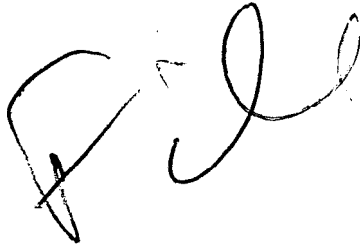


Montana Queen

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

DIVISION OF COAL MINE INSPECTION



REPORT OF MULTIPLE FATAL ROOF-FALL ACCIDENT  
MONTANA QUEEN MINE  
MOUNTAIN STATES MINING COMPANY  
QUEEN'S POINT, MUSSELSHELL COUNTY, MONTANA  
(Post Office - Roundup, Musselshell County, Montana)

January 28, 1958

E. L. Christensen  
Coal-Mine Inspector

R. T. Reay  
Coal-Mine Inspector

and

A. C. Moschetti  
Supervising Coal-Mine Inspector

Originating Office - Bureau of Mines  
Building 20, Federal Center, Denver 2, Colorado  
J. Howard Bird, District Supervisor  
Health and Safety, District H

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INTRODUCTION

Frank Nose, age 45; Olaf George Larsen, age 55; and Martin Meznarich, Jr., age 54; trackmen-timbermen; and James Molnar, age 48, unclassified miner, were killed about 3:00 p.m., January 28, 1958, by a second fall of roof on the main haulageway, Montana Queen mine, Mountain States Mining Company, Roundup, Musselshell County, Montana. Mr. J. J. Boyle, company president, and five other men in the immediate vicinity of the roof fall, narrowly escaped injury. The men were engaged in cleaning an initial fall when the second fall occurred.

Frank Nose, who had about 26 years mining experience, the last  $7\frac{1}{2}$  years in this mine, is survived by his widow and a dependent child. Olaf George Larsen, who had about 20 years mining experience, the last year in this mine, is survived by his widow. Martin Meznarich, Jr., with about 20 years mining experience, the last  $12\frac{1}{2}$  years in this mine, is survived by his widow and a dependent child. James Molnar, who had  $11\frac{1}{2}$  years mining experience, the last  $4\frac{1}{2}$  years in this mine, is not survived by any dependents.

E. L. Christensen was notified of the accident about 6:00 p.m., January 28, by personnel of District 27, United Mine Workers of America, Billings, Montana. The Bureau of Mines, Health and Safety, District H headquarters at Denver, Colorado, first heard of the accident when the Assistant-Director, Health and Safety, Washington, D. C., telephoned at about 8:30 a.m., January 29, 1958. Later a telegram on the accident, sent by E. L. Christensen, was received. The investigation was started by E. L. Christensen on January 29, 1958, and completed on January 30, accompanied by A. C. Moschetti and R. T. Reay of the Denver, Colorado office.

## GENERAL INFORMATION

The Montana Queen mine is situated about 5 miles southeast of Queen's Point, Musselshell County, Montana, and is served by the Chicago, Milwaukee, St. Paul and Pacific Railroad.

The mine was opened by a single drift, a vertical shaft, and a single slope. At the time of the accident, a total of 36 men was employed, of which number 23 worked underground and 13 worked on the surface on one shift two days a week. The average daily production of 400 tons of coal was loaded into mine cars by means of mobile loading machines. The mine was developed in the subbituminous Carpenter Creek coal bed, which ranges from 96 to 102 inches in thickness and dips about 3 percent southerly.

The coal bed was overlain by firm sandstone about 40 feet in thickness, as determined by evidence in the vertical shaft and boreholes drilled from the surface. This roof has been considered generally self-supporting in all open parts of the mine; however, a suitable method of systematic timbering was followed in all places where roof support was considered necessary. Three-piece timber sets were used to support the roof along the haulageways where deemed necessary, but for the most part, the haulageways and parallel air courses were not timbered. Three-piece timber sets had been installed in the haulageway where the fall occurred. In the area where the accident occurred, the roof structure overlying the coal bed appeared comparable to all other exposed roof throughout the mine; however, the rock formation above the second roof fall showed definite intrusions of friable shale and soft sandstone in a stratified, damp condition. The rock formation in the initial 7 feet of roof above the coal bed at this location was composed of firm, stratified sandstone which ranged from 2 to 3 feet in thickness between the strata. An investigation at the scene of the accident showed evidence that the roof, where the fall occurred, was previously supported with three-piece timber sets spaced from 3 to 5 feet apart. Most of the crossbars consisted of 8 X 10-inch fir timber treated with creosote. Props with cap pieces were used to support the roof at points where two abandoned rooms intersected the haulageway contiguous to the roof fall. Major roof falls resulting in injury had not previously occurred in this mine since it was opened. Explosives were not normally used in the mine as coal was broken down with Airdox; however, permissible explosives had been obtained and were used during the cleanup operations of the initial fall.

Information relative to the accident was obtained through testimony given by the eye witnesses, J. J. Boyle, company president; George Metzker, trackman-timberman; Adolph Paulus, trackman helper; Mike Golob, Jr., motorman; Dwight Harmon, motorman; and Lynn Miller, machineman, and from an investigation made at the scene of the accident. Additional information was also obtained from these and other persons who testified at the Coroner's Inquest held on January 30, 1958.

A Form A closure order was issued on January 29, 1958, under the Federal Coal Mine Safety Act, prohibiting use of the haulageway for a distance of approximately 39 feet at a point about 5,800 feet in by the mine portal. The fall was not cleaned and the haulageway was re-routed through the lower crosscuts of the old rooms. The order was annulled by the Director on the recommendation of the three Federal mine inspectors who conducted the special inspection on February 6-7, 1958. The mine resumed operations.

The investigating committee consisted of the following persons:

Mountain States Mining Company

J. J. Boyle                      President

United Mine Workers of America

|               |                            |
|---------------|----------------------------|
| Joseph Masine | International Board Member |
| R. J. Boyle   | President, District 27     |
| Charles Light | Member, Safety Committee   |
| Emil Polich   | Member, Safety Committee   |
| John Neshein  | Member, Safety Committee   |

Montana Industrial Accident Board

Loren H. Newman              State Coal-Mine Inspector

United States Bureau of Mines

|                   |                                 |
|-------------------|---------------------------------|
| E. L. Christensen | Coal-Mine Inspector             |
| R. T. Reay        | Coal-Mine Inspector             |
| A. C. Moschetti   | Supervising Coal-Mine Inspector |

The last previous Federal inspection of this mine was made on January 15, 1958.

DESCRIPTION OF ACCIDENT

The accident occurred on the main haulageway at a point about 5,800 feet from the mine portal. This section of the haulageway had been re-routed through a worked-out area and intersected two rooms; the fall occurred at the intersection with one room.

The acting fire boss, Lynn Miller, detected a large roof fall at this location during his preshift examination of the mine on Monday, January 27, 1958; the mine had last been worked on Friday, January 24, and no unusual condition had been detected. The roof fall broke through the crossbars for a distance of 39 feet along the haulageway, and extended a distance of about 30 feet to the face of the worked-out room. The rock

broke to a height of about seven feet over the center of the haulageway and arched to about two feet in thickness at the face of the room. The outby end of the roof fall, for a distance of 15 feet, ranged from 12 inches in thickness to a feather edge. The fire boss returned to the surface and reported the condition to J. J. Boyle, company president and acting mine foreman. After examining the roof fall, Mr. Boyle assigned a crew of six men to start the cleanup operations. The crew, in charge of Mr. Boyle, entered the mine at 8:15 a.m. and erected three permanent crossbars under the lip at the outby end of the roof fall. Posts were also set in the center of six crossbars formerly installed along the haulageway immediately inby the roof fall. During the remainder of the shift, the crew was engaged in barring down loose rock above and surrounding the caved area, and gobbing the loose material in adjacent old rooms. Testimony given by members of the crew disclosed that the roof above the fall was considered safe and not in need of temporary support as determined by frequent tests made during the shift by the mine official and Frank Nose, timberman.

On the morning of January 28, 1958, Mr. Boyle and a crew of nine men resumed the cleanup operations at the caved area. The roof above the fall was tested frequently during the shift by the mine foreman and members of the crew, particularly Frank Nose and Olaf Larsen, timbermen. Roof tests were made with picks and a steel pinch bar. The roof tests were considered conclusive evidence of firm roof structure above the fall and temporary roof support was not maintained during the cleanup operations. Several times during the shifts, overhanging ledges and large pieces of fallen rock were blasted with permissible explosives fired by means of electric detonators and a permissible blasting unit. The explosives were placed in crevices of the overhanging ledges, and they were not confined when used to break the large pieces of fallen rock. Immediately prior to the accident, Nose and Larsen had placed another charge of explosives in a section of overhanging rock directly above the first crossbar inby the caved area, and had connected the leg wires of the detonator to the blasting cable. According to testimony given by eye witnesses, the roof over the caved area had been tested by Nose about five minutes before the second fall of roof occurred. Meznarich and Molnar were standing on top of the roof fall near the center of the haulageway, about eight feet away from the other two men. Boyle, Golob, Paulus and Miller were standing on top of the roof fall immediately outby Meznarich and Molnar. Metzker and Harmon were on the haulageway immediately inby the caved area. After connecting the detonator leg wires to the blasting cable, Nose and Larsen started to leave the area when the roof fell from a point near the face of the room to the center of the haulageway, killing the four men. Some of the eye witnesses testified that someone shouted a warning immediately before the fall occurred. Boyle, Golob, Paulus and Miller fell backwards away from the outside edge of the roof fall and escaped injury. Paulus stated that he looked up at the roof and saw it "dribble" and yelled "Look out" as the rock fell. The rock which fell broke into several pieces, but measurements showed that it was about 26 feet in length, 12 feet in width, and ranged from 8 to 22 inches in thickness. It was necessary to obtain additional

men to assist in removing the bodies from underneath the roof fall. A sketch of the accident is appended.

#### CAUSE OF ACCIDENT

The accident was caused by a fall of roof which had not been supported during the cleanup operations following the initial roof fall. The roof had been judged to be safe by frequent tests with picks and a steel pinch bar. Firing of unconfined shots to break large pieces of fallen rock and to remove overhanging rock probably contributed to the accident, owing to vibrations and concussions.

#### RECOMMENDATIONS

Compliance with the following recommendations may prevent accidents of a similar nature.

1. Temporary roof supports should be provided to protect workmen engaged in cleanup operations following roof fall, until permanent roof support can be provided.
2. Roof testing rods should be used for proper testing of roof.
3. Unconfined shots should not be fired underground.

#### ACKNOWLEDGEMENT

The cooperation of company officials and employees during this investigation is gratefully acknowledged.

/s/ E. L. Christensen  
Coal-Mine Inspector

/s/ R. T. Reay  
Coal-Mine Inspector

/s/ A. C. Moschetti  
Supervising Coal-Mine Inspector

FATAL ACCIDENT DATA SHEET

1. Name of victim Olaf George Larsen
2. Mine, company, and location Montana Queen, Mountain States Mining Company, Roundup, Montana
3. Date of accident January 28, 1958 Time of accident: 3:00 p.m.
4. Daily employment 36 Gen. location of accident Main haulageway (5,800 feet inby mine portal)
5. Job when injured Cleaning roof fall Regular job Timberman-Trackman
6. Age 55 Years experience: Regular job 1 In mines 20
7. Dependents: Widow X Number of children under age 18 None  
Others None
8. Method of loading in place where accident occurred: Mechanical DNA  
Hand into cars or conveyors DNA
9. Location: Haulageway
10. Type of permanent support in use at location where accident occurred:  
Posts - Crossbars
11. Type of temporary support in use in place where accident occurred: None
12. Did injury occur inby last permanent roof support? Yes
13. Distance from last supports to face: Permanent DNA Temporary DNA
14. Was standard support plan adopted? Yes Was it followed in this place?  
No. (Temporary roof support not used)
15. Last prior visit by mine official: With crew during entire shift.
16. Approximate dimensions of fall in inches: Length 312" Width 144"  
Max. thickness 22"

FATAL ACCIDENT DATA SHEET

1. Name of victim Frank Nose
2. Mine, company, and location Montana Queen, Mountain States Mining Company, Roundup, Montana.
3. Date of accident January 28, 1958 Time of accident 3:00 p.m.
4. Daily employment 36 Gen. location of accident Main Haulage Entry  
(5,800' feet inby portal of mine)
5. Job when injured Cleaning roof fall Regular job Timberman-Trackman
6. Age 45 Years experience: Regular job 7-1/2 In mines 26
7. Dependents: Widow X Number of children under age 18 1 Others None
8. Method of loading in place where accident occurred: Mechanical DNA  
Hand into cars or conveyors DNA Other DNA
9. Location: Haulageway
10. Type of permanent support in use at location where accident occurred:  
Posts
11. Type of temporary support in use in place where accident occurred:  
None
12. Did injury occur inby last permanent roof support? Yes
13. Distance from last supports to face: DNA
14. Was standard support plan adopted? Yes Was it followed in this place?  
No. (Temporary roof support not used)
15. Last prior visit by mine official: With crew during entire shift.
16. Approximate dimensions of fall in inches: Length 312" Width 144"  
Max. thickness 22"

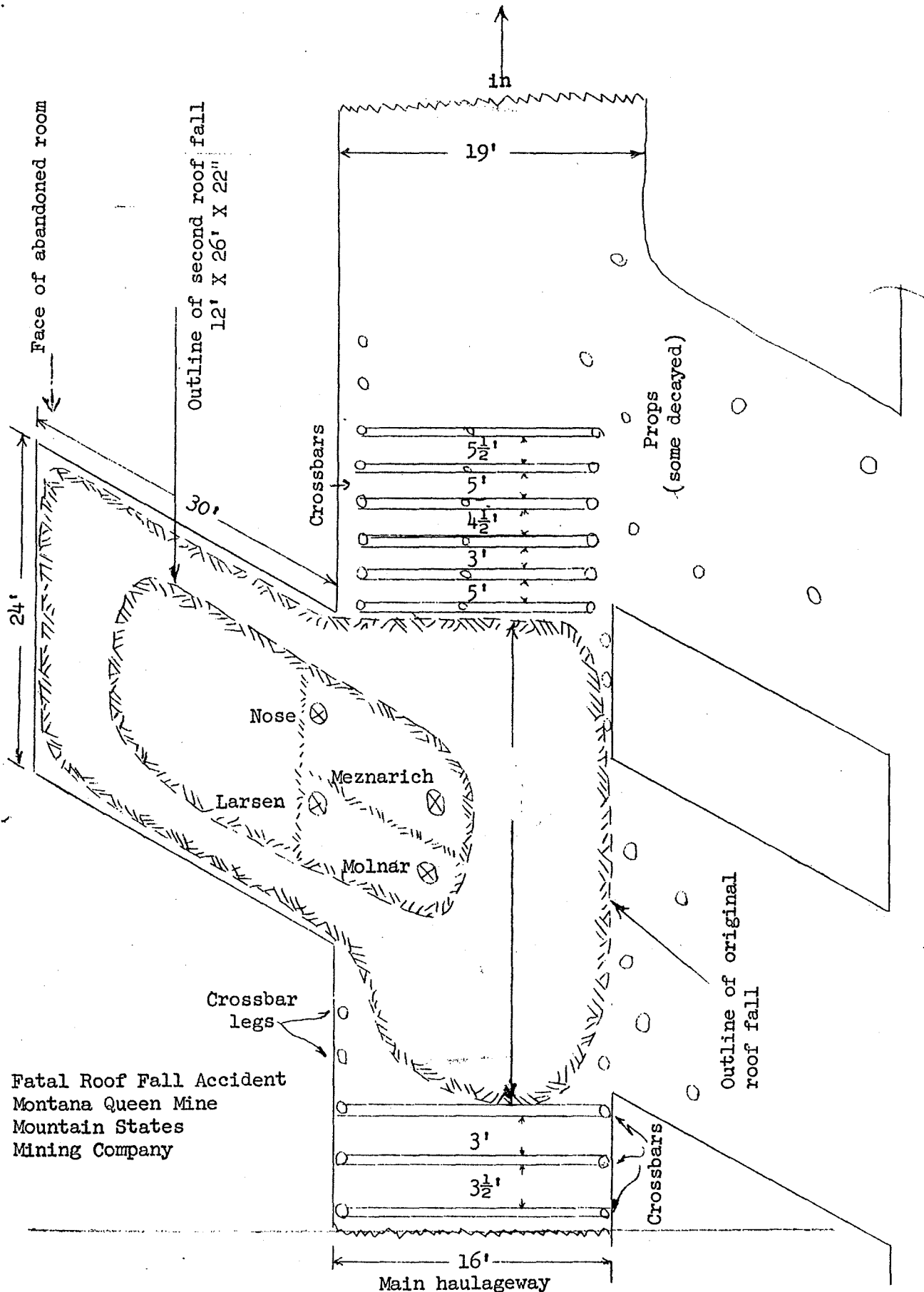


FATAL ACCIDENT DATA SHEET

1. Name of victim James Molnar
2. Mine, company, and location Montana Queen, Mountain States Mining Company, Roundup, Montana
3. Date of accident January 28, 1958 Time of accident: 3:00 p. m.
4. Daily employment 36 Gen. location of accident Main haulageway (5,800 feet inby mine portal)
5. Job when injured Cleaning roof fall Regular job Unclassified miner
6. Age 48 Years experience: Regular job 4-1/2 In mines 11-1/2
7. Dependents: Widow None No. of children under age 18 None Others None
8. Method of loading in place where accident occurred: Mechanical DNA ; hand into cars or conveyors DNA
9. Location: Haulageway
10. Type of permanent support in use at location where accident occurred: Posts; Crossbars
11. Type of temporary support in use in place where accident occurred: None.
12. Did injury occur inby last permanent roof support? Yes
13. Distance from last supports to face: Permanent DNA Temporary DNA
14. Was standard support plan adopted? Yes. Was it followed in this place? No. Temporary roof support not used.
15. Last prior visit by mine official: With crew during entire shift.
16. Approximate dimensions of fall in inches: Length 312" Width 144" Max. thickness 22"

FATAL ACCIDENT DATA SHEET

1. Name of victim Martin Meznarich, Jr.
2. Mine, company, and location Montana Queen, Mountain States Mining Company, Roundup, Montana
3. Date of accident January 28, 1958 Time of accident: 3:00 p.m.
4. Daily employment 36 Gen. location of accident Main haulageway  
(5,800 feet inby mine portal)
5. Job when injured Cleaning roof fall. Regular job Timberman-trackman
6. Age 54 Years experience: Regular job 12-1/2 In mines 20
7. Dependents: Widow Number of children under age 18 1 Others None
8. Method of loading in place where accident occurred: Mechanical DNA  
Hand into cars or conveyors DNA
9. Location: Haulageway
10. Type of permanent support in use at location where accident occurred:  
Posts; Crossbars
11. Type of temporary support in use in place where accident occurred: None
12. Did injury occur inby last permanent roof support? Yes
13. Distance from last supports to face: Permanent DNA Temporary DNA
14. Was standard support plan adopted? Yes Was it followed in this place?  
No. (Temporary roof support not used.)
15. Last prior visit by mine official: With crew during entire shift.
16. Approximate dimensions of fall in inches: Length 312" Width 144"  
Max. thickness 22"



Fatal Roof Fall Accident  
 Montana Queen Mine  
 Mountain States  
 Mining Company

Not drawn to scale