	10
(5) DID CONTESTANT TAKE GAS TEST IN THE FACE AREA #3 ENTRY	___	___*	5
(6) DID CONTESTANT TAKE A PROPER GAS TEST	___	___*	6
(7) DID CONTESTANT DTI THE FACE AREA #3 ENTRY	___	___*	4
(8) DID CONTESTANT IDENTIFY MISSING SUMP WALKWAY HANDRAIL	___	___*	11
(9) DID CONTESTANT DANGER SUMP WALKWAY HANDRAIL	___	___*	12

**GENERAL RULES**

	<u>YES</u>	<u>NO</u>	<u>RULE</u>
(1) DID CONTESTANT RUN	___*	___	13
(2) DID CONTESTANT EXAM ALL ACCESSIBLE AREAS	___	___*	18
(3) DID CONTESTANT COMPLY WITH GENERAL RULES NOT COVERED IN THE DISCOUNT SHEET	___	___*	19

**PRE-SHIFT - CERTIFIED EXAMINER'S REPORT**

Use Indelible Pencil or Ink

Report Shall Be Signed When Finished

Date of Examination: \_\_\_\_\_ Time From: \_\_\_\_\_ AM/PM To: \_\_\_\_\_ AM/PM

Section/Area: \_\_\_\_\_ Reported Outside? Yes \_\_\_ No \_\_\_ Time: \_\_\_\_\_ AM/PM

Reported By: \_\_\_\_\_ Received By: \_\_\_\_\_ (INITIAL)  
(AUTHORIZED PERSON)

**Pre-shift required within 3 hours prior to any 8 hour interval.**

Location	Hazardous Condition	Action Taken	CH4
No. 1 Face	Shaft Cuttings 4 ft high 10 ft wide 20 ft long	Dangered off	
No. 1 Entry	Loose Rib 6 ft high 12 ft long	Scaled, Pulled or Removed	
No. 1 Entry (Belt) or No. 2 Entry (Intake)	More than 50 percent of air delivered from belt entry	Dangered off	
No. 1 Entry (Belt)	Belt air velocity less than 100 fpm	Dangered off	
No. 1 Entry			0.00%
No. 1 Face			0.00%
No. 2 Entry	No reflector at last roof support near Shaft	Dangered off	
No. 2 Entry	Shaft cuttings piled to mine roof	Dangered off	
No. 2 Entry / Roof Cavity			0.00%
No. 2 Entry	Curtain Missing	Installed	
No. 2 Entry Shaft			0.00%
Power Center			0.00%
No. 3 Entry	No walkway with handrails at Water Sump	Dangered off	
No. 3 Entry			0.00%
No. 3 Face			0.00%

**Air Measurements**

Location	CFM	Location	CFM
LOCC	24,300	Belt Entry Intake	15,219
		Primary Intake	12,960

Remarks:

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Signed by Pre-shift Certified Examiner

Date

Certification Number