

NATIONAL FIRST-AID AND MINE RESCUE CONTEST, CHARLESTON, W. VA., OCTOBER 2-4, 1961

By H. F. Weaver and D. M. Alden

* * * * * information circular 8132



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NATIONAL FIRST-AID AND MINE RESCUE CONTEST,
CHARLESTON, W. VA., OCTOBER 2-4, 1961¹

by

H. F. Weaver² and D. M. Alden³

SUMMARY AND INTRODUCTION

The 19th National First-Aid and Mine Rescue Contest was held in the Civic Center, Charleston, W. Va., on October 2, 3, and 4, 1961. The meet was sponsored by the Bureau of Mines and the Joseph A. Holmes Safety Association, in cooperation with State mine inspection agencies, management and labor of the mineral extractive industries, and other groups interested in safety.

The Arrangements Committee, as authorized by the General Committee, made the necessary arrangements for conducting the 1961 contest. Members of the Arrangements Committee were: George Trevorrow (chairman), Bituminous Coal Operators' Association; James B. Benson, Southern Coal Producers' Association; Charles Ferguson, United Mine Workers of America; Harry Gandy, Jr., National Coal Association; and James Westfield, Bureau of Mines.

Eleven teams from four States participated in the 1961 mine rescue contest, and 43 teams from seven States competed in the first-aid contest. Five teams entered the combination contest and thus participated in both the mine rescue and first-aid events. The States represented and the number of teams from each State are listed in table 1. Figure 1 also shows the group participants.

TABLE 1. - States represented

State	Number of teams		
	Mine rescue	First aid	Combination
Indiana.....	0	1	0
Kentucky.....	4	5	0
Maryland.....	0	1	0
Ohio.....	0	2	0
Pennsylvania.....	2	9	2
Virginia.....	1	1	0
West Virginia.....	4	24	3
Total.....	11	43	5

¹Work on manuscript completed April 1962.

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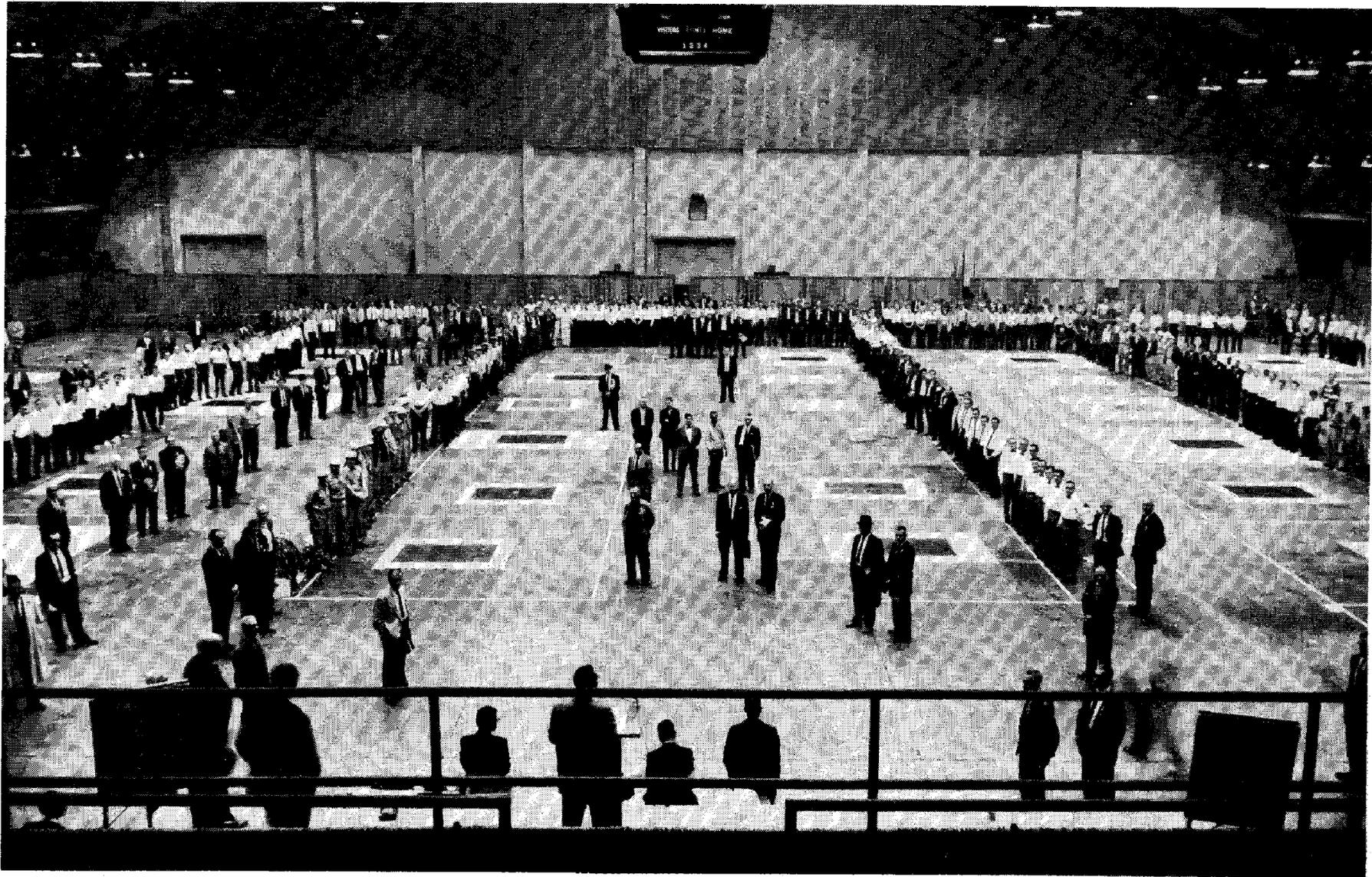


FIGURE 1. - Group Picture, 19th National First-Aid and Mine Rescue Contest.

There were again no limitations on the number of teams entering the contest from any State, district, company, or organization, provided the members were bona fide employees of the mineral extractive industries.

Although the 1961 national competition was open to teams from any mineral extractive industry, only one of the competing teams represented a noncoal operation.

As in previous national meets, this contest was conducted under general and special rules prepared by the Rules Committee and approved by the General Committee. Direction of the mine rescue and first-aid contests was supervised by the chief judges, but disagreements between the chief judges and any member of a team, judge, or other official of the contest were to be adjudicated by the Final Appeals Committee. A copy of the General Rules and Rules of Procedure of the Final Appeals Committee are included in appendix A. No appeals were made to the Final Appeals Committee of this contest.

NATIONAL FIRST-AID AND MINE RESCUE CONTEST

The first National First-Aid and Mine Rescue Contest sponsored by the Bureau of Mines was held in 1911, the year after the Bureau was organized. Twelve other national contests were held between 1911 and 1930, but none was held between 1930 and 1951. They were reactivated in 1951 and now are being held biennially. Table 2 lists all past national contests.

TABLE 2. - National First-Aid and Mine Rescue Contests

Year	Place held	First-aid teams	Mine rescue teams	Combination teams ¹	States represented
1911.....	Pittsburgh, Pa.....	41	4	-	10
1914.....	Terre Haute, Ind.....	29	8	-	3
1915.....	San Francisco, Calif.	26	11	-	12
1919.....	Pittsburgh, Pa.....	83	24	-	16
1920.....	Denver, Colo.....	73	20	-	20
1921.....	St. Louis, Mo.....	63	16	-	² 17
1923.....	Salt Lake City, Utah.	55	21	-	³ 13
1925.....	Springfield, Ill.....	55	10	-	15
1926.....	San Francisco, Calif.	44	14	-	13
1927.....	Pittsburgh, Pa.....	47	17	-	12
1928.....	Butte, Mont.....	45	12	-	11
1929.....	Kansas City, Mo.....	40	9	-	18
1930.....	Louisville, Ky.....	48	6	-	12
1950.....	Pittsburgh, Pa. ⁴	16	0	-	4
1951.....	Columbus, Ohio.....	55	14	1	10
1953.....	Fort Wayne, Ind.....	47	14	3	9
1955.....	Knoxville, Tenn.....	54	9	2	9
1957.....	Louisville, Ky.....	49	8	2	7
1959.....	Buffalo, New York....	43	9	6	8
1961.....	Charleston, W. Va....	43	11	5	7

¹Combination teams not listed before 1951. ²Includes Canada. ³Includes Mexico.

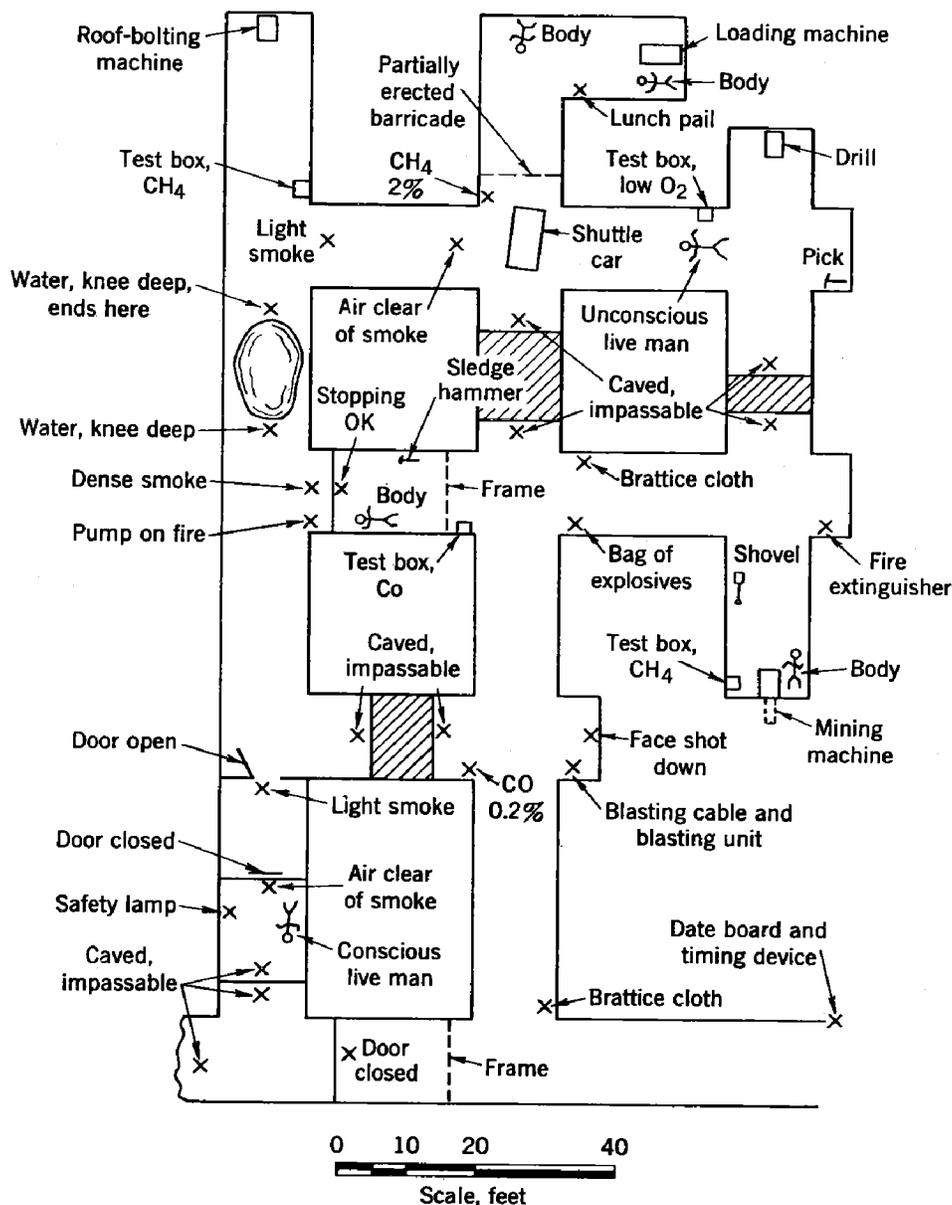
⁴This might be described as a four-state contest, held to stimulate interest in reviving national meets, and it is not counted in the total number of contests held.

REGISTRATION

The Daniel Boone Hotel at Charleston was contest headquarters. Rescue teams could register at the hotel between 1:00 p.m. and 10:00 p.m., October 1; and at the Civic Center from 7:00 a.m. to 8:00 a.m., October 2. First-aid teams could register at the hotel between 1:00 p.m. and 10:00 p.m., October 1; from 10:00 a.m. to 10:00 p.m., October 2; and at the Civic Center from 7:00 a.m. to 8:00 a.m., October 3.

MINE RESCUE CONTEST

The Mine Rescue Contest was held on October 2 on the main floor of the Civic Center; the center accommodated two mines. Time clocks, operated by the team captains, were used successfully and for the first time at a National Contest.



When registering, the team captains drew numbers to determine the order in which the teams entered the mine to work the problem. The mine rescue problem, with a working time of 30 minutes, was as follows:

A crew of five men was working in the 2 north section. This crew did not report out at the end of the shift, and the telephone is not operating.

A fire boss has entered the section to determine the trouble, and he has not returned. A fresh-air base has been established at this point. The condition of the ventilation beyond this point is not known.

The rescue team will explore the entire section if possible; it will note any unusual conditions, rescue all those living, and

FIGURE 2. - Key Map of Mine Used in Mine Rescue Problem.

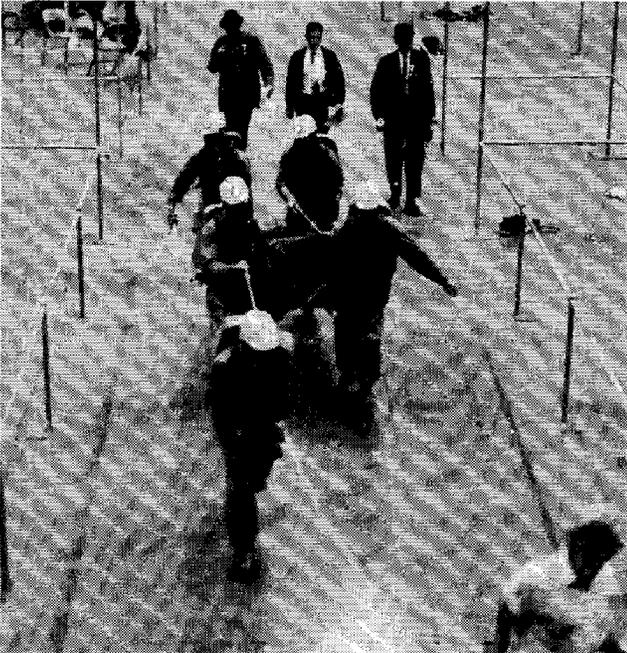


FIGURE 3. - Team Working Mine Rescue Problem.

account for the bodies of the dead. All men are presumed to be alive until proven otherwise.

Details of the mine and problem are shown on the key map in figure 2 (see also fig. 3).

The method of judging or rating the team was in accordance with the following:

- a. Written examination.
- b. Surface judges.
- c. Underground judges.

The judges were selected on the basis of their familiarity with mine rescue procedures. All were representatives of the Bureau of Mines or the

various State mining departments. A predetermined number of points was discounted for wrong answers to preliminary questions, for improper checking of apparatus, for failure to perform standard procedures during rescue and recovery work, and for improper marking of the mine map. The judges used standard discount sheets or scorecards in making these ratings. The team having the fewest discounts was declared the winner of the mine rescue contest. The team having the next fewest discounts was given second place, and so forth.

To enable all teams to be trained as similarly as possible and to assist the judges in rating team performances, a list of specific rules governing the mine rescue contest was made available before the contest to all teams and other interested persons or groups. A copy of these rules is shown in appendix C.

A list of the participating mine rescue teams, their sponsors, and the final standing of the teams is shown in table 3.

TABLE 3. - Final standing of teams in 1961 mine rescue contest

Place	Team No.	Mine or team	Captain	Company	Location	Total discounts
1	2	Mine No. 21	Harrison Sparks	Inland Steel Co.	Wheelwright, Ky.	26
2	4	No. 1 Team	Verdell Caudill	International Harvester Co.	Benham, Ky.	36
3	8	Holden Division ¹	James Adkins	Island Creek Coal Co.	Holden, W. Va.	45
4	12	Lynch District	Ted Hollin	U.S. Steel Corp.	Lynch, Ky.	49
5	11	Frick District ¹	Walter F. Vicinelly	do.	Uniontown, Pa.	53
6	9	Clinchfield mine	Edward Coffey	Clinchfield Coal Co.	Dante, Va.	56
7	7	Mine No. 21	David M. Barker	Bethlehem Mines Corp.	Jenkins, Ky.	71
8	10	No. 3 Team ¹	Albert Wagers	U.S. Steel Corp.	Gary, W. Va.	77
9	1	Harmar Mine ¹	Joseph Klaput	Harmar Coal Co.	Library, Pa.	152
10	6	No. 2 Team ¹	Archie Hopkins	Armco Steel Corp.	Montcoal, W. Va.	164
11	3	Slab Fork Mine	Manuel Acord	Slab Fork Coal Co.	Slab Fork, W. Va.	174

¹ Entered in Combination Contest.

FIRST-AID CONTEST

The First-Aid Contest, with George Trevorrow as master of ceremonies, officially opened on October 3 with the national anthem and an invocation by Reverend Alphonse Schreiber, O.F.M. Cap.

The Hon. William Wallace Barron, Governor of West Virginia, delivered the welcoming address. Then the contestants, officials, and guests were greeted by Marling J. Ankeny, Director of the Bureau of Mines and General Chairman of the Contest. Mr. Ankeny's speech follows:

On behalf of management and labor of the mineral extractive industries of the United States, the State mine inspection agencies, the Joseph A. Holmes Safety Association, and the Federal Bureau of Mines, I welcome you to the 19th National First-Aid and Mine Rescue Contest.

The first of these national contests was held 50 years ago at Pittsburgh, Pa., and the 1959 Contest was held at Buffalo, N.Y. Most of the rival teams earned the privilege to compete here by winning top honors in their respective State or district contests, and they have become known as the "World Series of Safety."

The objective of these contests is not only to impart energy, to inspire, and to accelerate interest in first-aid and mine rescue training, but to make manifest the high esteem and honor so rightfully attracted to men of courage, sympathy, integrity, and dignity.

First-aid and mine rescue training are interwoven with safety psychology. It is known that man acquires a particular quality by thinking and acting in a particular way. Learning and practicing first-aid and mine rescue procedures develops aptitudes and inclinations which lead the individual to a high degree of safety consciousness. Fifty years of Bureau of Mines experience in teaching first-aid and mine rescue to almost 2 million people has demonstrated that recipients of such training are less susceptible to accidental injury than those not so trained. The trainees in these courses necessarily study the hazards of their occupational environment and how they can be minimized or eliminated.

Warmth of emotion and strong sympathetic feelings of consideration for their fellowmen are traditional among people associated with the mineral extractive industries. This is exemplified by the quick response of First-Aid and Mine Rescue men to calls for assistance. Ready and generous in assisting others in time of pain and suffering, these are the "Good Samaritans" of our modern times.

The comfort of a trained first-aid man's voice, the easement of pain that results from proper application of first-aid treatment, the courageous rescue of disaster-trapped workmen, and the prayed-for deliverance of their loved ones demonstrate the coordination of the hand, the mind, and the heart.

I am especially pleased to acknowledge the fine cooperation of all who contributed to this contest. Without the financial support of the cooperating agencies and the unselfish time devoted by officers of the contest and members of the various operating committees, this contest could not have been possible. As general chairman of the contest, I thank everyone for his contribution.

All is in readiness, and the teams await the starting bell with enthusiastic interest. Regardless of the final outcome of this contest, each team member is considered a champion because of his increased proficiency to render service in time of dire need. Because of the necessary long hours of training to qualify for this contest, he is a safer workman, and through the avoidance of accidental injury he will add to his longevity, prevent much suffering for himself and others, and enhance the economic welfare of his loved ones.

The contest was held in the main arena of the Civic Center on October 3 and 4. The position of each team on the field was determined by a draw of numbers by the team captains at the time of registration.

Twelve problems were worked--10 for the contest and 2 for use in case of ties. (See appendix D.)

Rules governing the contest were made available to all interested persons and groups before the contest. (See appendix E.)

Participating teams, their sponsors, and the final standing of the teams are shown in table 4. The Compass No. 1 team, Clinchfield Coal Company, Clarksburg, W. Va., became the first team to win the first-aid contest twice in succession. Figure 4 shows first-aid teams in action.

One Federal judge and one State judge were assigned to each team. To make the judging as fair as possible, the judges were rotated after each problem. The number of spaces each set of two judges moved was determined by a draw of numbers (one through four) from a hat by various team captains. Supervising judges representing both the Bureau of Mines and the States were assigned to a group of several teams. Like the individual team judges, they also moved to the next group after each problem.

Proper functioning of any large first-aid contest is affected greatly by the method of distributing the problems and scorecards to the teams and of delivering the judges' scorecards to the recorders. The method of handling scorecards in this contest was similar to that followed in previous national contests; the assistants to the person in charge of the problems distributed them to the team judges, who, at the sound of the first gong, handed them to the team captains. The problem distributors also returned the scorecards to the chief distributor; he checked them off the list and then forwarded them to the scorecard examiners. All scorecards were sealed in envelopes by the judges as soon as the discounts were recorded and also by the scorecard examiners as soon as the information was completed and before the sheets were forwarded to the recorder. The contest functioned smoothly, and it was concluded with a benediction by Reverend Benjamin R. James, Jr., Pastor, Trinity Methodist Church, Charleston, W. Va.

TABLE 4. - Final standing of teams in first-aid contest

Place	Team No.	Mine or team	Captain	Company	Location	Score, percent	Discounts
1.....	39	Compass No. 1 team	Dale See	Clinchfield Coal Co.	Clarksburg, W. Va.	99.48	26
2.....	29	Ireland No. 8 mine team	Donald Tennant	Hanna Coal Co., Div. of Consolidation Coal Co.	Moundsville, W. Va.	99.38	31
3.....	41	Turner Elkhorn mine	E. F. Robinson	Turner Elkhorn Mining Co.	Drift, Ky.	99.16+	42
4.....	7	Harewood No. 1 team	James Criniti	Allied Chemical Corp., Semet-Solvay Div.	Longacre, W. Va.	99.16-	42
5.....	2	Georgetown Preparation Plant	Delmas Brown	Hanna Coal Co., Div. of Consolidation Coal Co.	Cadiz, Ohio	99.14+	43
6.....	23	Piney Fork #15 mine	Wayne Van Curen	do.	do.	99.14-	43
7.....	36	Wyoming mine	Willard Graham	Island Creek Coal Co.	Wyoming, W. Va.	99.02	49
8.....	28	No. 32 mine	Steve Urish	Bethlehem Mines Corp.	Revloc, Pa.	98.90+	55
9.....	32	No. 3 team ¹	Albert Wagers	U.S. Steel Corp.	Gary, W. Va.	98.90-	55
10.....	1	Frick District ¹	Walter F. Vicinelly	do.	Uniontown, Pa.	98.82	59
11.....	9	Idamay No. 1 team	Raymond J. Barber	Bethlehem Mines Corp.	Idamay, W. Va.	98.78	61
12.....	25	No. 1 team	Artist Henderson	Armco Steel Corp.	Montcoal, W. Va.	98.74	63
13.....	42	No. 2 team	Robert Rosenbaum	U.S. Steel Corp.	Gary, W. Va.	98.72+	64
14.....	38	Leatherwood No. 2 mine	Kenneth Williamson	Blue Diamond Coal Co.	Tilford, Ky.	98.72-	64
15.....	19	Price mine No. 1	Elmer Caudill	Inland Steel Co.	Wheelwright, Ky.	98.70	65
16.....	8	Warwick mines	George Williamson	Duquesne Light Co.	Greensboro, Pa.	98.68	66
17.....	43	Price Preparation Plant	James Blevins	Inland Steel Co.	Wheelwright, Ky.	98.66++	67
18.....	3	Holden Division ¹	James Adkins	Island Creek Coal Co.	Holden, W. Va.	98.66+	67
19.....	44	Wharton No. 2 mine	Dan Shelton	Eastern Gas & Fuel Associates, Coal Div.	Barrett, W. Va.	98.66-	67
20.....	35	Century No. 1 team	Robert H. Jeran	Bethlehem Mines Corp., Barbour Div.	Buckhannon, W. Va.	98.58	71
21.....	26	Robena Preparation Plant	Guerino Shannon	U.S. Steel Corp., Frick District	Uniontown, Pa.	98.52	74
22.....	30	Renton mine	George Truax	National Mines Corp.	Renton, Pa.	98.46+	77
23.....	11	Tralee mine	Richard Jessee	Allied Chemical Corp., Semet Solvay Div.	Tralee, W. Va.	98.46-	77
24.....	22	Division shop	Wallace Williams	Bethlehem Mines Corp.	Jenkins, Ky.	98.44	78
25.....	6	Kopperston No. 2 team	Tom Lyons	Eastern Gas & Fuel Associates, Coal Division	Kopperston, W. Va.	98.36	82
26.....	10	No. 41 team	Frank McLeary	Bethlehem Mines Corp.	Barrackville, W. Va.	98.28	86
27.....	17	Harmar mine ¹	Joseph Klaput	Harmar Coal Co.	Library, Pa.	98.22	89
28.....	31	Compass No. 2 team	James McKnight	Clinchfield Coal Co.	Clarksburg, W. Va.	98.18	91
29.....	27	Harewood No. 2 team	Floyd Booker	Allied Chemical Corp., Semet-Solvay Div.	Longacre, W. Va.	98.16+	92
30.....	4	Montour No. 4 mine	James Beck	Pittsburgh Coal Co.	Library, Pa.	98.16-	92
31.....	34	Jane Ann mines	Bob Hill	Princess Coals, Inc.	Mallory, W. Va.	98.12	94
32.....	37	Emerald mine	Porter Remington	Emerald Coal & Coke Co.	Pittsburgh, Pa.	98.08	96
33.....	14	Maple Creek mine	John E. Chambers	U.S. Steel Corp., Frick District	Uniontown, Pa.	97.72	104
34.....	18	Consol No. 32 mine	Lowell H. Kelly	Mountaineer Coal Co.	Fairmont, W. Va.	97.90	105
35.....	16	No. 4 team	Pearcy Halstead	Armco Steel Corp.	Montcoal, W. Va.	97.86+	107
36.....	21	Holden Division	Harrison Porter	Island Creek Coal Co.	Holden, W. Va.	97.86-	107
37.....	15	Foamed Slag Plant	F. J. Walsh	Bethlehem Steel Co.	Sparrows Point, Md.	97.92	114
38.....	5	Enos mine	James E. Emmons	Enos Coal Mining Co.	Oakland City, Ind.	97.56	122
39.....	20	Imperial No. 2 team	Opie Carroll	Imperial Smokeless Coal Co.	Quinwood, W. Va.	97.28	136
40.....	12	No. 3 team	Robert Hubbard	Armco Steel Corp.	Montcoal, W. Va.	97.06	147
41.....	24	No. 2 team ¹	Archie Hopkins	do.	do.	97.02	149
42.....	33	Team No. 1	Reed Johnson	Youghiogheny and Ohio Coal Co.	Van, W. Va.	96.68	166
43.....	40	Clinchfield First-Aid Team	Keith Clark	Clinchfield Coal Co.	Dante, Va.	96.66	167

¹Entered in Combination Contest.

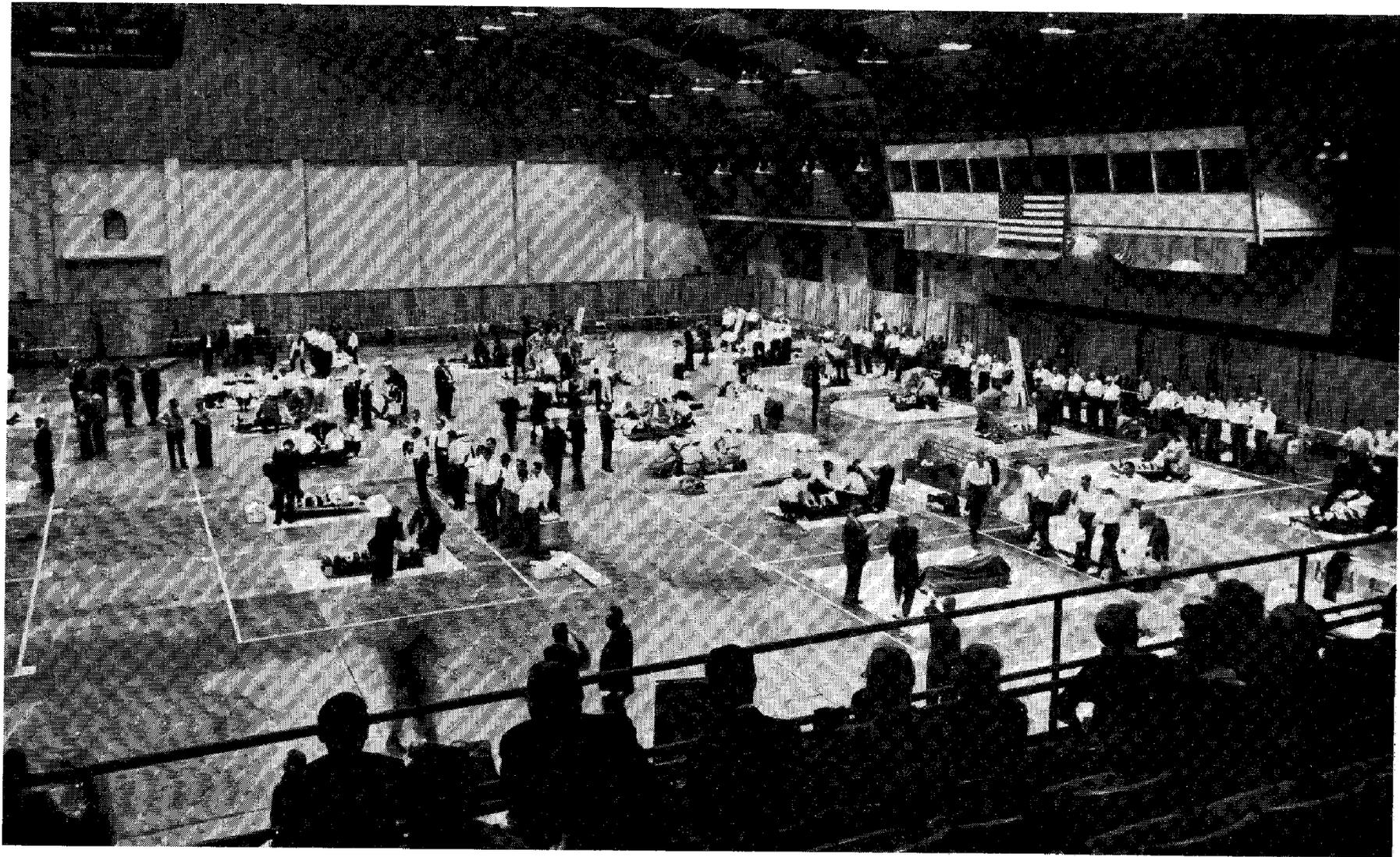


FIGURE 4. - First-Aid Teams in Action.

COMBINATION CONTEST

The combination event was limited to teams that had participated in both the mine rescue and first-aid contests. To compete in this event, the same team that participated in the first-aid contest, exclusive of the patient, had to participate in the mine rescue contest.

Table 5 gives the teams, the companies they represented, the addresses of the companies, the number of discounts received, and the standing of the teams in the combination contest.

TABLE 5. - Final standing of teams in combination contest

Place	Mine or team	Company	Location	Number of Discounts	
				First aid	Mine rescue
1	Holden Division ¹	Island Creek Coal Co.	Holden, W. Va.	67	45
2	Frick District ¹	U.S. Steel Corp.	Uniontown, Pa.	59	53
3	No. 3 Team	U.S. Steel Corp.	Gary, W. Va.	55	77
4	Harmar Mine	Harmar Coal Co.	Library, Pa.	89	152
5	No. 2 Team	Armco Steel Corp.	Montcoal, W. Va.	149	164

¹Tie between the two contestants was broken by the eleventh problem in the first-aid segment of the contest.

The standings of the teams after the contest were determined by the total discounts for the first-aid and the mine rescue events.

BANQUET AND PRESENTATION OF AWARDS

The contest was followed by a banquet at the Civic Center on the evening of October 4. The banquet was attended by 651 persons; George Trevorrow served as master of ceremonies. Appropriate trophies, banners, and individual awards were presented to the winning teams by representatives of the donors. See appendix F for a list of major awards and donors.

Trophies, which were purchased with money contributed by the following donors, were presented to the top 16 winners in first aid, the top 6 winners in mine rescue, and the top 3 winners in the combination event. The donors were:

Allegheny Ludlum Steel Corp.
 American Cyanamid Co.
 American Mine Supply Co.
 Cincinnati Mine Machinery Co.
 John A. Roebling's Sons Division
 The Colorado Fuel and Iron Corp.
 Ensign-Bickford Co.
 Fairmont Supply Co.
 Gardner-Denver Co.
 General Electric Co.

Goodman Manufacturing Co.
 Guyan Machinery Co.
 Hulburt Oil and Grease Co.
 Joy Manufacturing Co.
 Kentucky River Coal Corp.
 Long-Airdox Co.
 Mine Ventilation Systems, Inc.
 National Mine Service Co.
 Old Republic Insurance Co.
 Page Engineering Co.
 Pattin Manufacturing Co.
 Pennsylvania Department of Mines and Mineral Industries
 Watt Car and Wheel Co.
 WEMCO Division, Western Machinery Co.
 Richard M. Wilson, Sales Representative.

Individual awards to members of the first, second, and third place teams were presented by the Bituminous Coal Operators' Association, the National Coal Association, and the United Mine Workers of America.

The States of Ohio, Pennsylvania, and West Virginia provided banners for the winning teams from those States. The winners are listed in table 6.

TABLE 6. - Winners of State banners

State	Contest	Mine or team	Company
Kentucky.....	First aid	Turner Elkhorn	Turner Elkhorn Mining Co.
Do.....	Mine rescue	No. 1	Inland Steel Co.
Ohio.....	First aid	Georgetown Prepara- tion Plant	Hanna Coal Co., Division of Consolidation Coal Co.
Pennsylvania...	do.	No. 32	Bethlehem Mines Corp.
Do.....	Mine rescue	Frick district	U.S. Steel Corp.
Do.....	Combination	do.	Do.
West Virginia..	First aid	Compass No. 1	Clinchfield Coal Co.
Do.....	(1st place)		
Do.....	First aid	Ireland No. 8	Hanna Coal Co., Division of Consolidation Coal Co.
Do.....	(2d place)		
Do.....	First aid	Harewood No. 1	Allied Chemical Corp., Semet-Solvay Division.
Do.....	(3d place)		
Do.....	Mine rescue	Holden Division	Island Creek Coal Co.
Do.....	(1st place)		
Do.....	Mine rescue	No. 3	U.S. Steel Corp.
Do.....	(2d place)		
Do.....	Mine rescue	No. 2	Armco Steel Corp.
Do.....	(3d place)		
Do.....	Combination	Holden Division	Island Creek Coal Co.
Do.....	(1st place)		
Do.....	Combination	No. 3	U.S. Steel Corp.
Do.....	(2d place)		
Do.....	Combination	No. 2	Armco Steel Corp.
Do.....	(3d place)		

COST OF NATIONAL CONTEST AND METHOD OF FINANCING

Expenditures

An accurate detailed record of the cost of the national contest is not possible because much of the work that involved making prior arrangements and conducting the contest was done by representatives of various organizations without reimbursement.

The amount necessary to cover the expenses of the contest except those of the banquet, which were financed by the sale of tickets, was raised by popular subscription. Bureau of Mines personnel erected the gallery and laid out the simulated mine workings.

The following report of the treasurer shows expenditures for conducting the 1961 National First-Aid and Mine Rescue Contest (detailed invoices, statements, and so forth, retained in the treasurer's file).

Balance on hand, December 31, 1960.....	\$ 33.99
Contributions received from donors.....	6,000.00
Sale of banquet tickets.....	<u>3,265.00</u>
Total to be accounted for.....	9,298.99

Expenditures

Jarboe Printing Co.....	\$ 143.82
Grounds committee.....	176.18
Trophy mart.....	1,071.00
Publicity committee.....	75.00
Daniel Boone Hotel.....	97.80
Byron Adams (printing).....	536.52
Charleston Civic Center.....	4,782.00
Orchestra and comedians.....	105.00
Miscellaneous.....	<u>55.00</u>
	<u>7,042.32</u>
Balance on hand January 12, 1962.....	2,256.67
Prorated to donors January 17, 1962.....	<u>2,003.18</u>
	253.49
Returned by donors.....	<u>66.78</u>
Balance on deposit April 4, 1962.....	\$ 320.27

Fund Contributors

Contributions to the contest fund totaled \$6,000.00. A list of the donors follows:

Armco Steel Corp.
 Bethlehem Mines Corp.
 Big Sandy-Elkhorn Coal Mining Institute
 Buckeye Coal Co.
 Cannelton Coal Co.

Central Pennsylvania Coal Producers' Association
Crucible Steel Co. of America
Duquesne Light Co.
Harlan Mining Institute
Indiana Coal Operators Mine Rescue Station
Inland Steel Co.
Jones & Laughlin Steel Corp.
Kanawha Coal Operators' Association
Kentucky Mining Institute
Kentucky River Mining Institute
Logan Coal Operators' Association
Lynch Coal Operators Reciprocal Association
National Coal Association
National Mines Corp.
Northern West Virginia Coal Association
Ohio Coal Association
Operators' Association of the Williamson Field
Pagnotti Coal Co.
Republic Steel Corp.
Smokeless Operators Association
United Mine Workers of America
U.S. Steel Corp.
Western Kentucky Mining Institute
Western Pennsylvania Coal Operators Association

OFFICIALS AND JUDGES

The officials and judges of the 1961 Contest are given in appendix G.

APPENDIX A.--GENERAL RULES FOR CONDUCTING THE 1961
NATIONAL FIRST-AID AND MINE RESCUE CONTEST

1. The 1961 National First-Aid and Mine Rescue Contest will be held in the Charleston Civic Center, Charleston, West Virginia, October 2, 3, and 4, 1961.
2. There will be no limitations as to the number of teams admitted from any State, district, company, or organization.
3. Any organization, union, club, or local benefit society may enter a team; provided, however, that the members of all teams must be bona fide employees of the mineral extractive industries.
4. No physician or trained nurse shall be a member of a team.
5. Entries shall be submitted in writing or by wire to H. F. Weaver, Secretary, 1961 National First-Aid and Mine Rescue Contest, Federal Bureau of Mines, Room 4520, Interior Building, Washington 25, D.C., on or before September 18, 1961. Entries will not be received after September 18, 1961, except in cases where participation in the National Contest is determined through elimination processes in district, State, or other contests held on or after September 18, 1961. Teams from these contests will be permitted to enter the National Contest subsequent to September 18; provided, however, that no notice of entry of any team will be accepted after 12 o'clock noon, September 26, 1961. Entry blanks may be obtained by application to the nearest Bureau of Mines Health and Safety office and from the Contest Secretary.
6. The same team may enter the First-Aid and Mine Rescue Contests, provided that the same team members who participate in the First-Aid Contest, exclusive of the patient, must constitute the mine rescue team to qualify for combination prizes.
7. Each team entering Contests will draw a number to determine its order of performance and field location.
8. Registration of first-aid and mine rescue teams, judges, and Contest officials will be at the Daniel Boone Hotel, Charleston, West Virginia, between 1:00 p.m. and 10:00 p.m., October 1, 1961. Registration for mine rescue teams will be continued at the Charleston Civic Center, between 7:00 a.m. and 8:00 a.m. on October 2, 1961. Registration for first-aid teams will be continued at the Daniel Boone Hotel, between 10:00 a.m. and 10:00 p.m. on October 2 and at the Charleston Civic Center between 7:00 a.m. and 8:00 a.m. on October 3.
9. At the time of registering, the captain of each mine rescue team will be required to turn over to the registrars a Bureau of Mines Physician's Examination Form signed by the examining physician, showing that each member of the team has had a thorough physical examination by a qualified physician not more than 30 days before the Contest and is physically sound and capable of performing strenuous work under oxygen. Physician's Examination Form

(Bureau of Mines Form 6-141) may be obtained from the nearest Bureau of Mines Health and Safety Office and from the Contest Secretary.

10. Any team not on the field and ready, when the first event for which it is entered is announced, will be disqualified for the Contest.

11. The preliminary examination and testing of mine rescue crews and apparatus will commence at the Charleston Civic Center, at 8:00 a.m., October 2, 1961. Each team, after completing the preliminary examination, will wait in an assigned area and will be conducted to the Contest gallery when the team number is called.

12. The First-Aid Contest will begin at 9:00 a.m. on October 3 and 4. The Mine Rescue Contest will begin at 9:00 a.m. on October 2.

13. The use of any type of mechanical resuscitating device will not be permitted in the first-aid or mine rescue events.

14. After the completion of the First-Aid Contest, teams with their equipment must remain on the field until announcements are made regarding ties, if any.

15. Any team which has left the field or whose equipment is not available when called upon to compete in ties will be disqualified from competing in the tie event.

16. Possible ties in Contests will be decided by special events; if time does not permit, they may, by mutual agreement, be decided by lot.

17. Information regarding cups and prizes will be found in the program of the meet, which will be given to the teams when they register.

18. The prize-winning teams will be officially announced during the banquet on October 4.

19. Following the awarding of prizes, team ratings will be posted at a conspicuous place in the Daniel Boone Hotel.

20. All rules relating to the Contest will be rigidly enforced.

21. All hours mentioned in these rules are based on Charleston time.

APPENDIX B.--RULES FOR TAKING APPEAL TO FINAL APPEALS COMMITTEE

1. Any unresolved dispute between a chief judge and any team member, judge, or other contest official which arises, under the rules of a contest, concerning eligibility, judging, or scoring may be appealed to the Final Appeals Committee, composed of members of the Federal Coal Mine Safety Board of Review.
2. To take a dispute to the Final Appeals Committee, prompt notification must be given to the chief judge of the contest involved by the person desiring to make such appeal, specifying the exact grounds upon which the appeal is taken. The chief judge, in turn, must promptly inform a member of the Final Appeals Committee that an appeal is desired and the grounds for such appeal. Appeals may be taken in the mine rescue contest and in the first-aid contest no later than 45 minutes after the completion of the final problem in each contest.
3. The Final Appeals Committee will thereupon immediately conduct a hearing at which the dispute will be presented by the chief judge, or his designated representative, and by the other party to the dispute, or his designated representative. Witnesses may be called and permitted to testify at the discretion of the Final Appeals Committee.
4. No person except each party to the dispute, or his designated representative, and witnesses called at the discretion of the Final Appeals Committee will be permitted to attend the hearing. Time will be granted to each party in an amount to be determined by the Final Appeals Committee, depending upon the nature of the controversy.
5. As soon as possible after the hearing, the Final Appeals Committee will announce its decision, either upholding, reversing, or modifying the determination of the chief judge, from which appeal has been taken. The decision of the Final Appeals Committee is conclusive and final. The Final Appeals Committee shall be controlled by the unit rule; that is, if the Final Appeals Committee is not in unanimous agreement, the determination of the chief judge will remain standing.
6. The members of the Final Appeals Committee shall be available at the scene of the Contests to rule on disputes referred to said Committee by the chief judge.
7. All teams participating in, and officials of, the contest shall receive a copy of the foregoing rules for taking an appeal.

APPENDIX C.--RULES GOVERNING NATIONAL MINE RESCUE CONTEST, 1961

Section A.--General

1. Each team should be composed of six men, including a captain and patient. Each team member should be provided with an oxygen breathing apparatus (2-hour type) and closed lights of a type approved by the Federal Bureau of Mines.
2. Each team may bring one or more substitutes to be available for use in case of sickness or for any other reason a regular team member is unable to compete or to act as patient, if a patient is required in the problem.
3. The substitute or patient should weigh approximately the same as the average of the team members.
4. Members of mine rescue teams must not be over fifty (50) years of age. Older men will not be permitted to participate.
5. Before start of the mine rescue contest, the team captain will present to the chief judge a medical certificate dated not over 30 days prior to the contest, showing that each member of his team (including the captain) is physically sound and capable of performing strenuous work under oxygen. There will be no medical examination at the field. False teeth will be OK for contest work.
6. Each crew should provide its own apparatus, including goggles, for each member of team.
7. Goggles should be in place, but need not be worn over the eyes unless conditions actually require their use. Goggles must be worn when smoke is encountered.
8. A 2-hour self-contained breathing apparatus, approved by the Federal Bureau of Mines, must be used on the patient when respiratory protection is required.
9. Teams will be required to bring with them a sufficient supply of regenerating material and apparatus accessories for both preliminary examination and performance of problem or problems.
10. Each team will be given a preliminary written examination and will perform one or more problems. The teams will be given a problem, and 10 minutes will be allowed for its study, putting on apparatus, and other preparation before entering the mine.
11. Before a team reports to the mine entrance, all apparatus must be fully assembled and ready to wear. Oxygen bottles should be charged to 100 atmospheres or above, but not more than 150 atmospheres. It will be the team's responsibility to have the apparatus sufficiently charged with oxygen for the contest.

12. All teams must be under guard at the beginning of the contest.

13. Lifelines, tools, stretchers, brattice boards, canvas, nails, or other material necessary for constructing bulkheads or stoppings, and fire-fighting equipment (if necessary in problem) will be furnished by the field committee. However, teams will be responsible for collecting this material from the source of supply.

14. Each team should have its own Federal Bureau of Mines approved carbon monoxide detectors, C.O. testers, and flame safety lamps; however, if a team does not have such equipment it will be furnished by the field committee on request.

15. On request, apparatus will be furnished by the field committee for recovering men supposed to be entombed. Teams may, however, bring their own apparatus for this purpose if they wish.

16. All teams not performing problems will be placed in a location where they are unable to obtain information regarding the problem being worked. No person except designated officials will be allowed to communicate with the teams waiting to perform problems. Teams that have performed will not be permitted to communicate with teams awaiting their turn.

17. Accompanying officials, substitutes, or friends of a team should remain away from the team and make no effort to communicate with it before or during the preliminary examination or the working of a problem. Spectators will be limited to certain designated areas.

18. After a team leaves the mine following completion of the problem and after the judges have examined the team, apparatus, and so forth, the crew will be given 10 additional minutes to check and mark the map. (See Section D, 6)

19. The chief judge and his assistants will be men trained in the assembly, use, and care of the different types of oxygen-breathing apparatus, gas masks, etc., and will not be connected with any of the crews, employers of competing crews, or the manufacturers or agents of breathing apparatus, gas masks, or gas-detecting devices.

20. Infractions of any of the rules governing the mine rescue contest--if such infractions are not covered in the table of discounts--may, at the discretion of a committee of judges, result in the disqualification of the team or teams involved.

Section B.--Written Examination of Crews

1. The preliminary examination of crews will be held in a place designated and assigned by the contest committee and chief judge before the contest.

2. A judge or judges will examine the captain and other team members on their knowledge of the proper operation, assembly, and testing of oxygen

breathing apparatus, gas masks, self-rescuers, gas-detecting devices, and methods of procedure.

3. Teams being examined will be supervised by two or more judges, at least one of whom will be a Bureau of Mines employee. The committee of judges will work under a chief judge.

4. The judges will not explain the meaning of a question, but may explain a word or words in the question.

Section C.--Checking Apparatus and Other Procedure Previous
to Entering the Mine or Leaving the Fresh-Air Base

1. Each team will be given a written problem that will show the working time permitted.

2. Ten (10) minutes will then be allowed the team for studying the problem, inspection of apparatus and equipment, and getting under oxygen. At the end of the 10-minute period, a whistle or gong will be sounded.

3. During the 10-minute preparation period, team members must check apparatus for working condition and air tightness. High- and low-pressure tests, admission valve opening and closing tests, and whistle valve tests must be made.

4. Each team member must clear his apparatus before getting under oxygen.

5. During the 10-minute preparation periods, judges are to observe the captain and other team members as to their knowledge or proper operation, assembly, and testing of self-contained breathing apparatus and gas-detecting devices.

6. Judges should not ask questions or interfere with a team during the preparation period.

7. The man in charge of the fresh-air base will introduce himself to the team captain and will be available to answer questions or to give advice should the team encounter extremely hazardous conditions underground.

8. The team will check lifeline signals with the judge at the lifeline reel, obtain a mine map, procure and place in operating condition gas-detecting devices, and obtain a stretcher and any other materials needed for working the problem.

9. Standard lifeline signals will be used by all teams as follows:

1 Pull - "Stop" if traveling or "all right" if at rest

2 Pulls - "Advance"

3 Pulls - "Retreat (from fresh-air base to team,
"return at once.")

4 Pulls - "Distress"

10. If a mine rescue communication system or a telephone is used, it will replace use of a standard rope lifeline for signaling and contact purposes.

11. Team members must "count off" immediately before leaving fresh-air base or surface. Hand or audible counting off is acceptable. It is not necessary to "count off" on reentering the mine during the working of the problem. However, teams must "count off" upon completion of the problem.

12. Horn blasts or other audible signals between team members will be the same as given for lifeline signals.

13. Crew members will keep their lifeline taut at all times so they can give or receive signals.

Section D.--Procedure

1. Unless otherwise specified in the problem, the entire gallery, enclosed area, or roped-off space used to represent a portion of the mine should be assumed to be filled with irrespirable atmosphere.

2. The team will blow-off, and the captain will examine gauges, apparatus, and so forth at intervals not to exceed 20 minutes. The use of watches by team members will be permitted.

3. Each crew will mark the date and the captain's initials at the faces of rooms, entries, and crosscuts, impassable falls, barricades, stoppings, bodies, and the farthest point of advance in any direction. Places so marked should be indicated by the crew on the map.

4. The working time for a problem will start when the team captain starts the recording timing device at the fresh-air base and will continue until the team captain stops the timing device upon the completion of the problem.

5. A penalty for overtime for each minute or fraction will be made in accordance with the points shown on the discount sheet. A signal will be given by the timekeeper at the end of the allotted working time.

6. After the crew completes a problem and the crew members have had their apparatus examined by the judges and have removed their mouthpieces and nose clips or facepiece, 10 minutes will be allowed for checking and marking the map before the team turns it over to the judges. (See Sec. A, 18)

7. The marked map as submitted by the team will be compared with the problem by the judges and credited or charged against the team as marked.

8. As it performs a problem, each team will be rated by a committee of judges. A Bureau of Mines employee will be the chairman for the judges, and he will work under the chief judge.

Section E.--Judging

1. Only men trained in the assembly, use and care of the different types of mine rescue equipment and trained in mine rescue procedure will be used as judges.

2. Groups of two or more men will judge the written examination, and groups of five men will judge during the 10-minute preparation period. Judges will be stationed in the mine and will score the teams on the particular part of the problem assigned them. Judges will be assigned as timekeepers and will indicate on the scorecard when the apparatus was cleared. This same group or a separate group of judges will score the teams in the smokeroom and will check maps. The last group of underground judges will check the team after it leaves the mine. When a man is rescued, the judges in that area will proceed to the fresh-air base to check the patient.

3. The judge or judges will mark a scorecard for work done by each team in its specified area. All judges will sign discounts where given. Discount sheets will be marked and delivered to the scorecard examiner promptly after the problem has been worked.

Section F.--Miscellaneous

1. Problems will be on a flat layout, having no inclines or ladders, unless the team has been notified to the contrary before the contest.

2. Only problems which can be worked in 25 to 35 minutes will be given, and insofar as possible, materials rather than placards will be used in the mine.

3. In a smoke-free atmosphere, the captain and one or more team members may advance a maximum of 25 feet in by the original stopping point of the captain, or the rear man may go back from the team a like distance from his original post.

4. Roof examinations must be made from rib to rib at working faces. Roof examinations need not be made along ribs unless material or placards are along the rib.

5. Stations or stops designated on the discount sheet mean any place in the mine where the entire team is stopped for any purpose.

6. Lamp and detector tests must be made at each station or stop in the entire face area, and in boxes, if test boxes are used. Examinations should begin on the side of the place opposite the testing box, and the entire area should be examined before a test is made in the box. When a team makes a test in a box, the C.O. test should be made first.

7. Roof tests should be made by the sound-and-vibration method.

8. Examinations for gas may be made with a walking or traveling flame or with a nonluminous flame.

9. Only judges, contest officials, and team members will be permitted in the working areas. Unauthorized persons must stay out of working areas.

NOTE: Questions for the written examinations on oxygen breathing apparatus will be taken from the Bureau of Mines handbook, "Self-Contained Oxygen Breathing Apparatus."

Questions on mine gases and methods of detection will be taken from Bureau of Mines Miners' Circular 33.

Questions on protection against mine gases, other than those on oxygen breathing apparatus, will be taken from Bureau of Mines Miners' Circular 35.

Questions on mine rescue procedure will be taken from Bureau of Mines Miners' Circular 36.

Section G.--Interpretations for Judges and Team Trainers
Before Entering the Mine or Leaving Fresh-Air Base

1. Two steps are required in making the low-pressure tests when a full facepiece is used with the McCaa⁴ 2-hour breathing apparatus.

In the first step the facepiece is placed snugly against the face. The wearer inhales and exhales in it quickly several times to see that the inhalation and exhalation valves open and close freely with a clear ringing sound, which indicates the valves are working properly. The facepiece is then put on and head straps are adjusted, the opening to the inhalation tube coupling is closed, the pressure-release valve is opened, and the wearer inhales deeply. If the facepiece collapses against the face, the exhalation valve and the fixed check valve in the pressure-release valve projection close properly, and the speaking diaphragm, facepiece, and inhalation tube are free of leaks. Next, the opening of the exhalation tube coupling is closed, and the wearer exhales into the facepiece. If air escapes only around the edges of the facepiece, the inhalation and pressure-release valves close properly, and the exhalation tube is free of leaks.

In the second step, after the long tubes are properly attached to the apparatus and to the shorter corrugated tubes of the facepiece, the inhalation tube is tightly crimped near the mouthpiece with one hand while fingers of the other hand are inserted between the face and facepiece to permit inhalation of the outside air. After each inhalation of outside air the fingers are removed to permit exhalation into the breathing bag until the bag is inflated. The breathing bag may also be inflated by crimping the inhalation tube as previously described and admitting oxygen by opening the bypass.

⁴Reference to specific makes or models of equipment is made to facilitate understanding and does not imply endorsement of such devices by the Bureau of Mines.

After the breathing bag is inflated, the low-pressure test is made by crimping the inhalation tube with one hand to prevent air leaking through and by applying pressure to the bag with the other hand. This pressure is maintained long enough to be certain that there are no leaks in the cooler-regenerator, breathing bag, bypass, and breathing-tube connections.

2. The captain must examine the gages and apparatus of team members and have a team member examine the captain's gage and apparatus before entering the mine.

3. Extra apparatus must be tested for air tightness and proper working condition. High- and low-pressure tests, admission valve opening and closing tests, and whistle valve tests must be made. The tester should not put mouth-piece in his mouth while testing.

4. Team member will be discounted for breathing external air or for failure to place the nose clip promptly after evacuating the apparatus.

After Entering the Mine and Beyond Fresh-Air Base

1. (B) This section is not intended to cover horn signals but covers only lifeline signals. Signals must be given before the team leaves the fresh-air base.

2. (K) Teams must not be discounted under other sections for wrong horn signaling.

3. The course of travel should be marked by the team regardless of whether a lifeline is used. Arrows need to be marked only around corners, outby No. 5 man, but they must point toward place of entrance.

4. Items other than those listed specifically on the discount sheet need not be marked.

5. An interval of 5 to 7 feet between any two members while traveling will not be considered improper.

6. (n) Teams will not be discounted under this section unless the safety of the crew is actually endangered. Examples of endangering the team are: Traveling under unsupported dangerous roof; carrying a lighted flame safety lamp through dangerous mixtures (where methane can be detected by a flame safety lamp, the lamp should be extinguished); and changing conditions of the mine ventilation in such a manner that an explosive mixture may be created.

7. Teams equipped with telephone or mine rescue communication equipment may use, at their option, supplemental equipment, such as horns.

8. Teams using telephone or mine rescue communication system must report their intentions to the officials at the fresh-air base. All messages transmitted during the working of problem must await return of a confirming message of approval before any action is taken by a team.

9. Teams passing an opening without first checking that opening should be discounted under item (oo) on discount sheet C.

10. Teams traveling obviously faster than a normal walk (a majority of judges should concur on this) should be discounted under item (rr) on discount sheet C.

11. Teams should not be discounted if its telephone fails during the working of a problem. The team may return to its fresh-air base to make repairs or obtain a replacement telephone or a standard lifeline. Working time, however, must be charged against such delay.

12. Bodies will be designated by cards or by the use of dummies.

13. Two or more judges will be stationed at the fresh-air base when telephones or mine rescue communication system are being used.

14. When a telephone or mine rescue communication system and cable are used for communication and the system fails, the team should return to the fresh-air base, make necessary repairs, or secure a standard lifeline.

15. (oo) This does not mean that a team must stop and examine such objects as picks, shovels, and fire extinguishers, but the team should indicate on the map that such objects were encountered. Dinner pails should be examined by the team and so indicated because such pails may contain important information.

16. (mm) Stoppings, doors, and barricades require construction of temporary stoppings by the team before a team may make openings in the preexisting stoppings, doors, and so forth. This does not apply to existing drop curtains used to direct the air current.

17. Teams equipped with telephones or mine rescue communication system need not return to the fresh-air base to receive instructions or advice concerning conditions beyond their required work.

APPENDIX D.--FIRST-AID PROBLEMS

Problem No. 1

Four minutes will be allowed for reading and studying problem and assembling material.

A workman did not use the provided crossing facilities to cross a moving belt conveyor, and when he attempted to step across the conveyor, he stumbled and fell. When found by his coworkers, he was lying on his back alongside the conveyor with the following injuries: A compound fracture of both bones of the left forearm midway between the wrist and elbow, with arterial bleeding from a 2-inch wound on the outer side of the left forearm, the forearm being out of line from normal position; arterial bleeding from a 3-inch wound on the palm of right hand; a compound fracture of the left leg, with slight bleeding from a 3-inch wound on top of the left leg midway between the knee and ankle, (the leg being out of line from normal position); a 2-inch wound in the right groin; and 3-inch wound on the left side of the face. He is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes)

Problem No. 2

Four minutes will be allowed for reading and studying problem and assembling material.

A workman failed to take down or secure known loose roof and rib prior to roof bolting the working place, and when found and removed from under the fall by one of his coworkers, he is kept in the position he was found--lying on his abdominal cavity (face down). He complains of severe pain across the middle of his back and is paralyzed from the waist down. He also has the following injuries: A 5-inch wound on the center of his back midway between the neck and buttocks; 3-inch wounds on top of both shoulders; a 2-inch wound on the left temple; a 2-inch wound on the left side of the neck; 2-inch wounds on both elbows; a 3-inch wound on the inside of the left ankle from which bright red blood is spurting; and a 2-inch wound on top of the right foot with arterial bleeding. He suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes)

Problem No. 3

Four minutes will be allowed for reading and studying problem and assembling material.

An electrician is found along the haulage road lying on his abdominal cavity (face down), unconscious, and apparently not breathing. He also has the following injuries: A fracture of the lower part of the pelvis; compound fracture of both feet, with blood oozing from extensive wounds on top of both feet (the toes are not injured); burns 2 inches wide and 3 inches long on the calves of both legs; a simple fracture of the nose; and a 3-inch wound on the right knee. Revive patient by four (4) members of the team giving artificial respiration for two (2) consecutive minutes each. The change of operators is to be made without breaking rhythm. The patient regains consciousness at the end of artificial respiration, but suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes)

Problem No. 4

Five minutes will be allowed for reading and studying problem and assembling material.

Ample warning was not given before shots were fired in a crosscut near a working face, and as a result, a driller was injured by flying pieces of coal in an adjacent working place when one of the shots blew through. The driller received the following injuries: Extensive wounds on the right hand, with arterial bleeding (the fingers were not injured); a compound fracture of the right elbow, with slight bleeding from a 3-inch wound on the elbow; a 2-inch wound on the inside of the left foot (with arterial bleeding); a 6-inch wound on the outside of the right leg (with arterial bleeding); a compound fracture of the right thigh, with slight bleeding from a 3-inch wound on the outside of the thigh 5 inches above the knee; a 3-inch wound in the crotch; a 2-inch wound on the back of the left hand; a simple fracture of the left shoulder blade; a compound fracture of the nose, with slight bleeding from a 1-inch wound on the nose; and a 6-inch wound on top of the head. The patient is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes).

Problem No. 5

Four minutes will be allowed for reading and studying problem and assembling material.

A workman was found lying on his back with the following injuries: Compound fracture of the right ankle, with blood spurting from a 3-inch wound on the outside of the ankle (the ankle is out of line from normal position); a compound fracture of the left kneecap, with slight bleeding from a 5-inch wound on the kneecap; a 3-inch wound on the left hip; a compound fracture of the left forearm, with bright red blood spurting from a 2-inch wound on the outer side of the forearm (the forearm is out of line from normal position); and a compound fracture of the lower jaw, with blood oozing from a 2-inch wound on the point of the chin which is also the location of the compound fracture. The patient is conscious but suffers from physical shock throughout the problem. Treat. (Working time--10 minutes)

Problem No. 6

Four minutes will be allowed for reading and studying problem and assembling material.

A surface employee slipped and fell 20 feet to the ground from a vertical permanent ladder that was not provided with a back guard above the 10-foot level. He was found lying on his back, and he informed his coworkers that he was not able to move his hands or legs. He also had the following injuries: A compound fracture of the left leg, with arterial bleeding from a 3-inch wound on the inside of the left leg midway between the knee and ankle, the leg being out of line from normal position; two fractured ribs on the left side; a compound fracture of the left hand, with arterial bleeding from extensive wounds of the left hand (the fingers are not injured); and slight bleeding from a 3-inch wound on the right hip. He suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes.)

Problem No. 7

Three minutes will be allowed for reading and studying problem and assembling material.

A workman was involved in an accident and when found he was lying on his back with the following injuries: A dislocated right shoulder; a dislocated lower jaw; a 3-inch wound in the palm of the left hand (with arterial bleeding); a 3-inch wound on the left elbow; a fractured pelvis; a 2-inch wound on the outside of the right ankle (with arterial bleeding); and four fractured ribs on his right side. He is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--8 minutes)

Problem No. 8

Three minutes will be allowed for reading and studying problem and assembling material.

A wireman is found along the haulage road at a mine, lying on his back, unconscious, and apparently not breathing. The right arm is rigid at the shoulder; the right elbow stands off a distance of 2 inches from his body; the shoulder appears flat; and there is a marked depression beneath the point of the shoulder. The ends of bones can be seen from a 3-inch wound on the inside of the right leg 6 inches below the knee, and the leg is out of line from normal position. There is a 2-inch wound on the left eyelid, a 3-inch wound on back between shoulders, and a 3-inch wound on the outside of the left arm midway between the elbow and shoulder. Each team member (except patient) shall administer artificial respiration for 1 minute. Patient regains consciousness at end of artificial respiration but suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--7 minutes)

Problem No. 9

Four minutes will be allowed for reading and studying problem and assembling material.

A driller caught his loose clothing in a drill and when found by one of his coworkers, immediately after the accident, he was conscious and lying on his back, and complained about not being able to move his legs. He also sustained the following injuries: A compound fracture of the upper jaw, with blood oozing from a 2-inch wound on the left side at the front of the face, which is also the location of the compound fracture; a dislocation of the second joint of the index finger of the left hand, with a 1-1/2-inch wound near the dislocated joint; extensive wounds of the right hand (with arterial bleeding); multiple wounds on and between all fingers of the right hand; a 3-inch wound on the chest midway between the shoulders; two fractured ribs on the left side; a compound fracture of the left foot, with blood spurting from a 2-inch wound on the bottom of the foot midway between the toes and heel (the ends of the bones are protruding through the bottom of the foot); and a 3-inch wound on the left knee. He suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--8 minutes)

Problem No. 10

Four minutes will be allowed for reading and studying problem and assembling material.

A substantial bumping block was not provided at the mine refuse dump, and as a result, a gob-truck driver backed a rear-dump-type truck over the embankment. The driver sustained the following injuries: A backward dislocation of the left hip; a dislocation of the left wrist; a fracture of the upper third of the right arm; a compound fracture of the skull, with slight bleeding from a 2-inch wound on the center of the forehead, which is also the location of the compound fracture; a 3-inch wound on the back of the right wrist (with slight bleeding); a 1/2-inch wound on the index finger of the right hand; a simple fracture of the lower jaw; a 5-inch wound on the outer side of left arm; and extensive wounds on top of the left foot (with arterial bleeding); the toes are not injured. He is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--9 minutes)

Problem No. 11

Four minutes will be allowed for reading and studying problem and assembling material.

A scraper operator, while operating an earth scraper on a mine haulage road, was instructed to use the provided seat belt and operate the scraper with the cab side near the edge of the road for better visibility; however, he failed to follow instructions, and as a result, the scraper slipped off the edge of the road and turned over. The operator fell out of the cab as the scraper rolled over the embankment, and he was found lying on his back with the following injuries: A compound fracture of the right hip, with slight bleeding from extensive wounds on the hip; a simple fracture of the right collarbone; fracture of two ribs on right side, with slight bleeding from a 3-inch wound at the same location where the ribs are fractured; a compound fracture of the left hand, with slight bleeding from a 2-inch wound on the back of the hand; a compound fracture of the skull, with blood oozing from a 3-inch wound at the back of the head, which is also the point of the fracture; arterial bleeding from a 5-inch wound on the inside of the left thigh starting 2 inches above the knee; and a 2-inch wound of the throat (with slight bleeding). The scraper operator is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--10 minutes)

Problem No. 12

Three minutes will be allowed for reading and studying problem and assembling material.

A surface employee at a mine walked under an accidentally opened refuse chute at a preparation plant and he was knocked down by falling material dropping from the chute, and when the material was removed, he was lying on his back with the following injuries: A dislocation of the right elbow in an L-position; a simple fracture of the left hand; a broken neck; a 3-inch wound in the crotch; a compound fracture of the right foot, with bones protruding through the bottom of the foot and blood oozing from a 3-inch wound on the bottom of the foot; and a 3-inch wound on the right side of the chest 6 inches below the armpit. The surface employee is unconscious and suffers from physical shock throughout the problem. Treat and prepare for transportation. (Working time--9 minutes).

APPENDIX E.--RULES GOVERNING NATIONAL FIRST-AID CONTEST, 1961

Section A.--General

1. A team will be composed of six persons, including a captain and a patient. Additional persons may be carried as team numbers to act as alternates or substitutes.
2. If substitutes are on a team, they shall be placed in the stands or other place indicated by the chief judge. If a substitute on a team is to be used in any problem, he must line up with the team before a problem is received from team judges.
3. Full team events only will be used.
4. Each team will perform ten or more problems. This, of course, does not prevent the running off of ties between the individual teams concerned, but the points made in problems performed to decide a tie shall not be included in the total points for the whole contest.
5. The Bureau of Mines "Manual of First-Aid instruction" (1953 edition) is hereby authorized for sole reference and guidance in contest work at this meet.
6. The teams will be numbered consecutively, beginning with No. 1, and they must occupy the position assigned them on the field.
7. The use of identifying lettering on first-aid boxes and hats will be permitted.
8. Team members will not be permitted to mark a patient to indicate the location of injuries. Compress pads or gauze may be used to cover wounds temporarily; this, however, will not be construed as marking a patient to indicate injuries. Gauze pads, pieces of string, and so forth, shall not be placed on wounds or on other injuries before the beginning of the specified working time of a problem.
9. No practicing will be allowed on the field before the beginning of the contest. Teams will not be permitted to use first-aid manuals for reference purposes on the floor or field during or between the working of problems.
10. All problems will be worked in marked-off spaces which shall contain only the judges and the contesting teams.
11. No persons, except designated officials, will be allowed to communicate with teams waiting to perform problems or working problems.
12. Accompanying officials, substitutes, or friends of a team shall remain away from the team and make no effort to communicate with it during or between problems.

13. All teams and judges will be furnished copies of the contest rules sufficiently in advance of the contest so they will have time to become familiar with them.

14. The patient shall take his position at the sound of the first gong by lying on his back, head toward team and arms extended alongside his body.

15. The patient may place himself in the required position as stated in the problem to be worked, or any team member may place the patient in the required position. Shoes may be removed by the patient or by any team member upon instructions from the team captain during the 3- to 5-minute period for reading and studying the problem.

16. In problems involving artificial respiration, 12 complete strokes of the Holger Nielsen (back-pressure arm-lift) method and 12 to 15 complete strokes for the Schafer and Silvester methods of artificial respiration will be given per minute.

17. Teams shall not be discounted because of any special way of changing operators in artificial respiration as long as the rhythm is not broken.

18. The wearing of watches is prohibited.

19. The captain shall give commands to team members and relay information to team judges in a normal tone of voice. If team members relay information to team judges or to one another it shall also be done in a normal tone of voice.

20. Support of fractures or dislocations and control of bleeding cannot be done at the same time; one person must support the limb and another person shall control the bleeding.

21. If the problem reads, "prepare for transportation," patient must be loaded on stretcher unless otherwise stated in problem. If problem reads, "treat patient," stretcher does not have to be taken to the patient. Stretchers shall be in a collapsed position when taken into the working area.

Section B.--Dress

1. Teams performing will wear a two-piece uniform or similar form of dress. Short sleeved shirts may be used as a top piece of the two-piece uniform.

2. The patient shall be dressed similarly to other team members. When taking his position before each problem, he shall have his shirt and waistband of his trousers completely fastened and his belt in place.

3. The three top buttons, snaps, or fasteners on the shirt; the belt; and the top button, snap, or fastener of the patient's trousers must be opened during shock treatment.

4. The use of rubber bands or similar devices on the patient's arms, legs, and splints are prohibited.

5. Bandages must be applied over the team uniform worn by the patient.

Section C.--Material

1. Teams must bring their own first-aid material, including bandages, splints, blankets, and so forth.

2. With the exception of upper and lower extremity splints, which shall be previously sized or cut to fit the patient according to the description for particular fracture or dislocation dressings, only first-aid material as outlined in the Bureau of Mines "Manual of First-Aid Instruction" shall be used in this contest. Unsterile compresses and cravat bandages may be used; however, the compresses, gauze, and picric-acid gauze must be packaged. (For example, tissue paper, sandwich bags, and so forth, can be used as package material. Unsterilized compress bandages, individually bound with bands of paper or other material as purchased from a manufacturer, will be considered as packaged.) Rubber bands shall not be used as packaging material.

3. Splints shall not be previously marked, and shall have no permanent cleats.

4. Elevating devices shall be at least 6 inches in height and shall be placed under the handles or poles of stretchers when required, and not under the legs. (First-aid boxes, horses, blocks, and so forth, can be used as elevating devices.)

5. Splints, including finger splints, shall not be padded or wrapped before the beginning of any problem requiring their use.

6. Separate tests must be made for splints, boards, and stretchers. However, after the splint or board is tested, the splint may be placed on the stretcher for the stretcher test. Both shall not be placed under the patient at the same time.

7. No prepared padding will be permitted. However, triangular bandages or any other suitable first-aid material may be used for padding, provided this material is cut, torn, or folded during the working of the problem. Cravat bandages are considered prepared padding. All blankets used for padding shall be opened to full width before being reformed into padding. Hard objects for tourniquets may be padded prior to use in the contest.

8. All materials except blankets, stretchers, and large splints must be kept in boxes or kits until after the gong or whistle has been sounded to begin working of the problem. Smaller sized splints and pushers for bandages may be kept either in boxes or kits or carried into the working area along with the stretchers, blankets, and large splints. Cravat bandages may be folded in any manner as long as they are in the boxes or kits.

9. The blankets used in a contest shall be comparable in size to army blankets, or about 5 feet wide and 7 feet long. No half-size or baby blankets will be permitted.

10. A team or team member will be penalized for leaving the working area to obtain material during working of a problem. However, additional materials can be obtained from other team member's boxes if the boxes are in the team's assigned working area.

Section D.--Timing

1. Problems will be kept in unsealed envelopes, retained by the judges, and given to team captains immediately after the sounding of the first gong. The captain shall be behind the base line until the first gong is sounded, and the judge or judges shall remain at the foot of the working area until the problem is handed to the team captain.

2. Three to 5 minutes, as specified in problem, will be allowed for reading and studying the problem and assembling material. This will be indicated by the sounding of a gong.

A. At the sounding of the first gong, the patient will take his place on the mat.

B. A second gong will be sounded to indicate the time of starting the problem. All material and working team members, except patient, shall be behind the base line prior to the sounding of the second gong.

C. A third gong will sound when the time for working the problem is completed.

3. Time consumed in excess of that allowed for the problem will be indicated by a gong at 1-minute intervals until all teams have completed the problem.

4. In any given problem, time will not be taken into consideration, unless the team performing exceeds the allotted time or fails to give treatment promptly.

5. At the conclusion of any problem, the team will return to its base, line up, and count off. The captain then raises his right hand and announces his team number. The team remains at its post. (The problem will not be considered completed until all these procedures are completed.)

6. Teams will be allowed a definite period, approximately 5 minutes, for removing bandages between problems or for leaving and returning to the field between problems.

Section E.--Judging

1. As it performs a problem, each team will be rated by a judge or judges. If two or more judges are used, one will act as chairman and mark the scorecard. All judges must sign the scorecard.
2. The judges will be employees of the Federal Bureau of Mines, skilled in first-aid training and conversant with Bureau of Mines first-aid standards, or experienced first-aid judges or instructors.
3. Judges will work under a committee of chief judges, one of whom shall act as chairman.
4. Judges will perform their work progressively. If two or more judges are judging the same team, they must confer with each other.
5. Judges will receive a scorecard and a copy of the problem together with an outline of the correct method of working the problem according to the Bureau of Mines "Manual of First-Aid Instruction."
6. Judges should not ask questions or interfere in any way with a team while it is working a problem.
7. Judges will be required to examine carefully the work done in each problem, but they will not be required to remove all bandages or dressings. (Only questionable bandages shall be removed.)
8. Judges shall not inform a team as to the discount inflicted, discuss discounts with a team within hearing of a team, officials, or spectators.
9. Judges shall exercise care in marking the discount sheet so the teams or spectators cannot see or get an idea of the discounts charged.
10. Judges shall mark plainly the team number, problem number, and discounts on the scorecard and sign the card in the space provided for that purpose. Judges shall not use checkmarks for discounts. For example: If a team incurs a 1-point discount twice, the scorecard should be marked $1 + 1 = 2$; if a 2-point discount three times, $2 + 2 + 2 = 6$, and so forth.
11. When the judges have finished rating each team, the scorecards will be collected by a person or persons designated for this purpose.
12. Judges shall explain on the back of the discount sheet what the teams were discounted for.
13. Judges shall not use stop watches for timing artificial respiration.

Section F.--Scorecard Examiners

1. At least two (2) persons, who are not connected with or interested in any team and who are well versed in first-aid work, shall be appointed to examine the scorecards before they are turned over to the recorders.
2. The scorecard examiners shall carefully "check" the scorecards to see that there are no improper discounts on the cards, that the cards are properly signed, and that the totals are correct.
3. Any scorecard (or cards) that is found to be improperly or not clearly marked shall be returned by messenger to the judge or judges responsible. Any erasures or corrections made by the judges shall be initialed by them.
4. After the scorecard examiners have completed their work, they shall sign the scorecards and turn them over to the recorders.
5. The scorecard examiners shall keep the scores confidential at all times during the contest.

Section G.--Recording

1. The recorders will tabulate the scores from the scorecards according to the numbers occupied by the teams on the field and not by names of teams.
2. Scores shall be kept confidential by recorders, and no scores shall be given to anyone before the conclusion and tabulation of the last problem, when they may be given to the Chief Judge who, in turn, will give the results of the contest to the proper authorized officials.

Section H.--Tests

1. Announcement of ties will be made and runoffs arranged and judges as soon as possible after the completion of the regular problems.
2. All teams shall leave their material in place and remain on the field until scores are tabulated and announcement made regarding ties.
3. Ties will be decided by one or more problems. Only one scorecard will be submitted, regardless of how many judges are used for judging the event.
4. Infraction of the foregoing rules, if such infractions are not covered in the table of discounts, may result in the disqualification of the team or teams involved.

Section I.--Miscellaneous

1. When digital pressure is applied to proper pressure point, (any pressure point between the wound and the heart) bleeding will be considered to be

under control; shock and other injuries can then be treated in their proper sequence.

2. A tourniquet shall not be loosened unless the working time of the problem exceeds ten (10) minutes. A team will not be charged with a discount if the tourniquet is loosened any time between the tenth and eleventh working minutes. (This does not mean that during the working of a problem the tourniquet shall be kept so tight as to cut off circulation.)

3. Arching of a tourniquet is not required, but in no case shall a bandage or other first-aid dressing be applied so as to foul the tourniquet.

4. Crushed hand: If an open wound is specified, the tourniquet must be applied loosely at arm-pressure point.

5. Tourniquets for compound fractures without arterial bleeding shall be applied before the wound on the extremity is dressed.

6. Use of stimulants: Either raise or turn the patient's head when giving liquid stimulants. Stimulants by inhalation must be given twice during working of problem and stimulants by mouth at least once. When it is necessary to give stimulants by inhalation and then later by mouth, only one inhalation stimulant and one mouth stimulant will be required.

7. Shock: The blanket must be used for shock treatment. The blanket must be placed on the patient after all necessary dressings have been applied.

8. Rubbing of extremities is to be done only in cases of sunstroke and heat exhaustion.

9. At least two wrapped objects, simulating hot bricks, must be used in all problems requiring treatment for physical shock.

10. When a problem calls for a dressing for burns of the face; a dislocated or fractured jaw, neck, or spine; or while the patient is lying face down, stimulants must be given only by inhalation, regardless of whether the patient is conscious or unconscious.

11. Simulating the cutting or ripping of clothing to expose wounds will not be required.

12. Except for wounds in crotch and on wounds of compound fractures of the hand and foot, bandage compresses must be used when dressing wounds less than four (4) inches in size. Adhesive compresses may be used on small wounds of toes and fingers; however, bandage compresses must be used to dress the ends of fingers.

13. The No. 2 cravat bandage binding the arm to the side of the body shall be used as part of the dressing for the wound and bleeding of the armpit.

14. When picric-acid gauze is used to cover a burned area, sterile gauze need not be used before the bandage is applied. (See page 73, paragraph 6 of the Bureau of Mines "Manual of First-Aid Instruction".)

15. Dressings of burns of face, head, or neck, as described on page 74 of the First-Aid Manual, shall not be construed to mean that small burns such as on the chin, cheek, and so forth must be covered by the entire face dressing. Small burns shall be dressed as regular wound dressings. The full dressing is applied when large areas of the face, head, and neck are involved.

16. Slings will not be required for upper extremity burns, including the burn dressing of the shoulder; however, if a burn and wound are present on the same upper extremity, cover the wound with the burn dressing and apply a sling. If the patient is unconscious and has burns on the upper extremities and if there are no wounds on the upper extremities, the arms shall be tied to the patient's sides for transportation.

17. Broken neck: Support the neck until fifth bandage is tied. When slings are required, a basket sling shall be used. If, however, a straight arm splint is required, a bandage shall be placed around the splint, limb, or limbs and body to prevent movement.

18. Compound fracture of foot: Either way of dressing the foot will be correct and acceptable.

19. Unless the bone protrudes toward the splint, compound fractures of the extremities shall not be arched.

20. Cold applications shall be applied in the region of the skull fracture.

21. Broken back requires no support. If the patient is unconscious or if a sling is required for a dressing and the patient has a broken back, the forearms or wrists must be tied with a cravat bandage.

22. If the ends of upper extremity splints are wrapped with material, such as triangular bandages, this shall be considered adequate padding for the ends of a splint that come in contact with the body.

23. Fracture of pelvis or hip must be supported until the two wide bandages are tied.

24. Fractures and dislocations that require support shall be supported immediately. However, gauze can be placed on wounds by the support man prior to taking support, if the wounds are located on the same extremity that is to be supported.

25. Only fractured extremities that are out of line from normal position shall be straightened.

26. When slings are required to support fractures of dislocations, support must be maintained until sling is properly applied. Support the dislocated elbow in a straight position until No. 4 bandage is tied.

27. In preparing for transportation of an unconscious patient, a basket sling must be used, where applicable, in addition to the other requires slings.

28. Stretchers: Army-type stretchers are required.

29. In problems involving transportation, the patient shall be returned to the original starting position, unless specified otherwise in the problem.

APPENDIX F.--MAJOR AWARDS AND DONORS

Place	Winner	Prize	Donor
Mine Rescue Contest			
1st.....	Team No. 2 Captain, Harrison Sparks Inland Steel Co. Mine No. 21 Wheelwright, Ky.	Congressional medallion Trophy	Congress of the United States. Mine Safety Appliances Co.
2d.....	Team No. 4 Captain, Verdell Caudill International Harvester Co. No. 1 Team Benham, Ky.	do.	Joseph A. Holmes Safety Association.
3d.....	Team No. 8 Captain, James Adkins Island Creek Coal Co. Holden Division Holden, W. Va.	do.	United Mine Workers of America.
4th.....	Team No. 12 Captain, Ted Hollin U.S. Steel Corp. Lynch District Lynch, Ky.	do.	National Coal Association.
First-Aid Contest			
1st.....	Team No. 39 Captain, Dale See Clinchfield Coal Co. Compass No. 1 team Clarksburg, W. Va.	Congressional medallion Trophy	Congress of the United States. United Mine Workers of America.
2d.....	Team No. 29 Captain, Donald Tennant Hanna Coal Co. Ireland No. 8 mine team Moundsville, W. Va.	do.	Joseph A. Holmes Safety Association.
3d.....	Team No. 41 Captain, E. F. Robinson Turner Elkhorn Mining Co. Turner Elkhorn mine Drift, Ky.	do.	National Coal Association.
4th.....	Team No. 7 Captain, James Criniti Allied Chemical Corp. Harewood No. 1 team Longacre, W. Va.	do.	Mine Safety Appliances Co.
5th.....	Team No. 2 Captain, Delmas Brown Hanna Coal Co. Georgetown Preparation Plant Cadiz, Ohio	do.	United Mine Workers of America.
Combination Contest			
1st.....	Captain, James Adkins Island Creek Coal Co. Holden Division Holden, W. Va.	Congressional medallion Trophy	Congress of the United States. National Coal Association.
2d.....	Captain, Walter F. Vincinelly U.S. Steel Corp. Frick District Uniontown, Pa.	do.	Joseph A. Holmes Safety Association.
3d.....	Captain, Albert Wagers U.S. Steel Corp. No. 3 team Gary, W. Va.	do.	Mine Safety Appliances Co.

APPENDIX G.--OFFICIALS AND JUDGES

Assignment	Name	Organization
General Chairman.....	Marling J. Ankeny	Federal Bureau of Mines.
General Vice Chairman.....	Harry Gandy, Jr.	National Coal Association.
Secretary.....	Harry F. Weaver	Federal Bureau of Mines.
Assistant to Secretary....	Dorothy M. Alden	Do.
Treasurer.....	James B. Benson	Southern Coal Producers' Association.
Arrangements Committee....	George C. Trevorrow, Chairman	Bituminous Coal Operators' Association.
	James B. Benson	Southern Coal Producers' Association
	Charles Ferguson	United Mine Workers of America.
	Harry Gandy, Jr.	National Coal Association.
	James Westfield	Federal Bureau of Mines.
Final Appeals Committee...	Edward Steidle	Federal Coal Mine Safety Board of Review.
	E. R. Price	Do.
	Charles Ferguson	Do.
Finance Committee.....	Charles E. Lawall, Chairman	Coal Consultant.
	H. T. Batman	Lynch Coal Operators Reciprocal Association.
	C. W. Davis	Southern Coal Producers' Association.
	E. G. Fox	Bituminous Coal Operators' Association.
	R. L. Hair	The Colorado Fuel and Iron Corp.
	Ira D. Inman	Western Kentucky Coal Producers' Association.
	W. D. Menzie	National Mine Service Co.
	Floyd H. Nickeson, Jr.	Joy Manufacturing Co.
	Robert Norcross	West Virginia Coal Association.
	B. F. Reed	Turner Elkhorn Mining Co.
	Ford Sampson	Ohio Coal Association.
	Harry A. Sutter	Western Pennsylvania Coal Operators' Association.
	E. M. White	Mine Safety Appliances Co.
General Rules Committee...	Harry Gandy, Jr.	National Coal Association.
	Harry F. Weaver	Federal Bureau of Mines.
Grounds Committee.....	Harold H. Engel, Chairman	Do.
	James A. Bennett	Do.
	William E. Duke	Do.
	James A. Greer	Do.
	J. P. Sheridan	Do.
	C. E. Stinnette	Do.
	Everett Turner	Do.

Assignment	Name	Organization
Prize Committee.....	James D. Reilly, Chairman	Hanna Coal Co.
	H. T. Batman	Lynch Coal Operators Reciprocal Association.
	C. M. Donahue	Mine Safety Appliances Co.
	Lewis E. Evans	Pennsylvania Department of Mines and Mineral Industries.
	Charles Ferguson	United Mine Workers of America.
	Harry Gandy, Jr.	National Coal Association.
	H. J. Grafton	Old Republic Insurance Co.
	C. F. Herbert	Bituminous Casualty Corp.
	R. O. Lewis	United Mine Workers of America.
	W. H. Roll	University of Kentucky.
Publicity Committee.....	Rex Lauck, Chairman	United Mine Workers Journal.
	Rex Chaney, Co-Chairman	National Coal Association.
	Jeanne Dubendorf	United Mine Workers Journal.
	Harrison Gilmer	Federal Bureau of Mines.
	Paul C. Lingo	Bituminous Coal Operators' Association.
	Warren Moss	Hanna Coal Co.
	E. R. Nicolai	Federal Bureau of Mines.
	Albert Pass	United Mine Workers of America.
	W. J. Schuster	Ohio Mine Examining Board.
	W. G. Stevenson	Emerald Coal and Coke Co.
Vincent C. Weisenberger	U.S. Steel Corp.	
Rules Committee.....	Jed H. Mosgrove, Chairman	Coal Operators' Casualty Co.
	George B. Chulick	Pennsylvania Department of Mines and Mineral Industries.
	C. M. Dovidas	Federal Bureau of Mines.
	Ewalt Herzog	Hanna Coal Co.
	John P. Kelly, Sr.	Pennsylvania Department of Mines and Mineral Industries.
	William J. McCullough	Snow Hill Coal Corp.
	T. R. Mark	Federal Bureau of Mines.
	Joseph Mulligan	Allied Chemical Corp.
Leonard Pnakovich	United Mine Workers of America.	

First-Aid Contest

Assignment	Name	Organization
Chief Judge.....	Clement M. Dovidas	Federal Bureau of Mines.
Assistant Chief Judges....	F. Delbert Baker	Do.
	Frank J. Furin	Do.
	Elmer Workman	West Virginia Department of Mines.
Announcer.....	James Westfield	Federal Bureau of Mines.
Assistant Announcer.....	A. D. Sisk	Do.

Assignment	Name	Organization
Registrars.....	Clarence J. Dalzell	Federal Bureau of Mines.
	John J. Dougherty, Chief Registrar	Do.
	Florence H. Flaherty	Do.
	Dorothy C. Harrison	Do.
	L. D. Knill	Do.
	Leonard W. Pieper	Do.
	William Rachunis	Do.
	June R. Rodano	Do.
Recorders	J. Howard Bird, Chief Recorder	Do.
	Jeanne Dubendorf	United Mine Workers Journal.
	Florence H. Flaherty	Federal Bureau of Mines
	Dorothy C. Harrison	Do.
	June R. Rodano	Do.
Timekeepers.....	W. F. Eigenbrod	West Virginia Department of Mines.
	James Leeber, Jr.	United Mine Workers of America.
	Leonard Pnakovich	Do.
	R. L. Vines	Kentucky Department of Mines and Minerals.
Photographer.....	Peter P. Senio	Federal Bureau of Mines
Problem Distributors.....	Philip Andes	Ohio Division of Mines.
	Everett Bartlett	Kentucky Department of Mines and Minerals.
	Fred W. Gaskins	Ohio Division of Mines.
	Noah L. Jackson	Kentucky Department of Mines and Minerals.
	Joseph S. Malesky	Federal Bureau of Mines.
	Foster Mullins	Virginia Division of Mines and Quarries.
	William R. Park	Federal Bureau of Mines.
	William Rachunis	Do.
	Hobart Rice	West Virginia Department of Mines
	Leslie Ryan	Do.
Guy C. West	Kentucky Department of Mines and Minerals.	
Scorecard Examiners.....	Robert D. Bradford	Federal Bureau of Mines.
	Hobart Jarvis	Do.
	Thomas R. Mark	Do.
	Edward J. Marron	Do.
	Joseph Marshalek	Do.
	Anthony C. Moschetti	Do.
	Joe L. Nelson	Do.

Assignment	Name	Organization	
Supervising Judges.....	Wilburn C. Cagley	Federal Bureau of Mines.	
	G. B. Chulick	Pennsylvania Department of Mines and Mineral Industries.	
	William M. Demkowicz	Federal Bureau of Mines.	
	Joseph J. Dobis	Do.	
	John Douglas	Ohio Division of Mines	
	Henry Hamblin	Kentucky Department of Mines and Minerals.	
	Harry C. Harman	West Virginia Department of Mines.	
	J. P. Kelly, Sr.	Pennsylvania Department of Mines and Mineral Industries.	
	John Kirkland	Ohio Division of Mines.	
	E. M. Lewis	Federal Bureau of Mines.	
	George Mears	Do.	
	J. A. Philpott	West Virginia Department of Mines.	
	Willard Stanley	Kentucky Department of Mines and Minerals.	
	Harrison Summers	Federal Bureau of Mines.	
	Melvin L. Williams	Do.	
	Loraine Wotring	Do.	
	Team Judges.....	Paul Akers	Do.
		Albert Alexander, Jr.	Kentucky Department of Mines and Minerals.
		Thomas Allamon	Federal Bureau of Mines.
		John Ashcraft	West Virginia Department of Mines.
C. B. Aspinwall		Federal Bureau of Mines.	
William D. Baldwin		Do.	
Richard E. Barr		Do.	
Bernice M. Booker		Do.	
Everett Brown		Kentucky Department of Mines and Minerals.	
Carnie Browning		West Virginia Department of Mines.	
James Burke		Do.	
Robert Calvert		Federal Bureau of Mines.	
John H. Cartwright		Kansas Mine Inspection Division.	
Ray Chapman		Kentucky Department of Mines and Minerals.	
Gordon W. Chastain		Federal Bureau of Mines.	
Robert L. Cochran		Do.	
Lewis Cope		West Virginia Department of Mines.	
William M. Cordray		Federal Bureau of Mines.	
Elihu Coyer		Kentucky Department of Mines and Minerals.	
J. W. Cromwell		Federal Bureau of Mines.	
Gerald W. Croyle	Do.		
Ernest A. Curth	West Virginia Department of Mines.		

Assignment	Name	Organization
Team Judges (Con.).....	Clyde Davis	West Virginia Department of Mines.
	Walter G. Davis	Do.
	Mike Delridge	Federal Bureau of Mines.
	Raymond C. DeWeese	Do.
	R. Gene Dickens	West Virginia Department of Mines.
	Raymond L. Ellis	Federal Bureau of Mines.
	Roy C. Estep	Do.
	James Gillespie, Jr.	West Virginia Department of Mines.
	Bud Gunter	Do.
	Grant Hall	Kentucky Department of Mines and Minerals.
	J. W. Hatfield	West Virginia Department of Mines.
	Pat Heatherman	Do.
	F. H. Henderson	Federal Bureau of Mines.
	Harry P. Herald	West Virginia Department of Mines.
	Milton Hitechew	Do.
	M. J. Hughes	Federal Bureau of Mines.
	H. P. James	West Virginia Department of Mines.
	Edward Jarvis	Do.
	John E. Jones	Federal Bureau of Mines.
	Lawrence Jones	Pennsylvania Department of Mines and Mineral Industries.
	Ronald L. Keaton	West Virginia Department of Mines.
	John L. Keene	Virginia Division of Mines and Quarries.
	F. E. Kemrite	Federal Bureau of Mines.
	Walter W. Kessler	Do.
	J. E. Lamont	Pennsylvania Department of Mines and Mineral Industries.
	James H. Lampkin	Virginia Division of Mines and Quarries.
	Raymond Linville	Federal Bureau of Mines.
	Robert McCormick	West Virginia Department of Mines.
	Harry J. McCreary	Do.
	James McCune	Do.
	John Matsko	Do.
	Amos May	Kentucky Department of Mines and Minerals.
	William R. Melville	Federal Bureau of Mines.
	G. F. Moody	Pennsylvania Department of Mines and Mineral Industries.
	Clabe Mosley	Kentucky Department of Mines and Minerals.
	A. J. Nairn	Pennsylvania Department of Mines and Mineral Industries.

Assignment	Name	Organization
Team Judges (Con.).....	George Noe	Federal Bureau of Mines.
	Victor D. Null	Do.
	Glen Pack	Kentucky Department of Mines and Minerals.
	Sylvio Pellegrino	West Virginia Department of Mines.
	H. H. Potter	Federal Bureau of Mines.
	Clarence Powell	Kentucky Department of Mines and Minerals.
	T. A. Plumlee	Illinois Department of Mines and Minerals.
	T. A. Redin	Federal Bureau of Mines
	J. A. Rejonis	Do.
	Paul C. Riley	West Virginia Department of Mines.
	Lawrence Risley	Kentucky Department of Mines and Minerals.
	Frank Rutledge	West Virginia Department of Mines.
	James Sammons	Kentucky Department of Mines and Minerals.
	Paul Sexton	Do.
	Carl Smithers	Do.
	Ewell Snuffer	West Virginia Department of Mines.
	Conrad T. Spangler, Jr.	Do.
	John E. Squires	Do.
	Frank Stefkovich	Do.
	W. R. Stewart	Federal Bureau of Mines.
	Henry Strubeck	Do.
	C. P. Turley	West Virginia Department of Mines.
	Ward R. Vickers	Federal Bureau of Mines
	Thomas J. Ward	Do.
	James T. Whalen	Do.
	H. H. Wiley	Do.
	Paul Wills	Do.
J. F. Wilson	Do.	
William B. Wright	Kentucky Department of Mines and Minerals.	
F. Zalisnock	Pennsylvania Department of Mines and Mineral Industries.	

Mine Rescue Contest

Assignment	Name	Organization
Chief Judge.....	Thomas R. Mark	Federal Bureau of Mines.
Assistant Chief Judges....	Clement M. Dovidas	Do.
	Hobart Jarvis	Do.

Assignment	Name	Organization
Gas Box Attendants.....	F. Delbert Baker Bernice M. Booker James Burke Robert L. Cochran J. P. Kelly, Sr. Walter W. Kessler James H. Lampkin Raymond Linville Robert McCormick James McCune Sylvio Pellegrino Carl Smithers Henry Strubeck F. Zalisnock	Federal Bureau of Mines. Do. West Virginia Department of Mines. Federal Bureau of Mines. Pennsylvania Department of Mines and Mineral Industries. Federal Bureau of Mines. Virginia Division of Mines and Quarries. Federal Bureau of Mines. West Virginia Department of Mines. Federal Bureau of Mines. West Virginia Department of Mines. Kentucky Department of Mines and Minerals. Federal Bureau of Mines. Pennsylvania Department of Mines and Mineral Industries.
Lifeline Men.....	William M. Gordray Raymond L. Ellis H. H. Potter J. A. Rejonis	Federal Bureau of Mines Do. Do. Do.
Map Examiners.....	William M. Demkowicz Joseph J. Dobis Frank J. Furin Henry Hamblin Foster Mullins A. J. Nairn	Do. Do. Do. Kentucky Department of Mines and Minerals. Virginia Division of Mines and Quarries. Pennsylvania Department of Mines and Mineral Industries.
Guards for Mine Rescue Team.	J. W. Cromwell Gerald W. Croyle Thomas F. Curry Mike Delridge Raymond C. DeWeese F. H. Henderson M. J. Hughes John E. Jones T. A. Redin Ward R. Vickers Thomas J. Ward J. A. Woods	Federal Bureau of Mines. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do.
Mine Attendants.....	James A. Bennett William E. Duke	Do. Do.

Assignment	Name	Organization
Mine Attendants (Con.).....	H. H. Engel	Federal Bureau of Mines.
	James A. Greer	Do.
	R. B. Jones	Do.
	James P. Sheridan	Do.
	C. E. Stinnette	Do.
	Everett Turner	Do.
Scorecard Examiners.....	G. B. Chulick	Pennsylvania Department of Mines and Mineral Industries.
	Clyde Davis	West Virginia Department of Mines.
	T. C. Higgins	Federal Bureau of Mines.
	George W. Parry	Do.
Judges:		
Part A.....	Thomas Allamon	Do.
	C. B. Aspinwall	Do.
	Milton Hitechew	West Virginia Department of Mines.
	Joseph C. Reardon	Federal Bureau of Mines.
Part B.....	John Ashcraft	West Virginia Department of Mines.
	Robert D. Bradford	Federal Bureau of Mines.
	Amos May	Kentucky Department of Mines and Minerals.
	Joseph Marshalek	Federal Bureau of Mines.
	Melvin L. Williams	Do.
Underground Judges--Part C		
No. 1 Mine		
Group I.....	Richard E. Barr	Federal Bureau of Mines.
	John Matsko	Do.
	Victor D. Null	Do.
	James Sammons	Kentucky Department of Mines and Minerals.
Group II.....	Elihu Coyer	Do.
	James Gillespie, Jr.	West Virginia Department of Mines.
	Edward J. Marron	Federal Bureau of Mines.
	George Mears	Do.
	Lorraine Wotring	Do.
No. 2 Mine		
Group I.....	Wilburn C. Gagley	Do.
	J. W. Hatfield	West Virginia Department of Mines.
	Lawrence Jones	Pennsylvania Department of Mines and Mineral Industries.
	F. E. Kemrite	Federal Bureau of Mines.
	H. H. Wiley	Do.

Assignment	Name	Organization
Underground Judges--Part C (Con.) No. 2 Mine Group II.....	Everett C. Brown Gordon W. Chastain George Noe Conrad T. Spangler, Jr. W. R. Stewart	Kentucky Department of Mines and Minerals. Federal Bureau of Mines. Do. West Virginia Department of Mines. Federal Bureau of Mines.