# *SECTION VI*

# *2008*

# *PRESHIFT*

# *RULES*

**2008 PRESHIFT CONTEST RULES**

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Section VI

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**RULES GOVERNING 2008 PRESHIFT CONTEST**
**AND INTERPRETATIONS OF DISCOUNT CARDS**

1. Contestant must be a bonafide employee of a mining company or contractor and be certified as a mine foreman or examiner in the state in which the contestant is employed. Proof of certification must be presented at time of registration. Card, certificate, etc. will be accepted. If such proof is not provided prior to the contest, the participant will not be allowed to compete.

2. Judges will be employees of the Mine Safety and Health Administration (MSHA) and other assisting State Agencies.

3. Contestant must bring safety cap, safety shoes, mining belt with identification tag, check-in tag, MSHA approved cap light, SCSR, anemometer, watch (with second hand or equivalent), an MSHA approved device to detect explosive and dangerous gases and/or deficiencies of oxygen, and a device for testing the roof. If a contestant cannot provide an SCSR due to air travel restrictions, you should notify the registrar upon sending the registration form and an SCSR will be provided. All other materials needed to work the problem will be furnished, such as distance/area measuring devices, tool aprons, and materials for placing dates, times and initials, writing instruments, paper, and a clipboard for recording their work. Contestant may bring personal items to the field provided the items do not contain prohibited information. Prohibited information means, but is not limited to, rules, calculating charts (i.e. ventilation formulas), personal ("reminder") notes.

4. A contest point system has been established. Failure to find/correct deficiencies or hazards, if necessary, failure of the contestant to verbally identify work, tests, or action being taken to the judge(s), or failure to report on the record page will be assessed discounts. The accumulation of discounts will establish the contestants ranking in the contest. Three scoring segments will be used during the contest: written examination, underground, and the preshift record page.

5. Upon completion of the problem, the contestant will be given an opportunity to review the discounts and have the right to appeal in writing to the Chief Judge. Twenty minutes will be allowed for review and preparation of written protests. The Chief Judge will have final decision on all appeals.

6. All contestants will take a written examination. The examination will consist of 10 fill-in-the-blank questions (with not more than two consecutive blanks), taken from the published statements of fact. Contestants will have 10 minutes to complete the written examination. Two points will be discounted for each incorrect statement.

7. A fireboss station will be provided. Two stopwatches, or one clock and a stopwatch will be at the station. The contestant will start one, and a stopwatch will be started and carried by a Judge. When the contestant arrives at the field a blank map, a written statement and mine plans required for working the problem will be provided. The contestant will have five minutes to review the material prior to starting the clock and the underground portion of the contest.

8. A maximum working time of 30 minutes will be in effect for the underground portion of the contest. The contestant will be notified when there is one minute left to complete the problem.

9. The portion of the mine to be examined will be addressed in a briefing prior to working the problem.

10. If during the problem, date, time and initials need to be posted, the information shall be written on an index card and the card placed on the mine floor at the required location. The contestant's personal watch time will be the time used on the card.

11. The contestant's personal watch time will be the time used on the preshift record for time of examination.

12. Placards, objects, mine plans and/or maps will be used to indicate equipment, conditions or potential hazards. The lettering on the placards will be at least one-inch in height. Contestants will not remove any items or placards unless specifically addressed in the problem. For contest purposes only, all violations of 30 CFR, Part 75 will be considered a hazard.

13. During the working of the problem, contestants shall correct conditions or hazards, where means or materials have been provided. Where conditions can be corrected by physically moving an item or ventilation device, such action need not be indicated on an index card. Where conditions are not corrected, danger signs or other types of indicators will be shown on index cards and placed on the mine floor.

14. The contestant will be provided linear feet, width and height, or area dimensions, where air measurements are required during the working of the problem. Air measurements will be simulated, using the traverse method, for a minimum of 60-seconds. Calculators or similar devices will be allowed. Only whole numbers will be required to be stated in the preshift record.

15. Once the underground segment is completed, the contestant shall exit the mine, check out, stop the clock, and will be escorted to the assigned area to fill out a preshift record page. Contestant will not be allowed to re-enter the mine. Contestant will have 20-minutes to complete the preshift record. Upon completion of the record, the contestant will turn-in the preshift record page, all index cards, and the section working map. Discounts will be assessed for each item not recorded within the allotted time.

16. In the event an unforeseen problem arises, the time clock will be stopped, and the contestant will be removed from the field and taken to a neutral area. Following correction, the contestant will be returned to the field to complete the problem, and the time clock will be restarted. The field judges, prior to the completion of the problem, will adjust any discrepancies in the working time. At the completion of the problem the contestant will be notified of any corrective actions concerning the working time.

17. In the event the contestant uses all provided cards, or the contestant's marker fails, the contestant should immediately notify the judges. Items provided for that purpose will be given to the contestant.

18. No unauthorized person(s) will be allowed in the isolation area, or on the contest field, without permission from the Chief Judge.

19. Discounts will be assessed if the preshift record page is not legible to the judges.

20. In the event of a tie, underground discounts will be the first tie breaker, preshift record will be the second, written examination will be the third, and the elapsed working time will be the fourth tie breaker.

21. All discounts assessed to the contestant will be concurred by the two Field Judges.

22. Judges should not talk with contestants during the working of the problem, other than to convey required information.

23. Immediately after briefing, no communication between contestant and any outside party will be allowed. Contestants receiving contest information after entering the isolation area will be disqualified.

24. Contestant may take reference material into the isolation area. The contestant may not use any of this reference material when working the problem or taking a written exam. Contestants will not carry personal notebooks into the contest area.

25. All gas detecting instruments used or taken into the mine must be tested in the presence of the judges at the fireboss station after starting the clock. (Gas detecting instruments will be left on during the working of the problem.) If an instrument fails during testing, and the contestant takes corrective action with a backup instrument that has been tested in the presence of the judges, no discount will be assessed.

26. Persons wishing to photograph or video tape the contest must receive permission from the Chief Judge.

## INTERPRETATION OF THE FIELD SCORECARD

1. Failure to check in after starting the clock and check out prior to stopping the clock. ____2

   Contestant must start the time clock before commencing any work other than reviewing the materials provided by the judges.

2. Failure to have required equipment ____2

   Required equipment is safety cap, safety shoes, mining belt, cap light, SCSR, anemometer, watch (with second hand or equivalent) and a MSHA approved device to detect explosive and dangerous gases and/or deficiencies of oxygen, and a device for testing the roof. Contestant should have required equipment prior to leaving isolation area. A discount will be assessed for each omitted item.

3. Failure to visually examine self-contained self-rescuer prior to entering the mine ___2

4. Failure to place date, time, and initials at required locations ___2 (each location)

   Date, time and initials are to be placed where methane tests are required and on danger signs.

   Date means correct month, day, and year.

   Where hazard(s) are found and gas tests are required at the same location, only one date, time and initial is required.

5. Failure to make necessary gas tests where required, each omission ___3 each gas (maximum 6 each location)

   Methane and oxygen deficiency tests shall be taken:

   A. In all roadways, travelways, and track haulageways where persons are required to work or travel.

   B. In all working places on the section and at areas where mechanized mining equipment is being installed or removed.

   C. In areas where persons are scheduled to work, prior to the preshift examination.

   D. At faces or last row of permanent roof support in rooms driven over 20-feet off intake aircourses.

   E. At seals along intake aircourses.

   F. At underground electrical installations, except; small hand held portable pumps, permissible pumps and associated permissible switchgear, and submersible pumps.

   G. Immediately inby approaches to worked-out areas along intake aircourses, and at high spots where methane is likely to accumulate, and equipment will be operated in the area during the shift.

H. In all accessible face areas, at the face or last row of permanent roof support.

I. Where the ventilation has been changed to remove excess methane (1% or greater) and/or oxygen deficiency (less than 19.5%), the examiner shall retest at the location of all placards where the gases were encountered during the initial examination.

6. Improper procedure when testing with gas detectors, testers, and indicators ____2 (Possible 4 discounts at each location)

A proper test for methane and oxygen deficiency shall require the following action by the examiner:

METHANE - Detector shall be held at eye level or higher
OXYGEN DEFICIENCY - Detector shall be held at waist level or below

The contestant will verbally identify each test to the judge(s).

7. Failure to determine correct section ventilation and proper direction of the ventilating current ____10 (Each Location)

Failure to determine by air measurement, the direction and volume of the ventilating air current. Failure to determine correct direction of air current at regulators. Less than 9,000 cubic feet per minute (cfm) measured in the last open crosscut, or the intake end of a pillar line will be considered a hazard, unless otherwise stated in the written problem or other written instructions. Failure to assure section ventilation is maintained as required by the approved ventilation plan.

8. Improper procedure when taking an air measurement ____2(Each Occurrence)

Failure to traverse the entry/crosscut perpendicular to the ventilating current. Failure to measure the air current for 60-seconds.

9. Not taking the required air measurement in the proper location prior to stopping the clock. (regulation) ____5

The person conducting the preshift examination shall determine the volume of air entering each of the following areas if anyone is scheduled to work in the areas during the oncoming shift:

A. In the last open crosscut of each set of entries or rooms on each working section and areas where mechanized mining equipment is being installed or removed. The last open crosscut is the crosscut in the line of pillars containing the permanent stoppings that separate the intake air courses and the return air courses.

B. On each longwall or shortwall in the intake entry or entries at the intake end of the longwall or shortwall face immediately outby the face and the velocity of air at each end of the face at the locations specified in the approved ventilation plan.

C. At the intake end of any pillar line –

1. If a single split of air is used, in the intake entry furthest from the return air course, immediately outby the first open crosscut outby the line of pillars being mined; or

2. If a split system is used, in the intake entries of each split immediately inby the split point.

10. Improper procedure when examining and testing the mine roof ____2

Failure to visually examine the mine roof. A discount will be assessed where the contestant fails to verbally state his/her visual examination of the mine roof at least one time in each entry.

11. Failure to find hazardous condition ____10

Discount will be assessed if contestant fails to verbally identify hazardous conditions intended to be part of the problem.

12. Failure to take corrective action when finding a hazardous condition ____10 each omission

Hazardous conditions must be corrected by the contestant during the examination when means or materials are available. However, preshift examiners are not required to install any roof support. If means or materials are not available, dangering off a hazardous condition will be considered acceptable corrective action.

13. Traveling at more than walking speed ____5

Concurrence by two (2) judges required.

14. Contestants equipment not maintained in operable condition, each infraction _____2

Would include cap lamp, methane detector/oxygen indicator, anemometer and SCSR. Discount will be assessed if gas detection instrument fails during the working of the problem and no other instrument is provided. Concurrence by two (2) judges required.

15. Any act by the examiner, which may result in an explosion of an explosive air/gas mixture ___30

A. Changing conditions of the section ventilation in such a manner that an explosive mixture is moved over an ignition source.

B. Encountering an explosive air/gas mixture in a face, or other area, and failing to take proper corrective actions.

An explosive mixture will be present when the methane is between five and fifteen percent inclusively and the oxygen is 12.1 percent or greater. Both methane and oxygen concentrations will be shown on the placards.

16. Any act by the examiner, which may endanger himself/herself or others___ 20

A. Entering or remaining in an area known to contain an irrespirable atmosphere. Atmospheres containing less than 19.5 percent oxygen are irrespirable. Concentrations must be shown on the placard.

B. Encountering an adverse roof condition and failing to take adequate protective actions. Protective actions would be posting a readily visible warning or a physical barrier.

C. Traveling under unsupported or unsafe roof. (Self explanatory)

D. Traveling through water over knee deep. (For contest only)

17. Contestant not following the written instructions for working the problem _____ 15

18. Failure to examine all accessible areas, each location _____5 (Maximum 20 points)

19. Failure to comply with general rules not covered in the discount sheet____2

## INTERPRETATION OF THE PRESHIFT RECORD

1. Preshift record page not legible ___2

   Discount assessed to each illegible article; two judges must concur, not to exceed 30.

2. Failure to record location of examination ___2

   Each omission.

3. Failure to record hazardous conditions ___2

   Each omission.

4. Failure to record action taken to correct hazardous conditions ___2

   Applies only to a condition(s) that could be corrected by the contestant during the examination where a means or materials were available, each omission.

5. Failure to record date and time of examination ___1

6. Failure to record results of air measurements ___1

7. Failure to record results of methane ($CH_4$) examinations ___1

   Each omission

8. Failure to certify by signature ___1

9. Failure to date entry of signature ___1

**STATEMENTS OF FACT**
**PRESHIFT CONTEST**

1. A preshift examiner must be certified or registered in the State in which the coal mine is located. (Mine Act 1977, Sect. 318(a))

2. Preshift examinations must be conducted within 3 hours preceding the beginning of any 8-hour interval during which any person is scheduled to work or travel underground. (30 CFR 75.360(a)(2))

3. The lower explosive limit for methane is 5 volume percent. (MSHA 2102, p. 31)

4. Air being used to ventilate areas where persons work or travel shall contain at least 19.5 percent oxygen. (30 CFR 75.321(a)(1))

5. Ventilation is utilized to dilute, render harmless, and carry away flammable, explosive, noxious, and harmful gases, dusts, smoke, and fumes. (30 CFR 75.325, 330(b)(1))

6. When taking a reading with an anemometer, a commonly used method is to traverse the airway. (MSHA 2103, p. 29)

7. Low barometric pressures may cause methane to migrate outward from pillared areas into active workings.

8. About 21 percent of normal air is oxygen. (MSHA 2102, p. 27)

9. Where the mining height permits and the visual examination does not disclose a hazardous condition, sound and vibration tests, or other equivalent tests, shall be made where supports are to be installed. (30 CFR 75.211(b))

10. Methane is lighter than air. (MSHA 2102, pp. 13, 31, & 67)

11. To test for methane, use a methane detector or chemical analysis. (MSHA 2102, p. 33)

12. High voltage cables and transformers shall not be located inby the last open crosscut and shall be kept at least 150 feet from pillar workings. (30 CFR 75.1002)

13. The upper explosive limit for methane is 15 volume percent. (MSHA 2102, p. 31)

14. Methane detectors should be calibrated with a known methane-air mixture at least once every 31 days. (30 CFR 75.320 (a))

15. Each underground coal mine operator shall ensure that at least 2 miners in each working section on each production shift are proficient in the use of all fire suppression equipment available on such working section, and know the location of such fire suppression equipment. (30 CFR 75.1101-23(b)(1))

16. Carbon monoxide has no taste or odor. (MSHA 2102 p.87)

17. Tests for methane concentration should be made at least 12 inches from the roof, face, ribs, and floor. (30 CFR 75.323(a))

18. The end of permanent roof support shall be posted with a readily visible warning, or a physical barrier shall be installed to impede travel beyond permanent support. (30 CFR 75.208)

19. Roof support materials, sequence of roof support installation and spacing, are stated in the Approved Roof Control Plan. (30 CFR 75.221)

20. All electric face equipment taken into or used inby the last open crosscut shall be permissible. (30 CFR 75.503)

21. Escapeways shall be clearly marked to show the route and direction of travel to the surface. (30 CFR 75.380(d)(2))

22. No person other than certified examiners may enter or remain in any underground area unless a preshift examination has been completed for the established 8-hour interval. (30 CFR 75.360(a)(2))

23. Ventilation controls are used underground to properly distribute air to all sections of the mine. (MSHA 2103, p. 11)

24. Tests for oxygen deficiency shall be made by a qualified person with MSHA approved oxygen detectors maintained in permissible and proper operating condition. (30 CFR 75.320(b))

25. The maximum 8 hour exposure level for carbon monoxide is 50 ppm. (Source to be added)

26. The minimum open crosscut air requirements also applies to sections which are not operating but are capable of producing coal by simply energizing the equipment on the section. (30 CFR 75.325(b))

27. Lubricating oil and grease kept underground shall be stored in fireproof, closed metal containers. (30 CFR 75.1104)

28. The results of the preshift examination must be recorded in a book, provided for that purpose on the surface, before any persons other than the examiners may enter any underground areas. (30 CFR 75.360)

29. All fire suppression devices shall be visually inspected at least once each week by a person qualified to make such inspections. (30 CFR 75.1107-16(a))

30. Preshift examinations are made by persons designated by the operator. (30 CFR 75.360(a)(1))

31. A bar for taking down loose material shall be available in the working place or on all face equipment except haulage equipment. (30 CFR 75.211(d))

32. The operator must establish 8-hour intervals of time subject to the required preshift examinations. (30 CFR 75.360(a)(2))

33. In exhausting face ventilation systems, a mean entry velocity of at least 60 feet per minute will reach each working face where coal is being cut mined or loaded. (30 CFR 75.326)

34. Test holes, spaced at intervals specified in the roof control plan, shall be drilled to a depth at least 12 inches above the anchorage horizon of mechanically anchored tensioned roof bolts being used. (30 CFR 75.204(f)(2))

35. Before implementing an approved revision to a roof control plan, all persons who are affected by the revision shall be instructed in its provisions. (30 CFR 75.220(d))

36. A minimum quantity of 3,000 cubic feet per minute shall reach each working face where coal is being cut, mined, drilled for blasting, or loaded. (30 CFR 75.325)

37. Self-contained self-rescuers are used to protect the wearer from the effects of irrespirable atmosphere.

38. The quantity of air reaching the last open crosscut of each set of entries or rooms on each working section and the quantity of air reaching the intake end of a pillar line shall be at least 9,000 cubit feet per minute unless a greater quantity is required to be specified in the approved ventilation plan. (30 CFR 75.325(b))

39. Rock dust applications to the roof, ribs, and floor shall be maintained to within 40 feet of the working face, except in those areas where the dust is too wet or too high in incombustible content. (30 CFR 75.402)

40. The results of preshift examinations may be called out to a responsible person on the surface, or carried to the surface by the examiner. (30 CFR 75.360)

41. Oxygen detectors shall be calibrated at the start of each shift that the detectors will be used. (30 CFR 75.320(b))

42. Chemical extinguishers shall be examined every ~~six~~ 6 months and the date of the examination shall be written on a permanent tag attached to the extinguisher. (30 CFR 75.1100-3)

43. Conveyor belts used to transport persons during the oncoming shift must be examined during the preshift examination. (30 CFR 75.360)

44. High spots where methane is likely to accumulate, over haulageways where equipment will travel must be examined during the preshift examination. (30 CFR 75.360)

45. Any area of the mine where a hazardous condition is observed shall be posted with a conspicuous danger sign where anyone entering the area would pass. (30 CFR 75.360(e))

46. Methane tests and the examiner's certification with date, time and initials, shall be made at seals located along intake aircourses. (30 CFR 75.360)

47. A visual examination of the roof, face and ribs shall be made immediately before any work is started in an area and thereafter as conditions warrant. (30 CFR 75.211(a))

48. Low barometric pressures may cause seals to leak the sealed atmosphere outward into adjacent airways. (Miner's Circular 36, Bureau of Mines, 1948)

49. Regulators are used in mine ventilation to regulate airflow to meet the individual needs of each air split. (MSHA 2103, p. 20)

50. A sightline or other method of directional control shall be used to maintain the projected direction of mining in entries, rooms, crosscuts and pillar splits. (30 CFR 75.203(b))