Southern Regional Mine Rescue Contest

May 14th and 15th, 1999

SOUTHERN REGIONAL MINE RESCUE CONTEST
MAY 14 & 15, 1999
SOLUTION

1. The mine rescue team will be pre-briefed on the problem prior to moving to the fresh air base. The team will receive the briefing by a taped version that will be the same for all teams. They will look at the briefing text and receive a narrative of the text which will include the team briefing statement and the mine information sheet. They will also be given the information as to what will happen once they arrive at the fresh air base. After the narrative information is given to the team they will be given a copy of the same information to study for ten minutes. They will be able to take any notes they want for future reference.

2. On arriving at the fresh air base the team will be introduced to the judges and after the clock is started they will be again given the mine information sheet and the team briefing statement. No questions will be answered as to the briefing information except if there is a term they do not understand, this will be explained. Questions will be answered only as required by the rules.

3. The team will then check their equipment and the fresh air base including the 2 shafts. The #1 shaft is down cast and has no problems and a check of the shaft will reveal that the shaft has no fire or water problems at the bottom. Clear air is indicated on the placard at the shaft station. At the #2 shaft there will be dense smoke. The air readings at the shaft will indicate **02-18.5%, CO-10,000 PPM, NO2- 45 PPM, CH4-0.0%.** The check of the shaft will indicate no problems with the shaft. With that the team should be prepared to go underground.

4. The team should prepare to enter the mine through the #1 shaft. When the team asks for the cage to be spotted at the fresh they will be informed by the #1 judge that the cage is on its way to the surface. When the cage arrives at the surface the mine foreman will get off the cage. At this time the team captain should stop the foreman and check him out for possible injury and to get any possible information that he might have. The foreman will not have any injuries and he will hand them the following statement if the team asks him for information.

Foremen statement

I was checking ground conditions in the 1 east heading when I heard a ground fall in the vicinity of 4x-cut. Shortly thereafter I noticed smoke in 2 east. I don't know if anyone is left underground or not I hope that everyone got out as the smoke was getting pretty thick. I turned the main fan off because I was afraid that it would feed to much air to the fire.

This is all the information that the foreman has if he is asked any additional questions he will answer I don't know.

5. After the foreman is secured with personnel at the fresh air base the team will travel underground. Upon arrival at the shaft station on the 1000 ft. Level and before exiting the cage the team captain must test for loose at the shaft station. The team will take a gas check at the landing. The air in this area is clear. The team must make a team check once all members are off the cage. The phone at the shaft station is operational and should be checked by the team before leaving the area.

6. Upon entering the 1x-cut in 1 east the team will not that the fan and man door closed with a window. To the south of the intersection they will not an open door into the electric room. The team should take gas readings at the intersection.

7. The team then should proceed south through the open door into the electric room. Once in the room they will note 4 switches. **The main fan switch is off, the aux. Fan switch is off, the drill switch is on and the sump pump switch is on.** They will also note that the door on the opposite side of the room is closed. At this time the team may elect to close the door behind them and open the closed door.

8. After opening the door the team will encounter smoke in the 2 east and 1x-cut. The team must immediately count off before entering the smoke. **gas readings in this intersection are O2-18%, CO- 11,000 PPM, NO2- 45 PPM, AND CH4 0.0%.** the team will then continue in 1x cut toward 3 east. Where they will encounter water ankle deep water. The team may elect to check the water for current. No current is noted in the water.

9. Upon entering the 3 east and 1x-cut they will note a water ditch that is full of water and a phone. **The gas readings in this intersection are O2 18.5%, CO-10,000 PPM, NO2 45 PPM, AND CH4 0.0%.** When the team checks the phone at this intersection the surface will inform them that they started getting an odor of rotten eggs. At this time the team should sample for **H2S AND THE READINGS WILL BE 5PPM.** With this being a non gassy mine the team must notify the surface of the presence of an explosive gas. The team can tie into the bottom of the #2 shaft.

10. the team then should retreat out of the mine up the #1 shaft. The team will then enter the mine down the #2 shaft. Once at the bottom of the shaft the team can advance into the 3 east drift or they may elect to retreat out of the mine and continue their exploration through the #1 shaft. The remainder of this solution will be worked as though a team continues exploration through the #1 shaft.

11. The team will descend the #1 shaft and proceed to 1x-cut. The team will then address the man door in the fan stopping. The door will be closed but is equipped with a window that they can look through. The team will notice that the door on the other side of the fan stopping is also closed. At this point the team can open the door and enter the man way beside the fan. The team must close the door behind them before opening the second door. As the team captain opens the door on the east side of the fan he must check the back and ribs for loose. Upon entering the 2x-cut the will take the required gas checks. This will be last time that gas checks are referred to on

exploration. Teams are required to take gas reading at each intersection. The team may elect to stretch out 25' toward 3x-cut where they will see an air and water header.

12. The team may elect to travel in 2x-cut toward 2 east. They will encounter a check curtain which can be traveled through. As they travel through the check curtain they will encounter smoke at this point the team must count off before entering the smoke. Upon entering the 2x-cut and 2 east intersection they will encounter the timber line area. The team will then tie back to 1x-cut and 2 east intersection. The team should then proceed to the 3 east drift to keep the all areas explored in a systematic manner.

13. When exploring the 3 east drift the team will notice the ditch to their right that is full of water and the underground storage area. In the storage area they will find square set timbers, 3 sets of stopping material, and an auxiliary fan with vent bag and a power cord. The team can then continue exploration in 3 east. After entering 3x-cut in 3 east the team will attempt to tie back to the 2 east drift. They will encounter a concrete permanent stopping. The team will then retreat back to the 2 east drift and will continue exploration.

14. When the team arrives at the 3x-cut in 2 east the team will tie back to the permanent stopping. The team may elect to continue exploration in 3x-cut toward 1 east where they will notice a downed check curtain. On the north side of the downed curtain the team will notice that the smoke is lighter than in 2 east drift. After tying in the 1 east drift at 3x-cut the team may elect to explore in 1 east.

15 as the team advances in 1 east they will encounter an injured miner. The miner will have second and third degree burns on his hands, arms, and chest. The team must get the miner under oxygen and properly treat the burns. The miner will be semi conscious and in shock and will not be able to communicate with the team. There will be loose roof in the area to the immediate east of the injured miner and the team must be careful not to get under the loose while treating the patient. Once the injuries are treated the injured will be transported to the fresh air base.

16. On re-entry into the mine down the intake shaft the team can proceed east in 1 east drift to 4x-cut. This intersection they will note the loose roof. The team can then attempt to travel 4x-cut toward 2 east where they will encounter that the passage is caved tight. The team may then elect to explore to the heading of 1 east where they will note a drill in the face. The team will then retreat back to 3x-cut and then travel toward 2 east.

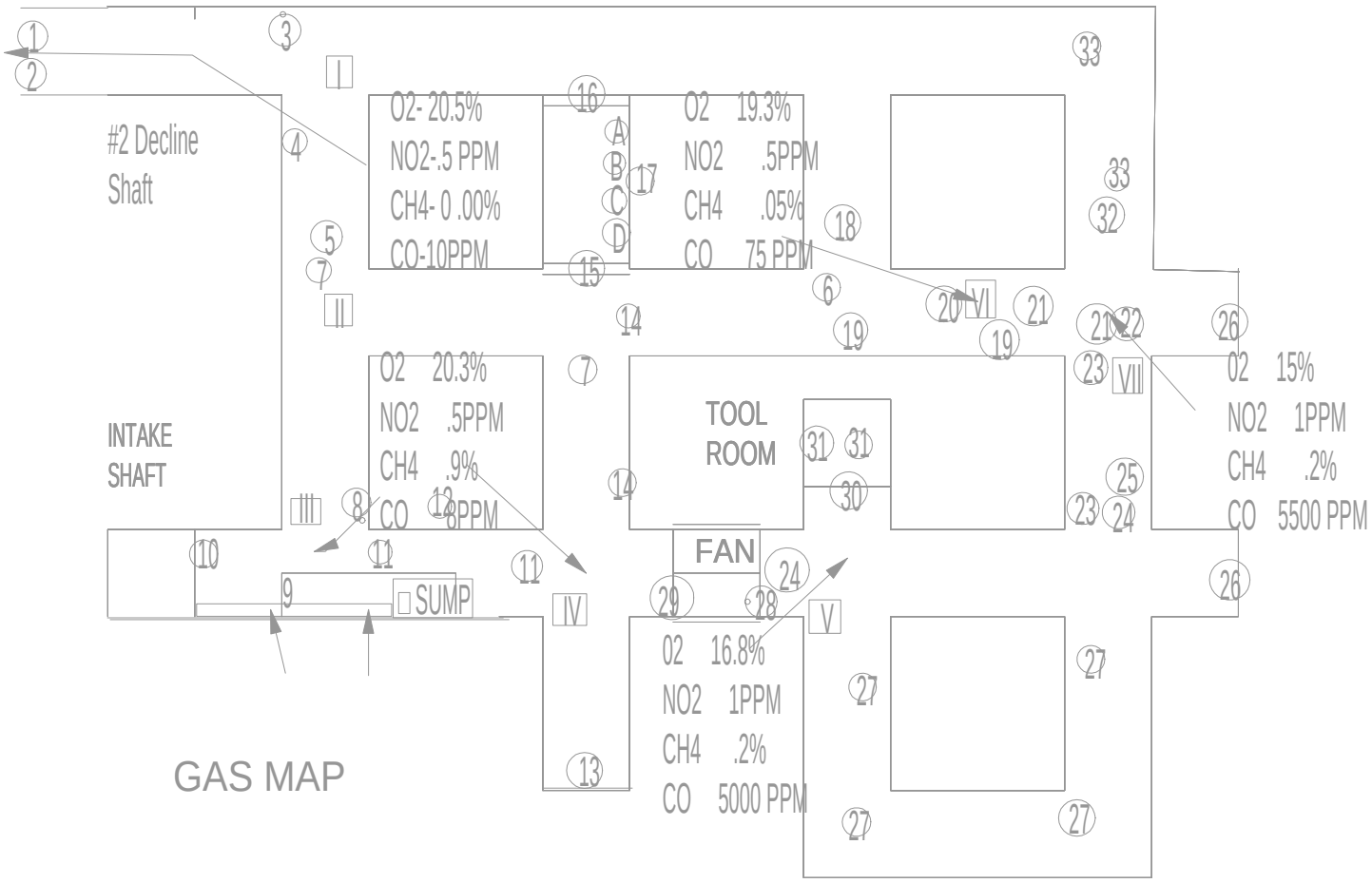
17. As the team explores 2 east drift they will encounter intense heat between 3x-cut and 4x-cut. At this point the team must travel to the underground storage area to retrieve stopping material and construct a seal with a regulator in an attempt to seal the fire. At this time the team must attempt to find all other access to the fire and attempt to extinguish or seal the fire. The team will then retreat to 1 x-cut in 2 east and then travel toward the heading in 3 east.

18. When the team arrives at 4x-cut in 3 east the team will attempt to tie in to 2 east drift but will be stopped by intense heat. At this point the team will need to construct a seal with a regulator in 4x-cut between 2 east and 3 east.

19. The team then can explore the stub drift to the south of 3 east and then continue exploration toward the heading of 3 east. As they approach the heading they will encounter a barricade. When the team attempts to make contact with the miner behind the barricade they will receive 4 pulls on the life line from the fresh air base. At this time they must immediately retreat toward the shaft. If the team stops to call the fresh air base on the phone located at 3 east and 1x-cut they will be discounted with a team endangerment for using a non permissible phone with an explosive gas present (H2S). The team should precede to 1 east where they can use this phone as it is in fresh air or they may elect to return to the surface. When they contact the fresh air base they will be told that after the fire was sealed with regulators that the smoke exiting the mine had decreased but in the last few minutes the smoke had increased in intensity. Upon returning underground the team will find that the stopping they built in 2 east had burnt down and the fire was continuing to burn in the timberline. The team must then decide what to do, they have one more set of stopping material and may attempt to build another stopping or they can ask for the high expansion foam generator located in the surface warehouse. If they build the stopping it will also burn out as they approach the barricade. If they ask for the foam generator they can hook it up to the air and water header located in 1 east and pump high expansion foam into the fire area. This action will control the fire and allow the team to continue exploration.

20. The team should then advance back to the barricade. They will be able to make contact with the miner behind the barricade. He will tell them that he is ok and that the air is good behind the barricade. The gas readings in front of the barricade are to high for the team to enter or to build a seal. With the fire extinguished and the mine explored the team can request that the main fan be turned on to help clear the mine of smoke and gases. 1 east and 2 east drifts will clear of smoke but the area in front of the barricade will not due to the caved tight area and the stopping built by the team.

21 at this time the team should retreat back to the storage area and retrieve the auxiliary fan, vent bag and power cord. They can hook the cord up in the power center and set the fan in 1x-cut and then extend the vent bagging toward the barricade. When the fan is turned on it will clear the air in front of the barricade. At this time the team can enter the barricade and conduct a primary and secondary survey of the miner. He will be ok and can be walked out bare faced. While the team is conducting the survey on the miner the captain can finish exploring the 3 east drift. When the patient is ready to take to the surface the team will retreat out of the mine. They will turn the patient over to the fresh air base and will still have to account for one more missing miner. The team may assume that the miner burned in the fire. After they make this assumption they can turn in the map and stop the clock.


#2 Decline
Shaft
O2- 20.5%
NO2-.5 PPM
CH4- 0 .00%
CO-10PPM
O2 19.3%
NO2 .5PPM
CH4 .05%
CO 75 PPM
O2 20.3%
NO2 .5PPM
CH4 .9%
CO 6PPM
TOOL
ROOM
O2 15%
NO2 1PPM
CH4 .2%
CO 5500 PPM
INTAKE
SHAFT
FAN
SUMP
O2 16.8%
NO2 1PPM
CH4 .2%
CO 5000 PPM
I
II
III
IV
V
VI
VII

GAS MAP

PROBLEM ORIENTATION

SOUTHERN REGIONAL MINE RESCUE CONTEST
MAY 14 & 15, 1999
The Harry Anderson Mine.

THE TEAM WILL BE PREBRIEFED ON THE PROBLEM PRIOR TO ARRIVING AT THE FRESH AIR BASE. THEY WILL BE GIVEN AN OPPORTUNITY TO OBSERVE THE TAPED INFORMATION AND TO STUDY THE TEAM BRIEFING INFORMATION FOR 10 MINUTES.

1. When the team arrives at the fresh air base introduce yourself to the team as the mine manager and #1 judge and introduce #2 & #3 judges to the team.

2. Provide the team with the following instructions.
   (A) I will give the team captain and the fresh air base attendant a copy each of the Team Briefing Information and Mine Map. No briefing questions will be answered by the Mine Manager concerning the team briefing statement. The mine manager will respond to questions only as required by the rules while working the problem.
   (B) The fresh air base attendant and alternate will be required to locate at a designated location where they can study the map and team briefing information. They can assist the team and answer any questions the team may ask. they cannot go down the shaft with the team unless he becomes a member when the replace a team member.
   (C) I recommend that you unfold the map and review it with the team briefing information.
   (D) You will start the clock before reviewing the Team Briefing Information, mine information & Mine Map.

3. Caution - Fresh Air Base Attendant and Mine Rescue Team Alternates are not to speak to anyone during the working of the problem. The fresh air base attendant my talk to the team members and the Judging Officials.

4. Ask if they understand these instructions? If not repeat items #2 & 3.

5. When they verify understanding the instructions start the clock then present the team briefing information sheet and map to the team.

TEAM BRIEFING STATEMENT

You have arrived at the Harry Anderson Underground Limestone Mine. The mine is owened and operated by the Harry Anderson Corporation. High grade limestone ore was discovered in this area during oil drilling exploration some years ago.

TheHarry Anderson Mine is being operated on a single level. The mine opened by 2 vertical shafts extending to the 1000 ft. level. The Number 1 shaft is for men, supplies and the number 2 shaft is the production shaft use for skipping ore.

The mine is located in a major fault Zone. Ground control has been a major problem. Square set timber has been used to control the roof through out the foulted zone. These areas appear on the mine map.

BOB ADD THE INFORMATION ON THE FIRE AS YOU KNOW IT AND THE # OF MISSING MINERS

If you are ready and willing the service of your mine rescue team is needed. It is now 4:30 PM, your team will be the first team to enter the mine. We want you to give us a damage report extinguish or seal all fires, account for all missing miners and map all accessible areas of the mine. The hoist has been checked out and is working ok.

Mine Information

Geology The mine is located in the sedimentary rocks of the _____formation is from 8 to 10 ft. thick. The formation is a high quality lime stone formation.

Gas The mine does not have a history of methane. The mine is not classified as gassy.

Water The mine 1000 foot level has consistently produced about 300 gallons of water per minute. The sump pump normally handles the inflow of water that comes from the face regions drifts via the water ditches. **THE SUMP IS 12 FT DEEP**.

Waterlines There are water lines with manifolds located through out the mine. You will find manifolds or headers located at the # 1 shaft. The line has been extended to 3 Xcut in 1 drift. The water is used for dust control and fire protection.
The sump pump water line underground runs from the sump to the surface via the main shaft. **The line will easily handle the volume of water produced from the sump locatedat the #2 shaft. The pump has controls next to the sump, at the substation and on the surface.**

Airlines There is a 2-inch diameter air line down the No. 1 shaft. There are air manifolds at the head of each Xcut and the #1 shaft stations. The air lines are used to operate air driven drills and air Tuggers. The air lines are charged by a surface compressor that produces 1000 cubic feet of air per minute at 120 pounds per square inch.

Electricity The underground electric power is on. A 4160 volt power feeder cable runs down the air shaft to a portable transformer and feeder Sub-station located in _____Xcut. It services the entire underground mine. **We have duel controls and can control the power from either the surface or underground**.??? **The power is on and available for use**.

Ventilation The #1 shaft is down cast. The #2 is shaft is upcast The mine ventilation system operates on

negative pressure. A 50 hp axi-vane fan is located in an air lock in # 1 drift at 1 Xcut. The fan can be controlled from both the surface and underground.

Mining Equip. All mining equipment is electric, air and Diesel powered.

Notification **ALL FEDERAL, STATE AND LOCAL OFFICIALS HAVE BEEN NOTIFIED**.

Backup Team We expect a backup team to arrive shortly. They should be here by the time you get ready to go underground.

Mine Map The mine map was up-to-date as of the of yesterday.

Other Mines We know of no other mines in the area.

Explosives Explosives are available and are not stored underground.

Materials All available equipment and materials to work the problem is located at the storage area underground or in the surface warehouse the material in the mine is identified by placards.
At present there is: 3 sets of stopping material, square set timbers, Roof bolts (4 and 6 ft) A jackleg drill and a stopper, foam generator, an auxillary fan, ventbag, power cable with nip, saws and hammers and nails.

Hoist The man hoist has been checked out and is working ok. The skip pocket is assessable through a manway at the shaft.

Guards Guards have been posted at the mine entrance. **THE POWER CONTROLS ARE IN THE ON POSITION AND ARE GUARDED..**

Roof Support Most roof support is by roof bolts and square set timber.

Lis

Timber Yard There is 2 by 4 timber, brattice cloth, support timber, and cribbing material available underground. **At the present time we have stored this material in the foot wall tail drift past 4 Xcut.**

Phone's There is a phone located at bottom of the #1 shaft and one at the power centering 1Xcut. During any emergency the phone has a direct line to the manager's office on the surface. You may contact him at any time from the mine phone.

Shop There is a small shop located at the intersection of the hanging wall and footwall drifts.

SOUTHERN REGIONAL MINE RESCUE CONTEST
25 QUESTION EXAMINATION
MAY 16TH & 17TH, 1999

Company Name_____ Team Name_____
Your Team Postion_____ You Name_____
Discounts___

1.The basic principle of mine ventilation is that air always moves from__pressure regions to __Pressure regions.

a. Natural to mechanical
b. Low to high
c. Return to intake
d. high to low
e. A & d above

Ans c 2203 page 8

2. When either water or foam fire extinguisher methods are used for fighting fires__May be detected.

a. Hydrogen
b. Oxygen
c. Methane
d. Acetylene

Ans a 2202 page 37.

3.For mine application velocity is always measured in feet per minute.

a. True
b. False

Ans a 2203 page 32

4. If an anemometer reading is taken for less the 1 minute, the volocity reading will have to converted to feet per second.

a. True
b. False

Ans a 2203 page 30

5. Your team is at the fresh air base, chemical analysis has shown appeciable amounts of oxides of nitrogen. You should excpect:

a. PVC or conveyor belt burning.
b. Penitration of oil or gas well.
C. Detonation and burning of explosives.
d. Burning of truck tires.

Ans d 2202 page 29

6. A decision to alter ventilation is made by.

A. The mine rescue team
B. The mine manager
C. The backup team
D. None of the above

Ans d Module 2203 pg. 25

7. The correct formula for calculating the quantity of airflow in cubic feet per minute is.

QUANTITY (ft 3) = AREA (ft 3) X VELOCITY (ft/min.)

A True.
B False.

Ans b Module 2203 pg. 32

8. 8. Cold air will deffuse more quickly then hot air.

a True.
b False.

9. The briefing committee is generally composed of.

A. Company officials
B. Federal officials
C. State and union rep. Where applicable.
D. A&B
E. All of the above

Ans e Module 2204pg. 24

10.In multi-level mines teams usually explore _____ first.

A. Stopes
B. Headings
C. Track drifts
D. Shops
E. Refuge chambers

Ans. c Module 2204 pg. 39

11. What is the common distance fire fighters are away from the fire when fighting fires with high expansion foam.

A. 1000 feet
B. 750 feet
C. 500 feet
D. 250 feet
E. All of the above

Ans. c Module 2205 pg. 17

12. If a fire begins to back up against the intake air in search of oxygen you can.

A. Seal the intake
B. Seal the exhaust
C. Seal both sides with a regulator
D. Put up a hurdle brattice

Ans d Module 2205 pg. 27

13. After temporary seals are erected, a waiting period of about _____ is recommended before begining construction of permanent seals.

A. 2 days
B. 96 hours
C. 1 week
D. 72 hours
E. 1 day

Ans d Module 2205 pg. 43

14. Which injury has the highest priority.

A. Fractured arm, hand, or foot
B. Moderate heat exhaustion
C. Third degree burns involving less than 2% of the body
D. Obviously dead (D. O. A.)

Ans. b Module 2206 pg. 8

15. The main task of rescue teams in a recovery operation after a fire or explosion is to.

A. Recover bodies
B. Map damage
C. Re-establish ventilation
D. None of the above

Ans c Module 2207 pg. 5

16. Bare face exploration can be conducted providing:

a. The teams' apparatus is available under ground for immediate use.
b. A back up team is being assembled on the surface to explore conditions in the mine.
c. The need to gain knowledge to quickly establish the extent of damage and determine the point where apparatus teams can continue the exploration.
d. Non of the above.

Ans c.page 7, 2204

17. Asphyxiating gases

a. can, in all cases, be tasted, smelled, or seen.
b. cause suffocation.
c. cause the metal parts of an apparatus to corrode.
d. do not produce an oxygen-deficient atmosphere.

Ans b page 19, 2202

18. An elevated concentration of nitrogen in mine air can be harmful because:

a. it can lower the oxygen content of the air.
b. it is highly explosive.
c. it is highly toxic.
d. all of the above.

Ans. a page 93, 2202

19 A temporary bulkhead should be erected far enough into a passageway (at least 4 to 6 feet) to leave room:

a. to have a new fresh air base.
b. for a permanent bulkhead to be built later.
c. for supplies to be stored.
d. none of the above.

Ans. b [Page 36], Module 2203
20. Under normal circumstances permanent bulkheads should be built in good air, so they could be built by barefaced crews rather than mine rescue teams.

A. True.
b. False.

Ans. a page 38, 2203

21. Air locks are used by mine rescue teams:

a. to establish a fresh air base.
b. when opening a door or knocking out a bulkhead behind which conditions are not definitely known.
c. before opening a barricade in bad air behind which trapped miners may be located.
d. all of the above.

Ans. d page 38, 2203
22 Air locks are used by mine rescue teams:

a. to establish a fresh air base.
b. when opening a door or knocking out a bulkhead behind which conditions are not definitely known.
c. before opening a barricade in bad air behind which trapped miners may be located.
d. all of the above.

Ans. d, page 38, 2203
23.Debriefings are held to:

a. Inform news reporters of developments.
b. Inform family members of developments.
c. Review the rescue team's findings after they have returned from underground.
d. All of the above.

Ans. C, page 75, 2204
24.When survivors suffering from physical and/or psychological trauma are sorted this sorting is commonly referred to as the "triage" system.

a. True
b. False

Ans a.page 7,2206
25. Progressive, or stage ventilation is:

a. Setting up auxiliary fans and ventilating the areas in stages.
b. Using line brattice to accomplish the ventilation in face regions.
c. Reventilation of a sealed area in successive blocks by means of air locks.
d. none of the above.

SOUTHERN REGIONAL MINE RESCUE CONTEST

25 QUESTION EXAMINATION
MAY 16TH & 17TH, 1999

ANSWER SHEET

1. Ans c 2203 pg 8
2. Ans a 2202 pg 37.
3. Ans a 2203 pg 32
4. Ans b 2203 pg 30
5. Ans d 2202 pg 29
6. Ans d 2203 pg.25
7. Ans b 2203 pg.32
8. Ans b 2202 pg 12
9. Ans e 2204 pg.24
10. Ans. c 2205 pg.17
11. Ans d 2205 pg.27
12. Ans d 2205 pg.43
13. Ans d 2105 pg 46
14. Ans. b 2206 pg.8
15. Ans c 2207 pg.5
16. Ans c 2204 pg 7
17. Ans b 2202 pg 19
18 Ans. a 2202 pg 93
19. Ans. b 2203 pg 36
20. Ans. a 2203 pg 38
21 Ans. d 2203 pg 38
22. Ans. e 2204 pg 28
23. Ans. c 2204 pg 75
24. Ans. a.2206 pg 7
25. Ans. c 2207 pg 10

FIRST AID DISCOUNT SHEET #3 JUDGE

ALL OF THE CHECKS BELOW MUST BE MADE IN THE ORDER INDICATED BY THE NUMBERS

PRIMARY SURVEY

_____1. Establish responsiveness.
_____2. Position victim.
_____3. Check Breathing.
_____4. Check Pulse.
_____5. Visually check for bleeding.

PRIMARY SURVEY THERE WILL BE A 4 POINT DISCOUNT FOR ANY ERROR MADE ON THIS SURVEY. CONDUCT SECONDARY SURVEY AS INDICATED BELOW. PUT A CHECK IN FRONT OF EACH NUMBER WHERE THEY ARE OUT OF SEQUENCE OR FAIL TO CONDUCT THE TEST.

ANY MISTAKE IN THE SURVEY WOULD BE A 4 POINT DOCK. THE #3 JUDGE CAN HAVE A TOTAL OF 8 POINTS FOR THESE 2 SURVEYS.

SECONDARY SURVEY

____1. Neck - Gently feel and look for any abnormalities. Check for medical alert necklace.

NOTE: THE FORMAN WILL BE PALE AND SWEATY HE WILL BE WEARING A DIABETIC NECKLACE AFTER THE FOREMAN GETS OFF THE CAGE HE WILL SAY I THOUGHT I WAS DONE FOR HE WILL HAND THE NOTE TO THE TEAM CAPITAIN AND THE FALL TO HIS KNEES. THE TEAM MUST DO AN INTITIAL SURVEY AND A SECONDARY SURVEY IF THEY FINE THE NECKLACE THEY MUST TREAT HIM FOR INSULIN SHOCK. (SE THE BACK PAGE) TT

_____2. Head - Without moving the head, check for blood in the hair, scalp lacerations, and contusions. Gently feel for possible bone fragments or depressions in the skull.
_____3. Chest - Check the chest for cuts, impaled objects, fractures, and penetrations (sucking) wounds by observing chest movement.
_____4. Abdomen - Gently feel the abdominal area for cuts, penetrations, and impaled objects, observing for spasms and tenderness.
_____5. Lower back - Feel for deformity and tenderness.
____6. Pelvis - Check for gratin, tenderness, bony protrusions, and depressions in the pelvic area.
_____7. Genital region - Check for and obvious injury.
_____8. Lower extremities - Check for discoloration, swelling, tenderness and deformities which are sometimes present with fractures and dislocations. Stroke soles of feet for paralysis.
_____9. Upper extremities -They must Check for discoloration, swelling, tenderness, and deformities which are sometimes present with fractures and dislocations. Stroke palms for paralysis. Check for medical alert bracelet.
____10. Back surfaces - Injuries underneath the victim are often overlooked. Examine for bony protrusions, bleeding, and obvious injuries.

_____11. As the victim is unconscious, the team will have to secure victim to the stretcher with bandages or straps one on body and one around legs (minimum) then cover with blanket. Raise the feet and tie the hands.

#3JUDGE

AS THE FIRST AID ATTENDENT CHECKS THE FOREMAN AFTER HE FALLS TO HIS KNEES THE FIRST THING THE MUST DO IS POSITION THE FOREMAN SO THEY CAN CHECK HIM OUT. THE FOREMAN IS CONFUSED AND COMBATIVE.

WHEN THEY CHECK HIM THE FOREMAN WILL TELL THEM HE IS DIZZY. WHEN THEY CHECK HIS PULSE YOU WILL TELL THEM IT IS RAPID, AND WEAK. HE HAS PROFUSED PERSPIRATION, HIS SKIN IS CLAMBY AND COLD. HIS BREATH IS SHALLOW

GAS PLACARDS

I
O2 18.5%
CO 10,000 PPM
NO2 45 PPM
CH4 0.0%

I
O2 18.5%
CO 10,000 PPM
NO2 45 PPM
CH4 0.0%

II
O2 17%
CO 12,000 PPM
NO2 50 PPM
CH4 0.0%

II
O2 17%
CO 12,000 PPM
NO2 50 PPM
CH4 0.0%

III
O2 16%
CO 18,000 PPM
NO2 50 PPM
CH4 0.0%

IV
O2 17%
CO 15,000 PPM
NO2 45 PPM
CH4 0.0%

V
O2 18%
CO 11,000 PPM
NO2 45 PPM
CH4 0.0%

VI
O2 19.1%
CO 200 PPM
NO2 3 PPM
CH4 0.0%

VI
O2 19.1%
CO 200 PPM
NO2 3 PPM
CH4 0.0%

GAS PLACARD FOR #1 JUDGE

H2S 5 PPM

PLACARDS

1
INTAKE SHAFT

2
CLEAR AIR

3
CLEAR AIR

4
PHONE

5
DOOR OPEN

6
MAN DOOR CLOSED
WITH WINDOW

7
MAN DOOR CLOSED
WITH WINDOW

8
AIR AND WATER LINE

9
CHECK CURTAIN

10
SMOKE

11
AIR AND WATER HEADER

12
CLEAR AIR

13
LITE SMOKE

14
LITE SMOKE

15
CHECK CURTAIN DOWN

16
INJURED MINER

17
LOOSE ROOF

18
LOOSE ROOF

19
LITE SMOKE

20
CAVED TIGHT

21
DRILL

22
DOOR CLOSED

23
THICK SMOKE

24
INTENSE HEAT

25
PERMANENT STOPPING

26
TIMBER TRUCK ON FIRE

27
INTENSE HEAT

28
ANKLE DEEP WATER

29
WATER DITCH FULL

30
WATER DITCH FULL

31
PHONE

32
ANKLE DEEP WATER

33
SMOKE

34
SMOKE

35
EXHAUST SHAFT

36
STORAGE AREA

37
SQUARE SET TIMBERS

38
AUXILIARY FAN
VENT BAG
POWER CABLE

39
3 SETS OF
STOPPING MATERIAL

40
PERMANENT STOPPING

41
WATER DITCH FULL

42
BARRICADE

43
LIVE MINER

TIMBER LINE
(14 TIMES)

POWER SWITCH PLACARDS
A MAIN FAN
B AUXILIARY FAN
C DRILL
D SUMP PUMP