

FINAL REPORT OF MINE EXPLOSION
NO. 5 MINE
CENTRALIA COAL COMPANY
CENTRALIA, MARION COUNTY, ILLINOIS
March 25, 1947

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DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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INTRODUCTION

An explosion occurred in the No. 5 mine of the Centralia Coal Company 2 miles south of Centralia, Marion County, Illinois, at 3:26 p.m., March 25, 1947. The explosion resulted in the death of 111 men, of which number 65 were killed by burns and violence, and 46 by afterdamp. One of the victims of the afterdamp was rescued and died later on the surface. One hundred and forty-two men were in the mine at the time of the explosion; 24 men escaped unaided and 8, including the afterdamp victim, were rescued.

The explosion was caused by coal dust which was raised into the air and ignited by explosives, fired in a dangerous and nonpermissible manner. It was a local explosion, although exceedingly violent in several of the working sections, and it stopped at a point estimated to be 6,400 feet from the shaft bottom. The probable point of origin of the explosion was at the face of 1 west entry.

The mine was dry throughout, with the exception of local "swags" where it was necessary to pump water, and no measures were taken to allay the dust at its source. Parts of the main and secondary haulage roads had been rock-dusted, but no rock dusting had been done in the rooms; or within 500 feet of the faces of the working entries.

The Vincennes office of the Bureau of Mines was notified of the disaster by telephone from the mine office. Federal inspectors in the Vincennes office, and two of the Health and Safety Division personnel that were available, were dispatched to the scene of the explosion immediately with a fully equipped mine rescue truck. The inspectors in the field were contacted as soon as possible and were told to report at the mine, the first one arriving at 7:45 p.m. Other Bureau of Mines men arrived throughout the night and the following day. A total of 14 representatives of the Bureau of Mines participated in the recovery operations, the investigation, or both.

GENERAL INFORMATION

Location

The No. 5 mine of the Centralia Coal Company is located about 2 miles south of Centralia, Marion County, Illinois, and is served by the Illinois Central Railroad.

Operating Officials

President	H. F. McDonald	307 N. Michigan Ave., Chicago, Illinois
Vice President	W. E. Young	307 N. Michigan Ave., Chicago, Illinois
General Superintendent	W. J. Johnson	Tuscola, Illinois
Assistant Superintendent	H. C. Niermann	614 Cherry Street, Centralia, Illinois
Mine Manager	W. H. Brown	131 S. Elm Street, Centralia, Illinois

This is the only mine owned and operated by the company.

Employees and Production

Two hundred and sixty-seven men were employed at this mine; 50 on the surface and 217 underground. Of the 217 underground employees, 75 worked on the night shift. The average daily production was 2,229 tons of coal.

Openings and Nature of Coal Bed

The mine is opened by two wood-lined shafts, consisting of a main hoisting shaft 540 feet in depth, through which coal, supplies, refuse, and employees are handled, and a double-compartment down-cast air shaft 537 feet in depth and 1,200 feet from the hoisting shaft. One compartment was equipped with a substantial wooden and steel stairway. The coal-hoisting shaft served as the main air outlet. The shafts were in good condition.

The mine is operated in the Illinois No. 6 coal bed, which averages 76 inches in thickness in the present working areas. The coal bed lies flat except for local dips. The cover over the coal bed ranges from 520 feet to 575 feet at this property.

The immediate roof overlying the coal bed is a medium hard black shale ranging from 1 foot to 5 feet in thickness. The main roof consists of strong limestone approximately 30 feet in thickness. Numerous slips and pots are present.

The floor underlying the coal bed is smooth, medium hard fire clay.

Coal Analysis

The following analysis on an "as received" basis of the No. 6 coal bed was obtained from the company and was a composite of four face samples collected in the No. 5 mine.

	Percent
Moisture	10.30
Ash	11.93
Volatile Matter	35.55
Fixed Carbon	42.22

The ratio of volatile matter to total combustible matter, as given above,

Volatile Matter
Volatile Matter / Fixed Carbon

is 0.45 for the No. 6 coal bed in this mine.

MINING METHODS, CONDITIONS, AND EQUIPMENT

Mining Methods

The room-and-pillar method of mining was followed, and pillars were not extracted. The main entries were driven two and three abreast, and room entries were turned right and left off the main entries in pairs, except for the 20, 21, and 22 north triple entries turned off 4 west. The mining plan in the 1 and 2 west section had been changed recently to provide a 6-entry system for developing the main entries and to establish a split system of ventilation. The room entries were turned off the main entries at 800-foot intervals; entries were driven 12 feet in width.

Rooms, 28 to 30 feet in width, were turned on 60-foot centers off the headings and air courses and were driven to a depth of 400 feet. Room and entry crosscuts were made at 60-foot intervals.

The coal was undercut to a depth of $8\frac{1}{2}$ feet with nonpermissible short-wall mining machines, and was drilled with nonpermissible post-mounted electric drills. All coal was loaded into mine cars and shuttle cars with nonpermissible caterpillar-mounted loading machines.

A systematic method of timbering the working places was being followed, but safety posts were not set between the permanent timbers and the working faces.

Ventilation and Gases

Ventilation was provided by a 7-foot aeroplane-propeller-type fan operated blowing and located about 100 feet from the bottom of the intake air shaft. The fan was driven by a 30-horsepower 250-volt direct-current motor. Auxiliary power was provided, and a 220-volt alternating-current power source was available in the event of failure of the direct-current motor or power. The fan was installed in the center of the entry and was

encased in concrete. The power circuit to the fan was independent of the regular mine circuit. During the Federal inspection of March 17-20, 1947, the fan was delivering 72,320 cubic feet of air a minute into the mine at a water-gage pressure of 1.3 inches. The direction of the air flow was readily reversible. A pressure-recording gage, air-lock doors to the fan, and an audible warning device in the engine room were provided. The fan was run continuously and was inspected daily by the electrician.

One continuous air circuit utilizing doors and an overcast was used to ventilate the entire mine. The 1 west haulageway was in intake air to the first working section, and the 4 west and main south haulageways and hoisting shaft were in return air.

Crosscuts were made at 60-foot intervals and not more than one open crosscut was permitted between the faces of entries and first outby temporary or permanent stoppings.

A few concrete-block stoppings had been erected along the 1 west and 4 west haulageways. All other stoppings were of wooden construction.

One set of air-lock doors were erected near the mouth of 1 west off main south. The doors were only 70 feet apart and necessitated the opening of both doors when a trip was passing. A single door was erected between 13 and 14 north off 1 west and it was attended constantly. All other main doors were erected in pairs to provide adequate air locks. Check curtains were often used near the faces and on the shuttle car sections.

The mine was considered to be gassy by the Federal Bureau of Mines, but was not so considered by the Illinois Department of Mines and Minerals. Two certified mine examiners were employed to make preshift examinations of the mine for gas and to observe and inspect for other hazards, but such examinations were started eight hours before the first shift entered the mine. An uncertified mine examiner made a preshift examination of the working faces about two hours before the second shift entered the mine. Examinations for gas were not made during the working shift.

Many oil and gas wells penetrated the coal bed, but none were in open workings in the mine.

During the Federal inspections of September 1942 and July 1945, the analytical results of two air samples collected near the faces of active workings showed 0.38 and 0.70 percent methane respectively, but there is no record of methane ever having been detected with a flame safety lamp. During the time of the last Federal inspection, March 17-20, 1947, there were eight air samples collected and the analytical results showed methane ranging from 0.03 to 0.10 percent as follows:

Face No. 7 room off 21 north	0.04
Full return at shaft bottom	0.06
Main return at main south overcast	0.07
Face No. 14 room off 19 north	0.05
Last crosscut between 23-24 south off 4 west	0.05
Last crosscut between 20-21 north off 4 west	0.07
Second crosscut back from face of 1 west air course entry	0.03
Face No. 37 room off 22 north 4 west	0.10

During the March 1947 Federal inspection, the mine was liberating methane at a calculated rate of 63,072 cubic feet in a 24-hour period.

Drainage

The mine workings and haulage roads were dry, except for accumulations of water in several small sumps along the 4 west haulage road, at 3 north, which were pumped periodically into abandoned workings by a small centrifugal pump. An electrically driven pump was located at the shaft bottom and was used to pump the water out of the hoisting shaft sump. Two plunger-type pumps, each of 250-gallon capacity, were located in the main pumping station at 8 north 1 west and were used to pump water from the abandoned area in the main north to the surface.

Dust

The mine was exceedingly dry and dusty and heavy deposits of coal dust were present along the roadways in working places and on the roof, ribs, and timbers in working sections. Heavy deposits of coal dust existed along the roadways in room entries and in the center of the main haulage road on 4 west. Very little effort had been made to load out excessive quantities of dust, and watering methods had not been employed to allay the dust at its source. Rock dust had been applied to the roof, ribs, and roads of active haulage entries, but such rock dusting was not maintained close enough to the working faces, and rock dust was not applied in rooms. In active entries, the rock-dusted zones at the time of the explosion terminated at the following locations:

23 and 24 south 4 west	900 feet outby from face
20, 21, and 22 north 4 west	850 feet outby from face
1 west	1,000 feet outby from face
18 and 19 north 1 west	600 feet outby from face
13 and 14 north 1 west	500 feet outby from face
20 and 21 north 1 west	None

The analytical results of dust samples collected in rock-dusted zones by a Federal coal-mine inspector during the course of a Federal inspection previous to the disaster on March 17-20, 1947, are shown in the following table:

Sample of Dust

From	Location in mine	Combustible	Incombustible
Roof and Rib	14 north room entry haulage road at No. 16 room	45.8	54.2
Road	do	49.6	50.4
Roof and Rib	18 north room entry haulage road at the No. 5 room	22.1	77.9
Road	do	63.4	36.6
Roof and Rib	Main south haulage road inby machine shop	41.0	59.0
Road	do	59.5	40.5
Roof and Rib	24 south room entry haulage road off 4 west at No. 4 room	10.6	89.4
Road	do	50.8	49.2
Roof and Rib	Main 18 south haulage road at 4 west intersection	25.6	74.4
Road	do	51.2	48.8
Roof and Rib	Main south haulage road at 4 west	26.5	73.5
Road	do	47.8	52.2

It will be observed from this table that none of the road samples contained the 65 percent incombustible matter recommended by the Bureau of Mines and that two of the roof and rib samples contained less than 65 percent incombustible matter, while four of the roof and rib samples contained more than 65 percent. It is concluded, therefore, that the haulage roads were not being redusted with sufficient frequency; however, this deficiency was not a factor in this explosion.

Additional dust samples were collected during the investigation of the explosion, the analytical results of which are shown in Table.1.

TABLE I - DUST ANALYSIS REPORT

Mine No. 5 Company Centralia Coal Co. Collected April 3-4, 1947

Can No.	Sample of	Location in Mine	Rock Dusted	As Received Basis		Coke Particles Present
				Combustible	In-Combustible	
U-724	Rib and Roof	At Room 15, 14 north 1 west	Yes	42.0	58.0	None
L-377	Road	At Room 15, 14 north 1 west	Yes	49.0	51.0	None
H-837	Rib and Roof	At Room 15, 13 north 1 west	Yes	41.0	59.0	None
E-529	Road	At Room 15, 13 north 1 west	Yes	66.0	34.0	None
V-853	Rib and Roof	On 1 west 100 feet outby 14 north	Yes	50.0	50.0	None
Q-378	Road	On 1 west 100 feet outby 14 north	Yes	62.0	38.0	None
G-770	Rib and Roof	On 2 west 100 feet outby 14 north	Yes	57.0	43.0	None
X-865	Road	On 2 west 100 feet outby 14 north	Yes	51.0	49.0	None
B-871	Rib and Roof	On 4 west 100 feet outby 18 north	Yes	27.0	73.0	None
T-258	Road	On 4 west 100 feet outby 18 north	Yes	21.0	79.0	None
S-244	Rib and Roof	On 3 west 100 feet outby 18 north	Yes	47.0	53.0	None
C-972	Road	On 3 west 100 feet outby 18 north	Yes	54.0	46.0	None
X-663	Rib	At room 25, 21 north 4 west	No	69.0	31.0	Medium Amount
U-667	Road	At room 25, 21 north 4 west	No	61.0	39.0	Small Amount
H-915	Rib and Roof	At room 25, 22 north 4 west	No	66.0	34.0	Medium Amount
L-321	Road	At room 25, 22 north 4 west	No	56.0	44.0	Small Amount
F-477	Rib and Roof	On 2 west 150 feet outby 18 north	No	63.0	37.0	Small Amount
P-612	Road	On 2 west 150 feet outby 18 north	No	64.0	36.0	Very Small Amount
L-531	Rib and Roof	On 1 west 150 feet outby 18 north	Yes	57.0	43.0	Small Amount

TABLE 1 - DUST ANALYSIS REPORT (Continued)

Mine No. 5 Company Centralia Coal Company Collected April 3-4, 1947

Can No.	Sample Of	Location in Mine	Rock Dusted	As Received Basis		Coke Particles Present
				Combustible	In-Combustible	
H-873	Road	On 1 west 150 feet outby 18 north	Yes	62.0	38.0	Trace
B-340	Rib and Road	On 1 west 250 feet inby 19 north	No	70.0	30.0	Small Amount
B-665	Road	On 1 west 250 feet inby 19 north	No	66.0	34.0	Small Amount
X-492	Rib and Roof	On 2 west 250 feet inby 19 north	No	71.0	29.0	Small Amount
Q-337	Road	On 2 west 250 feet inby 19 north	No	71.0	29.0	Small Amount
B-165	Rib and Roof	At room 35, 19 north 4 west	Yes	56.0	44.0	None
H-698	Road	At room 35, 19 north 4 west	Yes	65.0	34.0	None
G-108	Rib and Roof	At room 35, 18 north 4 west	Yes	55.0	45.0	None
X-101	Road	At room 35, 18 north 4 west	Yes	60.0	40.0	None
H-651	Rib and Roof	At room 17, 18 north 1 west	No	68.0	32.0	Large Amount
V-595	Road	At room 17, 18 north 1 west	No	69.0	31.0	Very Large Amount
C-681	Rib and Road	At room 17, 19 north 1 west	No	62.0	38.0	Large Amount
C-141	Road	At room 17, 19 north 1 west	No	68.0	32.0	Very Large Amount

It may be observed from this table that rib and roof samples collected from rock-dusted areas in the portion of the mine affected by the explosion contained from 43 to 73 percent incombustible matter and averaged 52 percent. Road samples collected at the same locations contained from 37 to 79 percent incombustible matter and averaged 45 percent. Attention is called to the fact that some of these samples were contaminated by coal dust carried and deposited by the explosion. Rib and roof samples collected from non-rock-dusted areas in the active working sections affected by the explosion contained from 29 percent incombustible matter to 38 percent incombustible matter and averaged 33 percent. Road samples collected at the same locations contained from 31 percent to 39 percent incombustible matter and averaged 35 percent. Coked particles were present in varying amounts in all of the samples collected in non-rock-dusted areas, indicating that all of these locations were closely involved in the explosion.

Explosibility tests on the Illinois No. 6 coal bed, conducted at the Bureau of Mines experimental mine at Brugeton, Pennsylvania (See Bulletin 167, page 249), indicated that this coal dust required the presence of 33 percent incombustible matter to prevent ignition when no gas was present and required the presence of 59 percent incombustible matter to prevent propagation under the same conditions. It is concluded from this that much of the untreated dust in the face regions was capable of initiating and propagating an explosion, while the dust on the rock-dusted haulage entries was on the border line insofar as propagation was concerned.

Haulage

Main haulage was accomplished with two 15-ton electric trolley-pole locomotives over a single-track system from sidetracks to the shaft bottom. Nineteen trolley-pole and cable-reel locomotives were used for servicing loading machines and secondary haulage. Two cable-reel shuttle cars were used to service two of the loading machines. About 300 steel end-gate-type mine cars of 3-ton capacity each were in use.

The cars of coal were hoisted on two self-dumping cages to the top of the tibble where they were dumped. The coal hoist, which was also used for handling men and materials, was of the single-drum design, and was steam driven. One and one-fourth-inch diameter ropes were used, and the hoist was equipped with automatic overwind, overspeed, and stop controls, and a positive indicator to show the positions of the cages. Written records were kept of the daily inspections of the hoisting equipment and appurtenances.

Lighting

Incandescent electric lights operated from the mine circuit were installed at the shaft bottom and at irregular intervals along main and

secondary haulage roads. Permissible electric cap lamps were used by the mine examiners for individual illumination underground. All other underground employees used carbide lamps for portable illumination. The mine examiners used permissible flame safety lamps which they cleaned, filled, assembled, and kept in their custody.

Smoking was permitted and practiced freely underground.

Electrical Equipment Underground

All power was generated at the mine, except for an emergency line from an electric power company to operate the fan. All machinery underground was operated electrically by 250 volts direct current. Two substations were located underground in well-ventilated fireproof structures.

All mining machines, loading machines, drills, shuttle cars, and cable-reel locomotives were of the nonpermissible type and received their power through trailing cables connected to power wires located in return air.

An armored 2,300-volt alternating-current cable entered the mine through the intake air shaft. With the exception of power and trolley wires on the 1 west haulage roads, all other power and trolley wires were in return air. Cut-out switches were not installed at or near the points where branch lines left the main circuit, in many instances. Cable splices were made underground by using splicing rings and friction tape. Many of the trailing cables for the portable underground electric equipment were not equipped with overload protection at the nips.

Explosives and Blasting

Permissible explosives, Black Diamond No. 15 in $1\frac{1}{2}$ - by 8-inch cartridges that weighed approximately 8 ounces a cartridge, were used for all blasting purposes in recent months. A 40-percent Special Dynamite in $1\frac{1}{4}$ - by 8-inch cartridges had been used in brushing the 1 west haulageway about 18 months previously. No dynamite had been used in recent months. Shots were fired with No. 6 strength blasting caps and orange wax fuse ignited with the flame of carbide lamps.

Drillers worked in pairs. While one driller operated the post-mounted electric drill, the other prepared the primers and charged the shot holes. Normally, 6 holes were drilled in entries and crosscuts; 8 holes were drilled in rooms. The holes were about $2\frac{1}{2}$ inches in diameter, approximately 8 feet in depth and drilled in two horizontal planes with an equal number of holes in each horizon. The bottom holes were about 3 feet from the floor and the top holes about $2\frac{1}{2}$ feet above the bottom holes. Primers were generally made up near the working faces and variable lengths of fuse were used to obtain the desired order of firing. The fuses were slit near

the ends so that they could be ignited readily with carbide lamps. Charges of explosives varied from 1 to 2 pounds, with the larger charges being used in the top rib holes. The shot holes were charged during the working shift. Stomping of coal cuttings and surface clay was used and was made up in prepared dummies 14 inches in length. From 1 to 3 dummies were used in each shot hole, and many charged shots were noted to be tamped with coal cuttings. Wooden tamping sticks were used. The drillers were also the shot firers, and they ignited the shots at the end of the working shift. The shot firers were given the signal to light the shots by the foreman or one of the other employees after all normal face operations had ceased and the employees were in the man-trips or enroute thereto. The center bottom holes were ignited first, the bottom rib holes next, then the top center holes, and the top rib holes were ignited last.

Cases of explosives from the surface explosives-storage magazine were ached in a well-constructed explosives car, hauled by mule to the shaft, on lowered into the mine. The explosives were transported underground by electric locomotive, during the second shift, to well-constructed explosives-storage boxes located near the entrances to the working sections. The explosives were delivered to one-third of the nine working crews each night; thus a 4-day supply was delivered to each storage location at one time. Some of the storage boxes were kept locked. Blasting caps in special insulated wooden containers were hauled on a locomotive, operated by the night foreman, to the section storage locations. Cartons of fuse were delivered by the supply crew to the explosives-storage boxes. The shot firers obtained a supply of explosives from the storage boxes and carried them to the working faces in small wooden boxes. Blasting caps were carried in special wooden containers and kept separated from the explosives. Unused explosives and blasting caps were returned to their respective storage locations before the end of the working shift.

Mine Rescue

About 18 men at this mine have received mine rescue training at various times, but none have had mine rescue training in recent years.

Six gas masks were available at the mine. The nearest State-maintained mine rescue station and mine rescue team was at DuQuoin, Illinois, about 40 miles from the mine. Other State-maintained and privately-owned mine rescue stations and mine rescue teams were from 50 to 120 miles away. The United States Bureau of Mines rescue truck and apparatus were located at Vincennes, Indiana, about 100 miles from the mine.

Fire Fighting

All buildings within 100 feet of the mine openings, and vital structures were of fireproof construction. The electrical circuits were installed on insulated knobs, and enclosed switches were used. Buildings were steam heated. Twenty-four 2½-gallon soda-acid, and eight 1-quart size carbon

tetrachloride fire extinguishers were placed in various buildings on the surface. Two fire hydrants and 200 feet of 1½-inch fire hose were also available on the surface. The fire-fighting equipment was inspected and tested monthly and written records were kept.

The underground fire-fighting equipment consisted of sixteen 2½ gallon soda-acid and six 1-quart size carbon tetrachloride fire extinguishers located at the shaft bottom and other strategic locations in the mine, supplies of rock dust at the substations and pumps, and bags of rock dust placed at various locations throughout the mine. A fire-fighting organization was not maintained on the surface or underground, and an outline of the procedure to be followed in case of fire or other emergency was not provided.

PREVIOUS EXPLOSIONS IN THIS MINE

Statements of employees at the mine revealed that three minor explosions occurred in this mine prior to this disaster. They were as follows: 4 men were killed in 1909; 1 man was killed in 1915; and 3 men were killed in 1921. All of the explosions were reported to have resulted from blown-out shots while blasting off the solid with granular black powder.

MINE CONDITIONS IMMEDIATELY PRIOR TO DISASTER

The mine was operating normally, and no unusual conditions insofar as could be ascertained had been reported prior to the time of the explosion. No interruptions had occurred to the ventilation system. The weather was clear and fair, and no sudden changes in barometric pressure or unusual temperature changes had occurred.

A barometer kept at the mine and read by the mine examiner recorded the following pressures:

March 24, 1947 - 29.3 inches of mercury
March 25, 1947 - 29.1 inches of mercury

Barometric pressure is believed to have had no bearing on the cause of the explosion.

The mine examiners' reports for March 24 and March 25 indicated normal mining conditions. Bad tep was reported in nine of the working places, and all other places were reported to be in a safe condition for the two-day period.

PROPERTY DAMAGE

The explosion caused no damage on the surface. No damage was caused

On the 1 west main haulage road outby the 13 and 14 north, or on the 4 west main haulage road outby the 23 and 24 south. No property damage resulted in the 13 and 14 north section off the 1 west. Three concrete-block seals erected in the mouths of the 15, 16, and 17 north off 1 west were demolished. Some doors and wooden stoppings in the 23 and 24 south off 4 west were damaged and the telephone near the mouth of the 18 south was knocked off the post to which it was fastened, but the explosion caused no other damage in this area.

Considerable property damage was caused by the explosion in the 20, 21, and 22 north off 4 west; main west entries; 20 and 21 north off 1 west; and 18 and 19 north off 1 west. The forces of the explosion demolished all the stoppings in the crosscuts between the 20 and 21 north off 4 west; caused slight damage to locomotives in this section; extensive damage to the cable-reel shuttle cars; damaged the drill truck; and tore down the trolley and feeder lines in the section. However, the damaged stoppings in this section will not have to be rebuilt, because the 22 north entry was cut through to the 1 west recently to provide a new air course between the 1 west and 4 west sections. The doors and stoppings on the 1 west inby the 18 and 19 north entries were demolished; trolley and feeder lines on 1 west inby the 15 north were torn down; and the locomotives in the 1 west working section were damaged slightly. The doors and stoppings in crosscuts between the 20 and 21 north off 1 west were demolished; timbers were blown out in the rooms off 20 and 21 north permitting large roof falls, some of which fell on trips of cars; trolley and feeder lines were torn down; and slight damage was caused to the locomotives and the mining machine. The doors and stoppings in the 18 and 19 north off 1 west were demolished; some mine cars were damaged; the mining machine and locomotives were damaged slightly; trolley and feeder lines were torn down; and trucks used by drillers and trackmen were damaged extensively. The post-mounted drills used in the sections reached by the forces of the explosion were damaged slightly. Debris, loose rock, and dust were strewn over the track and roadbed in the various sections affected by the forces of the explosion. Telephone lines were torn down in the 1 west inby the 13 and 14 north to the various working sections. Some doors and stoppings in the 18 and 19 north off 4 west were demolished or damaged and trolley and feeder lines were torn down. However, this section was abandoned some time previous to the explosion and no rehabilitation work will be required in this area.

The section of the 1 west haulage road affected by the forces of the explosion had sound roof and no falls of roof occurred. Rehabilitation work there will consist of removing the debris strewn along the roadway and the installation of trolley and feeder lines.

As relatively little damage was caused by the explosion in the 23 and 24 south off 4 west and the 13 and 14 north section was not affected by the forces of the explosion, coal production in these sections could be resumed at once as far as property damage is concerned. However, production in

these sections should not be resumed until all excessive accumulations of coal dust are removed and the surfaces of the roof, ribs, and floor rock-dusted adequately. The damage done to gathering locomotives and face electric equipment did not appear to be extensive during the investigation. However, some of this equipment was exposed to the direct forces and flame of the explosion and thorough inspections by repairmen might reveal extensive damage. It is estimated that about 30 days will be required to repair the equipment, install trolley and feeder lines, remove debris from roadways, and other necessary work before normal coal production can be resumed. However, it will take considerable time to eliminate the factors that will prevent or minimize such disasters. This requires the removal of excessive accumulations of coal dust, full compliance with the sections of the Federal Mine Safety Code pertaining to rock dusting, and the adoption of a suitable method of allaying coal dust at the sources of dust formation.

STORY OF THE EXPLOSION AND RECOVERY OPERATIONS

The explosion occurred at 3:26 p.m., March 25, 1947. The assistant mine superintendent stated that he was standing in the surface power plant when the fuse in the fan power circuit on the switchboard blew out, and that was the first evidence he had that there was something wrong in the mine. Before the fuse could be replaced, several men came out of the mine and reported that there was something seriously wrong inside.

The assistant superintendent immediately called the home of Driscoll O. Scanlon, the State mine inspector of the district, and the clerk in the mine office was instructed to call the superintendent of the State mine rescue station at Belleville, Illinois. Before proceeding to the Centralia No. 5 mine, Mr. Scanlon left instructions to telephone to the Director of the Illinois Department of Mines and Minerals at Springfield, Illinois, to send all of the State mine rescue teams to the Centralia No. 5 mine as soon as possible.

The district office of the Federal Bureau of Mines at Vincennes, Indiana, first learned of the explosion when the clerk at the mine office called the Bureau office about 5 p.m. Mr. C. A. Herbert, Supervising Engineer of District E, immediately ordered four Bureau men to the scene with the mine rescue truck; these men arrived at the mine at 8 p.m. Mr. Herbert then ordered additional Federal coal-mine inspectors to the scene, contacting them by telephone. They started arriving at the mine at 7:30 p.m. and continued arriving throughout the night and the following day. Thirteen Bureau of Mines employees were present and participated actively in the rescue and recovery operations. The names of the Bureau personnel are as follows: W. A. Gallagher, F. J. Smith, Frank Perz, W. W. Kessler, T. C. Higgins, J. S. Malesky, J. E. Stanton, H. C. Brumbaugh, Frank Kolisek, G. W. Colbert, W. R. Chick, M. V. Hansen, and Roy Capps. Thirteen members of the State mine inspection department were present and

participated in the rescue and recovery operations. The names and titles of these men are as follows: Robert M. Medill, Director; Robert Weir, Assistant Director; John McMillan and Elmer Edmonds, Inspectors-at-Large; James Sneddon, Safety Engineer; George Hall, Frank Stank, R. R. Schiber, Fred Lippert, John Golden, J. R. Wilson, Ray McCluskey, and Driscoll Scanlon, Mine Inspectors. Seven State mine rescue station superintendents and rescue teams and one mine rescue team from the Bell and Zoller Coal and Mining Company were also present and participated in the work.

Immediately after H. C. Niernmann, the assistant superintendent, had been advised that there was considerable smoke and dust at the shaft bottom, he assembled a permissible flame safety lamp and procured a permissible electric cap lamp and entered the mine. The cager was the only person at the shaft bottom when he arrived. He then proceeded to the fan which is located underground 1,200 feet south of the hoisting shaft. When he arrived at the fan, he found it operating properly, and he then met the mine manager and three other employees there. The mine manager advised Mr. Niernmann that the situation looked bad. After a short discussion with the mine manager as to the procedure to be followed to try and rescue the workmen, Niernmann proceeded to make tests in the main return airway outby the fan with a permissible flame safety lamp to ascertain whether or not there was any methane present in the atmosphere. No methane was detected and relatively little smoke or dust was present at that time. About this time, several men arrived from the shaft bottom with a locomotive and they were instructed to go into the main south entry and pick up two men that had preceded them into this entry; however, they were instructed to return to the shaft bottom if they felt any effects of afterdamp. The motor crew traveled only a short distance into the main south when they found one of the men in a dazed condition, due to the effects of afterdamp. He was brought to the surface where he recovered, but the other man was further inside, and his body was not found until the last day of recovery operations. At this time, the night foreman and several other men arrived at the scene. Niernmann received a telephone call from someone at 13 north 1 west requesting help for several men that were at the 13 and 14 north junction. He instructed the night foreman and the men that were with him to proceed to 13 north in the intake air, but not to go beyond 13 north. After he had issued these instructions he returned to the surface.

Upon Niernmann's return to the surface at 4:40 p.m., he found that Driscoll Scanlon, State Mine Inspector, had arrived at the mine. Scanlon immediately ordered the electric power to be cut off from the mine. He then proceeded to the mine office to ascertain if the officials of the State Department of Mines and Minerals and the supervising engineer of the Bureau of Mines had been notified of the disaster. He then went into the mine with Niernmann. While passing the motor barn near the shaft bottom, the telephone rang; answering the telephone, he found that the call was made by one of the four men who came out of the 14 north entry alive after the explosion, and he instructed the survivors to stay at 13 north until

he returned to the surface and obtained electric cap lamps. Upon his arrival on the surface at 7:45 p.m., he found that the DuQuoin rescue team and James Sneddon, State safety engineer, had arrived. Scanlon and Sneddon entered the mine with the rescue team at 8 p.m. and proceeded to 13 north 1 west and brought the survivors to the surface on stretchers. While rescuing the four survivors at 13 north, 16 bodies were found along the 1 west haulage road at 13 north.

The intake air enters the 1 west haulage entry through an overcast 1,200 feet inby the shaft bottom, and the return air passes under the main south overcast, which places the haulage road between the shaft bottom and the 1 west on return air. As a result, the return airway had to be closed with a temporary stopping and the doors at the entrance to 1 west had to be opened to short-circuit the ventilating current and place the roadway between the shaft bottom and the 1 west entry on fresh air. This procedure had to be followed each time rescue teams changed.

Starting with the second crew which entered the mine at midnight, March 26, several of the Bureau men accompanied each crew and assisted with the direction of the recovery operations. Each rescue crew consisted of two mine rescue teams and from 30 to 40 fresh air men, as well as several State mine inspectors.

The second rescue crew advanced to 15, 16, and 17 north abandoned room-panel entries off 1 west, and found the seals destroyed and carbon monoxide emanating from the abandoned area. This rescue crew returned to the surface and was relieved by another crew.

Due to the violence of the explosion, all stoppings and doors inby 15 north 1 west and the stoppings between 20 and 21 north off 4 west were destroyed. As a result, recovery work was delayed considerably because building material had to be obtained and transported from the surface into the mine, and stoppings had to be built to provide ventilation for the recovery crews to advance. Delays were also incurred because of the amounts of carbon monoxide encountered, which had to be cleared before exploration could be continued.

The rescue crews were organized in four shifts, and were under the direction of Robert M. Medill, Director of the Illinois Department of Mines and Minerals.

Recovery work was started at 13 north 1 west and was continued on through 18, 19, 20, and 21 north room entries and the 1 and 2 west main entries. The recovery work through this area was retarded because of the effects of the violence of the explosion. Recovery work in the 20, 21, and 22 north and 23 and 24 south room entries off 4 west progressed rapidly because of little violence.

The last body was recovered in 20 north off 4 west at 5:30 a.m.,

March 30. Immediately after the last body had been recovered, several crews of men reentered the mine to restore ventilation and to direct the air current in its proper course by removing temporary stoppings from the mouth of room entries and by building additional stoppings where they were required. This work was completed at 6 a.m., March 30. The mine was closed against the entrance of persons for two days to permit afterdamp to clear up in the return. The working faces and haulageways were examined by certified officials on Wednesday, April 2, and the mine was found to be in a safe condition for the various investigating committees to proceed. The recovery operations were officially ended at 9 a.m., April 2, 1947.

INVESTIGATION OF CAUSE OF EXPLOSION

An investigation to determine the cause of the explosion was made by the United States Bureau of Mines on April 2, 3, and 4, 1947. Investigators for the Bureau of Mines were Federal Coal-Mine Inspectors M. J. Ankeny, W. A. Gallagher, F. J. Smith, and Frank Perz, and Mining-Explosives Engineer J. S. Malesky.

Investigations of the disaster were also made by a Fact Finding Commission appointed by the Governor of Illinois, by the Illinois State Mining Board, by a committee of the Illinois State Legislature, by the Coroner of Washington County, Illinois, and by a committee of the United States Senate. No decision as to the cause and origin of this explosion had been released by any of these investigating groups at the time this report was completed.

DETAIL OF EVIDENCE

The map of the mine, Appendix "A", shows the underground abandoned and active workings, the locations of the shafts, the location of the fan, and the course of the ventilating current previous to the explosion. This map also shows the probable point of origin of the explosion, the approximate area traversed by flame and the approximate area affected by violence. The map of the explosion area, Appendix "B", shows on a larger scale the course of the ventilating current previous to the explosion, the probable point of origin, the approximate area traversed by flame, and the approximate area affected by violence. In addition, this map shows the location of bodies of the victims of the disaster, the direction of major forces, the locations where dust and air samples were taken during the investigation, together with reference numbers thereto, and the points on the entries where the rock dust zones terminated as of the day of the explosion.

Methane as a Factor in the Explosion

Very little methane was liberated in the mine during normal operations previous to the explosion. At the time of the last Federal inspection, the

shots in the second crosscut from the face. The explosion must have occurred very soon after these shots were ignited, but before the shot firer had time to leave the crosscut. His body was found along the right rib of this crosscut.

No evidence of movement of materials or other evidence of force could be found in rooms 13, 14, or 20, nor in any other working places in 18 or 19 north that would indicate that the explosion might have originated in one of these places. The information herein presented with reference to 18 and 19 north, and the workings thereof, leads to the conclusion that the explosion probably occurred before any of the ignited shots were detonated and that the explosion did not originate in any of these places.

20 and 21 north section, 1 west

Room 5, 20 north	Face of room and crosscut to right shot down.
Room 6, 20 north	Face shot down.
Room 7, 20 north	Face of room shot down. Crosscut to left undercut but not drilled. Drill truck in room 70 feet from room switch.
Room 8, 20 north	Face shot down.
Room 9, 20 north	Face shot down.
20 north entry	Face shot down.
21 north entry	Face cleaned up.
Room 9, 21 north	Caved at face prior to explosion.
Room 8, 21 north	Face shot down.
Room 7, 21 north	Room face and crosscut to left shot down.
Room 6, 21 north	Face of room partly loaded out.
Room 5, 21 north	Face cleaned up.
Room 4, 21 north	Face cleaned up.
Room 3, 21 north	Face cleaned up. Clean-up car at face.

From the foregoing data, it is known that blasting was not being done at the face of 21 north entry or in rooms 3, 4, 5, 6, and 9 off 21 north. Blasting was completed in 20 north entry, rooms 5, 6, 7, 8, and 9 off 20 north, and in rooms 7 and 8 off 21 north. The coal falls in all places

appeared to be normal and there was no definite indication of forces in an outby direction between the faces and the first crosscuts of any of these places. The bodies of the shot firers were found with a number of other men at the man-trip, approximately 250 feet outby the face of 21 north. The entire 20 and 21 north sections 1 west were traversed by flame during the explosion. No evidence was found that would indicate that the explosion may have originated in the workings of 20 and 21 north 1 west.

20, 21, 22 north section, 1 west

Room 36, 20 north	Face of room and crosscut on the left cleaned up.
Room 37, 20 north	Face of room and crosscut on the left cleaned up.
Room 38, 20 north	Face of room cleaned up.
Room 39, 20 north	Face of room and crosscut to left cleaned up.
Room 40, 20 north	Face of room and crosscut to left cleaned up.
Room 41, 20 north	Cutting machine sumped in and half way across face. Controller off.
Room 36, 22 north	Face of room cleaned up. Crosscut to left partly cleaned up. Loading machine back from face, nips off.
Room 37, 22 north	Face cleaned up. Crosscut to left cut through and shot down.
Room 38, 22 north	Face and crosscut to left shot down.
Room 39, 22 north	Face of room shot down. Body of shot firer found 75 feet from face near last open crosscut. Shot firer's cap found at face. Crosscut to the left driven in three cuts. Six shots charged at face. Three bottom shots and top-right shot were not ignited, but indicated heat on fuses projecting out of holes. Top-left shot and middle shot blown out.

From the foregoing data it is known that blasting was not being done in any of the rooms off 20 north or in room 36 off 22 north. Blasting was

completed in rooms 37 and 38, 22 north; the coal fall in these places appeared to be normal. In room 39 off 22 north, the face of the room was shot down and the coal fall appeared to be normal, but the last crosscut on the left which had been driven three cuts contained four unexploded charges and there was positive indication that the right top hole and the top center hole had been ignited and had blown out. Fuses attached to the undetonated charges showed positive indications of heat on the outer surfaces. Three of the charges which were not detonated were probed during the investigation and it was found that they had been stemmed with coal dust in paper dummy bags. The body of the shot firer was found 75 feet from the face near the last open crosscut.

It is customary for the two drillers who act as shot firers to ignite the shots as soon as possible after the men have left the working faces so that they will not delay the starting of the man-trip toward the shaft bottom. Accordingly, it is presumed that the two shot firers entered 38 room and one ignited the shots in the crosscut while the other ignited the shots in the face. One of the shot firers then proceeded to room 37 and ignited the shots in the face, after which he proceeded to the man-trip where his body was found. The other shot firer, after igniting the shots in room 38, proceeded to room 39 through one of the open crosscuts, but was caught by the explosion before he reached the crosscut where he was to fire the shots. A period of approximately six minutes or more would expire between the time the first shot was ignited and the time that shot would be detonated. Taking into consideration the amount of work to be done by the shot firers and the locations of their bodies as left by the explosion and the time required for the first shot to detonate after it was ignited, the investigators were of the opinion that the explosion occurred before any of the shots ignited in 37 and 38 rooms detonated. Moreover, no evidence of movement of materials or other evidence of force could be found in these rooms or in any other working places in 20 or 22 north that would indicate that the explosion may have originated in one of these places. It is concluded, therefore, that the explosion did not originate in 20, 21, or 22 north 4 west or the working places thereof.

1 west section

1st A.C. room 1 west	Face shot down.
2nd A.C. room 1 west	Face shot down. Crosscut to right cleaned up.
1 west entry	Face and crosscut to left shot down. (See "Probable Point of Origin.")
2 west entry	Face shot down.
1st A.C. room 2 west	Face undercut and machine loaded on truck and moved back from face.

2nd A.C. room 2 west

Face shot down. Loading machine
at face, nips off.

The preceding data together with the fact that the bodies of the two shot firers were found at or near the man-trip on 1 west approximately 250 feet from the face indicated that the blasting operation was completed in this section, insofar as the ignition of the fuses was concerned, when the explosion occurred. Five places were blasted in this section on the afternoon of the explosion. Assuming that at least six minutes had elapsed from the time the first shot was ignited to the time the first shot was detonated, it is believed that the shot firers had sufficient time to ignite all of the shots and travel to the man-trip loading station where their bodies were found, before the first shot exploded.

All of the coal falls in the 1 west section, except the one at the face of 1 west, appeared to be normal and there was no evidence of blown-out shots.

Probable Point of Origin

The 1 west entry had been driven approximately 85 feet beyond the last open crosscuts to the right and left, and a crosscut had been turned to the left about 20 feet back from the face (See sketch, appendix "C"). A switch was in the process of being installed at this crosscut when the shift ended on the day of the explosion. A wooden spike box was upset and the spikes spilled on the floor, indicating forces outby. About 10 feet outby the spike box was a track wrench which had evidently been moved outby from the place where the trackman had been working. About 15 feet outby the track wrench, a tie had been lifted up and one end moved outby. A trackman's hammer was found near the last open crosscut to the left. It is believed that this hammer was moved outby from the point where the switch was being laid. Heavy deposits of plastic coke were present on the corner of the outby rib of the last open crosscut to the left. A bit box was upset at the bit station (See sketch, appendix "C"), with forces indicated outby. An oil barrel that was located at the bit station was blown outby for a distance of about 20 feet. Partially burned paper dummy bags, which were located at the bit station before the explosion, were found in the last open crosscuts to the right and left, indicating that when the forces from 1 west reached the junction of these crosscuts with 1 west, the explosion spread through openings in all directions from this point.

There was no evidence of a blown-out shot at the face of 1 west. There was, however, some indication that would lead to the belief that the top rib shot was underburdened. The fact that the shot did not pull all of the coal at the right rib in a normal fashion suggests that an underburdened shot may have occurred.

In any event, a blown-out shot of explosives that was stemmed with

coal dust, or an underburned shot of explosives could have ignited the coal dust. The dust cloud could have been raised by the shot which ignited the dust, or it could have been raised by preceding shots in the same working place or the adjacent crosscut.

Permissible explosives will not produce dust explosions often, even if fired in the hazardous manner and under the hazardous dust conditions described in this report. But, when such hazardous practices and conditions are continued over a long period of time, the right combination of circumstances, such as a blown-out or open shot and an ignitable dust cloud in the presence of such shot, will likely precipitate an explosion sooner or later.

SUMMARY OF EVIDENCE

Conditions observed in the mine following the explosion, together with information available from previous Federal coal-mine inspection reports, provided ample evidence as to the point of origin and cause of the explosion. Facts based on this evidence are summarized as follows:

1. The mine was dry and dusty and heavy deposits of fine coal dust were present on the roof, ribs, floor, and timbers of all active working sections in the mine.
2. Rock dust had not been applied in rooms, nor in entries for a considerable distance back from the working faces.
3. Methane in an appreciable amount was not found during recovery operations and only a very small quantity of methane was found in air samples collected in poorly ventilated working faces during the investigation. No evidence was found to indicate that methane was involved in this explosion.
4. The explosion occurred at the end of the shift after all face operations had ceased, except for the blasting operations. Blasting was the only operation in progress capable of raising an ignitable dust cloud into the air at the time the explosion occurred.
5. Permissible explosives were being fired in a nonpermissible manner with caps and fuse, and coal dust was being used for stemming.
6. Major forces of the explosion radiated from the face workings of the 1 west entry in all directions toward open workings.
7. Flame from the explosion died away rapidly upon reaching rock-dusted zones in entries and upon reaching old abandoned workings in which falls covered up much of the coal dust which was left by the mining operations.

8. The only working place in which there was definite evidence of forces traveling outby in the area between the face and the last open crosscut was the face of 1 west entry.

9. There was definite evidence of radiation of forces to the north, south, and east at the junction of 1 west and the last open crosscuts to the right and left.

CAUSE OF THE EXPLOSION

Representatives of the United States Bureau of Mines who investigated the disaster are of the opinion that the explosion originated at the face of 1 west entry, that it was strictly a coal-dust explosion which was propagated by coal dust throughout four working sections of the mine, and that the coal dust was raised into the air and ignited by explosives fired in a dangerous and nonpermissible manner.

LESSONS TO BE LEARNED FROM THE CONDITIONS AS THEY RELATE TO THE EXPLOSION

1. The outstanding lesson to be learned from this disaster is that mines which liberate little or no methane are not immune from widespread and tragic explosions if dry and dusty conditions exist therein and adequate measures are not taken to control the dust hazard.

2. This explosion has forcefully demonstrated the need to re-evaluate the dust-explosion hazard. Up to the present time, it has not been customary for the coal-mining industry, the Bureau of Mines, State Departments of Mines, or any other group dealing with mine safety matters to regard dry and dusty conditions in mines as constituting an imminent danger of such magnitude as to warrant the withdrawal of men, particularly if the mine does not liberate methane. If explosions of this type are to be prevented, it will be necessary to regard dry and dusty conditions in mines as being imminently dangerous in the future and to withdraw the men from the mine or portion thereof where such dangerous conditions exist, until appropriate measures have been taken to remedy such conditions.

3. The partial rock dusting of mines as a remedy for the coal-dust explosion hazard leads to a false sense of security. In this instance, the application of rock dust on haulage entries did not prevent the explosion from propagating from room to room through crosscuts. A study of the conditions revealed that this explosion propagated throughout four sections of the mine by traveling mainly through rooms and dying out as it reached the rock-dusted haulage roads and old abandoned areas. The spread of dust explosions from one working place to another will be prevented by means of rock dusting only when rock dust is applied in all working places up to and including the last open crosscuts. The application of rock dust along the haulage entries in this mine appears to have prevented the propagation of flame to the shaft bottom and probably saved the lives of 31 men.

4. Permissible explosives, charged and fired in a permissible manner, are safe explosives. Permissible explosives stemmed with coal dust and fired with fuse in a dependent sequence are dangerous. The maximum safety will be obtained, however, when all shots are fired in a permissible manner while all men except the shot firers are out of the mine.

5. Evidence obtained during the recovery operations indicated that 44 men working in two sections of the mine, not affected by the flame or violence of the explosion, could have saved themselves if they would have had a knowledge of the principles of erecting barricades after explosions.

RECOMMENDATIONS

Recommendations concerning the safe operation of this mine were made in reports of previous Federal inspections, the last inspection having been made March 17-20, 1947. Recommendations in this report, therefore, are limited to conditions as they related to explosion hazards.

Recommendations Based on the Federal Mine Safety Code
For Bituminous-Coal and Lignite Mines of the United States

ARTICLE IV - EXPLOSIVES AND BLASTING

Sections 5a1 and 5a2. Permissible explosives should be fired only with electric detonators of proper strength by means of permissible shot-firing units.

Section 5a5. Unless all shots are fired in series or in group series, an examination should be made of each shot, before it is fired, to see that it has a burden in all directions of at least 18 inches. If groups of shots are fired in series, an examination should be made of each series, before it is fired, to see that all holes in the series have a burden of at least 18 inches.

Section 5a6. Boreholes should be stemmed with at least 24 inches of incombustible material or at least one-half of the length of the hole should be stemmed if the hole is less than 4 feet in depth.

Section 5a7. Examinations for gas should be made immediately before and after each shot, if shots are fired while men other than the shot firers are in the mine.

Section 5d. All shots or series of shots should be fired immediately after charging, where shooting is done while men other than the shot firers are in the mine.

ARTICLE V - VENTILATION AND MINE GASES

Sections 3a and 3b. The main intake air current should be divided into splits utilizing air crossings where needed, so as to ventilate all parts of the mine effectively. The number of men working on onesplit of air should not be more than 100 in order to conform to the requirements of the Illinois State Mining Law.

Section 3c. The quantity of air reaching the last open crosscut in any pair or set of entries should not be less than 6,000 cubic feet a minute.

Section 6f. Stoppings in crosscuts, between intake and return air courses, in entries other than room entries, should be built of solid, substantial incombustible material, such as concrete, concrete blocks, brick or tile.

Section 10d. Mine examiners should begin their examination in the first working place in their assigned territory not more than 4 hours before the shift for which they are examining enters the mine.

Section 10j. At least once during each working shift while the men are in the mine, the face bosses or other designated officials should

examine all working places with a permissible flame safety lamp for methane noxious gases, and oxygen deficiency.

ARTICLE VI - COAL AND ROCK DUST

Section 1a. Coal dust should not be permitted to accumulate on haulage roads or on the roadways of the working places.

Section 1b. Water or water with a wetting agent added to it should be applied to the cutter bars of mining machines and to the loading heads of loading machines. Machine cuttings, unless they are damp, should either be loaded out before blasting or they should be wetted with water.

Section 2a. and 2b. Rock dust should be applied to within 80 feet of the faces in all open, unsealed rooms, haulage entries, and parallel entries connected thereto by open crosscuts. Back entries should be rock-dusted for at least 1,000 feet outby the junction with the first active entry.

Section 2c. Where rock dust is applied it should be distributed upon the top, floor, and sides of all open places and maintained in such quantity that the incombustible content of the mine dust will not be less than 65 percent.

ARTICLE XI - MISCELLANEOUS

Section 5a. All workmen and other persons underground should use only permissible electric cap lamps for portable illumination.

Section 5b. Each workman should be provided with an identification check which he should be required to carry on his person at all times while underground. An accurate record of the men in the mine should be kept on the surface and said record should bear a number identical to the identification check carried by the person underground.

Section 6a. Smoking or the carrying of matches or other flame-making devices into the mine should be prohibited.

SUPPLEMENTAL RECOMMENDATION NOT SPECIFICALLY COVERED BY THE FEDERAL MINE SAFETY CODE

Rock dust should be applied up to and including the last open crosscuts in rooms and entries. The face area from the end of the rock-dusted zone to the face should be kept damp with water or a wetting solution.

ACKNOWLEDGMENT

The writers acknowledge the courtesies extended and the help given by officials of the Centralia Coal Company, Members of the United Mine Workers of America, and representatives of the Illinois Department of Mines and Minerals, who gave, without reservation, all information requested in connection with this investigation.

Respectfully submitted,

(Signed)

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(Signed)

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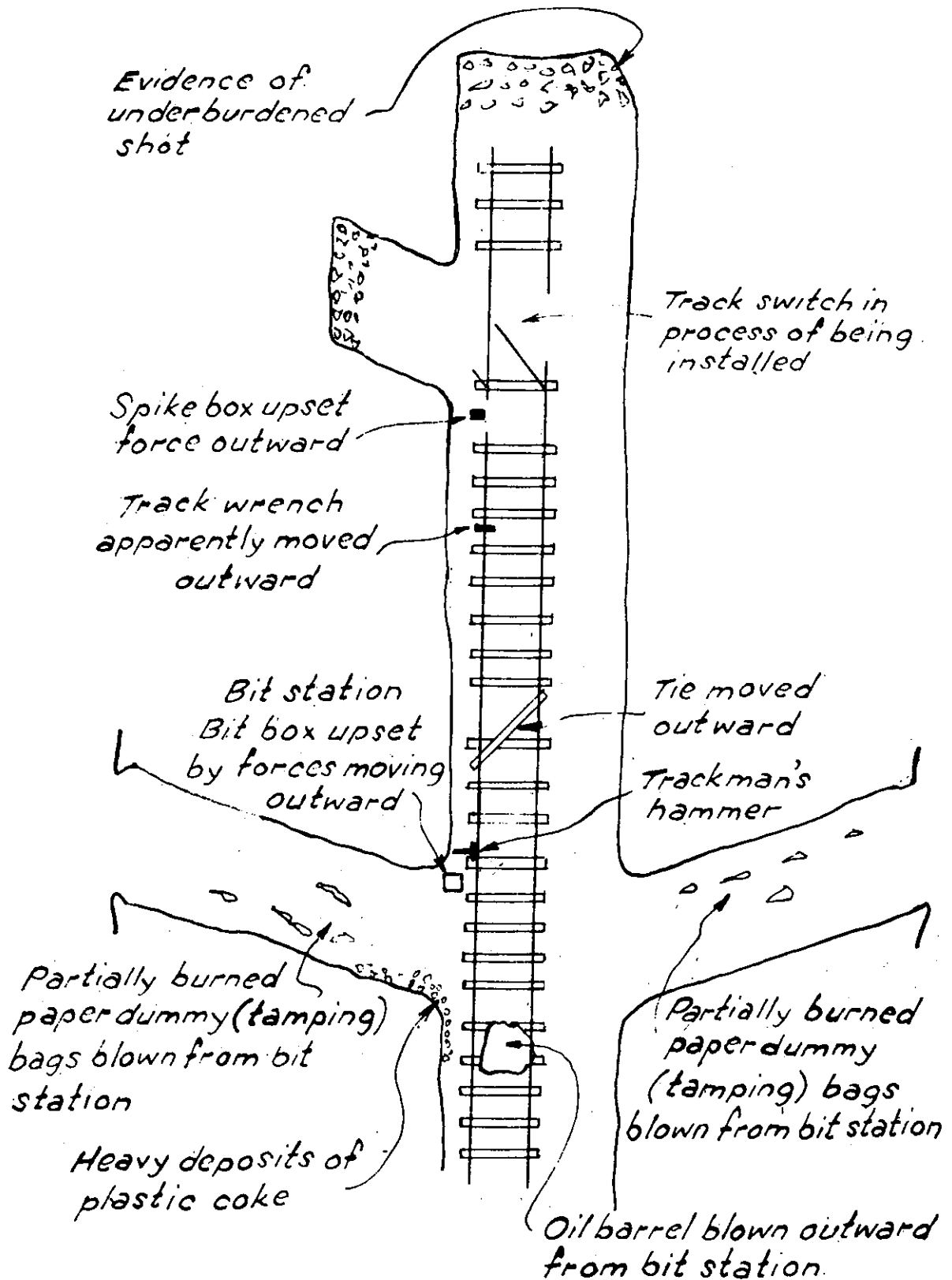
D. Harrington, Chief
Health and Safety Branch

APPENDIX B

DETAIL OF EVIDENCE - See reference numbers on map.

1. Troughs filled with rock dust--not tripped.
2. Door forced open in opposite direction. Telephone knocked off post.
3. Door blown out.
4. Door forced open in opposite direction. Repairman's truck blown off track.
5. Empty car blown off track.
6. Nine empty cars derailed on sidetrack.
7. Body of repairman.
8. Cable-reel locomotive. Controller cover damaged. Debris in cab.
9. Body of motorman who acted as examiner for night shift in car next to locomotive. Another body on floor just in by car.
10. Two bodies.
11. Seven bodies.
12. Explosives-storage box for section. One part box of explosives burned and several rolls of burned and charred fuse. Some undamaged explosives in box.
13. Cable-reel shuttle car.
14. One body.
15. Body of section boss.
16. Body of shot firer.
17. Face of No. 39 room shot down. Four shots in crosscut, 3 bottom holes and top hole along right rib not fired. Ends of fuses charred. Center top hole and top hole along left rib fired, apparently lit by flame of explosion.
18. Loading machine in crosscut to left. Nips disconnected from power wires.
19. Drill truck turned over, wheel broken off. Drill and other tools scattered about truck. Nips disconnected from power wires.
20. Mining machine sumped in and more than half way across face. Nips disconnected from power wires.
21. Sixteen bodies in or at man-trip cars on 1 west. Man-trip consisted of locomotive and 2 cars. Six empty cars in cross-over in by man-trip. Five cars were off track. Two empty cars off track on 2 west in by cross-over.
22. Loading machine at face. Nips disconnected from power wires.
23. Place cut. Mining machine loaded on truck and moved back from face. Nips disconnected from power wires.
24. Loading machine.
25. Locomotive on 20 north on track. Controller in off position. Two bodies at locomotive.
26. Man-trip consisting of locomotive and two cars. Locomotive and cars off track. Fourteen bodies in and around man-trip.
27. Loading machine on entry. Nips disconnected from power wires.
28. Trackman's truck blown off track.
29. Drill truck 70 feet from face of room. Nips disconnected from power wires.

30. Mining machine blown off track.
31. Explosives container destroyed and loose explosives strewn about floor.
32. Door blown open, but not destroyed.
33. Locomotive-controller cover blown off.
34. Man-trip consisting of locomotive and two cars. Ten bodies in and alongside man-trip.
35. Five empty cars twisted and overturned.
36. Three empty cars twisted and overturned. Axle broken on one car.
37. Loading machine. Nips disconnected from power wires.
38. One body found at face rolled up in ball along left rib.
39. Four bodies near face of room.
40. One body along right rib in crosscut.
41. Body of mining machine operator.
42. One body. Sand box on entry destroyed.
43. Mining machine controller at neutral. Nips disconnected from power wires. Drill truck outby mining machine. Drill, tools, and loose explosives scattered outby truck.
44. Limit of rock dust on entries.
45. Limit of rock dust on 1 west entry.
46. Concrete block seals blown in.
47. Approximate extent of rock dusting on 20, 21, and 22 north entries off 4 west.
48. Approximate extent of rock dusting on 23 and 24 south entries off 4 west.
49. Bodies of 16 workmen from 13 and 14 north section found grouped near 1 west junction.
50. Four men from face walked out to junction with 1 west where they were rescued along with pumper from along 1 west. Pumper died later on surface.
51. Fourteen bodies huddled at face, most of whom left notes. Latest time dated in notes was 7 p.m.
52. Thirteen bodies grouped along entry.
53. Body of substation attendant.
54. Body of motorman found along 4 west haulage road.



APPENDIX "C"

SKETCH SHOWING DETAILS OF EXPLOSION EVIDENCE
AT AND NEAR FACE OF I WEST S-240

APPENDIX D

List of Men Killed in Mine Explosion No. 5 Mine, Centralia Coal Company March 25, 1947

Name	Age	Occupation	Address
Machine #1 - 18 and 19 north off 1 west			
Pete Lenzini	62	Driller	1403 S. Hickory, Centralia, Illinois
Thomas M. Bush	63	Clean-up	813 N. Hickory St., Centralia, Illinois
Anton Chariottino	65	Tracklayer	Sandoval, Illinois
Joe Zinkus	54	Timberman	1137 Dover Street, Centralia, Illinois
Archie Schofield	50	Machineman	1325 Weston Avenue, Centralia, Illinois
John Pick	56	Joy Operator	516 W. Rexford Street, Centralia, Illinois
Adolph Gutzler	48	Joy Helper	515 S. Maple Street, Centralia, Illinois
Richard Privette	39	Timberman	DuBois, Illinois
Gus Hohman	54	Motorman	623 S. Hickory Street, Centralia, Illinois
Albert Friend	36	Trip Rider	Rickview, Illinois
Nick Basola	43	Clean-up	Sandoval, Illinois
Angelo Gallassini	61	Driller	636 Wabash Avenue, Centralia, Illinois
Frank Famera	50	Machineman	R. R. #2, Centralia, Illinois
John Grotti	32	Tracklayer	2404 Lamar St., Mt. Vernon, Illinois
George Panceroff	24	Trip Rider	1413 Case Street, Centralia, Illinois
John Pawlisa	22	Tracklayer	R. R. #1, Centralia, Illinois
Charlie Cagle	54	Timberman	425 S. Walnut Street, Centralia, Illinois
Machine #3 - 23 and 24 south 4 west			
Fred W. Gutzler	57	Driller	740 S. Cherry Street, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Louis Piazzzi	63	Machineman	302 W. 16th Street, Centralia, Illinois
Bruno Gaertner	47	Joy Operator	612 N. Poplar Street, Centralia, Illinois
Carl Rohde	46	Machineman	318½ E. Broadway, Centralia, Illinois
Joe Ballantini	58	Driller	1427 Marion Avenue, Centralia, Illinois
Anton Tillman	67	Clean-up	1100 N. Elm Street, Centralia, Illinois
Leo R. Dehn	53	Clean-up	1207 S. Hickory Street, Centralia, Illinois
Edward Hofstetter	68	Tracklayer	1210 Weston Avenue, Centralia, Illinois
Celso Biagi	62	Tracklayer	338 N. Douglas Street, Centralia, Illinois
Joseph Cerutti	36	Trip Rider	1535 S. Poplar Street, Centralia, Illinois
Joe Altadonna	60	Timberman	Sandoval, Illinois
Tony Giovannini	65	Timberman	Sandoval, Illinois
Raymond Buehne	30	Joy Helper	212 S. Commercial Street, Centralia, Illinois
Joe Bryant	48	Motorman	Sandoval, Illinois
Machine #4 - Straight 1 west			
Miles McCollum	65	Driller	515 N. Maple Street, Centralia, Illinois
Ray Fouts	47	Trip Rider	R. R. #5, Centralia, Illinois
Glenn Purcell	34	Motorman	556 N. Hickory Street, Centralia, Illinois
Chas. McGreavey	57	Machineman	112 N. Walnut Street, Centralia, Illinois
Chas. McHenry	50	Clean-up	910 E. Broadway, Centralia, Illinois
Arthur H. Carter	54	Trackman	522 W. Rexford Street, Centralia, Illinois
Martin Freeman, Sr.	39	Machineman	427 W. 6th Street, Centralia, Illinois
William Mentler	61	Trackman	1021 S. Hickory Street, Centralia, Illinois
John Busse	59	Joy Operator	R. R. #5, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Domenick Beneventi	54	Joy Helper	1224 E. Rexford Street, Centralia, Illinois
Chas. Oestreich	61	Driller	412 S. Beech Street, Centralia, Illinois
Eugene Erwin	45	Clean-up	225 N. Broadway, Centralia, Illinois
H. W. Sundermeyer	47	Timberman	R. R. #6, Centralia, Illinois
Machine #5 - 20 and 21 north 1 west			
Henry Hoeinghaus	56	Motorman	R. R. #1, Woodlawn, Illinois
George Powell	40	Trackman	Odin, Illinois
Alfredo Pollacci	69	Clean-up	R. R. #5, Centralia, Illinois
Emmett Uhls	49	Joy Helper	Sandoval, Illinois
Paul Comper	53	Machine-man	110 Hardin Street, Centralia, Illinois
John Figielek	48	Machineman	R. R. #5, Centralia, Illinois
Louis Grotti	45	Driller	R. R. #5, Centralia, Illinois
Jacob Schmidt	56	Driller	719 College, Centralia, Illinois
Frank Paulauskis	62	Clean-up	606 Wabash Avenue, Centralia, Illinois
Andrew Spinner	51	Trackman	Sandoval, Illinois
Henry Knicker	59	Trackman	503 W. 17th Street, Centralia, Illinois
Walter Pelker	31	Timberman	DuBois, Illinois
Dominic Cervi	53	Timberman	Sandoval, Illinois
Jacob Rethard	60	Joy Operator	311 W. 15th Street, Centralia, Illinois
Harold Bryant	24	Trip Rider	Sandoval, Illinois
Machine #6 - 13 and 14 north 1 west			
Joe Spinner	57	Clean-up	320 N. Elm Street, Centralia, Illinois

APPENDIX D - (Continued)

Name			
Julius Piazzzi	27	Rockman	302 W. 16th Street, Centralia, Illinois
Fred Moore	49	Timberman	501 S. Locust Street, Centralia, Illinois
John H. Gutzler	63	Machineman	721 S. Cherry Street, Centralia, Illinois
Andrew Farley	58	Clean-up	Beckemeyer, Illinois
Pietro Ballantini	69	Driller	R. R. #5, Centralia, Illinois
Charles Peart	60	Trackman	Sandoval, Illinois
Pete Piasse	46	Joy Operator	Sandoval, Illinois
Max Zonarini	65	Timberman	1403 S. Hickory Street, Centralia, Illinois
Elmer G. Moss	33	Joy Helper	Sandoval, Illinois
Dude Vancil	46	Motorman	1509 S. Locust Street, Centralia, Illinois
Machine #7 - 23 and 24 south 4 west			
Joseph H. Peiler	46	Joy Helper	Beckemeyer, Illinois
Joseph Koch, Sr.	65	Clean-up	Beckemeyer, Illinois
Luther Frazier	41	Driller	Beckemeyer, Illinois
Dominick Lenzini	59	Timberman	1028 E. Cormick, Centralia, Illinois
Ned Jackson	34	Motorman	Odin, Illinois
Walter H. Fetgatter	55	Machineman	134 E. Prairie, Centralia, Illinois
John Placek	45	Joy Operator	Beckemeyer, Illinois
John Mazeka	46	Driller	Beckemeyer, Illinois
Iec Gerard Shaw	44	Buggy Operator	449 Bicknell Street, Centralia, Illinois
Anton Skrobul	63	Machineman	Beckemeyer, Illinois
Stanley Teckus	54	Timberman	211 Peach Street, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Machine #8 - 20, 21, and 22 north 4 west			
George Evans	43	Clean-up	Sandoval, Illinois
Rodrigo Alvarez	50	Timberman	Beckemeyer, Illinois
Otto Buchne	62	Clean-up	128 W. Bell, Centralia, Illinois
Warrie L. Jackson	55	Motorman	1000 S. Locust Street, Centralia, Illinois
Daniel C. Sanders	66	Driller	Irvington, Illinois
Henry Niepoetter	42	Machineman	R. R. #1, Sandoval, Illinois
Nick Reggo	57	Timberman	1003 N. Poplar Street, Centralia, Illinois
James Tabor	42	Driller	512 N. College, Centralia, Illinois
Wm. F. Fortmeyer	25	Buggy Operator	Irvington, Illinois
Alfred Stevens	53	Joy Operator	Beckemeyer, Illinois
Clifford Copple	42	Motorman	R. R. #5, Centralia, Illinois
Fred Laughhunn	49	Machineman	737 S. Cherry Street, Centralia, Illinois
Philip Knight	46	Joy Helper	339 S. Broadway, Centralia, Illinois
Gang - 13 north 1 west			
Anthony Tickus	24	Trackman	1111 S. Marion, Centralia, Illinois
Charles Kraus	52	Motorman	710 N. Poplar Street, Centralia, Illinois
Martin Freeman, Jr.	20	Trackman	Sandoval, Illinois
Repairmen on #8 Territory - 20, 21, and 22 north 4 west			
Forrest Rhodes	45	Repairman	Sandoval, Illinois
Edward Bude	54	Repairman	409 Linden Street, Centralia, Illinois
Brattice Men Working Along First West			
Odia Lee Francis	70	Brattice man	1011 Hester Avenue, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Frank Copple	38	Brattice man	R. R. #2, Centralia, Illinois
Pumper - 1 west			
Mark Watson	71	Pumper	917 S. Hickory, Centralia, Illinois
Motor-Generator Set Operator - 4 west			
Alva Petrea	56	M. G. Operator	150 Washington Blvd., Centralia, Illinois
Foremen			
Alvin M. Barnes	46	Foreman #1 Machine 18 & 19 N. off 1 west	608 Wabash, Centralia, Illinois
Martin Basola	49	Foreman #3 Machine 23 & 24 S. 4 west	Sandoval, Illinois
Clarence Smith	54	Foreman #4 Machine Straight 1 west	435 W. 16th, Centralia, Illinois
Ray O. Smith	56	Foreman #5 Machine 20 & 21 N. 1 west	401 S. Sycamore, Centralia, Illinois
Joseph Vancil, Sr.	50	Foreman #6 Machine 13 & 14 N. 1 west	R. R. #2, Centralia, Illinois
John W. Gutzler	54	Foreman #7 Machine 23 & 24 S. 4 west	812 S. Cherry Centralia, Illinois
Theo. Carriau	52	Foreman #8 Machine 20, 21, & 22 N. 4 west	841 E. Broadway, Centralia, Illinois
Harry A. Berger	54	Foreman Recove Gang 13 N. 1 west	325 S. Lincoln, Centralia, Illinois

APPENDIX D - (Continued)

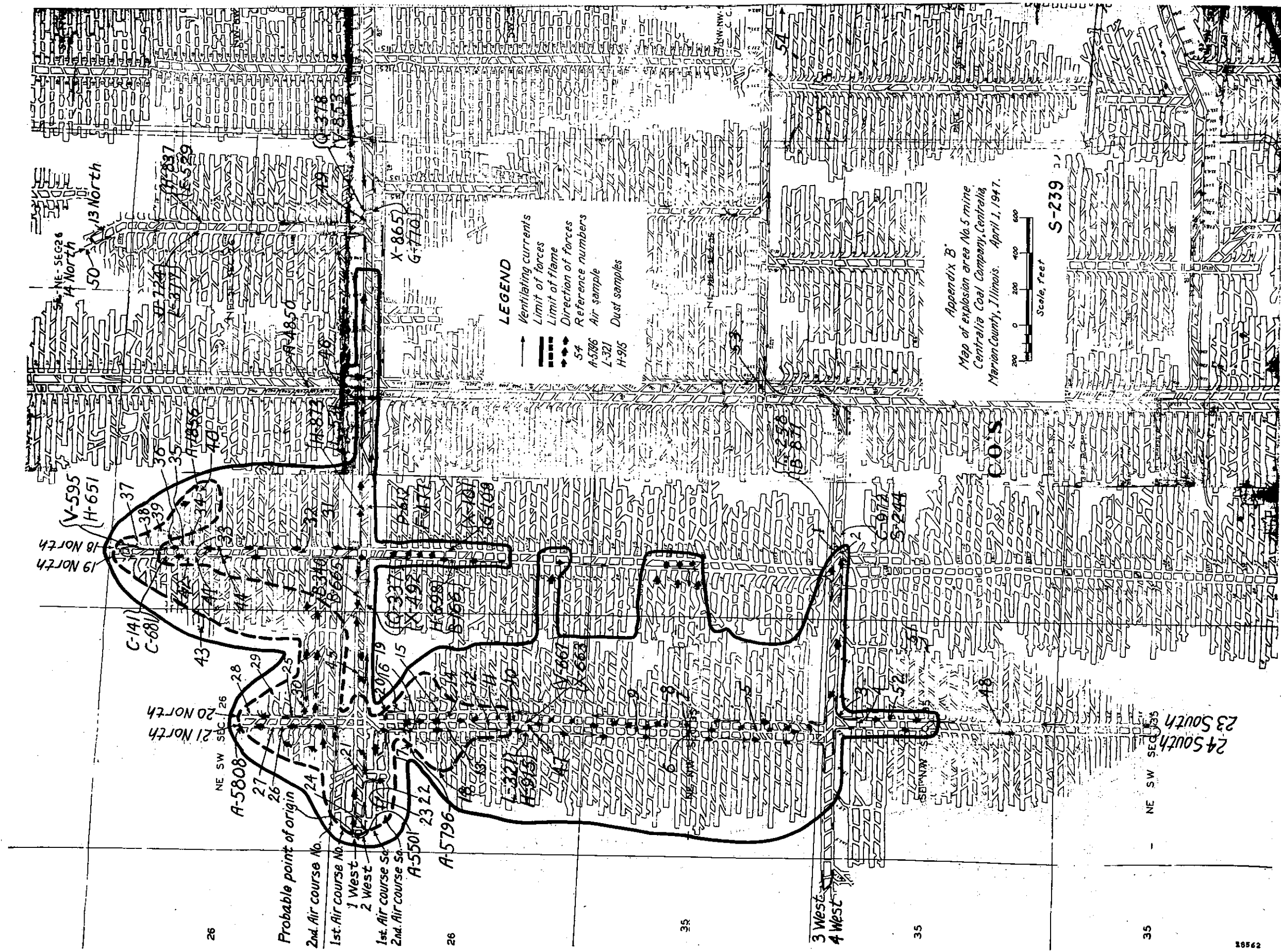
Name	Age	Occupation	Address
<u>SURVIVORS</u>			
Manzie Gregory	49	Swing Motorman 18 & 19 N. off 1 west	Walnut Hill, Illinois
August Holzhauer	52	Swing Motorman 23 & 24 S. 4W.	R. R. #3 Centralia, Illinois
Fred Bright	41	Swing Triprider Straight 1 west	723 Wilson, Centralia, Illinois
Wm. Rowekamp	58	Swing Motorman 20 & 21 N. 1 w.	R. R. #5 Centralia, Illinois
Joe Vancil, Jr.	20	Triprider 13 & 14 N. 1 west	R. R. #2, Centralia, Illinois
George Cruse	53	Swing Triprider 13 & 14 N. 1 W.	201 W. Bellevill Nashville, Illin
Wm. Oestreich	66	Driller 13 & 14 N. 1 west	111 E. 11t Centralia, Illinois
Ted Keil	44	Machineman 13 & 14 N. 1 west	DuBois, Illinois
John E. Pick	30	Triprider 23 & 24 S. 4 west	516 W. Rexford, Centralia, Illinois
John Lorenzini	41	Triprider 20, 21 & 22 N. 4 W.	340 W. 14th, Centralia, Illinois
Henry Ziegler	63	Motorman main line	R. R. #2, Centralia, Illinois
Harry Gutzler	55	Motorman main line	706 S. Cherry, Centralia, Illinois
Henry Goforth	45	Motorman main line	435 S. Hickory, Centralia, Illinois
Stephen Ben. Kirkland	69	Trapper 1 west	702 N. Beech, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Guy Baldridge	56	Trackman main line	1405 S. Locust, Centralia, Illinois
Clemence Zinkevich	50	Cager bottom	1423 Hester, Centralia, Illinois
Gus Harting	63	Cleaning road main line	1102 S. Hickory, Centralia, Illinois
George Reid	55	Pumper 1 west	R. R. #2, Centralia, Illinois
Walter Sundermeyer	48	Cleaning road main line	R. R. #5, Centralia, Illinois
Floyd Wiegel	24	Coupler bottom	R. R. #1, Centralia, Illinois
Harry Greathouse	24	Blocker bottom	315 $\frac{1}{2}$ W. 16th, Centralia, Illinois
Lawrence Merkle	48	Tripriider main line	Sandoval, Illinois
Earl Wilkinson	41	Tripriider main line	Sandoval, Illinois
Lawrence Sprehe	41	Repairman Motor room	433 Anderson, Centralia, Illinois
Fred Shaw	70	Repairman Motor room	1315 N. Elm, Centralia, Illinois
Don Soper	43	Repairman helper Motor room	Odin, Illinois
Settimo Pollacci	44	Repairmen - wire Motor room	R. R. #5, Centralia, Illinois
Lynn Sharp	44	Repairman Motor room	1536 S. Poplar, Centralia, Illinois
Scott Ward	59	Track layer 13 & 14 N. 1 W.	R. R. #2, Centralia, Illinois

APPENDIX D - (Continued)

Name	Age	Occupation	Address
Wm. H. Brown	51	Mine Manager	131 S. Elm, Centralia, Illinois
Fred Hellmeyer	53	Chief Electrician	917 S. Walnut, Centralia, Illinois.



STATEMENT OF J. A. KRUG, SECRETARY OF THE INTERIOR,
BEFORE SPECIAL SUBCOMMITTEE OF THE COMMITTEE ON
PUBLIC LANDS OF THE UNITED STATES SENATE.

April 10, 1947

Mr. Chairman and gentlemen of the Committee, what I will say to you today is to my thinking, the common sense of coal mine safety. The Centralia disaster shows vividly the need for redoubling efforts by everyone to improve mine safety and reduce the heavy loss of life which occurs every week in the coal mining industry. But I also want the Committee to know that, notwithstanding the Centralia disaster, the soft coal mines of the country are safer today than at any time in the history of this hazardous industry. This improved accident record, moreover, reflects only the beginning of the program we have set in motion. This has been done by adopting contract provisions and safety procedures over the bitter protests of many of the operators. This has been done in spite of an almost total lack of cooperation from the officials of the United Mine Workers.

The basic work of the Department of the Interior in the field of safety in the coal mines--that of inspection, standards, and education--is carried out by the Bureau of Mines. Enforcement of those standards during the temporary period of Government possession of the mines, has been provided through the Bureau of Mines and through the Coal Mines Administration, on the basis of reports by the Bureau of Mines. The Director of the Bureau of Mines, Dr. R. R. Sayers, and the Coal Mines Administrator, Captain N. H. Collisson, who will follow me, will give you a first-hand account of their work.

I shall not attempt to cover the same ground, but I would like to emphasize three central facts which I believe should be thoroughly understood by the Committee. In summary, these are:

First, The contract which the Government made with the United Mine Workers America last May inaugurated the two most important moves toward safety in the

history of the soft coal industry: the Federal Mine Safety Code and the powers granted the union Mine Safety Committees. The Safety Code has already become the Bible of coal mining safety. Everyone concerned with coal mining has known that its high standards cannot be met at once. Its requirements are, however, realistic and the operators and the miners can achieve its high standards in a reasonable period of time if they will work cooperatively together. As the second step, the Union Mine Safety Committees under the contract were, for the first time in history, given the powers to make safety inspections and reports and to close dangerous mines. The union made a compelling argument in the May negotiations that the handful of Federal inspectors could never achieve continuous mine safety without the day-to-day participation of the miners themselves. That argument was sound, whatever the dangers of abuse should the union pursue other ends through the safety machinery, and I accepted it.

Second. Under the Federal Mine Safety Code, as the President of the United Mine Workers has said, "there has been a marked improvement in safety conditons." Even including the horrible loss of life at Centralia, the statistical fact is that more than 100 miners are alive today who would have been dead were it not for the promulgation and enforcement of the Federal Safety Code. The Centralia accident did indicate, however, that imminent explosion dangers could not be detected with sufficient certainty through reliance upon the union Safety Committees, or upon the Federal and State inspectors. I therefore ordered closed 518 mines which our reports showed to be potentially dangerous, and sent 15 State Governors a list of 162 other mines which seemed to be in the same condition but which were not in Federal possession. The union Mine Safety Committees have apparently been instructed not to cooperate in this vitally important safety program, but we shall be able to carry through, though more slowly, with our own limited resources.

Third. The miners have not received any substantial safety benefit from the operation of their Mine Safety Committees or from the efforts of the international headquarters of the United Mine Workers. I know of no effort by the international headquarters of the union to instruct or to energize these Committees. Out of 2500 mines in Government possession, we have in 10 months received complaints from only 31 local Mine Safety Committees. The only effort to make effective use of these union Committees has come, in point of fact, from the men themselves and from the Department of the Interior. The Bureau of Mines has organized instruction classes for these Committees, and has already reached, through them, about a quarter of the mine workers. But the union officials must do their own work, and give some sorely needed emphasis to safety, if real progress is to be made.

Those, Mr. Chairman, are the three cardinal points which stand out in my mind in the recent history of efforts to improve safety in the soft coal industry. Here are the detailed facts:

I

Inauguration of the Safety Program

The President of the United States directed me to seize the soft coal mines on May 21, 1946 and the Krug-Lewis Agreement was signed eight days later. The Mine Safety Program, which is found in Section 2 of the Agreement, was worked out without great difficulty as there was no basic difference on these matters between the union and the Government.

Coal mining is one of the most hazardous of our basic industries. The country has accepted for too long a time a horrifying cost, in the lives of miners, for bringing coal out of the ground. Including all mines, both anthracite and

bituminous, during the past 5 years there have been a monthly average of about 5,300 accidents, including 105 deaths. Each year during this period an average of 3 miners out of every 1000 were killed and 130 others injured.

I considered that the negotiation of a Government contract with the union represented an unusual opportunity to make a start toward reducing these grim figures. We realized that opportunity in two ways.

1. The Code. The first way was the Federal Mine Safety Code, provided by Section 2(a) of the Krug-Lewis agreement. It was prepared by Dr. Sayers and his staff, after consultation with representatives of the union and of the operators, and Mr. John E. Jones, Safety Consultant to the Coal Mines Administration.

As I have said, this little book has already become the standard guide to coal mining safety. Its 84 pages are the distillation of years of experience and work in reducing the hazards that surround coal mining. They go far beyond any previous enforceable safety standards and yet, in the judgment of experts, are neither visionary nor impossible of eventual achievement.

The Committee will note that I speak of eventual achievement. There is not a man in the ranks of the United Mine Workers, among the operators, or in the Government who believed that its standards could immediately be met by any significant number of mines. The Code itself, in Article XV, suspended its requirements for equipment and supplies which were unobtainable, and directed that "due allowance shall also be made for planning, institution of changed procedures, and installation of new equipment."

I cannot emphasize too strongly, when the Committee considers the large number of so-called "violations" of the Code, that these deficiencies were expected by all informed persons, and that a large number of them are not violations at all but simply the anticipated and allowable failure by the time of the inspection, to have

completed the program of installation and innovation required by the Code. While there can be no justification for conditions of imminent danger, nothing could be more unrealistic than to assume that a mine is dangerously unsafe so long as there is a single "violation" of the Code, which can be a single miner carrying a single match into the mine (Article XI, Section 6(a)).

The Federal Mine Safety Code is generally believed to be the best piece of work ever done by any organization in the field of coal mine safety standards. The Krug-Lewis Agreement did not, however, rest upon standards alone but provided for enforcement through a combination of inspection by the regular coal mine inspectors of the Bureau of Mines, and compliance directions through the legal authority of the Coal Mines Administrator, as well as through the powers of the union Mine Safety Committees. The sanctions, under the Code consisted of withdrawing men from the mine in the event the inspector found "imminent danger" and a more flexible authorization of appropriate action for other cases.

The system thus set up is, I believe, a good one. No person has yet complained that the Federal Mine Safety Code is too lax, and prior to the Centralia disaster none had suggested that the enforcement machinery had any serious procedural fault.

2. The Committees. The Krug-Lewis Agreement did not, however, stop with the Federal Mine Safety Code. It adopted also an equally revolutionary reform, which the union had sought for many years. As a result the union Mine Safety Committees were given very substantial powers to enforce safety. Section 2(b) of that Agreement provides, in pertinent part:

"At each mine there shall be a Mine Safety Committee selected by the Local Union. The Mine Safety Committee may inspect any mine development of equipment used in producing coal for the purpose of ascertaining whether compliance with the Federal Safety Code exists.****

"If the Committee believes conditions found endanger the life and bodies of the mine workers, it shall report its findings and recommendations to the management. In those special instances where the Committee believes an immediate danger exists and the Committee recommends that the management remove all mine workers from the unsafe area, the operating manager or his managerial subordinate is required to follow the recommendation of the Committee, unless and until the Coal Mines Administrator, taking into account the inherently hazardous character of coal mining, determines that the authority of the Safety Committee is being misused and he cancels or modifies that authority."

I hesitated to accept this proposal when it was first advanced because, regardless of the meritorious purpose, it was susceptible of abuse and could be used by the union to call strikes for reasons having nothing to do with mine safety. My hesitation was overcome because I wanted to do everything possible to ensure the maximum degree of safety during the period of Government possession. Mr. Lewis made what I still consider to be a strong case for the local Mine Safety Committee. I do not recall the exact wording, but I remember very well the general argument. It ran much as follows:

It is unsound, the union insisted, to suppose that one or two hundred Federal coal mine inspectors, who are able to visit a particular mine only once or twice a year, can ever achieve reasonable mine safety through their unsupported efforts. Safety depends upon day-to-day operations, and is not a static condition. Without the active participation and cooperation of the miners, reasonable mine safety cannot be achieved. Without the minute-by-minute vigilance of these men, each one a safety expert in his own right, the mine is bound to revert to unsafe conditions or practices. With an active union Mine Committee in every mine there would be a constant police force to ensure against needless violations of the Code. In every mine there would be a group of experts, qualified by experience and alerted by the most rudimentary instincts of self-preservation, with power to close the mine the minute that it became dangerous.

In practice, the Mine Safety Committees have not yet contributed very much to mine safety. But the present operating deficiencies of the Committees do not destroy their potential value. The safety conditions in coal mines will never be satisfactory, whatever the powers and appropriations of Governmental authorities, until the union itself assumes, along with management, partnership and joint responsibility in finding and correcting the daily mine hazards.

II

Government Administration of the Code

1. Improvement in Safety. The Federal Mine Safety Code became effective July 29, 1946. The Government does not claim a sensational reform of the industry. But the Code has produced a substantial improvement in the safety conditions of the soft coal mines. I should like the Committee, in this connection, to note the similar conclusion of the President of the United Mine Workers in testifying, three weeks ago, before the Mines and Mining Subcommittee of the Senate Committee on Public Lands. He said:

"Under that Code there has been a marked improvement in safety conditions. ***

"So I point out that during the period in which the present mining code promulgated by the Bureau of Mines and stipulated as to its enforcement by the contract with the Government has been in operation there has been a diminution in accidents on the basis of man-hours exposure, ***. So that constitutes a distinct contribution to the improvement of safety in the industry. ***

"I think the Bureau of Mines can be most helpful, and during the last two years [sic] when they have had the Code in operation, there has been concise, specific, constructive and helpful effort put forth."

I by no means consider that we have, in the 10 months of Government possession, been able to achieve perfect safety conditions in the soft coal industry. But we have, notwithstanding the Centralia disaster, brought the coal mines to their

safest condition in the entire history of the industry. In specific figures, the average fatalities in the soft coal mines were 95 a month during the six year period prior to 1946. For the 10 month period of Government operation, June 1946 through March 1947, the fatalities averaged 85 a month.

The present death rate is still far too high, and should be substantially reduced as increased compliance with the Safety Code is made possible. It shows, nevertheless, that even now there has been a real accomplishment which should not be ignored. The improved safety means, even after taking the Centralia tragedy into account, that more than 100 miners are alive today who would have been dead had the death-rate prior to Government possession and the Code been continued.

The Committee understands the nature of my responsibilities as the Cabinet Member in charge of a large Department with varied functions. To discharge my responsibilities for coal mine safety I have ensured that the men in charge of the work were those in whom I have full confidence and have given those men complete authority to do their own job.

Dr. R. R. Sayers, the Director of the Bureau of Mines, has spent a lifetime in health and safety work and I need hardly explain to this Committee his pre-eminent qualifications for directing a coal mine safety program. The officials of the United Mine Workers have not questioned the qualifications or the competence of Dr. Sayers, but have instead, and rightly, given them unstinted praise.

Captain N. H. Collisson, the Coal Mines Administrator, succeeded Admiral Ben Moreell last October. He is a man of unusual competence and integrity but is not, of course, an expert in coal mine safety. Accordingly, on the express recommendation of the United Mine Workers, Mr. John E. Jones was appointed Safety Consultant to the Coal Mines Administration. Mr. Jones is Chief Safety Engineer of the Old Ben Coal Corporation and has a national reputation as a practical expert on coal mine safety.

In my judgment, better men could not have been found at any place, or at any salary, to carry out the coal mine safety program. The fact that significant progress has already been made, against the handicaps of material shortages and long-established habits of miners and management alike, is a tribute to them and to their over-worked staffs. I am sure that your Committee will give full consideration to their testimony.

2. Recent Steps. Prior to the Centralia disaster no one suggested any need for more drastic measures than those which had been placed in effect. But that disaster showed, with tragic force, that the procedures agreed upon with the union for detecting imminent danger were not fully effective in eliminating explosion hazards. The Bureau of Mines therefore made an immediate review of all reports of inspection. This review indicated that, so far as our inspection reports alone could show, there were another 518 mines in which there was some danger of explosion. The Coal Mines Administration ordered these mines closed until the union Safety Committee and the management agreed they were free from undue hazards, or until the Bureau of Mines inspector was satisfied after a reinspection. The United Mine Workers were also asked to supply the names of any other mines which they considered unduly hazardous, together with the reasons for their recommendations that they be closed.

These procedures, to work quickly, assumed a reasonable degree of cooperation from the officials of the United Mine Workers and their Mine Safety Committees. The Government has been refused that cooperation. We have received about 180 joint certifications of safety from operating managers and Mine Safety Committees. This is about one-third of the 518 mines which were ordered closed. Several of the union officials have admitted instructing their Committees not to inspect the mines and to assume no responsibility for safety. It may be necessary, therefore,

to do most of the remaining job ourselves. We have so far completed the reinspection of over 100 of these 518 mines.

As you also know, the United Mine Workers responded to our bona fide request for information as to other mines which may be unduly hazardous, by arbitrarily stating that every mine not in full compliance with the Code should be closed until inspected by a Bureau of Mines inspector and certified to be in compliance. The union could hardly have been ignorant of the following facts when this request was made: (1) Many, if not most, of the so-called "violations" of the Code arise from the practices of the miners themselves. (2) Many of the deficiencies from Code standards cannot be cured until equipment, requiring many months to deliver, can be obtained. (3) Many of the inspection reports listed only trivial violations of its rigid standards. (4) A mine cannot be inspected for compliance with the Code, as to a majority of its requirements, unless it is in operation. (5) It would take months before the inspection of 2500 mines could be completed.

We concluded, therefore, that motives other than a concern for safety must have led to this request, and Captain Collisson rejected it at once. I am glad to say that many of the miners in the field have not in fact followed this arbitrary requirement of Federal reinspection as a condition to reopening every mine, and that coal production is being restored more rapidly than would otherwise be the case.

There are, in addition, a sizable group of mines which--because of their smaller size or because they are not organized by the United Mine Workers--are not in Federal possession. The Bureau of Mines also reviewed the inspection reports on mines in this group employing 25 or more men. On April 6, we sent to 15 State Governors the names and the deficiencies of 162 mines in this category which also seemed to us to show some explosion danger, and recommended that they take whatever action seemed to them possible and appropriate.

In summary, the history of the Federal Mine Safety Code and its enforcement shows: first, the work of administering the Safety Code has been in unusually

capable hands; second, real progress has been made toward mine safety during the short period of Government possession; and, third, when the Centralia disaster showed we had no complete safeguard against explosion dangers, under the Krug-Lewis Agreement and the Safety Code we took immediate action to ensure that, so far as lay within the reasonable exercise of our powers, no such tragedy would recur.

III

The Union's Work Under The Safety Code

The United Mine Workers Journal, last June, described Section 2(b) of the Krug-Lewis Agreement, which called for the creation of Mine Safety Committees, as a "down to earth safety program." It rejoiced that "at long last the miners win the right of maintaining a mine-safety committee selected by the local union at each mine," to report dangerous conditions and with power to withdraw men in the face of immediate danger. One would have expected vigorous and effective action on the part of the union officials to achieve real mine safety through this new opportunity for union participation. Instead we find an almost unbroken record of neglect, without any concerted action on the part of these union officials to put their new opportunities to use in promoting mine safety.

Most of the union locals had a more or less dormant Mine Safety Committee, so as a rule it was not necessary formally to establish a new committee. But I should have thought, at the least, that the international headquarters of the United Mine Workers would have sent out instructions, or suggestions, as to the opportunities and responsibilities of the Mine Safety Committees. So far as we know, no such instructions were issued, and the Safety Committees apart from one district seem to have been largely inactive, except only as some of them arose to the occasion out of local initiative. The one district which is an exception to this general condition is U.M.W. District No. 29 in southern West Virginia where Mr. C. E. Jones, the safety director, has been commendably active.

Knowing that the safety conditions in the mines were by no means generally satisfactory, we expected a considerable number of complaints from these Mine Safety Committees. But from June to March these Committees, which were to have been established or activated at 2500 mines, produced the trifling total of 31 complaints to the Coal Mines Administration.

It has been suggested by union officials, in defense of this record, that the Mine Safety Committees could protest only to "the management." The fact of the matter is that the Committees do have full authority to complain to the Coal Mines Administration; even more important, the Committees have complete authority to pull out the men in all cases of immediate danger. The 31 complaints which we did receive from the Safety Committees were all acted upon and settled promptly, as were the 14 additional complaints which the Coal Mines Administration received from individual miners or officials.

The international and district headquarters of the United Mine Workers have coal mine safety experts. For this reason the Bureau of Mines has always been careful to send a copy of every inspection report to each of those offices. Prior to Centralia, no single official in the international headquarters, and only one district headquarters, has ever complained to the Coal Mines Administration about the conditions shown by any one of these reports. It is quite evident, from the small number of complaints from Mine Safety Committees, that the international and the district headquarters have communicated with local Mine Safety Committees with respect to these reports, only very rarely, if ever.

Since the Krug-Lewis Agreement was signed I personally have had a considerable number of conferences with union officials. They have asked for shorter hours, higher wages, retroactive vacation pay, higher payments to the health and welfare

fund, measurement of these payments at the tippie rather than after cleaning out slate and rock, and for changes with respect to payments for house coal, the cost of explosives, and computing the sixth day overtime. Not once have they complained to me of our safety program, asked any changes in our safety procedures, or demanded that any mine be closed. Their President told the House Committee on April 3 that he had hoped to win improved safety conditions in his November conferences with me. Neither he nor his subordinates at any stage in these negotiations mentioned any desire to change the safety provisions of the Krug-Lewis Agreement; they spoke instead of wages, hours and payments to the welfare fund. The only aspect of safety mentioned at all was their desire, to which the Coal Mines Administrator promptly acceded, to speed compliance procedures in the case of deficiencies in gas inspection, pre-shift examination and insufficient air.

In point of fact the only organized effort to make effective use of the Union Mine Safety Committees comes not from the United Mine Workers headquarters but from the Bureau of Mines. The Bureau prepared a Safety Instruction Course for Coal Mine Safety Committeemen and started giving classes in January of this year. A total of 841 committeemen are now enrolled in 44 classes in West Virginia, Kentucky, Tennessee and Oklahoma; the committeemen cover mines in which about 97,000 miners are employed. The program is proceeding as fast as possible within the limits of our appropriations.

The union should not, however, rely on the Government to do the union's work. We can never achieve real mine safety until the union itself rolls up its sleeves and actively promotes safety among its members. We all know that magnificent results could be achieved if the large financial and educational resources of the union were directed at least in part to pounding home to the miners matters such as, for example, safe blasting practices, the necessity for roof sounding and timbering, and the dangers of open-flame caps and smoking in the mines.

IV

Recommendations

The Committee may wish my views of what should be done, first, to reduce the likelihood of tragedies such as that at Centralia, and, second, to reduce the day-to-day loss of life in the mines which, while less dramatic than a major disaster, is far more costly in the toll it reaps in miners' lives and bodies.

I suggest a five-point program, to include the following:

1. The mine operators should continue, with more despatch and vigor, the program to achieve full compliance with the Federal Mine Safety Code.
2. The United Mine Workers of America, with all the persuasiveness at its command, should promptly initiate a thoroughgoing campaign to sell mine safety to its members. Mine safety comes only from hard work. It can never be achieved without the full cooperation of the workers as well as of management.
3. Future contracts between the operators and the union should continue the Federal Mine Safety Code and, in some form, the Health and Welfare Fund. If, and only if, the union should accept its responsibilities for safety, and not use its safety powers for ulterior ends, the powers of the Mine Safety Committees should also be continued.
4. These three steps are those which the mine operators and the United Mine Workers can take themselves. But more is needed. The whole history of this chronically dangerous industry shows that neither management, labor nor the widely varying state laws are sufficient of themselves to achieve a reasonable degree of coal mine safety. Federal legislation is, therefore, necessary in order to give the Bureau of Mines power to require the correction of unsafe conditions or practices wherever the mine inspectors may find them. On March 10 the Department of the Interior reported favorably on S. 100, designed to accomplish this.

5. It is not sufficient, however, to place upon the statute books a law which gives a government agency the power and the responsibility to correct dangerous conditions and practices in the coal mines. We live in a practical world, and reform must be achieved by action and not by words. Adequately to discharge these responsibilities, the Bureau of Mines will need a very much larger force of Federal Coal Mine Inspectors. Only experience can tell the number of men who will be required to do this job. It has in the last few weeks become very plain that we can expect no real cooperation at this time from the union officials. In these circumstances we can not in good conscience accept responsibility for reasonably safe conditions, which change from day to day, without being able to send a trained inspector to every mine at least once every month. This will require a force of about 1500 inspectors, and annual coal mine inspection appropriations in the order of \$19,000,000. Along with these inspectors, if we are to have a real safety achievement there should be substantially increased programs of research and of training coal miners in the necessary rudiments of mine safety: for this work the annual appropriation to the Bureau of Mines should be increased from something over \$1,000,000 to about \$3,000,000. I respectfully request the support of this Committee in obtaining prompt authorization from Congress for putting this program into effect.

I hope that in the not too distant future the union itself, through its officials and through its Mine Safety Committees, will become thoroughly alive to the working at mine safety and take effective steps to do their part to achieve it. When this time should come, inspections would be necessary only every three or four months. and the size of the Federal inspection force which I have recommended could be materially reduced.

These measures, plus whatever others may be adopted by the Congress, the operators, the union, or the States, will not make coal-mining a safe industry. But they should materially reduce the hazards. They will not achieve sensational results at once, but can bear full fruit only over a period of years. That, however, is no reason why we should delay pushing forward on this difficult and important job with every resource at our command. If a broad program were adopted and vigorously prosecuted, I should expect that within a few years coal mining could be made just about as safe as the average heavy industry. Whatever we do, there will still be a steady toll of deaths and injuries, and there will still be an occasional disaster. But they can and should be made much more infrequent than has been the case. To accomplish this result demands energetic effort, and cooperation, from the Federal and State Governments, the operators and the union alike. I pledge the maximum effort by the Department of the Interior to this important end.

STATEMENT OF DRISCOLL O. SCANLAN . . .

Before Legislature Committee at Centralia, Illinois
April 24, 1947.

Gentlemen: I consider this investigating committee the most important; it is from this committee that the people of Illinois, and especially the Miners and their families will derive the most benefits by you Gentlemen conveying back to the General Assembly of Illinois what is necessary in line of adequate laws.

I have prepared this Statement in order to give you Gentlemen a comprehensive report of the facts leading up to this disaster; also information on the life of an honest Inspector, and some of the abuses he is subject to.

I have now had time to get a little rest and collect myself; have gone through my files and records, and believe I will make a better witness than I did before the other committees. When required to appear before the other State Committee, I had just put in about 112 hours of the most arduous work and heart-breaking experience of my life, with only nine hours sleep. I knew personally every miner in this mine. I helped recover bodies of older men that knew me from a small boy; of younger men that I had gone to school with.

There is no committee, be it the Governor's, or what not, that is going to make the families of the men killed in this explosion, the survivors of the explosion, or the miners in the other mines in my district believe that I am in any way responsible for this disaster. They all knew, and know, that I had done everything in my power to prevent this disaster. And had my recommendations been complied with, and had not the Director and Mining Board overruled and over-ridden me rough-shod, these Miners would be alive today. Some people not acquainted with this situation from reading some of the newspapers and the report of the Governor's Committee, may have the opinion that I placed my job above that of the lives of the Miners. Nothing could be farther from the truth and fact. And I want to inform the Public right now, that everyone involved in this disaster had the privilege of having a representative on this Governor's Committee except myself. While it is a fact that I could not enforce the law and stay on the job under Medill. I want to say right now, if quitting my job would have saved one life, I would have been more than glad to have done it.

When Medill and the Mining Board whipped me and the Centralia Coal Company whipped the Miners and hired their Leader and Local Union President away from them and gave him a job bossing, I was ready to quit my job. I went to see Mr. Tom Bush, a member of the Pit Committee, and told him that I thought that I might just as well resign, as it did not seem that I could do anything to help them, as the clique over-ruled me and that they would make life miserable for me. This old Gentlemen's reply was something like this: "Scanlan, you are the only friend we have to come around this mine and if you can possibly stay on the job, please do so." He said,

"Please stay on and do what you can for us. You do manage to get something out of the Company once in a while. We would rather have a friend as an Inspector, even if he can not do anything for us, than to have some Inspector who is not our friend; maybe some day you will be able to do something for us." And that was the main reason I stayed on the job and did not resign. I am convinced now that Mr. Bush had a feeling that some day this disaster would occur and when it did, if I was still on the job, there would be no whitewash of the disaster.

In order to give you Gentlemen an idea of the feeling of the Miners, please permit me to quote the following from a letter I received from out of my District, postmarked Du Quoin, Ill., April 4, 1947. "With deep regret, I have kept up with the Wamac Mine Disaster. Also noted the humanitarian part and heroic stand you took in exposing those who were guilty of violating not only the Mining Law, but of every code where decent manhood was involved. And, furthermore, every man I have talked to, and that has been several, they all speak of you in the highest terms. And, as for me, I am glad I can say I worked in a mine under your inspection; and wish there were more like you . . . So, Driscoll, stay right in there and continue to expose those Rats wherever you catch them, as the common miners need more men like you."

The Governor's Committee said that I should have closed the mine down, even if it meant the quitting of my job. What point would I have gained by shutting this mine down and then quitting? The Director would have reopened the mine, another inspector would have been appointed, more care would have been taken in the selection of my successor, there would have been only one inspection report on the bulletin board for the scrutiny of the newspaper men and it probably would not have been too actual; no one would have talked to the newspaper men and a real whitewash job could have been done. At the time of this explosion the mine was 10 times cleaner than it was at the time the Commission inspected it and permitted it to continue operating. If the dust had been ignited at the time of the inspection by the Commission, the ventilating fan and the tipple would have been demolished.

No one knows any better than the Coal Mine members of the Governor's Committee that the Inspectors were only permitted to exercise what authority some of the Major Coal Companies, the Director and the Mining Board wanted them to have. Sec. 1, Par. B, Page 7 and 8 of the General Mining Law reads in part as follows: "Said board also shall control and direct the State Mine Inspectors hereinafter provided for, in the discharge of their duties, and shall have the power, and shall in person and through the State mine inspectors, see that all the provisions of the State mining laws are enforced." On this last sentence the Mining Board has always taken the position, that they are the Boss. This is common knowledge in the coal industry of Illinois. All appeals from the Inspectors' recom-

mendations are taken to the Director and Mining Board. They have always been the Boss; this is an acknowledged fact in the industry.

Now, Gentlemen, in order to give you an idea of the inter-linking procedure of the Coal Companies and the Department, please permit me to read the following from an Old Timer in this inspection game. "My dear Driscoll: As one who has been through the mill, I sincerely sympathize with you at this distressful time. The Inspector with the responsibility on him, sets his course to conscientiously carry out his duties, then the pressure is on, and the telephone calls from the heads of the Companies to the Department in Springfield, and then the modifications or the promises, etc., and then the accident happens and the Inspector is the goat."

I have always tried to take care of the Miners in my district; and went as far as I was permitted to go by the Director. While trying to take care of the Miners, I have also tried to take care of myself, so I could not be made the goat in case of a disaster of this kind, so always wrote the actual conditions of the mines as I found them, showing no partiality to either the Coal Company or Miners, writing both up when I found them violating the law.

It was reports of this kind that the Director did not like. I remember on March 13, 1946, when the Director called me to Springfield and severely reprimanded me for my inspection report of March 6 and 7, 1946. He told me that he was surprised that I would again make these recommendations after the Commission and the Mining Board had found my recommendations of December 13 and 14, 1945, unfounded. He said that "those damned Hunks" would not know the condition of their mine if it would not be for me writing it up and calling it to their attention. Said my reports looked like a "dam Federal Inspector's report" and if I wanted to write those kind of reports I should have gone with the U.S. Bureau of Mines. He told me if I expected to stay in the Department I would have to cut the size of my reports down and omit some of the things I was reporting. He also told me that I had "a hell of a lot of ability, but no dam sense of balance;" that I was all for the Miners. The letter of the Miners of March 3, 1946, to the Governor, with a memorandum from Mr. Chapman, was on his desk. He was plenty angry about this letter and handed it over to me to read. The Miners had included a picture of a widow and several orphans of a recent mine disaster that they had clipped from the United Mine Workers Journal. Medill gave it a pitch to the side and said, "And they send such rot as this along."

As has been brought out by the other investigating committee, the Director's reply to Mr. Chapman was: "The complaint sounds a good deal worse than it really is. The present condition at the mine is not any different than it has been during the past ten or fifteen years, etc." So it can readily be understood that no little, lone inspector out in the field had a chance against the Big Boys in Springfield when they felt like this about the Miners and the Inspector. When I left the office Medill said, "I think you now know what kind

of reports I want."

On December 13 and 14, 1945, when I inspected this mine, I found it had again been permitted to get in a deplorable condition. The dust from the haulage operations over extremely dirty roads, and from cutting and loading operations were presenting a very serious explosion hazard and I made the necessary recommendations to eliminate this explosion hazard and forwarded the recommendations on to the Director. On December 20th, Medill called me on the phone and told me to come into Springfield the next morning and to meet Benn Schull of Terre Haute, Ind., a member of the Mining Board, in the Leland Hotel at 9 a.m. After discussing my recommendations with Mr. Schull, who told me I had no legal right to make hardly any of the recommendations, we went over to the office of the Department, where the Mining Board was to meet. I stayed around the office all day while the Board was in session, but was never permitted to appear before the Board to tell them the conditions of the mine. When the Board adjourned, Medill came to me and said that they had appointed a Commission to inspect the mine and for me to stay out of the picture and away from the mine while the Commission was at the mine. I tried to tell him the conditions of the mine and told him I should be permitted to shut the mine down until they complied with my recommendations. He said the Commission and Board would decide that. I then told him I thought all members of the Commission should visit the 13 and 14 North off 1st West (as I had some confidence in Mr. Reak and did not want him to miss this section). Medill told me when I got home to call Bob Weir and make the suggestion to him. When I called Weir he could hardly hear me over the phone, so told me to meet the Commission at the Hotel in Centralia. When I went to the Hotel in Centralia I found that two of the original members of the Commission had become ill and were not there. The Commission consisted of Robert Weir, Murrell Reak, Charles Blakeney, John Golden and Benn Schull, who had come over from Terre Haute, Ind., to replace Mr. Gill.

The Commission had my inspection report and recommendations. Mr. Weir read the entire report to the Commission to acquaint them with it; Benn Schull again taking the position that I had no legal right to make hardly any of the recommendations and said that I was trying to tell the Management how to run their mine. Schull and I entered into quite an argument. Whenever he would refer to the Miners, it was "the — —s this and the — —s that," instead of referring to them as the Men or Miners. I was talking to Mr. Niermann shortly after the Commission had made the mine; he said, "You know one of those Commissioners was standing out on the entry and noticed the good air traveling down the entry and he said, 'You know these — —s here don't know what they want; you got enough air here to blow them out of the mine.'" I said to Niermann, "I know who said that; that was Benn Schull." He looked astonished when I told him so quickly who had made the nas-

ty remark. I then told him that in the conversations that I had with Schull he always referred to the Miners as. — —s.

I knew after my discussion with the Commission in the Hotel that they were under definite orders to find my recommendations and the charges of the Miners against the Mine Manager and Superintendent as unfounded. I had told Schull that the Mine Manager hardly ever left the shaft bottom and the Miners were complaining about it; in fact, the Miners were telling me that they seen me inside more than they did their Mine Manager. Schull said if the Mine Manager had assistants inside he did not have to go inside. I learned from the Miners that the inspection of the Commission was a real sham. One old Miner told me that he had worked in the mines for more than 45 years and that it was the rottenest deal he had ever seen pulled. They absolutely ignored the Miners and their Officers, did not even talk to the Officers of the Local Union, did not inspect all of the mine, missed the 21st and 22nd South off of 4th West entirely. This was one of the dirtiest and dustiest and poorest ventilated sections of the mine. They rode out in a car instead of walking out the main line haulage road and the dirty haulage roads were one of the main complaints.

It hurt me to get a rotten deal like this out of a couple of fellow Inspectors, so the first time after the Commission's inspection that I saw Charles Blakeney, the Inspector from the Danville district, I jumped him about the rotten deal; his reply to me was, "The mine suited me all right." His attitude was, I don't give a damn what happens to your Miners. When I jumped John Golden, his reply was, "I have got mines in my district just as bad. I could make out big, long reports too; I see a lot of things in the mines that I don't report. You know, after all, the Operators are the Director and if you want to stay on the job you had better do what the Operators want you to do."

This disaster could have happened in most any district in the State. You need no more proof than the fact that the Federal Coal Mines Administrator has shut down a number of Illinois mines, including mines of two members of the Governor's Committee, and that the State Inspectors have shut down a large number of mines since being given the authority and permission to do so. I have had miners from outside of my district tell me they feared for their lives, that there mines were also in deplorable condition.

We have heard a lot about rock dusting since this disaster. Now let's see just what the Department has done about rock dusting in this State. The rock dust law, while inadequate, has been on the books since July, 1941; rock dusting was to start in July, 1941, and be completed by July 1, 1942. Let's turn to page 57 to 62 of the annual coal report for 1945, issued by the Department. At the top of the page in the right hand column is the question: Is mine rock dusted? Let's turn to the counties adjacent to my district. Take Madison county, 6 mines and only one rock dusted. St. Clair county,

with 15 underground mines, and only three have done any rock dusting. Perry and Randolph counties, with 10 underground mines, and only one rock dusted. And these Operators have been brazen enough to report this to the Director, and still the Director and Mining Board did nothing about it. And they say, we depend on the Inspector. It's the same old story, trying to make the Inspector the goat. In this case, I think their own publication is enough to condemn them. I am sure you Gentlemen can see what a job I had on my hands trying to get the mines in my district rock dusted, when the Department was doing nothing about getting the mines rock dusted in the counties adjacent to my district. On one occasion, when I requested Supt. Niermann to do some rock dusting, his reply was, "I was just over in St. Clair county and they don't do any rock dusting over there." I have been told that same thing a number of times at every mine in my district, with the exception of the Consolidated Coal Co. at Nason. But in spite of this, I have succeeded in getting some rock dust in some form in every mine in my district. And I might add that the Department has never furnished us with equipment to take dust samples. If you Gentlemen will check through the coal report you will notice that most of these mines reporting no rock dusting have been shut down by the Department since these 111 men have been killed here in Centralia. We have known for a long time the benefits of rock dusting coal mines, but Illinois did nothing about requiring rock dusting until 1941, when the present law was passed and then the Department did nothing about enforcing it. When you Gentlemen go back to Springfield, go over to the Department and check through the inspection reports of the various mines. You will notice that I hardly ever missed recommending adequate rock dusting in the inspection of all of my mines. When I recommend adequate rock dusting I am asking for more than the law requires. Have you Gentlemen of the General Assembly ever been asked by the Director or Mining Board to pass an adequate rock dusting law in Illinois? I think not. They were not very interested in saving lives.

On March 14, 1945, at a hotel in Belleville, I begged Medill to permit me to shut this mine down. I told him that the mine was in such a dirty, dusty and hazardous condition that if the dust became ignited, a dust explosion would spread through the entire mine and probably kill every man in the mine. Medill's reply to me was, "We will just have to take that chance." On April 10th or 11th, 1947, Inspector Fred Lippert of the Belleville district told the press the following: "Since the Centralia mine disaster, the Inspectors have been ordered to enforce the state mine laws. We're going to try to prevent more dust explosions like the one there. Under Medill the rock dusting and other laws were not enforced. Enforcement is going to be rigid from now on."

After the Commission had made the mine and I was given to understand that the Centralia Coal Company was going to be per-

mitted to do as they pleased, there was nothing I could do in the way of enforcement. It resulted down to getting what I could by persuasion, and from the help of the Federal Inspector and the men through their contract. We were all after sprinklers on the cutting and loading equipment and the company had told all of us that they had pipe ordered to install the sprinklers.

At the time of the explosion there would not have been a chance in the world to get the permission of the Director or Mining Board to shut this mine down, as it was 10 times cleaner on my inspection the week before the explosion than it was when the Commission inspected it. On my inspection on March 18 and 19, 1947, I found the mine in better condition than I had found it in a long time. Since the Commission had inspected the mine, the 15, 16, 17 north off 1st west had been abandoned and seals erected across the mouth of these entries. The 15 north off of 4th west had been abandoned as a haulage and this eliminated a real dust hazard; it had also been rock dusted shortly before abandonment and the night foreman was using it part of the time to dump water on from the sumps along the 4th west. The 18th north off of 4th west had been abandoned as a haulage, eliminating another dust hazard.

At the time the Commission inspected the mine most of the coal was pulled over the 4th west and it was in a terrible condition. On March 18 and 19, 1947, about half of the coal was being pulled over the 1st west. This track had been layed on a surveyor's level and there was practically no coal spillage on this haulage. There had been considerable road cleaning done on 4th west and down into 24 south off of 4th west and some sprinkling. The 21 and 22 south off of 4th west had recently been abandoned; this eliminated the most hazardous section of the mine; it was about 90 rooms deep, had been worked all the way in by trackless mining, was the dustiest in the mine and inadequately ventilated. This is the section that the Commission failed to inspect when they made the mine.

I inspected the mine on March 18 and 19, 1947, in company with Federal Inspector Frank Perz, Assistant Mine Manager Harry Berger, and Paul Comper, a member of the safety committee. After making the mine we had a long conference with Mine Manager Brown at the underground machine shop. I had several times previous to this inspection requested Brown to spend less time on the shaft bottom and more time in the inside workings. This time I told him I considered the new Face Boss at the head of the 1st and 2nd West incompetent; he was a very nice man, very conscientious, but had no technical training and was absolutely lost on his ventilation. Perz and I spent an hour or more with him and he was still confused when we left him. I told Brown that I wanted him to go into this 1 and 2 west section and stay with this Face Boss until he fully understood his ventilation and other duties. I told him that now was the time to make the right kind of a Boss out of this fellow before he got off on the wrong track. I also told Brown that they must

get busy and advance their rock dusting. He asked us if we had seen the pile of rock dust down at the overcast and said they were going to rock dust right away. I told him where his dirty roads were, ordered them cleaned; told him his steel water tank for sprinkling was setting in the 4th East in the same position it was on my previous inspection; ordered him to get it out of there and put it into service and to immediately sprinkle 18 and 19 north off 1st west and other dusty haulage roads. (They also have a wooden water box for sprinkling. The night foreman was using it to remove the water from the sumps along 4th west, which he used to sprinkle along 4th west and 15th north.)

When we went to the surface we had a long conference with Gen. Supt. Johnson and Supt. Niermann. Perz was getting definite answers from Johnson on what they were going to do about complying with the safety code. We told Johnson and Niermann the same things we had told Brown; and also that we were not satisfied with Brown staying on the bottom all the time and not visiting the working sections. Johnson and Niermann told us they had pipe ordered for the installation of a sprinkling system, were on a deal for closed cap lamps and assured us our recommendations would be complied with. I expected rock dusting and road cleaning to be done over the week end. Have been informed that some work was done on my recommendations pertaining to ventilation.

While all the coal operators in the state have enjoyed immunity from law enforcement, the major companies enjoyed the most, as brought out in my testimony before the Senate Committee. The Peabody and Old Ben Coal Companies had their mines in Franklin county taken away from Inspector James Wilson because he wanted them cleaned up and placed in safe condition.

The Centralia Coal Company enjoyed more immunity than any other company in my district. Perhaps one reason for this is that when Medill was up for re-appointment in 1945 and the Miners were opposed to his re-appointment, the Centralia Coal Company came to his support and endorsed him for re-appointment.

In granting this immunity to the Coal Operators, the Director had a definite purpose in mind, which you all know of by now; it was exposed by the St. Louis Post-Dispatch on March 19, 1947.

R E P O R T

to the

G O V E R N O R

and

PEOPLE OF THE STATE OF ILLINOIS

Fact Finding Committee, appointed by Governor
Dwight H. Green to investigate the Disaster at
the Centralia Coal Company Mine No. 5, at Womac,
Illinois, occurring on March 25, 1947.

1. On March 25, 1947, one hundred and
1 miners were killed in Mine No. 5 of
the Coal Company, Washington County,

2. The Governor of the State designated a
committee of seven to investigate the disaster
in behalf of the people of Illinois and submit a
public statement. The Committee convened at
10:00 A.M., in Centralia, Illinois, on April 1,
and again met in Springfield on Tuesday, April
8.

3. During our deliberations we have heard
the testimony of 35 witnesses. A majority of
the Committee made a personal inspection of the
mine and we have examined official papers and
other documentary evidence. The documents marked
Exhibits A, B, C, D, E, F, G, H, I, and J are
attached to this report. The transcript of all
evidence presented is also attached and made a part
of this report.

4. The record shows that officials of
the United Mine Workers of America were present
during the taking of the evidence and that
Officers of the Company were also in attendance.

All evidence was presented in open hearing. without exception, every person whom we requested to appear did so without hesitation.

5. We have examined all known witnesses possessed of material information, the officials of the _____ and _____ the Coal Company and public officials have stated before us they know of no additional evidence or information.

THE COMPANY AND ITS MANAGEMENT

6. The Australia Coal Company is a corporation with its principal office in Chicago. H. F. McDonald, Jr., is President. P. Young, Glencoe, Illinois, has been Operating Vice-President for the last ten years. Until August 15, 1946, E. Prudent was General Superintendent of the company for a number of years. Between his separation from the Company and October 1, 1946, H. G. Hermann, as Acting Superintendent, was the company officer of the highest authority who was regularly at the mine. On October 1, 1946 Walter G. Johnson became General Superintendent and was in that position at the time of the disaster.

Mr. Johnson took office, Mr. Niermann

was Assistant or Local Superintendent and was

supplied on March 25, 1947. William H. Brown

was the Mine Manager :

and had been continuous

7. For some time before the disaster the
employed 267 employees and operated on a
night shift. It had an average daily
production of 2,200 tons.

8. Mr. Young, Mr. Johnson, Mr. Niermann,
Mr. Brown appeared and testified before this
Committee.

9. During
Young was at the mine on an average of one or
two days a month. Since then
Mr. Johnson became General M
was at the mine six or seven days
Mr. Niermann began working at this mine as a coal
miner in 1917. He continued until 1938 in
different jobs. He resumed in 1941 in a super-
visory position for a few months. After an interval
he returned and became Assistant Superintendent,
April 1, 1946. He has since been at the mine
on every working day.

10. The mine manager, spent seven days of two one _____, _____ appointed to his position, November 16, 1943, as Mine Manager. He was in charge ground workings.

11. The Company operated this mine since At the time of the explosion it covered an ground area of about four square miles.

THE EXPLOSION

12. _____ Mr. Brown, underground at the time of the explosion. Of these one hundred and eleven lost their lives. It was the practice to stop hoisting coal fifteen minutes before 4:00 p.m. Coal was hoisted underground with electric motors.

13. At approximately 3:25 P.M., the electric power in the mine stopped and the electric lights went out.

14. The survivors, who testified, felt no concussion. There was a strong blow or rush of dust

14. H. BOWEN, a surviving miner who was
on the bottom, said the
and black and that it

and of powder smoke

15. John Lo ini, also a miner, was
in the 1st west entry about 1,200 feet from the bottom
of the hoisting shaft. He testified
started blowing pretty hard and it was like powder
smoke burning.

16. John Pick, a surviving miner, was
he 1st west door, approximately 1,200 feet from
bottom of the hoist.
he went out and he immediately felt a strong
blast

17. Henry G. Smith, a miner who had worked
in this mine twenty-nine years, testified
four to five hundred feet off the
the explosion occurred and that an excessive amount
of smoke and dust came out.

18. Clarence Linkeviez, a miner employed
longer, was at the bottom of the hoist. He
not observed excessive smoke but noticed an

to the

and said, "We have an explosion, let us

... Night Boss

he, was not undergr

... ever, he

... itif

dusty-like but not exactly smoke. He said

ld not tell whether it was dust or smoke.

... Ralph Stenard ... of the

twenty-two y ... at the

losion. He went underground about

one hour later an ... smelled
powder smoke.

21. William E. Auberry, an employee since
1913, entered the mine within two hours after the
sion with the rescue crew. E

he found seven or eight bodies at the 13th

4th north, on the 1st west entry. At that

there was very little evidence of violence.

proceeded west the evidence of force became

2. He said that as he went farther west

22. Four survivors, who were at points
 mine between the air shaft and where the
 four men who were injured.
 were hospital patients and not available
 interview or testimony. Unless one or
 of these men have personal knowledge abo
 source of the ignition, or fir- cause of
 the explosion respect to the
 nature of circumstances of the ignition will have
 to the judgment of experts, based upon the
 physical facts they observed during their examina-
 after the disaster.

23. Technical experts of the Federal
 of Mines completed an underground examina-
 and tests on Saturday, April 5. Their report
 conclusions will not likely be published for
 her week. This Committee wishes to adopt
 findings of the Federal Bureau of Mines in
 respect as a part of this report.

24. There have been examinations by
 local and State Inspectors since the explosion. A

is evidence

explosion originated at

west entry, approximately two miles from the

to of the hoisting shaft. The evidence

proves the disaster was the direct result

causative factors, (1) an ignition of

a source; (2) propagation, sweep or pro-

long of combustion on account of a quantity

of dust in the mine. The propagation

of carbon monoxide gas in deadly quantities

26. The evidence tends to establish

that fatalities were the direct and immediate

result of the explosion in the area and vicinity within

one mile from the source of the explosion.

The State Mining

Inspector of the district including this mine,

visited the mines within two hours after the

disaster. Rescue began immediately after the

disaster. The first bodies were discovered

on the hoist shaft.

The bodies farthest distant

miles from

re recover

28. Officers of the United Mine Workers of America authorized Oliver Bishop, a member of Igniting Committee, to state for the there was no complaint or criticism rescue and recovery work.

STATE ADMINISTRATION AND INSPECTION

29. Illinois administration of 1 19

to Department of Mines and Minerals.

the Constitution of this State enacted

o, provides

It shall be the duty of the General

ly to pass such laws as may be necessary

tection of opera

or ventilation, when the same may

ired, and the construction of escape-

hafts, or such other appliances as may

safety in all coal mines, and to pre-

reement of said laws by such

ishments as may be deemed

30. The Illinois Legislature has enacted

of coal

ional manda

statute provides for a mining board of five
ers to administer the law providing for the
and safety of persons employed in coal

two members to be representatives of the
miners, two others to be representatives

the coal operators, and the State Director of
Mines and Minerals to be the Executive Officer or
member of the Board.

31. Illinois laws also pr

MI inspectors, and declar

6, 1911, that:

d Board (Mining Board) also shall

The inspectors have-

provided for, in the discharge of

1 a

82-

B,

each district,

respective

shall make personal examinations at
every three months, or
if necessary, of every mine
district in which ten or more
are employed."

tor has legal authority to enter, examine
any and all coal mines at all reasonable

33. The law obligates Mine Inspectors
der written reports to the Mining Board,
take prompt action for enforcement of penal-
ties. The Inspector is also required by law
post his statement at the top of each mine,
owing what in his judgment is necessary, for the
better protection of the lives and health of
men.

34. Sub-Paragraph (b) of Section 29
Illinois Mining Act provides:
Inspector who shall dis-
obey any provision of this Act, or part thereof,
neglected or violated, shall
immediate compliance therewith,

ly, shall have power to stop the opera-
of the mine, or to remove any offending
r persons from the mine until the
s complied with."

1 ions and others specifying criminal
1- are in force for many years prior to
ar time of this explosion.

35. Driscoll O. Scanlan was assigned to the
d h Centralia Coal Mine No. 5 is
le , and has since been in that position.

 d his mine inspection reports on
ine filed on the printed form of the Department
ember, 1945; March, 1946; June, 1946;
ber, 1946; November, 1946; January, 1947,
roh, 1947.

36. Mr. Scanlan gave extensive testimony
this Committee. He said that "in 1945 there
was such an unusual quantity of
ne that is constituted a hazard, and

 e management their choice of either
g the mine down or operating four days a
nd cleaning the mine the remaining three days.

The mine was cleaned, and operations were limited.

... part of December, 1945 recites
of complaints and recommendations of
among them being that:

is not adequately rock dusted."

The report of March, 1946, states:

"The coal in this mine is extremely dry,

... amount of combustible dust is

... pension, and during cutting and load-

operations the dust is an explosion

, also injurious to the health and

of the men working around the machines,

and is very injurious and irritating to

eyes, lungs and respiratory passages."

also states that

is not adequately rock dusted."

in another paragraph contains the recommendation

... mine be adequately rock dusted."

30. On March 15, 1946, Assistant Director Blair

the State Department sent a letter to the

which he summarized the complaints and

3. Inspector Scanlan wrote a letter to

May 23.

explaining about the failure of the Mine

comply with his recommendations.

Inspector Scanlan's report of June,

14 states in part:

the haulage roads are

dirty. *** of the haulage

roads have been cleaned; t

ated."

recommendations, the report states

dirty haulage roads be cleaned and

ently sprinkled,

cleaned and sprinkled with calcium chloride.

40. On June 25, 1946, the Assistant

the Department sent a letter to the Coal

the complaints and recommendations,

compliance.

41. The Inspector's report of September,

states in part:

the roadways are dry and du

recommendations;

rock dust:

the mine

42. The

the Company on September

stating the complaints and recommendations

for and requesting compliance.

43. The Mine Inspector's report of

for, 1946, also states that:

"Haulage roads are dirty, dry and dusty.

Advance workings are not rock dusted."

He stated that:

"Haulage roads be cleaned and

sprinkled."

It

recommendations of previous inspection

that have not been complied with should

be followed with.

4. On November 23, 1946, the Assistant

the Department sent another letter to

summarizing the complaint.

At the time the Inspector, requested compli-

ment and advices after the recommendations had

not been fulfilled.

a report of Inspector Scanlan
, recited:

roads : rty, dry and dusty.

as is not adequately rock dusted.",

and that there be adequate rock dusting.

46. On January 24, 1947, the Assistant
or, by letter to the Company, again summarized
Inspector's complaints and requested complian--

47. On January 25, 1947, Acting Superin-
tendent of the Company, sent a letter to
Department in which he stated that an arrange-
ment had been made with Mr. Scanlan about drilling
holes at the 13th and 14th north 1st west. There
was reference in the letter to rock dusting.

State Inspector's report of March
and 19th, 1947, six days before the explosion,
reads:

Some of the haulage roads are dirty, dry
and dusty ***the mine is not adequately
dusted."

Another part of the report it is recommended

The mine be adequately rock dusted."

On March 25, 1947, the

Department mailed a l

Using the complaints and recommen-

esting compliance.

50. Inspector Scanlan sent a letter

State Department on April 6, 1945, in which he

the condition of the mine

51. On April 7, 1945, five employees

communication to the Department charging

on of the Illinois Shot Firing Act, and

-6

and being the mine is so dry and dusty

it could so cause an explosion."

requested revocation of the Mine

State.

52. Assistant Director Weir was appoin

did hear evidence on these charges on April

1945. at the mine. After the hearing he filed a

on report to the State Mining Board, in

he stated that revocation of the Mine

or's certificate was "too severe" and rec-

led that the request be rejected. On June

1945, the Mining Board postponed decision until

next meeting.

4. December 8, 1945, Inspector Scanlan

to the _____ department,

complaints about _____ conditions

_____ charging that Superin

_____ had refused to discuss the complaint.

54. On December 17, 1945, the President

Secretary of the Local Miners' Union mailed a

_____ to the Director of the Department,

_____ complaints and requesting revocation of

_____ of Mine Superintendent Prudent

Manager Brown. The complaint was presented

to the State Mining Board, who appointed a commit-

tee of five to investigate and report. The

Investigation Commission visited the mine

on December 28, 1945, and on January 2, 1946 made a

written statement of their findings to the State

Mining Board. This report states in part:

"The mine is not adequately rock dusted.",

and recommends that the dusting be done.

5. At a meeting of the Mining Board

on January 10, 1946, the report of the Investigation

Commission was considered, and the Board decided

re is insufficient evi

revokes

rtificates of competency of Norman
nt, Superintendent, and William H.
, Mine Manager."

he Mining Board took no further action.

. On February 26, 1946, the Secretary

Union, William E. Rowekamp, mailed a

the Director of the State Department,

----- dissatisfaction with the report of the
1 Investigation Commission and especially
the dusty condition of the mine.

57. On March 3, 1946, four of the coal
employees of the mine who were officials of
ocal Union, sent a lengthy letter to the
ior, complaining of conditions and contain-
e statement:

Please save our lives."

58. On March 11, 1946. John Chapman, the
or's Secretary, addressed a memorandum to

----- Mines and Minerals and -----

----- letter. Mr. Chapman's memorandum in
stated:

----- the letter and the report of
----- State Mine Inspector very carefully
and it is my opinion that the Governor

may be subjected to very severe criticism

is a event that the facts complained of
is true and that as a result of this con-
current accident occurs

"Will you kindly have this complaint care-
fully investigated so I can call the report
of the investigation to the Governor's
attention at the same time I show him this
report"

59. On March 13, 1946, the Director of
Mines addressed a written memorandum to the
Governor's Secretary, Mr. Chapman, in which he
reviewed the decision of the State Mining Board of
March 3, 1946, finding insufficient evidence to
revoke the certificates of competency of the
Superintendent and Mine Manager. The
Director's memorandum to the Governor's Secretary

The complaint sounds a good deal worse
than the actual condition. The present condition
of the mine is not any different than it
was during the past ten or fifteen
years, in fact, in spite of the war

ment has made a great

1.

at the Governor advise

he matter to the att

ing Board with instruc

full and complete consideration at
next meeting."

0. We have no evidence that the State

again considered this mine in connection
with the explosion.

On December 8, 1946, J

any unknown) addressed a letter to the
Director of the Department complaining about the
actions of the Mine Examiner on the second
of this mine. This letter was addressed to
Mine Inspector James Sneddon, with the re-
quest for an examination and report. Mr. Sneddon
conducted an investigation, with Inspector Scanlan,
on December 16, 1946, and complained
of non-compliance with "split air" requirements,
and accumulation of dust.

62. On December 19, 1946, the Assistant

sent a letter to Mine

Manager Brown referring to Mr. Sneddon's findings

conditions be remedied.

On December 23, 1946, Superintendent
of the Mine, mailed a letter to the
of the State Department stating that steps
to correct the complaints about
excessive number of men working on "one split

FEDERAL ADMINISTRATION AND INSPECTION.

The Federal Government made its

1. The coal industry with coal _____

At year Congress created a Federal
and imposed the duty of assembling
information and publishing recommendations. The
provided for no enforcement or penalties.
No further was done in the Federal field until
passage by Congress of the Federal Coal Inspec-
tion and Investigation Act, in 1941. This law pro-
vided for employment by the U.S. Bureau of Coal
Inspectors, examination of coal mines and rec-
ommendations by the Bureau to coal operators and
interested parties of safety measures. This Federal
law did not provide for enforcement of penalties
of any kind. Its sole object was informative and
educational.

are the only Federal Laws in any manner
ing to inspection or examination of coal

6. On May 22, 1946, by proclamation of
resident, the Federal Government seized the
mines, by authority of the Smith-Connolly
Congressional statute enacted for prosecu-
of the war. The Government assigned the
administration of coal mining to the Secretary
of the Interior. He appointed a Federal Coal
Administrator.

7. Upon the seizure, the Secretary of
the Interior and the United Mine Workers of America
entered into a contract, commonly known as the
War Relocation Authority-Lewis agreement. It provided for a Federal
Coal Code to be a part of the Contract. The
Coal Code was completed on July 24, 1946, and
went into effect as a provision of the War Relocation
Authority-Lewis agreement. As a result the Federal Coal Inspectors,
authorized by the Federal Inspection and Investigation
Act of 1941, became inspectors under the War Relocation
Authority-Lewis agreement.

will expire
acts between
after June 30,
will revert to that provided in the Federal
of Mines Act of 1911, and the Federal
ation and Investigation Act of 1941, neither
of which statutes provide for enforcement or
ies.

9. The Krug-Lewis Agreement and the Federal
Code was in effect at the time of t
m and had been since July 24, 1946, when
overnment seized the coal mines.

10. In May, 1946, the Federal Coal Administration
in most cases appointed the existing management
rate the mines. Mr. McDonald, the President
General any, was appointed the
Manager of this mine.

1. Krug-Lewis Agreement and the
ral Safety Code, with a view to enforcement
Federal Coal Inspectors' recommendations,
r replacement of the management by the
Administrator in the event of non-compliance,

erator.

Article XII of the Federal Mine Safety
revides;

"In those special cases where the
_____ Mine Inspector finds that
imminent danger exists, he shall take
late action through the operating
or his representative, to have
miners withdrawn from the unsafe
until such danger is corrected."

Inspector is also required, under
IV, to make immediate report by telephone
the Director of the Bureau of Mines of "imminent
rious danger", and the _____ administrator,
sing advised, is required to take immediate
to cause all employees to be removed from
safe area. The evidence shows that at the
of _____ In November, 1946, and on
rch 18, 1947, the Federal Inspector considered
e mine to be in a hazardous condition. He did
believe there was "imminent danger", and upon
occasions did nothing more than to ma-

ector

red to this mine. He was employed as
inspector since July 16, 1942, and connected

coal industry, both as a coal miner and
inspector, since 1909. He made his first inspection
of the Centralia Mine in January, 1945, and
made complaints and recommendations.

4. His first inspection after the Krug-
agreement was on November 4-5-6, 1946. He
stated that he discovered about sixty violations
of the Federal Safety Code.

5. His next inspection of the mine was
March 17 to 20, 1947. He was accompanied by
Inspector Scanlan, Assistant Mi-
nister, and Safety Committeeman Paul Gomper.
Inspector Scanlan and Mr. Gomper lost their lives in the
explosion. Mr. Fern testified:

"The mine was very dry and dusty and
apparently there had not been any rock
dust applied since the previous inspec-
tion on November 4, and there had been
no water used to allay the coal dust,

He also said:

"No method was used to allay the coal dust in the mine that was recommended, as allaying with water or some other agent. It was the most hazardous condition, other than the use of explosives in any possible manner."

His testimony establishes that there were entries in working sections at the time of March, 1947, inspection that had insufficient air. and 3,380 cubic feet a minute at one place and unable to obtain any air measure at at other.

77. The Federal Bureau of Investigation found that there be at least 6,000 cubic feet of air a minute passing through the last open crosscuts of all working entries.

78. Mr. Perz discussed his findings and recommendations with Superintendent Johnson, Assistant Superintendent Hiemann and Mine Manager

he was in the mine on the occasion of inspection. He testified that he was with Mr. Johnson, who had only been acted w the mine since October 1, 1946, he was safety-minded and would effectively pro- ward the correction of conditions.

79. Inspector Perz was attached to the Vincennes, Indiana, office of the Federal Coal Mine Inspectors. It was the practice to make a report immediately following a Federal inspection, which was transmitted to the Vincennes Office, where it was typed and mailed to the Federal Mine Administrator, through the Director of the Federal Bureau of Mines at Washington.

80. The November, 1946, and March, 1947, inspection reports of this inspector were transmitted through this channel. However, the report was not received in Washington until March 28, prior to the explosion.

81. On November 26, 1946, the Federal Bureau of Mines mailed a copy of Inspector Perz's November report to Captain Collison, Federal Coal Mine Inspector, and according to the evidence sent copies of the report at that time

in; the Illinois State Department
the Illinois District President
the United Mine Workers; and to H. F. McDonald,
President of the Centralia Coal Company. A
copy of said Inspector's report specifying viola-
tions of the Federal Safety Code is set forth in
transcript.

82. The report of the March 17-28, 1947
investigation by Federal Inspector [redacted]
conducted by the Federal Coal Mines Administrator
on March 28, 1947, (After the explosion).
The report was transmitted to the Administrator by the
Federal Bureau of Mines, and copies mailed to
the United Mine Workers and H. F. McDonald,
President, W. J. Johnson, General Superintendent
of the Centralia Coal Company. A copy of this
investigation report is also set forth in the record,
which particularizes the violations of the Federal
Safety Code.

On September 25, 1946, the Federal
Coal Mines Administrator mailed a letter to the
Centralia Coal Company, and advised that the

Company was violating the Federal Mines Safety

Company's attention to

_____inary report of the
stion was posted at the mine on November 4,

The Company was requested to promptly
(_____ action had been taken to eliminate
compliance.

84. On January 29, 1947, the Federal
Mines Administrator, Captain Collison, sent
letter to H. F. McDonald, President of the
ralia _____ Company, calling Mr. McDonald's
_____ion to the Administrator's letter of
ber 30, 1946, and stating that the Company
st replied to the November letter. The
Administrator directed the Company to make
ly not later than February 13, 1947. Copies
ptain Collison's January 29, 1947 letter
transmitted to the United Mine Workers'
ngton office.

85. On February 10, 1947, Mr. McDonald,
dent of the Company, mailed a letter to
Captain Collison in reply to the Administrator's
_____, and stated in substance that

ations had been cor-
receiving management's
ntion and should be corrected as soon as
rials and manpower were available. Mr.
nald again wrote to Captain Collison on
February 24, 1947, and assured that the re-
quest of the Coal Administrator for compliance
with the Safety Code was receiving the Company's
att~~ention~~ on.

86. On March 7, 1947, Coal Administrator
llison sent another letter to President McDonald
of the Coal Company acknowledging the Company's
February 24th letter and requesting continued
action for prompt compliance with those provisions
of the Federal Safety Code which had not been
met.

87. The Krug-Lewis agreement, under
?(b) provides for a Mine Safety Committee, and
state

"At each mine there shall be a Mine
Safety Committee selected by the
Local Union ***** for the purpose of

ascertaining whether compliance with

the y Code exists."

4 als

"If the Committee believes conditions

found endang

the mine

findings and recommendations to

gement.

1 believes an

dia he

ger is requested to remove all

workers from the unsafe area until

the Coal Mines Administrator directs

otherwise."

88. In compliance with this provision the agreement, a Safety Committee of three members was appointed at this mine. All but one, Stephen Maloney, lost their lives in the explosion. That day he was ill at home. Mr. Maloney testified before this Committee, and said his society group made an inspection of the mine on February 24-25, 1947. They made a report which we examined, and which is Exhibit J, attached to this report.

According to Mr. Maloney's testimony, the Safety Committee was appointed about three months before the explosion, but they only made this one inspection on February 24-25, 1947. The Committee made a written report, which was delivered to Mine Manager Brown on February 27. It recites a number of complaints, and concludes the statement:

"The greatest grievance is dust while Joy loaders are in operation, more so in the buggy runs than on track runs."

89. This report was presented and discussed at a meeting of the Local Union on Wednesday evening, February 25, 1947. Mr. Maloney testified that the Local decided to wait until April 1, and see

was going to be done." This witness also testified that the mine had not been rock dusted since July, and that there was a large amount of coal dust throughout the mine on March 1, 1947, which was the day he worked before his illness.

90. He testified that he did not know his committee had authority to compel the men to withdraw from dangerous areas. He also said he and other members had never been instructed or informed by anyone concerning their authority in this respect.

The Krug-Lewis agreement and the Federal Safety Code do not change or supersede the mining laws of Illinois. The agreement provides that if the State Mining Laws and Federal Code are in any respect inconsistent, the State Law shall prevail.

CONDITION OF MINE BEFORE EXPLOSION

91. The facts revealed by successive reports of the State Mine Inspector heretofore explained his report, findings of the Federal Inspector's reports of November, 1946, and March, 1947, and the oral testimony of the witnesses clearly establish that the coal was of an unusually dry quality and contained a lower percentage of moisture than that found in the average of Illinois mines.

92. There is no dispute in the evidence that at all times there was an excessive quantity

of coal dust in practically all parts of the underground worki ugh the State and Federal inspection reports recite multiple violations of safety regulations, it appears from the evidence that non-compliance with ventilation standards, failure to remove, allay and counter-act coal dust throughout the mine, and the use of expl res in a non-permissible manner were the violations which were factors in the explosion and its disastrous result.

The evidence indicates that inadequate ventilation was a contributing factor, for the reason if there had been sufficient the probable gases existing before and at the time of the ignition would have been diffused and minimized. All the witnesses agreed the existence of coal dust,

ally in excessive quantities, is a constant hazard. According to the evidence, the known protective measures are:

- 1) R ing the coal dust and keeping the reasonably clean.
- (2) Installation and use of a sprinkling system to allay the coal dust.
- (3) Frequent and adequate rock dusting.

It is universally recognized that efficient rock dusting will prevent the propagation of a dust explosion. Rock dust is not a fuel, when thrown into suspension combats a rising temperature. A very high degree of heat may present immediately following an ignition causes explosions. The evidence is convincing that if themine had been adequately rock dusted the explosion and its effect would have been confined to the immediate area at the source, that it would not have spread, and a large number of the miners would have been saved.

94. The benefit from removal of the dust is obvious. The testimony of witnesses experienced in the mining industry, without exception, proves that use of a sprinkling system is a recognized method to insure safety. There were no facilities for face sprinkling in this mine. The State and

1 Ins. : repeatedly recommended such
tallation over a long period before the ex-
1.

95. Superintendent Johnson testified that he readily agreed with the value of sprinkling and said the management had ordered pipe for this purpose in August, 1946, but had been unable to

obtain delivery.

96. However, Mine Manager Brown testified that the management did not honestly think it was economical to put in sprinkling and did not wish to bear the expense of the installation. He said the only reason they did not install it was because it was expensive.

97. The mine was equipped with a rock dusting machine. The evidence shows that the mine had not been rock dusted since July, 1946, and the evidence tends to prove that the application of dust was insufficient, even on that occasion.

The witnesses Johnson, Niermann and Brown, of the management, said that the Company had not removed coal dust from the mine because of inability to obtain sufficient help.

99. There are additional obligations under laws of Illinois for a gaseous mine as compared with a non-gaseous mine.

100. The State Department of Mines and Minerals classified this mine as non-gaseous, however, the Federal Inspector, _____ classified it as a gaseous mine.

sed open

that the

closed lights
ause they were uncomfortable. Inasmuch as
mine the Federal Bureau
gaseous lights were prohibited
the Federal Code. However, since the State
partment classified it as a non-gaseous mine,
or the State Law the open lights were per-
le

testimony supports the belief
t notwithstanding the non-gaseous classifica-
tion of the mine that the open lights were a
threat to the safety of the workmen.

103. Some witnesses expressed the
opinion that one of these open lights could have
accidentally been a factor at the source of the
ignition.

104. In conformity with the State Law,
the mine employed two Mine Examiners, wh
an underground examination before the mine
each shift entered the mine. Such an examination was
made by the two Mine Examiners, Charles Ford
and Fred Lichtenfeld beginning at midnight and

nd concluded about 4:00 A. M., on the day of

plosion. Each was a member of the miners'

Each testified that he inspected one-
f the mine, and then went to the Company
on top and entered his written report
book kept for that purpose. Both Examiners
ied t/ line was dusty, but not more so
it had been for a long period of time.

---r referred to the dust condition in his

Both testified that they thought the
ewas as t heir examinations,
which were pleted about four hours before the
day shift went underground.

LIABILITY

Under the law, there are but two general
classes of bility arising from this disaster.

(1) Civil (2) Criminal, if any. Exclusive
vil liat y is provided by the Workmen's
pensation Act of Illinois. We recommend
at the State Industrial Commission proceed with
l convenient speed to file awards so that the
raved families and the injured may receive their
benefits without delay.

The Grand Jury of Washington County is
s o ly agency under the law to pass upon and
termine whether there is probable cause for

criminal prosecution. If that agency decides to investigate this subject, and if they express a desire for the evidence gathered by this Committee, we : _ at it be delivered or transmitted for their consideration. The State's Attorney of Washington County has _ , _ limited facilities and if he makes request we recommend that all appropriate departments of the State Government extend full cooperation.

CONCLUSIONS AND RECOMMENDATIONS

1. Federal seizure of this mine in May, 1946, for all practical purposes, did not change the mine management. The Company officers, superintendent and manager remained in control of operations. About the only result of Federal seizure on mine operation was the imposition of authority in the Federal Coal Administrator to remove the company management in the event of failure to comply with the Federal Safety Code after a report _ _ _ _ _ al Coal Mine Inspector, or to close the mine if an inspector made an emergency report of "Imminent danger." There was no such report of imminent danger in this case.

2. The primary responsibility for the

safety of the miners and protection of the company's property in this case rested upon the company officials, superintendent and manager. The source of ignition may have been accidental, or due to the carelessness of a workman, but the evidence is convincing that coal dust was the chief devastating factor in the explosion because of its high combustible content. There was insufficient and too infrequent application or installation of rock dust to keep the mine safe from explosion propagation, and coal dust was the direct cause of a large number of fatalities. It is apparent that the company officers and management did not exercise the proper degree of diligence toward complying with the recommendations of Federal and State Inspectors for many months prior to the explosion.

3. The evidence is convincing that the public officers of the Illinois State Department of Mines and Minerals and the Members of the State Mining Board followed a weak, inefficient and indifferent policy toward enforcement of State Mining Laws for at least eighteen months with respect to this mine. The enforcement was largely confined to writing a series of letters to the Company containing mild requests that the complaints from Inspector Scanlan be remedied and his recommendations obeyed.

4. State Inspector Scanlan at all times had the legal authority to close this mine if he considered it unsafe. His manner of testifying before this Committee clearly indicated he

has

off

testified that the mine should have been closed.

because his expressed fear that if he did so

would be discharged or reprimanded by the State

Director of Mines and Minerals is not a sufficient excuse for

failure to close the mines. The safety of the

public, according to his own testimony, was in jeopardy

such that we believe he should have risked his

position if his fear about his job as State Inspector

was justified.

5. Since May, 1946, Federal Coal Mines

Administrator Captain Collison had jurisdiction over

300 coal mines in twenty-five operating States,

and a force of 150 Federal Coal Mine Inspectors.

He received his first inspection report on this

in late 1946. Copies of the

inspection reports were then sent to the head office

in Washington of the United Mine Workers, to the

State Department of Mines and Minerals,

and to the Centralia Coal Company. The Federal

Administrator did not receive the next Federal

inspection of March 18, 1947, until after

imminent danger.

... was the Federal Coal Mi
nistr... led letters to the Company ...
... and January, calling their atten
... ance. There is no evi
... complaints ... this mine were made by officers
... the Uni... ne Workers to the Coal Mine Administra-
... The channels of information between the Federal
... specter and the Coal Administrator were inh...ently
slow. Since there was no report of imminent danger to
the Administrator, and no other complaints to him by
anyone about the hazardous condition of this mine,
... view to the magnitude of his duties to oper-
300 mines, we are unable to say he did not
... his responsibilities in this case.

6. Although a Miners Safety Committee
at the mine, as provided in the Federal Safety
Code, would seem to be an impressive device for
insuring safety, we believe it is impractical
... obligate working coal miners to assume the
... eral responsibility for safety measures. These
... men, laboriously engaged in inherently a danger-

the mine is safe. They should have a right to assume that the Company management and officials were sufficiently competent and diligent provide reasonably secure working conditions. In my opinion that a man should be held accountable in some manner for neglects and omissions tending to cause accidents. If the officers of the United Mine Workers are experienced in the mining industry, believe their union should have the authority and responsibility to enforce safe working conditions, we suggest that they employ skilled inspectors to authorize inspection at reasonable times.

The State Mining Inspector who is in charge of the mines of his district in our judgment is the most effective authority for compelling safe working conditions. For a long time the limited legal authority for State Inspectors to summarily close a mine when they consider it unsafe. It is difficult to imagine a more prompt and decisive method for the protection of the workmen.

t examinations

placed

Service adequately compensated and
...ment be irrevocable until after a
aring and decision by a State Court. We believe
State Inspectors should have legal authority
! security commensurate with their very important
ss.

me witnesses, experienced in the
istration of mining laws, testified that la-
reement in this field be aided by amen-
ing the law so as to require State Mine Inspectors
to send : of each of their inspection reports
----- Circ ----- of the County in which the
s ----- d that the Circuit Clerk file
----- . This would make
inspection reports readily available at all
in th icinity of the mine for convenient
ation / any interested parties and the
s Attorney when he deems it advisable.

10. We recommend the Legislators of
Illinois amend the State Mining Laws where necessary

to prevent the probability and recurrence of

lesion in an Illinois coal mine. We

for this object the General Assembly
like use of the scientific findings and recommenda-
ions of

S/ John E. Cassidy
Chairman

John E. Cassidy

Wilbert

Wi

Oliver E.

D. H. De

James Sneddon

Date
Apri