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Fifth Annual Report

OF THE

State Inspector of Coal Mines

1917



DENVER, COLORADO
EAMES BROS., STATE PRINTERS
1917

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OF THE

State Inspector of
Coal Mines

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PERSONNEL OF COAL MINE INSPECTION DEPARTMENT

JAMES DALRYMPLE, Chief Inspector.....	Denver, Colo.
W. M. LAURIE, Deputy Inspector.....	Trinidad, Colo.
A. E. THOMPSON, Deputy Inspector.....	Walsenburg, Colo.
F. N. OBERDING, Deputy Inspector.....	Louisville, Colo.
JAS. W. GRAHAM, Deputy Inspector.....	Grand Junction, Colo.
HENRY P. KING, Deputy Inspector.....	Denver, Colo.
ADA R. TIBBITS, Chief Clerk.....	Denver, Colo.
BIRDIE DORSEY, Assistant Clerk.....	Denver, Colo.

FIELD FORCE AND DISTRICTS.

W. M. LAURIE	District No. 1
Las Animas County, North to and including Berwind Mine.	
A. E. THOMPSON	District No. 2
Huerfano County South of Walsenburg to and including Tabasco Mine.	
F. N. OBERDING	District No. 3
Boulder, El Paso, Jackson, Jefferson and Weld Counties.	
JAS. W. GRAHAM	District No. 4
Delta, Garfield, Gunnison, La Plata, Mesa, Montezuma, Montrose, Pitkin, Rio Blanco.	
HENRY P. KING	District No. 5
Routt, Moffat, Fremont Counties and Huerfano County North Hogback.	

NOTE.—Fatal accidents and complaints from the mines in Huerfano County North of Hogback and included in District No. 5 will be attended to by A. E. Thompson, when Inspector King is absent from that part of his District.

LETTER OF TRANSMITTAL

To His Excellency,
JULIUS C. GUNTER,
Governor of the State of Colorado.

Sir: Herewith I have the honor to submit to you, in accordance with Section 37 of an Act entitled "Coal Mining Laws," the Fifth Annual Report of this Department. The period covered began January 1st and ended December 31st, 1917.

Respectfully,

JAMES DALRYMPLE,
Chief Inspector of Coal Mines.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 to DECEMBER 31, 1917

RECEIPTS

Tax collected on coal mined	\$37,213.75	
From sales of copies of the coal mining law.....	872.45	
Balance brought forward from 1916.....	28,771.79	
Total		\$66,857.99

DISBURSEMENTS

Salary of chief inspector.....	\$ 3,583.31	
Salaries of five deputy inspectors.....	11,550.00	
Salary of chief clerk.....	1,500.00	
Salary of assistant clerk.....	1,200.00	
Expenses of chief and deputy inspectors.....	5,011.25	
Mileage books for chief and deputy inspectors.....	1,040.00	
Automobile supplies for four Ford machines in field.....	351.09	
Board of Examiners, per diem and expenses.....	1,684.83	
Office Expenses—		
Printing	2,307.88	
Postage stamps	507.07	
Stationery supplies	160.57	
Telephone service	82.20	
Telegraph service	57.11	
Advertising examinations for mine officials.....	69.16	
Filing, book and map cases.....	589.25	
Express companies	12.48	
Instruments, gas detector and testing box, other apparatus, etc.	54.34	
Extra clerical help.....	277.26	
Electrical supplies	119.41	
Miscellaneous	198.36	
Total		\$30,355.57
Surplus		\$36,502.42

FIELD EQUIPMENT

Twelve Anemometers.
 Five Speedometers.
 Four Psychrometers.
 Five Marseant Safety Lamps.
 Five Koehler Safety Lamps.
 One Aneroid Barometer.
 One Burrell Gas Detector.
 One Gas Testing Box.
 Four Ford Machines.

SUMMARY OF THE COAL PRODUCTION OF COLORADO, 1917

Number of mines operated.....	238
Number of new and old mines opened.....	41
Number of mines closed, 5; abandoned, 4; total.....	9
Tons of sub-bituminous coal produced.....	2,526,152
Tons of semi-bituminous coal produced.....	1,273,767
Tons of bituminous coal produced.....	8,646,741
Tons of semi-anthracite coal produced.....	930
Tons of anthracite coal produced.....	67,715
Total number of tons of coal produced.....	12,515,305
Increase, 1917.....	1,993,120
Tons of run of mine produced.....	5,028,652
Tons of lump coal produced.....	3,534,213
Tons of nut coal produced.....	797,846
Tons of slack coal produced.....	3,154,594
Per cent of slack produced.....	42.15
Tons of coal mined by hand.....	8,498,362
Tons of coal mined by machines.....	4,016,943
Total number of machines used: Compressed air, 141; Electric 189; total.....	330
Tons loaded at mines for shipment.....	10,118,607
Tons shipped out of state.....	2,634,458
Tons sold to local trade and used by employes.....	264,220
Tons used at mines for steam and heat.....	330,003
Tons of coal made into coke.....	1,802,475
Tons of coke made.....	1,115,879
Number of coke ovens used.....	2,290
Number of days coke ovens were operated.....	338.5
Number of men employed at coke ovens.....	725
Number of men employed as miners (average): Pick, 5,448; Machine, 2,631; total.....	8,079
Number of other underground employes.....	3,260
Number of surface employes (average).....	2,631
Total number of men employed in and about the mines.....	13,970
Total number of foreign employes (average).....	7,550
Total number of employes speaking English (average).....	6,420
Number of days worked (eight hours).....	190.8
Daily production per miner.....	8.1 +
Annual production per miner.....	1,549 +
Number and type of safety lamps used: Flame, 482; Electric, 3,998; Total.....	4,480
Number of carbide lamps used.....	7,022
Number of pounds of carbide used (approximately).....	283,997
Number of pounds of permissible powder used.....	811,669
Number of pounds of black powder used.....	1,593,270
Number of pounds of dynamite used.....	73,839
Number of men killed: Underground, 184; Surface, 4; total.....	188
Number of men injured.....	1,563
Number killed per thousand employed.....	13.5
Number injured per thousand employed.....	112
Number of tons produced for each life lost.....	66,571
Number of tons produced for each non-fatal accident.....	8,004
Number of men employed for each life lost.....	74.3
Number of men employed for each non-fatal accident.....	9
Number of widows left.....	103
Number of children left fatherless.....	252
Number of days lost account of car shortage reported by 106 mines.....	2,852
Cost of development work in mines (approximately).....	\$687,395.28

Lignite coal is made to read "sub-bituminous" in accordance with the classification of the U. S. Bureau of Mines.

Fifth Annual Report

OF THE

State Inspector of Coal Mines

1917

INTRODUCTION

The scope of the Fifth Annual Report has been extended far beyond the limits of former reports of this department. A more comprehensive collection of statistics tabulated on the standardized forms adopted by the U. S. Bureau of Mines has been worked out in this report. It will be seen by looking at the different tables that the collection of the required data was not a complete success. The annual reports submitted by the operators in many instances being very incomplete. However, all that was reported is shown in the tables contained in the report. The tonnages, number of men employed underground and surface and the number of days worked, eight hours each, are figured from the operators' monthly reports from each mine filed regularly with this office. In classifying the men by occupations the data had to be taken from the annual reports and the totals disclosed discrepancies. Therefore, the classification of the occupations of the men employed is only approximate.

The coal production of Colorado for the year 1917 amounted to 12,515,305 tons and is the largest ever recorded in this State. The increase of 1,993,120 tons is chargeable to the enlarged activities of all the industries made necessary by the war. A million or more tons were lost to the industry on account of a great car shortage which compelled many of the large-producing mines to lie idle many days in each month, especially in the fall and early winter. A scarcity of skilled labor further curtailed the output. Two hundred and thirty-eight mines in twenty counties produced coal; all but five counties show an increase in the production. Huerfano, Las Animas, Fremont and Boulder counties made an increase each of more than two hundred thousand tons. Forty-one mines opened up; of these only four, the Boncarbo, Bear Canon in Las Animas county and the Wadge and Elk Creek in Routt county, were new openings giving promise of large capacities; the balance were old mines having no railroad connections and dependent on local trade only. The re-opening of so many old mines is attributable to the large demand for fuel.

The wages of the mine workers were increased several times during the year, and the selling price of coal went up as well as the cost of production. Numerous small local strikes disturbed the course of operations, caused chiefly by fault found with the mine

scales and disputes regarding the employment of check-weighmen. The settlement of these troubles was usually speedily adjusted by the State Industrial Board or by this department.

The mines in general made marked improvements. The living conditions in many of the coal camps received attention and many new dwelling-houses, bath-houses and reading-rooms were erected. Fences were put up around the houses and a plentiful supply of water furnished to encourage gardening and wholesome amusements for the entertainment of old and young were provided. In fact, there is an active movement in the camps of some of the coal companies to create better living conditions.

MINES IN OPERATION; INSPECTIONS MADE

Two hundred and thirty-eight mines were in operation during the year. Seven hundred and ninety-one inspections were made, not including joint inspections. One hundred and eighty days of one man's time was spent at the Hastings mine since the explosion. Fifty-six inquests were attended, thirty-two scale inspections were made and two mines were closed down temporarily because of unsafe and unsanitary conditions, and several convictions were obtained for violation of the mining law.

FATAL ACCIDENTS

One hundred and eighty-eight of the one hundred and ninety fatal accident are charged against the industry, the other two having died from natural causes or lived more than thirty days after being injured, are excluded. One hundred and twenty-one persons lost their lives on April 27th in the Hastings explosion, and one on the 31st of December in the Berwind explosion. The other sixty-six from what may be termed general causes, such as falls of rock, falls of coal, mine cars and motors, explosives, electricity, etc. Thirty-four of them were company men and thirty-two miners, the machine men being included as miners.

The records show that since January 1st, 1913, to December 31st, 1917, the percentage of fatal accidents to company men from general causes increased from twenty-one per cent. in 1913 to fifty-one and one-half per cent. in 1917, compared with 1916 the fatal accidents from general causes show an increase of fifty per cent.

THE RESPONSIBILITY AS PLACED BY THE INSPECTORS FOR THE FATAL ACCIDENTS IS AS FOLLOWS

Fault of deceased	8
Fault of owner	126
Deceased and owner	7
Deceased and co-worker	1
Unavoidable	37
Unable to place	9
Total	188

The non-fatal accidents show an increase of seventy-five and eight-tenths per cent. For classification of all accidents see tables.

CAUSES FOR FATAL AND NON-FATAL ACCIDENTS

The following reasons may be responsible for this increase: Scarcity of men, the bonus system, inadequate supervision, wages paid company men, increase in wages, and price paid for product. Scarcity of men causing the employees to be more independent or disobedient and the mine officials to be more lenient in seeing that the law is enforced. The bonuses paid per ton and per day provided a certain tonnage was produced or a certain number of days were worked by the workmen; thus creating an object for the miner to obtain the required tonnage in order to get the bonus on his total production, and for the company men to work the required number of days in order to get the bonus on all days worked regardless of their own safety. I consider the bonus system a handicap to efficiency, an industrial error, and a menace to life.

INSUFFICIENT SUPERVISION:

In a great many of the mines the territory to be covered and the number of employees cared for by the mine foreman and firebosses are entirely too great for them to attend to properly. A great deal of responsibility is attached to both of the above named positions, and their work should be such that they will always be observant, alert and careful; to be so they should not be overworked. They should at all times have the support of their superiors in their efforts to enforce the law. This in a great many instances does not prevail, the opposite being the case, which places the mine foreman and fireboss in the position of either allowing the law to be violated or they resign their positions. As a remedy I recommend that all mine officials in superior positions to those of mine foremen and firebosses be required to hold certificates of competency and to be held equally responsible for the enforcement of the law.

INCREASE IN WAGES:

Until the last advance in wages, when the company men received the advance of \$1.40 per day, the miners were making from one to two dollars per day more than was being paid for company work. Under such conditions generally only the poorest class of labor could be secured to do company work, resulting in a great many unnecessary chances being taken in doing the work and defective when done. The increase in mine workers' wages and prices paid for the product being greater than in many of the other industries resulted in a great many inexperienced men going to the mines to work. The desire of all concerned for the almighty dollar causing a disregard for the proper protection of human life.

SHOTFIRING:

Shotfiring under the best of conditions is very dangerous and is made more so by rapid shooting. By shotfirers in their hurry to get through, neglecting to see that the places are free from explosive gas, that the holes are properly placed and thoroughly cleaned, that the charge is about what it should be and that the tamping as to

quality and quantity is as required by law. Shotfirers, like other underground employees, should be engaged with the understanding that eight hours constitute a day. The amount of work to be done should be such that they will have plenty of time to do it properly under the careful supervision of the mine foreman.

Firing of shots in sub-bituminous mines during working hours creates unsanitary conditions and is injurious to the health of the workmen, retards efficiency and is financially injurious to the companies. Arrangements are being made by this department to have representatives of the men and the operators meet in the near future at the Capitol Building to take up the question in a practical way and see if the practice cannot be discontinued.

DRILLING OF HOLES :

In all mines where the coal is not undermined or overmined, rib holes must be drilled as nearly parallel with the rib as possible; where drilling is done by machine, holes must be drilled by using the side gear of the machine only. Shotfirers will be deemed guilty of violating the law if they fire any such holes where the end gear has been used in drilling.

PERMANENT STOPPINGS :

Prior to the passage of the present mining law, stoppings built of dry rock, in some instances faced with mortar, were considered as permanent stoppings. They are the most defective and deceptive kind of stoppings regardless of the thickness, and will not be approved by this department as meeting the requirements of the law. Permanent stoppings must be built of concrete, stone or brick laid in mortar where conditions will permit; any other material used must meet with the approval of the Chief Inspector or the Deputy Inspector of the District.

CROSS CUTS :

Cross cuts are driven for the purpose of insuring healthy conditions at the working faces; to receive the full benefit they should be completed as soon as possible after being started. In a great many of our mines, especially in the sub-bituminous fields, where mining machines are employed and shooting is done during working hours, the cross cuts are not cut, only when the entries or rooms from which they are being driven are cut, so that if the cross cuts are sixty feet apart and fifty feet long, the miner at best is always from sixty to one hundred and ten feet ahead of the air. In mines generating gas when the places advance far enough to be connected, they should be stopped until connections are made, thereby minimizing the chances of accumulating gas.

FIRST AID AND HELMET WORK :

Under present conditions two or three different methods of teaching First Aid are employed. In rescue work there are three

different types of helmets being used, thus creating conditions under which misunderstandings or serious mistakes may occur. For example: When two men have been taught different methods of administering First Aid, are called upon to attend one in need, each insisting upon his method being employed, thereby delaying the treatment.

In rescue work where a person or persons have been trained in the use of helmets and are called upon to give his or their services where a different type with which he or they are not familiar is used, in either case the loss of life may be the result. To remedy this evil I advise that only one method of administering First Aid be taught and only one type of helmet used in all the coal mines in this state.

NUMBER OF CERTIFICATES ISSUED TO MINE OFFICIALS SINCE PRESENT LAW WENT INTO EFFECT

Mine Examiners	101
First Class Mine Foremen	307
First Class Assistant Mine Foremen.....	36
Second Class Mine Foremen	173
Second Class Assistant Mine Foremen.....	47
Firebosses'	103
Mine Foremen for some particular mine only.....	22
First Class Shotfirers	451
Second Class Shotfirers	366
Grand total	2,006

Assuming that eighty per cent. of the certified examiners, foremen, assistant foremen, firebosses and shotfirers are still in Colorado, that there are two hundred and thirty-eight mines in the state, and that the present law has been in effect for four years, I consider it time to stop the issuing of permits allowing persons without certificates to act in the capacities above mentioned. It was not the intent of the law that this practice should be continued indefinitely, thereby discouraging certified men who are desirous of improving their own condition by study and application, or to retard or prevent the improvement sought through that part of the law requiring that only certified officials be employed.

In conclusion, I beg to tender to the Deputy Inspectors of the Department my sincere thanks for their able and loyal assistance.

Respectfully submitted,

JAMES DALRYMPLE,
Chief Inspector of Coal Mines.

TABLE

DIRECTORY OF COAL MINES IN STATE OF COLOR

Name of Company	Name of Mine	County	Name of Manager or General Su- perintendent	Post Office
Rocky Mountain Fuel Co.	Simpson	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Standard	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Mitchell	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Vulcan	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Acme	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Rex No. 1	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Hecla	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Gorham	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
Rocky Mountain Fuel Co.	Industrial	Boulder.....	Geo. T. Peart, Supt.....	Denver.....
National Fuel Co.	Monarch No. 1	Boulder.....	Samuel Tescher, Supt.	Denver.....
National Fuel Co.	Monarch No. 2	Boulder.....	Samuel Tescher, Supt.	Denver.....
Fox Coal Mining Co.	Fox	Boulder.....	S. A. Snyder.....	Denver.....
Matchless Fuel Co.	Matchless	Boulder.....	S. A. Snyder.....	Denver.....
Big Four Coal & Coke Co.	Centennial	Boulder.....	P. M. Peltier.....	Denver.....
Big Six Coal Co.	Sunnyside	Boulder.....	J. A. Carveth.....	Louisville.....
Brooks Fuel Co.	Nonpareil	Boulder.....	T. C. Cooper.....	Louisville.....
Cracker Jack Coal Co.	Cracker Jack	Boulder.....	W. W. Morgan.....	Boulder.....
Red Ash Coal Co.	Red Ash	Boulder.....	D. E. Evans.....	Gorham.....
Becker-Craig Coal Co.	Electric	Boulder.....	James A. Craig.....	Denver.....
M. S. Williams	Black Diamond	Boulder.....	G. M. Williams.....	Boulder.....
Strathmore Mine Co.	Strathmore	Boulder.....	Ed. John	Lafayette.....
Cambro Coal Co.	Cambro	Boulder.....	O. M. Hopkins.....	Lafayette.....
New Mile High Coal Co.	Mile High	Boulder.....	A. Petersen.....	Lafayette.....
J. T. Lewis & Son	Lewis	Boulder.....	J. T. Lewis.....	Gorham.....
Cowie Coal Co.	Cowie	Boulder.....	James Cowie	Boulder.....
Juanita Coal & Coke Co.	King	Delta.....	J. S. Bowie.....	Bowie.....
Paonia Coal Co.	Farmers	Delta.....	.....	Paonia.....
Red Mountain Coal Co.	Red Mountain	Delta.....	A. W. Hall.....	Cedaredge.....
Green Valley Coal Co.	Green Valley	Delta.....	G. R. Patton.....	Cedaredge.....
Winton Coal Co.	Winton	Delta.....	J. C. Bowerman.....	Cedaredge.....
Frank Converse	Converse	Delta.....	Frank Converse.....	Paonia.....
Farmers' Prog. Coal Co.	Black Diamond	Delta.....	.....	Paonia.....
Hotchkiss Fuel and Sup. Co.	Bennett	Delta.....	M. W. Bennett.....	Hotchkiss.....
Grand Mesa Fuel Co.	Fairview	Delta.....	C. N. Beidler.....	Delta.....
States Coal Co.	States	Delta.....	Chas. G. States.....	Cedaredge.....
Stewart & Hovey	Rollins	Delta.....	Hamilton Stewart.....	Delta.....
Pike's Peak Cons. Fuel Co.	Pikeview	El Paso.....	Robert O'Neil, Supt.....	Colo. Spgs.....
Keystone Mining Co.	Keystone	El Paso.....	Robert O'Neil, Supt.....	Colo. Spgs.....
Tudor Coal Co.	Danville No. 1 & 2	El Paso.....	W. D. Tudor.....	Colo. Spgs.....
Thomas Coal Co.	Williamsville	El Paso.....	Thomas E. Thomas.....	Colo. Spgs.....
W. D. Corley	Klondyke	El Paso.....	W. D. Corley.....	Colo. Spgs.....
Alexander Patterson	Patterson	El Paso.....	.....	Colo. Spgs.....
Thos. D. Davis	Franceville	El Paso.....	Thomas D. Davis.....	Colo. Spgs.....
Colorado Fuel & Iron Co.	Rockvale	Fremont.....	E. H. Weitzel.....	Pueblo.....
Colorado Fuel & Iron Co.	Fremont	Fremont.....	E. H. Weitzel.....	Pueblo.....
Colorado Fuel & Iron Co.	Coal Creek	Fremont.....	E. H. Weitzel.....	Pueblo.....
Colorado Fuel & Iron Co.	Nonac	Fremont.....	E. H. Weitzel.....	Pueblo.....
Victor-American Fuel Co.	Chandler	Fremont.....	B. W. Snodgrass, Spt.	Denver.....
Victor-American Fuel Co.	Radiant	Fremont.....	B. W. Snodgrass, Spt.	Denver.....
Gibson Lumber Co.	Royal Gorge	Fremont.....	Herman Loehr.....	Canon City.....
Wilmsburg Slope Coal Co.	Emerald	Fremont.....	S. P. Smith.....	Florence.....
Brookside Coal Mining Co.	Brookside	Fremont.....	John Lippis.....	Canon City.....
Wolf Park Coal Co.	Wolf Park	Fremont.....	R. W. Shumway.....	Canon City.....
Orecchio Coal Co.	Orecchio	Fremont.....	Tom Orecchio.....	Florence.....
Samuel Petry	Willie	Fremont.....	Samuel Petry.....	Florence.....
G. M. McLean	Double Dick	Fremont.....	G. M. McLean.....	Florence.....
Donnelly, Davis & Donnelly	Wilmsburg Slope.....	Fremont.....	.....	Florence.....
James Rocchio	Rocchio	Fremont.....	James Rocchio.....	Coal Creek.....
Rocky Mountain Fuel Co.	Midland	Garfield.....	Geo. T. Peart, Supt.....	Denver.....
Garfield Mine Leasing Co.	Garfield	Garfield.....	Geo. T. Peart, Supt.....	Denver.....

No. 1

ADO FOR THE YEAR ENDED DECEMBER 31, 1917.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	In.
J. W. Griffiths.....	Lafayette.....	C.B.&Q. & C.&S.....	Simpson.....	6 to 12	...
Geo. Sweringen.....	Lafayette.....	C. B. & Q.....	Standard.....	4 to 7	...
J. J. Thomas.....	Lafayette.....	C. B. & Q.....	Simpson.....	4 to 10	...
Charles Billington.....	Lafayette.....	C. B. & Q.....	Vulcan.....	6 to 8	...
L. G. Wilson.....	Louisville.....	C. & S.....	Lower Acme.....	6 to 8	...
Mine fin. July, 1917.....					
Ned Hodgson.....	Louisville.....	C. & S.....	Hecla Middle.....	5	...
Thos. Hilton.....	Gorham.....	C. & S.....	Gorham.....	5 to 9	...
F. J. L. MacCormac.....	Superior.....	C. & S.....	Industrial.....	5 to 10	...
Jas. Etchells.....	Downer.....	C. & S.....	Laramie.....	3	...
A. E. Oliver.....	Broomfield.....	C. & S.....	Laramie.....	7	...
J. W. Schultz.....	Marshall.....	C. & S.....	Laramie.....	6 to 8	...
R. S. Husband.....	Louisville.....	C. & S.....		4	6
J. W. Thomas.....	Louisville.....	C. & S.....			
F. W. Carveth.....	Louisville.....	C. & S.....	Louisville.....	4	4
W. E. Brooks.....	Louisville.....	C. & S.....		3 to 9	...
W. W. Morgan.....	Boulder.....	C. & S.....		7	6
A. A. Evans.....	Gorham.....	C. & S.....	Gorham.....	6	5
Joseph Simpson.....	Louisville.....	C. & S.....		4.8 to 5	...
G. M. Williams.....	Boulder.....	None.....		6	...
Ed. John.....	Lafayette.....	C. & S.....		12	...
O. M. Hopkins.....	Lafayette.....	C. B. & Q.....		6	...
A. Petersen.....	Lafayette.....	None.....		3	6
J. T. Lewis.....	Gorham.....	None.....		5	6
James Cowie.....	Boulder.....	None.....			...
A. R. Bowie.....	Bowie.....	D. & R. G.....	King.....	11	...
P. B. Jenkins.....	Paonia.....	None.....		8	6
A. W. Hall.....	Cedaredge.....	None.....		7	8
G. R. Patton.....	Cedaredge.....	None.....		6	...
J. C. Bowerman.....	Cedaredge.....	None.....	Winton.....	12	...
Lee L. Converse.....	Paonia.....	None.....		7	...
P. B. Jenkins.....	Paonia.....	None.....		7	...
M. W. Bennett.....	Hotchkiss.....	None.....		7	...
C. N. Beidler.....	Delta.....	None.....		6	...
Chas. G. States.....	Cedaredge.....	None.....	No. 1 Rollins' Sands'e.....	13	2
Hamilton Stewart.....	Delta.....	None.....		11	...
Robert O'Neil.....	Pikeview.....	D. & R. G.....	Fox Hill.....	12	...
James B. Bennett.....	Colo. Spgs.....	R. I.....		8	...
J. Tudor.....	Colo. Spgs.....	A. T. & S. F.....		7 to 11	...
Thomas E. Thomas.....	Colo. Spgs.....	None.....		7	6
Joseph Cochrane.....	Colo. Spgs.....	C. & S.....		4 to 6	...
Alexander Patterson.....	Colo. Spgs.....	None.....		8	...
Thomas D. Davis.....	Colo. Spgs.....	None.....		5	...
Henry John.....	Rockvale.....	A. T. & S. F.....		3	6
W. J. Davis.....	Florence.....	D. & R. G.....	Canon City.....	4 to 5	...
Ben Beach.....	Coal Creek.....	A. T. & S. F.....	Canon City.....	3 to 4	...
Chas. O'Neil.....	Canon City.....	A. T. & S. F.....		6	...
M. E. Summerville.....	Chandler.....	D.&R.C.&A.T.&S.F.....	Chandler.....	4	...
W. L. Morgan.....	Pyrolite.....	A. T. & S. F.....	Radiant.....	3	7
S. E. Satterfield.....	Canon City.....	A. T. & S. F.....	Royal Gorge, 2, 3, 4.....	3, 4, 6	...
H. J. Smith.....	Florence.....	A. T. & S. F.....	Canon City.....	3	...
John Lippis.....	Canon City.....	None.....	Not reported.....	5	...
R. W. Shumway.....	Canon City.....	A. T. & S. F.....	Chandler.....	4.4 to 5.9	...
Tom Orecchio.....	Florence.....	A. T. & S. F.....	Magnet.....	3½ to 4	...
Samuel Petry.....	Florence.....	None.....	Rockvale.....	3	...
G. M. McLean.....	Florence.....	None.....	Canon City.....	2	8
Henry Donnelly.....	Florence.....	None.....	Rockvale No. 1.....	3	4
James Rocchio.....	Florence.....			4	...
John G. Featherstone.....	Glenwd Spgs.....	Colo.-Midland.....	A. C. D.....	8, 9, & 7	...
J. P. Davis.....	New Castle.....	Colo.-Midland.....	Wheeler.....	42	3

TABLE No.

DIRECTORY OF COAL MINES IN STATE OF COLOR

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office
Gibson Asphaltum Co.	Carbonera	Garfield.....	M. W. Cooley.....	Watson, U.
Harvey Gap Coal Co.	Harvey Gap	Garfield.....		New Castle
Utah Fuel Co.	Somerset	Gunnison.....	W. C. Ferguson, Spt.	Denver
Colorado Fuel & Iron Co.	Crested Butte	Gunnison.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Floresta	Gunnison.....	E. H. Weitzel	Pueblo
Rocky Mountain Fuel Co.	Alpine	Gunnison.....	Geo. T. Peart, Supt.	Denver
Crested Butte Coal Co.	Bulkley	Gunnison.....	C. L. Ross	Denver
Crested Butte Anth. M. Co.	Smith	Gunnison.....	C. L. Ross	Denver
Littell Coal & Mining Co.	Porter	Gunnison.....	H. L. Littell.....	Denver
Pueblo Fuel & Mining Co.	Horace	Gunnison.....	H. L. Littell.....	Denver
Baldwin Fuel Co.	Baldwin-Star	Gunnison.....	Frank Bulkley.....	Denver
Ohio Creek Coal Mining Co.	Ohio Creek	Gunnison.....		Gunnison
Colorado Fuel & Iron Co.	Walsen	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Robinson	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Rouse	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Ideal	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Cameron	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Lester	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Pictou	Huerfano.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Hezron	Huerfano.....	E. H. Weitzel	Pueblo
Oakdale Coal Co.	Oakdale	Huerfano.....	J. D. Jones.....	Oakview
Mutual Coal Co.	Mutual	Huerfano.....	S. S. Murphy.....	Denver
Union Coal & Coke Co.	Pryor	Huerfano.....	Chas. Beuchat.....	Pryor
Turner Coal Co.	Turner	Huerfano.....	James B. Dick.....	Walsen'b'rg
Big Four Coal & Coke Co.	Big Four	Huerfano.....	P. M. Peltier.....	Denver
Sunnyside Coal Mining Co.	Sunnyside	Huerfano.....	E. H. Shea.....	Denver
Victory-American Fuel Co.	Ravenwood	Huerfano.....	B. W. Snodgrass.....	Denver
Aztec Coal Mining Co.	Toltec	Huerfano.....	Geo. Fruth.....	Denver
Loma Fuel Co.	Loma	Huerfano.....	Joseph Ball	Canon City
Rugby Fuel Co.	Rugby	Huerfano.....	Geo. D. Kimball.....	Denver
Alliance Coal Co.	Reliance	Huerfano.....	Thos. Hilton.....	Denver
Minnequa Coal Co.	Vesta	Huerfano.....		Denver
Gordon Coal Co.	Gordon	Huerfano.....	J. B. Dick.....	Walsen'b'rg
Tioga Coal Co.	Tioga	Huerfano.....	John Connell.....	Denver
Breen Coal Mining Co.	Breen	Huerfano.....	M. Brennan.....	Walsen'b'rg
Black Canon Coal & Fuel Co.	Caddell	Huerfano.....	Falton F. Crane.....	Denver
Monument Val. Coal M. Co.	Larimore	Huerfano.....	E. D. Bowers.....	Colo. Spgs.
Geo. McNally & Co.	Maitland	Huerfano.....		Maitland
New Maitland Coal Co.	Hickory Canon	Huerfano.....	R. S. Turner.....	Strong
Caddell & Carlson	Cuchara Canon	Huerfano.....	R. W. Caddell.....	Walsen'b'rg
Caprock Fuel Co.	Caprock	Huerfano.....	S. M. Thompson.....	Walsen'b'rg
Rocky Mountain Fuel Co.	Pinon	Huerfano.....	Geo. T. Peart.....	Mine finish
Northern Colo. Fuel Co.	Coalmont	Jackson.....	E. L. Simms.....	Coalmont
North Park Coal Co.	Moore	Jackson.....	J. M. Purdie.....	Coalmont
Leyden Coal Co.	Leyden No. 2 & 3	Jefferson.....		Denver
Shepherd & Maughan	Justrite	Jefferson.....		Golden
Calumet Fuel Co.	Perins Peak	La Plata.....	W. C. Ferguson, Spt.	Denver
Hesperus Fuel Co.	Hesperus	La Plata.....	W. I. Gifford.....	Hesperus
American Smt. & Ref. Co.	San Juan	La Plata.....	F. C. Gilbert.....	Durango
O. K. Coal Co.	O. K.	La Plata.....	W. W. Bay.....	Durango
Sunshine Coal Co.	Sunshine	La Plata.....	Thos. G. Pierce.....	Durango
Baudino & Co.	Morning Star	La Plata.....	John Baudino.....	Durango
Colorado Fuel & Iron Co.	Primerio	Las Anim's.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Frederick	Las Anim's.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Sopris	Las Anim's.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Starkville	Las Anim's.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Berwind	Las Anim's.....	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Tabasco	Las Anim's.....	E. H. Weitzel	Pueblo

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ADO FOR THE YEAR ENDED DECEMBER 31, 1917.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	in.
Homer D. Ford.....	Mack, Colo.....	Uintah.....	.....	8	.....
Robt. Williams, Jr.....	Somerset.....	None.....	.....	7	.....
William Manley.....	Crested Butte.....	D. & R. G.....	Mesa Verde.....	W'kble 12	.....
William Manley.....	Floresta.....	D. & R. G.....	.....	12	.....
John G. Featherstone.....	Baldwin.....	D. & R. G.....	Baldwin.....	7	.....
Fred Guilford.....	Crested Butte.....	D. & R. G.....	.....	6	.....
Lawrence Beitler.....	Crested Butte.....	D. & R. G.....	.....	4	.....
W. R. Kerr.....	Crested Butte.....	D. & R. G.....	.....	6	.....
Jno. Arnott.....	Crested Butte.....	D. & R. G.....	.....	2	9
James Hare.....	Baldwin.....	D. & R. G.....	.....	7	.....
Geo. D. Manville.....	Gunnison.....	D. & R. G.....	.....	5 to 7	.....
W. S. Getchell.....	Walsen.....	C.&S.&D.&R.G.....	.....	4 to 8	.....
W. S. Getchell.....	Walsen.....	C.&S.&D.&R.G.....	.....	4 to 8	.....
W. G. Deck.....	Rouse.....	D. & R. G.....	Walsen.....	6	.....
W. J. Tyson.....	Ideal.....	C. & S.....	.....	3	9
C. A. Kaiser.....	Farr.....	C. & S.....	Walsen.....	4	.....
W. G. Deck.....	Lester.....	D. & R. G.....	Walsen.....	6	.....
W. S. Getchell.....	Pictou.....	D. & R. G.....	.....	4 to 11	.....
J. D. McGowan.....	Pryor.....	D.&R.G. & C.&S.....	.....	5	.....
Chas. Prator.....	Oakview.....	D. & R. G.....	Mammoth.....	5 to 14	.....
F. McDermott.....	Walsen'b'rg.....	D. & R. G.....	Walsen.....	6 to 7	.....
Chas. Beuchat.....	Pryor.....	D.&R.G.&C.&S.....	Walsen & Cameron.....	6 and 4	.....
R. K. Graham.....	Walsen'b'rg.....	D. & R. G.....	Walsen.....	4	4
Robert Hood.....	Tioga.....	D. & R. G.....	Walsen.....	7	.....
R. F. Poli.....	Strong.....	D.&R.G.&C.&S.....	Walsen.....	4½ to 5½	.....
D. E. Davis.....	Ravenwood.....	C. & S.....	Cameron.....	2	8
S. B. Smith.....	Toltec.....	D. & R. G.....	Rob's'n-Wals.-Camer'n	2½ to 4	.....
G. E. Pleasants.....	Walsen.....	D.&R.G.&C.&S.....	Walsen & Cameron.....	3 to 6	.....
Thos. McLaughlin.....	Rugby.....	C. & S.....	.....	3	.....
Leo McCormack.....	Ojo.....	D. & R. G.....	.....	8 to 12	.....
Robert Turner.....	Cp. Shumway.....	D.&R.G. Lom. Br.....	Walsen.....	3	6
R. T. Bell.....	Cp. Shumway.....	D. & R. G.....	Cameron.....	4	.....
E. L. Norris.....	Tioga.....	D. & R. G.....	Robinson.....	5 to 8	.....
Mike Brennan.....	Walsen'b'rg.....	C. & S.....	Walsen.....	5	.....
Hugh McGinn.....	Walsen'b'rg.....	D.&R.G.&C.&S.....	Robinson & Cameron.....	2½ to 3	.....
R. S. Turner.....	Strong.....	D. & R. G.....	Cameron.....	3	.....
Geo. McNally.....	Maitland.....	D. & R. G.....	Maitland & Lennox.....	3	6
R. Turner.....	Cp. Shumway.....	D. & R. G.....	Lennox.....	3	8
R. W. Caddell.....	Walsen'b'rg.....	D. & R. G.....	Cameron & Robinson.....	3 to 3	6
F. M. Owen.....	Walsen'b'rg.....	C. & S.....	Cameron.....	3	3
ed February 19, 1917.....	.....	.....	.....	.....	.....
A. J. Van Valkenburg.....	Coalmont.....	C. W. E.....	.....	40	.....
J. M. Purdie.....	Coalmont.....	C. W. E.....	.....	48	.....
Geo. C. McFarlane.....	Golden, RFD.1.....	D. I. M.....	Leyden A. & B.....	7	.....
Thos. Shepherd.....	Golden.....	None.....	.....	4 to 5	.....
W. H. Long.....	Perins.....	R. G. S.....	Mesa Verde.....	5	.....
W. I. Gifford.....	Hesperus.....	R. G. S.....	Fox Hills Group.....	5	6
F. C. Gilbert.....	Durango.....	D. & R. G.....	Mesa Verde.....	2½ to 4	.....
W. W. Bay.....	Durango.....	None.....	Mesa Verde No. 1.....	4	6
F. E. Pierce.....	Durango.....	None.....	Mesa Verde No. 1.....	6	.....
Anton Baudino.....	Durango.....	None.....	.....	5	6
Joseph Haske.....	Primerio.....	C. & W.....	Trinidad.....	6	.....
James O'Neil.....	Valdez.....	C. & W.....	.....	9 to 5	9
J. Deldose.....	Sopris.....	C. & S.....	Sopris & Starkville.....	3½ to 4	3
John Shaw.....	Starkville.....	A. T. & S. F.....	Starkville.....	6	.....
George B. Parker.....	Berwind.....	C. & S.....	Berwind.....	5	.....
George B. Parker.....	Berwind.....	C.&S. & D.&R.G.....	Hastings.....	6	6

TABLE No.

DIRECTORY OF COAL MINES IN STATE OF COLOR

Name of Company	Name of Mine	County	Name of Manager or General Su- perintendent	Post Office
Colorado Fuel & Iron Co.	Morley	Las Anim's	E. H. Weitzel.....	Pueblo.....
Colorado Fuel & Iron Co.	Engle	Las Anim's	E. H. Weitzel.....	Pueblo.....
Victor-American Fuel Co.	Delagua	Las Anim's	B. W. Snodgrass, Spt.	Denver.....
Victor-American Fuel Co.	Bowen	Las Anim's	B. W. Snodgrass, Spt.	Denver.....
Victor-American Fuel Co.	Hastings	Las Anim's	B. W. Snodgrass, Spt.	Denver.....
Victor-American Fuel Co.	Gray Creek	Las Anim's	B. W. Snodgrass, Spt.	Denver.....
American Smlt. & Ref. Co.	Cokedale No. 1 & 2	Las Anim's		
Cedar Hill Coal & Coke Co.	Toller	Las Anim's	D. M. Simpson.....	Denver.....
Cedar Hill Coal & Coke Co.	Greenville	Las Anim's	D. M. Simpson.....	Denver.....
Cedar Hill Coal & Coke Co.	Black Diamond	Las Anim's	D. M. Simpson.....	Denver.....
Temple Fuel Co.	Brodhead No. 9	Las Anim's	F. R. Wood.....	Trinidad.....
Temple Fuel Co.	Alta	Las Anim's	F. R. Wood.....	Trinidad.....
Temple Fuel Co.	Keneth	Las Anim's	Mine finished January	31st, 1917..
Chicosa Fuel Co.	Forbes No. 4 & 9	Las Anim's	Geo. T. Peart, Supt.	Denver.....
Rocky Mountain Fuel Co.	Piedmont	Las Anim's	Geo. T. Peart, Supt.	Denver.....
Rocky Mountain Fuel Co.	La Belle	Las Anim's	Geo. T. Peart, Supt.	Denver.....
Royal Fuel Co.	Royal	Las Anim's	Samuel Tescher, Supt.	Denver.....
Huerfano Coal Co.	Ludlow	Las Anim's	S. S. Murphy.....	Denver.....
Jeffryes Fuel Co.	Jeffryes	Las Anim's	A. G. Jeffryes.....	Trinidad.....
Rapson Coal Mining Co.	Rapson No. 1	Las Anim's	W. W. Curtis.....	Colo. Spgs.
National Fuel Co.	Thor	Las Anim's	Samuel Tescher, Supt.	Denver.....
Wootton Land & Fuel Co.	Turner No. 2	Las Anim's	A. V. Berg.....	Wootton.....
Black Hawk Coal Co.	Primrose	Las Anim's	J. J. Wolfusberger...	Pueblo.....
Ideal Fuel Co.	Jewel	Las Anim's	Joseph Cox.....	Aguilar.....
Black Diam'd Nig. C. M. Co.	Three Pines	Las Anim's	J. E. McLaughlin...	Trinidad.....
Empire Coal Co.	Empire	Las Anim's	J. W. Siple.....	Aguilar.....
Sandy Coal Co.	Sandy	Las Anim's	Walter Williams...	Trinidad.....
Bert Lloyd	Prospect	Las Anim's	Bert Lloyd.....	Trinidad.....
Bear Canon Coal Co.	Bear Canon	Las Anim's	P. D. Miller.....	Tollerburg...
Colorado Coal Mines Co.	Mallot.....	Las Anim's		Pueblo.....
Franklin P. Wood & Co.	Wood	Las Anim's	F. P. Wood.....	Trinidad.....
Premium Coal Co.	Star	Las Anim's	T. J. Stone.....	Rugby.....
H. H. Woodford	Baldy	Las Anim's		Trinidad.....
Deep Vein Coal Co.	Deep Vein	Las Anim's	H. A. Schmidt.....	Trinidad.....
Bartola Parivecchio	Keystone	Las Anim's		Trinidad.....
Jas. E. McLaughlin	McLaughlin	Las Anim's	J. E. McLaughlin...	Trinidad.....
Jas. E. McLaughlin	Henderson	Las Anim's	J. E. McLaughlin...	Trinidad.....
L. Leone	Leone	Las Anim's		Trinidad.....
Southwestern Fuel Co.	Southwestern	Las Anim's	Geo. T. Peart, Supt.	Denver.....
Chas. Hines Coal Co.	Hines	Las Anim's		Trinidad.....
Thompson-Mitchell Fuel Co.	Boncarbo	Las Anim's	A. T. Thompson.....	Boncarbo.....
R. Marsh	Fisher's Peak	Las Anim's		Trinidad.....
Thos. McPhail & Son	Moore	Las Anim's	Thos. McPhail, Sr.	Trinidad.....
Commercial Coal Co.	Verdun	Las Anim's	H. Stewart.....	Trinidad.....
Trinidad Coal Co.	Baldy Mountain	Las Anim's		Trinidad.....
H. C. Moore Coal Co.	Madrid	Las Anim's	H. C. Moore.....	Trinidad.....
Thatcher & Son.	Liberty	Las Anim's		Forbes.....
Joerger Fuel Co.	Beshoar	Las Anim's		Trinidad.....
Santa Fe Coal Co.	Santa Fe	Las Anim's	F. A. Williams.....	Denver.....
Grand Junct. Min. & F. Co.	Cameo	Mesa.....	Geo. W. McNeil.....	Cameo.....
Palisade Coal & Supply Co.	Palisade	Mesa.....	J. W. Cummins.....	Palisade.....
Garfield C. M. & Trans. Co.	Garfield	Mesa.....	Geo. Smith.....	Palisade.....
Book Cliff Coal Co.	Book Cliff	Mesa.....	D. M. Simpson.....	Denver.....
Tinsley & Cummins	P. V.	Mesa.....		Cameo.....
Midwest Coal & Iron Co.	Midwest	Mesa.....	Chas. Lofgreen.....	Palisade.....
Midwest Coal & Iron Co.	Hilltop	Mesa.....	Chas. Lofgreen.....	Palisade.....
W. D. Stokes	Stokes	Mesa.....		Palisade.....
Fidel Coal Co.	Fidel	Mesa.....		Fruita.....
Riverside Coal & Power Co.	Riverside	Mesa.....		Palisade.....
Anchor Coal Co.	Anchor No. 1	Mesa.....	L. L. Travis.....	Gisborn, U.

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ADO FOR THE YEAR ENDED DECEMBER 31, 1917.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	In.
Charles Chamber.....	Morley.....	A. T. & S. F.	Morley.....	4½ to 7	...
T. P. Davis.....	Trinidad.....	D. & R. G. ....	.....	5 to 6	...
D. J. Griffiths.....	Delagua.....	C. & S. E.	Delagua.....	5	8
James Struthers.....	Bowen.....	C. & S.	Bowen.....	5	6
Thos. Gibby.....	Hastings.....	C. & S. E.	Hastings.....	6	...
Thos. Jolly.....	Gray Creek.....	C. & S.	Gray Creek.....	2 to 5	...
D. D. Dodge.....	Cokedale.....	C. & S. & D. & R. G.	Cokedale.....	2 to 7	...
D. B. Cameron.....	Tollerburg.....	C. & S.	Trinidad.....	6	...
D. B. Cameron.....	Tollerburg.....	C. & S.	Trinidad.....	6 to 7	...
D. B. Cameron.....	Rugby.....	C. & S.	Cameron.....	5	...
O. C. Cook.....	Brodhead.....	C. & S.	Laramie, upper series	4	...
O. C. Cook.....	Brodhead.....	C. & S.	Laramie.....	4	6
J. H. Dalby.....	Forbes.....	C. & S.	Forbes.....	4 to 7	...
Wm. Morgan.....	Sopris.....	C. & W.	Piedmont, lower	4	6
Wm. Morgan.....	Sopris.....	C. & W. ....	.....	...	...
T. B. Davis.....	Aguilar.....	C. & S.	Laramie.....	6	...
F. McDermott.....	Ludlow.....	C. & S.	Hastings & Berwind	4 to 6	...
A. G. Jeffries.....	Trinidad.....	Trin. Elec. T. Ry.	Starkville.....	6	...
C. Gray Curtis.....	Rugby.....	C. & S. & D. & R. G.	Robinson.....	3 to 4	...
Eph. Wagstaff.....	Bowen.....	C. & S.	Laramie.....	5	2
Andrea Boldini.....	Wootton.....	A. T. & S. F.	Laramie.....	3	8
Dave Lewis.....	Rugby.....	C. & S. & D. & R. G.	Primrose.....	4 to 5	...
Chas. H. Peet.....	Aguilar.....	C. & S.	Robinson.....	3	6
J. E. McLaughlin.....	Tollerburg.....	C. & S.	Laramie No. 4	4	3
Wm. Waddell.....	Aguilar.....	C. & S.	Peerless.....	7	...
Walter Williams.....	Trinidad.....	None.....	Starkville.....	8	...
Bert Lloyd.....	Trinidad.....	None.....	Trinidad.....	2	8
James McKeown.....	Tollerburg.....	C. & S.	Cameron.....	3 to 4	...
H. A. Mallot.....	Rugby.....	C. & S.	Robinson No. 1	3	...
David Marsh.....	Sopris.....	C. & S.	Middle Sopris	2½ to 3	...
T. J. Stone.....	Rugby.....	None.....	Walsen.....	3	6
H. H. Woodford.....	Trinidad.....	None.....	Trinidad.....	6	...
J. P. Shew.....	Trinidad.....	None.....	Trinidad.....	6	6
Bartola Parivecchio.....	Trinidad.....	None.....	Trinidad.....	3	6
A. L. Polhamus.....	Trinidad.....	None.....	El Moro.....	2½ to 6½	...
A. L. Polhamus.....	Trinidad.....	None.....	El Moro.....	...	...
L. Leone.....	Trinidad.....	None.....	Engleville.....	3	...
Ray Bisch.....	Aguilar.....	C. & S.	Southwestern, lower	4 to 5	6
M. C. Broyles.....	Trinidad.....	None.....	Engleville.....	6	...
James Cameron.....	Boncarbo.....	D. & R. G.	Primero.....	4	7
R. Marsh.....	Trinidad.....	None.....	.....	3	10
Thos. McPhail, Sr.	Trinidad.....	None.....	Laramie, upper.....	3	...
H. Stewart.....	Trinidad.....	None.....	.....	31	...
Geo. W. Haigh.....	Trinidad.....	None.....	Trinidad.....	8	...
Valentine Battu.....	Cokedale.....	C. & W.	Sopris, upper.....	3	...
James O'Neil.....	Forbes.....	None.....	.....	4	4
R. Joerger.....	Trinidad.....	None.....	.....	2	...
Geo. Gully.....	Trinidad.....	A. T. & S. F.	Laramie No. 4, 5, 6	3½ to 6	...
Geo. W. McNeil.....	Cameo.....	D. & R. G. & C. M.	Cameo.....	6	...
J. J. Neish.....	Palisade.....	D. & R. G. & C. M.	.....	3	10
Geo. Smith.....	Palisade.....	D. & R. G. & C. M.	.....	8	...
H. F. Tennant.....	Grand Jct.....	Book Cliff	.....	7	...
Tim Tinsley.....	Cameo.....	D. & R. G. & C. M.	.....	3 and 6	...
Victor Hanson.....	Palisade.....	None.....	.....	4	6
Victor Hanson.....	Palisade.....	None.....	.....	5	...
W. D. Stokes.....	Palisade.....	D. & R. G. & C. M.	.....	4	...
Anthony Fidel.....	Fruita.....	None.....	Book Cliff.....	7	...
E. R. Davis.....	Palisade.....	None.....	.....	2	4
.....	Fruita.....	None.....	.....	6	...

TABLE No.

DIRECTORY OF COAL MINES IN STATE OF COLOR

Name of Company	Name of Mine	County	Name of Manager or General Su- perintendent	Post Office
Anchor Coal Co.	Anchor No. 2	Mesa.....	L. L. Travis.....	Gisborn, U.
C. F. Thomas	Thomas	Mesa.....	.....	Grand Jct...
Farmers' Mutual Coal Co.	Farmers'	Mesa.....	C. F. Reep.....	Grand Jct...
Valley Commercial Co.	Valley	Mesa.....	D. W. Lynch.....	Fruita.....
Black Diamond Coal Co.	Black Diamond	Mesa.....	D. A. Highberger.....	Grand Jct...
Salt Wash Mining Co.	Hunter	Mesa.....	J. B. Hunter.....	Fruita.....
Joseph Collom	Collom	Moffat .....	.....	Axial.....
Mancos Fuel Co.	Mancos	Montez ma	J. R. Freeman.....	Mancos.....
Geo. S. Todd	Todd	Montez ma .....	.....	Cortez.....
Moffit-Carlile Coal Co.	Moffit-Carlile	Montez ma	Walter D. Moffit.....	Cortez.....
J. F. Mowry	Mitchell Springs	Montez ma .....	.....	Cortez.....
Harry Beal	Beal	Montez ma	Mine closed indefinite	ly
Gus Winkler	Missouri	Montrose .....	.....	Nucla.....
W. J. Oberding	Knauss	Montrose .....	.....	Nucla.....
J. W. Scott	Cloverdale	Montrose .....	.....	Nucla.....
Nucla Coal Co.	Specht	Montrose .....	.....	Nucla.....
H. A. Kennedy	Lou Creek	Ouray .....	.....	Ridgway.....
Rapini Bros.	Placita	Pitkin	Joseph Rapini	Redstone.....
Andrew Marchetti	Marion	Pitkin .....	.....	Cardiff.....
Reynolds & Babcock	Black Diamond	Rio Blanco.....	Fay M. Babcock.....	Meeker.....
W. S. Montgomery	Lion Canon	Rio Blanco.....	.....	Meeker.....
Rio Blanco Coal Co.	Fairfield	Rio Blanco.....	F. W. Fairfield.....	Meeker.....
Oldland & Co.	Salmon	Rio Blanco.....	Ed. Huckler.....	Meeker.....
Moffat Coal Co.	Moffat No. 1 & 2	Routt.....	R. M. Perry.....	Denver.....
Colorado & Utah Coal Co.	Harris	Routt.....	B. A. Harris.....	Mt. Harris.....
Victor-American Fuel Co.	Pinnacle	Routt.....	W. J. Murray.....	Denver.....
Victor-American Fuel Co.	Wadge	Routt.....	W. J. Murray.....	Denver.....
McNeil Coal Co.	MacGregor	Routt.....	A. M. McNeil.....	Denver.....
Bear River Coal Co.	Bear River	Routt.....	Geo. N. Sparling.....	Denver.....
Hayden Bros. Coal Corp.	Hayden No. 1 & 2	Routt.....	Lewis A. Hayden.....	Denver.....
Yampa Valley Coal Co.	Yampa V. No. 1 3 6	Routt.....	P. M. Peltier.....	Denver.....
International Fuel Co.	Wolf Creek	Routt.....	Geo. Zarlengo.....	Denver.....
Routt Pinnacle Coal Co.	Routt Pinnacle	Routt.....	Claude C. White.....	Denver.....
Indian Creek Coal Min. Co.	Grayland	Routt.....	.....	Denver.....
Curtis Coal Co.	Curtis-Routt	Routt.....	W. W. Curtis.....	Colo. Spgs.....
Allen Coal Co.	Allen	Routt.....	.....	Denver.....
Federal Coal Mining Co.	Lennox	Routt.....	Paul Tulbure.....	Pool.....
Elk Creek Mining Co.	Elk Creek	Routt.....	Ronald L. Paterson.....	Pool.....
Van Wert Bros.	Ben Male	Routt.....	.....	Oak Creek.....
D. W. Jones	Jones	Routt.....	.....	Oak Creek.....
W. J. Dixon	New Junction City	Routt.....	.....	Oak Creek.....
Routt Mountain Coal Co.	Routt Mountain	Routt.....	Albert Mann.....	Bear River.....
National Fuel Co.	Puritan	Weld	Samuel Tescher.....	Denver.....
Consolidated C. & Coke Co.	Baum	Weld	C. W. Smith.....	Denver.....
Evans Fuel Co.	Evans	Weld	A. Zarlengo.....	Denver.....
W. E. Russell Coal Co.	Russell	Weld .....	.....	Denver.....
Frederick Fuel Co.	Frederick	Weld	Geo. T. Peart, Supt.....	Denver.....
Shamrock Coal Co.	Shamrock	Weld .....	.....	Erie.....
Louisville Coal & Land Co.	Firestone	Weld	R. A. Mauro.....	Denver.....
Carbon Fuel & Iron Co.	Grant	Weld	Geo. T. Peart, Supt.....	Denver.....
United Collieries Co.	Munroe	Weld	Andrew Walker.....	Denver.....
United Collieries Co.	Eureka	Weld	Andrew Walker.....	Denver.....
Peerless Coal Co.	Peerless	Weld .....	.....	Frederick.....
Boulder Valley Coal Co.	Boulder Valley	Weld	P. M. Peltier.....	Denver.....
W. C. Bedlien	White Ash	Weld .....	.....	La Salle.....
David Brimble	New Washington	Weld .....	.....	Erie.....

1—(Concluded)

ADO FOR THE YEAR ENDED DECEMBER 31, 1917.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	In.
C. F. Gross	Fruita	None		6 to 8	
Chas. F. Thomas, Jr.	Grand Jctn.	None		4	10
C. F. Reep	Grand Jctn.	None	Mesa Verde	3	
D. W. Lynch	Fruita	None		5 to 6	
	Grand Jctn.	None	Palisade	5	
J. B. Hunter	Fruita	None		5	8
Joseph Collom	Axial	None		24	
Geo. W. Morris	Mancos	None		3	
G. S. Todd	Cortez	None		3	6
Walter D. Moffit	Cortez	None		5	
J. F. Mowry	Cortez	None		3 to 6	
Gus Winkler	Nucla	None		6	
W. J. Oberding	Nucla	None		8	
J. W. Scott	Nucla	None		6	
Geo. T. Specht	Nucla	None		5	6
H. A. Kennedy	Ridgway	None		40	
Wm. Hughes	Redstone	Colo.-Midland		3	6
Andrew Marchetti	Cardiff	Colo.-Midland		5	
Fay M. Babcock	Meeker	None		14	
T. E. Linderman	Meeker	None		7	
F. W. Fairfield	Meeker	None		8 to 14	
Ed Huckler	Meeker	None		10	
John Alexander	Oak Creek	D. & S. L.	{ No. 1 Low. Meas. 8	9	
B. A. Harris	Mt. Harris	D. & S. L.	{ No. 2 Pinnacle	10	
			Wadge	8	6
Mozart Lewis	Oak Creek	D. & S. L.	Pinnacle	9 to 13	
Thos. Husband	Mt. Harris	D. & S. L.	Precambrian	8	6
John McNeil, Jr.	MacGregor	D. & S. L.	Wolf Creek	8	
W. S. Clark	Bear River	D. & S. L.	Pinnacle	8 to 11	
Joseph Mathews	Oak Creek	D. & S. L.		7	
W. W. Padfield	Pallus	D. & S. L.	Pinnacle	4 to 5	6
S. D. Domenico	Mt. Harris	D. & S. L.		14	
Thos. Lee	Coalview	D. & S. L.	Mesa Verde	8	6
John McDowell	Coalview	D. & S. L.	Pinnacle	8	6
R. C. Curtis	Pool	D. & S. L.	Brooks Top, bot. meas.	5	
Chas. P. O'Neil	Coalview	D. & S. L.	Pinnacle, lower series	6	
Paul Tulbure	Pool	D. & S. L.		8	
Ralph Wooden	Pool	D. & S. L.	Wolf, middle series	8	
W. L. Hartsock	Oak Creek	None		6	
Mine Idle				4	10
W. J. Dixon	Oak Creek				
C. E. McCroskey	Bear River				
Henry Thomas	Erie	U. P.	Laramie	10	
Stanley Blose	Dacomo	U. P.		6	10
John E. Daley	Frederick	U. P.		8	
F. E. Smith	Firestone	U. P.		6	
E. H. Whiles	Frederick	U. P.	Frederick	6	8
Thos. Morgan	Erie	U. P.		10	
D. Jacovetta	Firestone	U. P.	Laramie No. 1	5	6
Evan Jones	Frederick	U. P.	Grant	10	2
Edward Walker	Erie	U. P.		8	
Edward Walker	Erie	U. P.		8	
Emil Debouter	Frederick	None		4	
M. W. Padfield	Erie	U. P.	Erie	4	
W. C. Bedlien	La Salle	None		2	8
David Brimble	Erie	None		4	6

TABLE

POWER EQUIPMENT OF COAL MINES IN THE STA

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Allen Coal Co.....	Allen .....	...	...	...	...
Alliance Coal Co.....	Reliance .....	...	...	4	900
American Smelting & Refining Co.....	Cokedale .....	...	...	7	700
American Smelting & Refining Co.....	San Juan .....	...	...	...	...
Anchor Coal Co.....	Anchor No. 1.....	...	...	...	...
Anchor Coal Co.....	Anchor No. 2.....	...	...	...	...
Aztec Coal Mining Co.....	Toltec .....	...	...	4	360
Baldwin Fuel Co.....	Baldwin Star .....	...	...	...	...
Baudino & Co.....	Morning Star .....	...	...	...	...
Bear Canon Coal Co.....	Bear Canon .....	...	...	...	...
Bear River Coal Co.....	Bear River	3	495	2	200
Beal, Harry	Beal .....	...	...	...	...
Becker-Craig Coal Co.....	Electric .....	...	...	...	...
Bedlien, W. C.....	White Ash .....	...	...	...	...
Big Four Coal & Coke Co.....	Centennial	3	260	3	...
Big Four Coal & Coke Co.....	Big Four .....	...	...	5	750
Big Six Coal Co.....	Sunnyside	3	240	...	...
Black Canon Coal & Fuel Co.....	Caddell .....	...	...	...	...
Black Diamond Coal Co.....	Black Diamond .....	...	...	...	...
Black Diamond Niggerh'd Coal M. Co.	Three Pines .....	...	...	...	...
Black Hawk Coal Co.....	Primrose .....	...	...	1	75
Book Cliff Coal Co.....	Book Cliff .....	...	...	...	...
Boulder Valley Coal Co.....	Boulder Valley .....	...	...	2	225
Breen Coal Mining Co.....	Breen .....	...	...	...	...
Brimble, David	New Washington .....	...	...	...	...
Brooks Fuel Co.....	Nonpareil .....	...	...	3	300
Brookside Coal Co.....	Brookside .....	...	...	...	...
Caddell & Carlson.....	Cuchara Canon	1	20	...	...
Calumet Fuel Co.....	Perins Peak .....	...	...	...	...
Cambro Coal Co.....	Cambro	2	160	...	...
Caprock Fuel Co.....	Caprock .....	...	...	...	...
Carbon Fuel & Iron Co.....	Grant .....	...	...	1	90
Cedar Hill Coal & Coke Co.....	Toller .....	...	...	2	300
Cedar Hill Coal & Coke Co.....	Greenville .....	...	...	1	75
Cedar Hill Coal & Coke Co.....	Black Diamond .....	...	...	2	150
Chicosa Fuel Co.....	Forbes No. 4 & 9 .....	...	...	...	...
Collom, Joseph	Collom	No	ne	...	...
Colorado Coal Mines Co.....	Mallot .....	...	...	...	...
Colorado Fuel & Iron Co.....	Rockvale	6	480	...	...
Colorado Fuel & Iron Co.....	Fremont .....	...	...	4	360
Colorado Fuel & Iron Co.....	Coal Creek .....	...	...	...	...
Colorado Fuel & Iron Co.....	Nonac .....	...	...	2	140
Colorado Fuel & Iron Co.....	Crested Butte .....	...	...	6	600
Colorado Fuel & Iron Co.....	Floresta .....	...	...	4	450
Colorado Fuel & Iron Co.....	Walsen .....	...	...	...	...
Colorado Fuel & Iron Co.....	Robinson .....	...	...	2	60
Colorado Fuel & Iron Co.....	Rouse .....	...	...	9	1000
Colorado Fuel & Iron Co.....	Ideal .....	...	...	...	...
Colorado Fuel & Iron Co.....	Cameron .....	...	...	...	...
Colorado Fuel & Iron Co.....	Lester .....	...	...	...	...

No. 2

TE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1917.

Power Plant						Pumps				Haulage				Air Compressors		
Engines						Total Capacity Gallons per Minute		Pumps Delivering Water to the Surface		Number of Horses and Mules	Number of Locomotives			Number	Total Capacity Cubic Per Minute	
Steam Engines (All Classes)		International Combustion Engines (Gas)		Electric Dynamos (All Classes)							Gasoline	Steam	Compressed Air			Electric
Number	Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute	Number	Total Gallons Per Minute					Number of Horses and Mules	Gasoline		Steam	Compressed Air	Electric	Number	Total Capacity Cubic Per Minute
2	390	...	...	1	25	6	800	1	200	5	...	...	...	1	2	1500
4	900	...	...	6	750	2	141	1	141	3	...	...	...	2	...	...
...
...
...	...	...	2	50	...	...	...	...	...	...	...	...	...	...	1	213
...	...	...	...	...	...	5	2310	2	400	16	...	...	...	...	2	1000
...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	2	180	...	...	1	20	3	...	1	...	3	...	...
...	...	...	...	1	...	2	100	...	...	2	...	...	...	...	1	...
3	175	...	...	...	...	2	60	1	100	8	1	...	1	2	1	900
9	542	...	...	...	...	8	240	1	76	...	...	...	...	...	2	...
3	200	...	...	...	...	3	60	1	60	6	...	...	...	...	2	600
...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	2	80	...	...	...	...	7	1	...	...	...	...	...
...	...	...	...	1	150	...	...	...	...	...	...	...	...	1	...	...
1	350	...	...	...	...	2	80	1	40	3	...	...	...	...	...	...
1	25	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
1	120	...	...	...	...	3	60	1	25	5	...	...	...	...	1	750
...
1	16	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
2	140	...	...	...	...	2	300	1	150	7	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
1	50	...	...	1	70	2	80	1	3	...	...	...	...	...	...	...
3	375	...	...	...	...	4	1200	1	400	4	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	24	...	...	...	...	...	...
1	75	...	...	...	...	1	600	...	...	4	...	...	...	...	...	...
...	...	...	...	...	...	1	600	...	...	...	...	...	...	...	...	...
...	...	...	...	1	100	4	240	1	40	4	...	...	...	3	...	...
...
7	330	...	...	...	...	6	500	1	100	...	...	...	...	1	...	...
4	560	...	...	...	...	4	1043	2	741	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	25	...	...	...	...	...	...
...
3	150	...	...	...	...	2	120	2	120	14	...	...	...	...	...	...
6	550	...	...	1	40	2	200	1	100	2	...	...	...	...	1	...
6	275	...	...	1	40	2	350	...	...	20	...	...	...	...	1	1200
...	...	...	...	1	40	3	500	2	200	9	...	...	...	...	1	...
...	...	...	...	2	300	4	1130	1	550	...	...	...	...	1	...	...
2	300	...	...	...	...	6	2350	2	900	34	...	...	...	...	...	...
7	1127	...	...	5	600	7	2450	4	555	28	...	...	...	1	...	...
...	...	...	...	...	...	...	...	...	...	40	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	47	...	...	...	1	...	...
...	...	...	...	...	...	8	1850	2	700	35	...	...	...	...	...	...
...	...	...	...	...	...	3	1150	1	800	...	...	...	...	...	...	...

TABLE No.

POWER EQUIPMENT OF COAL MINES IN THE STA

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Colorado Fuel & Iron Co.....	Pictou .....	...	...	...	...
Colorado Fuel & Iron Co.....	Hezron .....	...	...	...	...
Colorado Fuel & Iron Co.....	Primero	8	800	...	...
Colorado Fuel & Iron Co.....	Frederick .....	...	...	2	160
Colorado Fuel & Iron Co.....	Sopris	11	880	...	...
Colorado Fuel & Iron Co.....	Starkville .....	...	...	7	535
Colorado Fuel & Iron Co.....	Berwind	2	120	1	20
Colorado Fuel & Iron Co.....	Tabasco .....	...	...	12	1225
Colorado Fuel & Iron Co.....	Morley	1	80	6	600
Colorado Fuel & Iron Co.....	Engle	4	400	...	...
Colorado & Utah Coal Co.....	Harris .....	...	...	4	460
Commercial Coal Co.....	Verdun .....	...	...	...	...
Consolidated Coal & Coke Co.....	Baum .....	...	...	4	500
Converse, Frank	Converse .....	...	...	...	...
Corley, W. D.....	Klondyke .....	...	...	2	250
Cracker Jack Coal Co.....	Cracker Jack .....	...	...	...	...
Crested Butte Anthracite Mining Co.....	Smith .....	...	...	3	180
Crested Butte Coal Co.....	Bulkley .....	...	...	...	...
Curtis Coal Co.....	Curtis-Roult	1	60	...	...
Davis, Thomas E.....	Franceville .....	...	...	...	...
Deep Vein Coal Co.....	Deep Vein .....	...	...	...	...
Dixon, W. J.....	New Junction City.....	...	...	...	...
Donnelly, Davis & Donnelly.....	Williamsburg Slope .....	...	...	1	75
Elk Creek Mining Co.....	Elk Creek .....	...	...	...	...
Empire Coal Co.....	Empire .....	...	...	1	40
Evans Fuel Co.....	Evans .....	...	...	2	375
Farmers Mutual Coal Co.....	Farmers .....	...	...	...	None
Farmers Progressive Coal Co.....	Black Diamond .....	...	...	...	None
Federal Coal Mining Co.....	Lennox .....	...	...	...	...
Fidel Coal Co.....	Fidel .....	...	...	...	None
Fox Coal Mining Co.....	Fox	2	180	...	...
Frederick Fuel Co.....	Frederick .....	...	...	4	400
Garfield Coal Mining & Transp. Co.....	Garfield .....	...	...	...	None
Garfield Mine Leasing Co.....	Garfield-Vulcan .....	...	...	2	200
Gibson Lumber & Fuel Co.....	Royal Gorge .....	...	...	...	...
Gilson Asphaltum Co.....	Carbonera .....	...	...	...	...
Gordon Coal Co.....	Gordon .....	...	...	...	...
Grand Junction Mining & Fuel Co.....	Cameo	4	1000	...	...
Grand Mesa Fuel Co.....	Fairview .....	...	...	...	...
Green Valley Coal Co.....	Green Valley .....	...	...	...	...
Harvey Gap Coal Co.....	Harvey Gap .....	...	...	...	Idle
Hayden Bros. Coal Corporation	Hayden No. 1 & 2 .....	...	...	4	600
Hesperus Fuel Co.....	Hesperus .....	...	...	2	250
Hines, Chas., Coal Co.....	Hines .....	...	...	...	...
Hotchkiss Fuel & Supply Co.....	Bennett .....	...	...	...	...
Huerfano Coal Co.....	Ludlow .....	...	...	3	380
Ideal Fuel Co.....	Jewel .....	...	...	...	...
Indian Creek Coal Mining Co.....	Grayland .....	...	...	...	...
International Fuel Co.....	Wolf Creek .....	...	...	1	...
Jeffries Fuel Co.....	Jeffries .....	...	...	...	...

2—(Continued)

TE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1917.

Power Plant						Pumps				Haulage				Air Compressors		
Engines						Total Capacity Gallons per Minute		Pumps Delivering Water to the Surface		Number of Horses and Mules	Number of Locomotives				Number	Total Capacity Cubic Per Minute
Steam Engines (All Classes)		Internal Combustion Engines (Gas)		Electric Dynamos (All Classes)							Gasoline	Steam	Compressed Air	Electric		
Number	Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute	Number	Total Gallons Per Minute	Number of Horses and Mules					Gasoline	Steam	Compressed Air	Electric	Number	Total Capacity Cubic Per Minute
.....	.....	.....	.....	.....	.....	4	800	2	450	29	.....	.....	.....	.....	.....	.....
3	215	.....	.....	2	600	10	500	6	240	65	.....	.....	.....	8	.....	.....
1	250	.....	.....	.....	.....	4	700	1	150	64	.....	.....	.....	4	.....	.....
6	550	.....	.....	.....	.....	5	600	3	450	71	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	.....	8	662	3	255	56	.....	1	.....	7	.....	.....
.....	.....	.....	.....	.....	.....	5	275	2	100	54	.....	.....	.....	6	.....	.....
9	2600	.....	.....	4	860	7	1400	6	1300	33	.....	.....	.....	2	.....	.....
1	1031	.....	.....	6	300	6	800	2	550	45	.....	.....	.....	3	.....	.....
2	375	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....
7	900	.....	.....	2	360	6	500	1	90	16	.....	.....	.....	1	.....	.....
4	500	.....	.....	2	150	4	50	1	40	13	.....	.....	.....	1	.....	.....
2	150	.....	.....	.....	.....	3	400	1	30	3	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
3	180	.....	.....	.....	.....	1	100	.....	.....	5	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1	60	1	.....	.....	.....	7	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
.....	.....	1	7	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
2	45	1	7	.....	.....	1	480	1	480	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	7	1850	2	550	2	.....	.....	.....	.....	.....	.....
2	150	.....	.....	.....	.....	5	342	1	218	11	.....	.....	.....	.....	2	2100
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
.....
2	80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1	250	.....	.....	.....	.....	7	725	5	200	12	.....	.....	.....	.....	2	1200
1	135	.....	.....	1	100	2	.....	1	400	5	.....	.....	.....	1	1	140
.....	.....	.....	.....	.....	.....	1	60	1	60	2	.....	.....	.....	2	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
2	275	.....	.....	2	175	3	535	1	400	3	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	2	120	2	40	6	.....	.....	.....	3	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
2	248	.....	.....	2	150	6	300	3	100	.....	.....	1	.....	5	.....	.....
.....	.....	.....	.....	.....	.....	3	87	1	145	7	.....	.....	.....	1	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
3	225	.....	.....	1	250	.....	.....	.....	.....	18	.....	.....	.....	3	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....

TABLE No.

POWER EQUIPMENT OF COAL MINES IN THE STA

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Joerger Fuel Co.....	Beshoar .....	.....	.....	.....	.....
Jones, D. W.....	Jones .....	.....	.....	.....	Idle
Juanita Coal & Coke Co.....	King .....	.....	.....	5	300
Kennedy, H. G.....	Lou Creek .....	.....	.....	.....	None
Keystone Mining Co.....	Keystone .....	.....	.....	2	300
Leone, L.	Leone .....	.....	.....	.....	.....
Lewis, J. T.....	Lewis .....	.....	.....	.....	.....
Leyden Coal Co.....	Leyden No. 2	7	750	.....	.....
Leyden Coal Co.....	Leyden No. 3 .....	.....	.....	4	1000
Littell Coal & Mining Co.....	Porter	4	100	.....	.....
Lloyd, Bert	Prospect .....	.....	.....	.....	.....
Loma Fuel Co.....	Loma .....	.....	.....	.....	.....
Louisville Coal & Land Co.....	Firestone	3	260	.....	.....
Mancos Fuel Co.....	Mancos .....	.....	.....	.....	.....
Marchetti, Andrew	Marion .....	.....	.....	2	.....
Matchless Fuel Co.....	Matchless	2	180	.....	.....
Marsh, R.	Fishers Peak .....	.....	.....	.....	.....
McLaughlin, Jas. E.....	McLaughlin-Henderson .....	.....	.....	.....	.....
McLean, G. M.....	Double Dick .....	.....	.....	.....	.....
McNally, Geo., & Co.....	Maitland .....	.....	.....	.....	.....
McNeil Coal Co.....	Mac Gregor .....	.....	.....	1	150
McPhail, Thos., & Son.....	Moore .....	.....	.....	.....	.....
Midwest Coal & Iron Co.....	Midwest .....	.....	.....	.....	.....
Midwest Coal & Iron Co.....	Hilltop .....	.....	.....	.....	.....
Minnequa Coal Co.....	Vesta .....	.....	.....	.....	.....
Moffat Coal Co.....	Moffat No. 1 & 2.....	2	100	4	1000
Moffit-Carlile Coal Co.....	Moffit-Carlile .....	.....	.....	.....	None
Montgomery, W. S.....	Lion Canon .....	.....	.....	.....	.....
Monument Valley Fuel Co.....	Larimore .....	.....	.....	.....	.....
Moore, H. C., Coal Co.....	Madrid .....	.....	.....	.....	.....
Mowry, J. F.....	Mitchell Springs .....	.....	.....	.....	None
Mutual Coal Co.....	Mutual .....	.....	.....	3	450
National Fuel Co.....	Monarch No. 1.....	1	80	.....	.....
National Fuel Co.....	Monarch No. 2.....	.....	.....	3	300
National Fuel Co.....	Thor .....	.....	.....	2	160
National Fuel Co.....	Puritan .....	.....	.....	6	600
New Maitland Coal Co.....	Hickory Canon .....	.....	.....	1	50
New Mile High Coal Co.....	Mile High .....	.....	.....	1	80
Northern Colorado Fuel Co.....	Coalmont .....	.....	.....	2	200
North Park Coal Co.....	Moore	1	80	.....	.....
Nucla Coal Co.....	Specht .....	.....	.....	.....	.....
Oakdale Coal Co.....	Oakdale	5	750	.....	.....
Oberding, W. J.....	Knauss .....	.....	.....	.....	None
Ohio Creek Coal Mining Co.....	Ohio Creek .....	.....	.....	.....	.....
O. K. Coal Co.....	O. K. ....	.....	.....	.....	.....
Oldland & Co.....	Salmon	1	20	.....	.....
Orecchio Coal Co.....	Orecchio .....	.....	.....	.....	.....
Palisade Coal & Supply Co.....	Palisade .....	.....	Pow	er	Furn
Paonia Coal Co.....	Farmers .....	.....	.....	.....	.....
Parivecchio, Bartola	Keystone .....	.....	.....	.....	.....

2—(Continued)

TE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1917.

Power Plant						Pumps				Haulage				Air Compressors		
Engines																
Steam Engines (All Classes)		Internal Combustion Engines (Gas)		Electric Dynamos (All Classes)				Pumps Delivering Water to the Surface				Number of Locomotives				
Number	Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute	Number	Total Gallons Per Minute	Number of Horses and Mules	Gasoline	Steam	Compressed Air	Electric	Number	Total Capacity Cubic Per Minute
2	100			1	50	2	300			5						
2	175			1	50	7	150	1	80	11				1		
										1						
3	600			2	180	7	200	2	150	17						
2	800			1	150	9	250	1	120	24					2	1600
2	75									5						3200
										5						
1	75					3	265	2	150	6					1	480
1										3						
4	200															
										1						
										2						
										1						
				1	100	1	400	1	350	7						
2	225			2	175	4	400	1	20	6				1		
										1						
										4						
										2						
						1		1	1	5				2		
1	1200			2	350	9	230	2	12	13				3	2	2000
1	60	1	47							5						
										1						
		3	190			4	650	2	200	6				5		
3	200					9	200	2	50	3				1	1	200
										29				1	1	1000
										11				2		
1	200					4	150	2	350	26		1			2	
1	30					2	100	1	60	4						
1	60					1				1					1	
3	300					1	100	1	100	5						
4	135					7	125	1	75	2		1				
7	250	1	5	2	375	6	300	2	100	27	1				2	1800
										2						
										1						
1	26					1		1		2						
ish ed										3						
										8						
										1						
										1					1	

TABLE No.

POWER EQUIPMENT OF COAL MINES IN THE STA

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Patterson, Alexander	Patterson .....	...	...	1	60
Peerless Coal Co.	Peerless .....	...	...	2	100
Petry, Samuel	Willie .....	...	...	...	...
Pikes Peak Consolidated Fuel Co.	Pikeview	4	550	...	...
Premium Coal Co.	Star .....	...	...	...	...
Pueblo Fuel & Mining Co.	Horace	4	200	...	...
Rapini Bros.	Placita .....	...	...	1	45
Rapson Coal Mining Co.	Rapson No. 1	2	200	...	...
Red Ash Coal Co.	Red Ash .....	...	...	...	...
Red Mountain Coal Co.	Red Mountain .....	...	...	2	130
Reynolds & Babcock	Black Diamond .....	...	...	...	None
Rio Blanco Coal Co.	Fairfield .....	...	...	...	...
Riverside Coal & Power Co.	Riverside .....	...	...	...	...
Rocchio, James	Rocchio .....	...	...	...	...
Rocky Mountain Fuel Co.	Simpson .....	...	...	4	600
Rocky Mountain Fuel Co.	Standard	4	380	...	...
Rocky Mountain Fuel Co.	Mitchell .....	...	...	3	300
Rocky Mountain Fuel Co.	Vulcan .....	...	...	2	300
Rocky Mountain Fuel Co.	Acme .....	...	...	3	450
Rocky Mountain Fuel Co.	Rex No. 1 .....	...	...	...	Mine
Rocky Mountain Fuel Co.	Hecla .....	...	...	3	230
Rocky Mountain Fuel Co.	Gorham .....	...	...	...	...
Rocky Mountain Fuel Co.	Industrial .....	...	...	2	220
Rocky Mountain Fuel Co.	Midland .....	...	...	2	235
Rocky Mountain Fuel Co.	Alpine .....	...	...	3	260
Rocky Mountain Fuel Co.	Pinon .....	...	...	...	Mine
Rocky Mountain Fuel Co.	Piedmont .....	...	...	3	120
Rocky Mountain Fuel Co.	La Belle .....	...	...	...	Not
Routt Mountain Coal Co.	Routt Mountain .....	...	...	...	...
Routt Pinnacle Coal Co.	Routt Pinnacle .....	...	...	Purchase	...
Royal Fuel Co.	Royal .....	...	...	3	260
Rugby Fuel Co.	Rugby .....	...	...	2	200
Russell, W. E., Coal Co.	Russell .....	...	...	3	375
Salt Wash Mining Co.	Hunter .....	...	...	...	None
Sandy Coal Co.	Sandy .....	...	...	1	35
Santa Fe Coal Co.	Santa Fe .....	...	...	...	...
Scott, J. W.	Cloverdale .....	...	...	...	None
Shamrock Coal Co.	Shamrock .....	...	...	2	180
Shepherd & Maughan	Justrite	1	15	...	...
States Coal Co.	States .....	...	...	...	...
Stewart & Hovey	Rollins .....	...	...	...	...
Stokes, W. D.	Stokes .....	...	...	...	...
Strathmore Mine Co.	Strathmore .....	...	...	3	125
Southwestern Fuel Co.	Southwestern .....	...	...	1	100
Sunshine Coal Co.	Sunshine .....	...	...	...	...
Sunnyside Coal Co.	Sunnyside .....	...	...	4	500
Temple Fuel Co.	Brodhead No. 9	1	60	...	...
Temple Fuel Co.	Alta .....	...	...	...	None
Temple Fuel Co.	Kenneth .....	...	...	...	...
Thatcher & Son	Liberty .....	...	...	...	...

2—(Continued)

TE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1917.

Power Plant						Pumps				Haulage				Air Compressors		
Engines						Total Capacity Gallons per Minute		Pumps Delivering Water to the Surface		Number of Horses and Mules	Number of Locomotives				Number	Total Capacity Cubic Per Minute
Steam Engines (All Classes)		Internal Combustion Engines (Gas)		Electric Dynamos (All Classes)				Total Gallons Per Minute	Gasoline		Steam	Compressed Air	Electric			
Number	Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute							Number	Total Gallons Per Minute	Gasoline	Steam	Compressed Air	Electric	Number	Total Capacity Cubic Per Minute
1	60	---	---	---	---	1	50	1	50	1	---	---	---	---	---	
1	---	---	---	---	---	---	---	1	---	2	---	---	---	---	---	
2	250	---	---	3	235	3	340	2	240	14	---	---	---	4	---	
2	100	---	---	---	---	---	---	---	---	2	---	---	---	---	---	
1	35	---	---	1	9	4	200	1	100	6	---	---	---	---	---	
3	200	---	---	2	50	---	---	---	---	2	---	---	---	---	---	
1	18	---	---	---	---	1	90	1	45	3	---	---	---	---	---	
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	
6	650	---	---	5	230	18	1800	5	800	20	---	---	---	3	1 1240	
5	250	---	---	---	---	5	180	1	180	13	---	---	---	2	2 1050	
4	260	---	---	---	---	2	120	2	120	5	---	---	---	2	1 850	
1	150	---	---	---	---	8	---	3	400	6	---	---	---	---	---	
4	280	---	---	---	---	8	405	2	405	15	---	---	---	1	2 1240	
Fi nish ed	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6000	
1	100	---	---	---	---	3	200	2	40	2	---	---	---	2	1000	
5	355	---	---	2	140	7	500	2	250	22	---	---	---	1	1800	
5	259	---	---	2	51	8	1500	2	150	12	---	---	---	2	---	
3	350	---	---	2	145	3	432	1	191	4	---	---	---	---	---	
Fi nish ed	---	---	---	---	---	2	300	1	150	10	---	---	---	1	---	
3	90	---	---	1	3½	6	200	4	120	19	---	---	---	2	---	
Gi ven	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Power	---	---	---	---	---	1	18	1	200	3	---	2	---	---	---	
1	150	---	---	---	---	2	400	2	175	12	---	---	---	---	---	
2	---	---	---	---	---	1	---	1	---	11	---	---	---	1	---	
2	---	---	---	---	---	5	100	---	---	11	---	---	---	2	1500	
1	16	---	---	---	---	---	---	---	---	1	---	1	---	---	---	
---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	
1	125	---	---	---	---	---	---	---	---	3	---	---	---	---	---	
1	10	---	---	---	---	---	---	---	---	4	---	---	---	---	---	
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	
1	50	---	---	---	---	1	30	---	---	1	---	---	---	2	---	
---	---	---	---	---	---	---	---	1	---	2	---	---	---	---	---	
1	80	---	---	1	250	---	---	---	---	1	---	---	---	3	---	
---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	
---	---	---	---	2	175	3	225	1	75	5	---	---	---	2	---	
---	---	---	---	1	125	10	400	2	400	25	---	---	---	3	---	
Fi nish ed	---	---	---	---	---	---	---	---	---	5	---	---	---	---	---	
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	

TABLE No.

POWER EQUIPMENT OF COAL MINES IN THE STA

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Thomas Coal Co.....	Williamsville	---	---	1	60
Thomas, C. F.....	Thomas	---	---	None	---
Thompson & Mitchell Fuel Co.....	Boncarbo	---	---	1	10
Tioga Coal Co.....	Tioga	---	---	---	---
Tinsley & Cummins.....	P. V.	---	---	1	100
Todd, Geo. S.....	Todd	---	---	---	---
Trinidad Coal Co.....	Baldy Mountain	---	---	---	---
Tudor Coal Co.....	Danville No. 1 & 2.....	---	---	1	75
Turner Coal Co.....	Turner	---	---	---	---
Union Coal & Coke Co.....	Pryor	---	---	1	180
United Collieries Co.....	Monroe	---	---	2	120
United Collieries Co.....	Eureka	---	---	2	120
Utah Fuel Co.....	Somerset	---	---	6	700
Valley Commercial Co.....	Valley	---	---	---	---
Van Wert Bros.....	Ben Male	---	---	---	---
Victor American Fuel Co.....	Chandler	---	---	2	500
Victor American Fuel Co.....	Radiant	---	---	---	---
Victor American Fuel Co.....	Ravenwood	---	---	---	---
Victor American Fuel Co.....	Delagua	---	---	1	20
Victor American Fuel Co.....	Bowen	---	---	---	---
Victor American Fuel Co.....	Hastings	---	---	---	---
Victor American Fuel Co.....	Gray Creek	---	---	---	---
Victor American Fuel Co.....	Pinnacle	---	---	2	300
Victor American Fuel Co.....	Wadge	---	---	2	300
Williams, M. S.....	Black Diamond	---	---	2	190
Williamsburg Slope Coal Co.....	Emerald	1	40	---	---
Winkler, Gus.....	Missouri	---	---	---	None
Winton Coal Co.....	Winton	---	---	---	---
Wolf Park Coal Co.....	Wolf Park	---	---	2	160
Wood, Franklin P., & Co.....	Wood	---	---	---	---
Woodford, H. H.....	Baldy	---	---	---	---
Wootton Land & Fuel Co.....	Turner No. 2.....	---	---	3	450
Yampa Valley Coal Co.....	Yampa Valley No. 1, 3 & 6.....	---	---	3	450

2—(Concluded)

TE OF COLORADO FOR THE YEAR ENDED DECEMBER 31, 1917

Power Plant						Pumps				Haulage				Air Compressors	
Engines															
Steam Engines (All Classes)		Internal Combustion Engines (Gas)		Electric Dynamos (All Classes)				Pumps Delivering Water to the Surface		Number of Horses and Mules	Number of Locomotives				
Number	Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute	Number	Total Gallons Per Minute		Gasoline	Steam	Compressed Air	Electric	Number	Total Capacity Cubic Per Minute
1	60	---	---	---	---	---	---	---	---	---	---	---	---	---	---
---	Buy	Po	wer	---	---	2	50	2	100	13	---	---	---	4	800
---	---	---	---	---	---	1	50	1	50	3	---	---	---	1	---
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
1	75	---	---	---	---	---	---	---	---	2	---	---	---	---	---
2	Buy 150	Po	wer	---	---	---	---	---	---	12	---	---	---	---	---
---	---	---	---	---	---	3	350	1	100	21	---	1	---	---	---
1	115	---	---	---	---	1	20	1	15	1	---	---	---	---	---
1	80	---	---	---	---	2	56	1	15	1	---	---	---	---	---
7	1422	---	---	2	375	4	1230	2	520	23	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---
3	765	---	---	1	150	10	1500	1	200	21	---	---	---	---	---
---	---	---	---	1	150	1	75	1	75	14	---	---	---	1	98
---	---	---	---	---	---	1	50	1	50	12	---	---	---	---	---
---	---	---	---	2	600	8	1200	3	400	48	---	---	---	15	---
---	---	---	---	1	300	---	---	---	---	13	---	---	---	6	---
1	175	---	---	---	---	6	425	1	200	---	---	---	---	---	---
3	450	---	---	3	350	3	150	1	50	13	---	---	---	5	150
1	150	---	---	1	18	2	80	---	125	7	---	2	---	2	---
3	40	---	---	---	---	---	---	---	---	2	---	1	---	---	---
---	---	---	---	---	---	1	---	---	---	1	---	---	---	1	100
1	25	---	---	---	---	2	150	1	75	2	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	3	350	1	250	1	---	---	---	1	100
---	---	---	---	1	35	---	---	---	---	1	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	530	---	---	3	315	2	200	2	50	5	---	---	---	2	---
---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---

TABLE No. 4
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1917.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)		Explosives Used (Pounds)			
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissibles
Allen Coal Co.	Allen	2	1	10,653	26,006	10,653		100	4,521
Alliance Coal Co.	Reliance		7	15,992	39,960	41,998			27,575
American Smelting & Refining Co.	Cokedale			191,233		231,193			1,000
American Smelting & Refining Co.	San Juan			27,603		27,603			
Anchor Coal Co.	Anchor No. 1			296		296			
Anchor Coal Co.	Anchor No. 2			1,387		1,387			
Aztec Coal Mining Co.	Toltec	4	4	1,431	57,357	58,788	17,325	2,100	500
Baldwin Fuel Co.	Baldwin-Star			3,050		3,050	1,300		
Baudino & Co.	Morning Star			2,080		2,080	750		
Bear Canon Coal Co.	Bear Canon			7,361		7,361			
Bear River Coal Co.	Bear River			48,625		48,625	22,925		6,000
Beal, Harry	Beal			133		133			
Becker-Craig Coal Co.	Electric	1		6,436		6,436	3,275	50	
Bedlien, W. C.	White Ash			863		863			
Big Four Coal & Coke Co.	Centennial	4		53,368	794	54,162	15,375	116	2
Big Four Coal & Coke Co.	Big Four	8	2	66,902	8,344	75,246	23,875	102	870
Big Six Coal Co.	Sunnyside	4			26,914	26,914	5,750		
Black Canon Coal & Fuel Co.	Caddell		2	19,224	2,101	21,325	7,700		
Black Diamond Coal Co.	Black Diamond			360		360	375		2,100
Black Diamond Niggerhead C. M. Co.	Three Pines			11,317		11,317			
Black Hawk Coal Co.	Frimrose			28,601		28,601		31	6,781
Book Cliff Coal Co.	Book Cliff			13,201		13,201	125	12	
Boulder Valley Coal Co.	Boulder Valley			1,000		1,000	475		
Breen Coal Mining Co.	Breen		1		29,134	29,134		50	1,800
Brimble, David	New Washington			631		631	600		
Brooks Fuel Co.	Nonpareil				25,388	25,388	10,000		
Brookside Coal Co.	Brookside	3	1		14,000	14,000	9,000	4	
Caddell-Carlson	Cuchara Canon			2,978		2,978	350	400	2

Calumet Fuel Co.	Perins Peak	3	27,424	30,000	57,424	1,000	8,567
Cambro Coal Co.	Cambro	2	1,787	4,638	4,638	20	1,000
Caprock Fuel Co.	Caprock		1,787		1,787		50
Carbon Fuel & Iron Co.	Grant	3	372	32,447	32,719		
Cedar Hill Coal & Coke Co.	Toller		144,694		144,694		977
Cedar Hill Coal & Coke Co.	Greenville		34,841		34,841		2,848
Cedar Hill Coal & Coke Co.	Black Diamond		20,408		20,408		1,418
Chicosa Fuel Co.	Forbes No. 4 & 9	5	145,234	36,761	181,995		31,491
Collium, Joseph	Collium		250		250		
Colorado Coal Mines Co.	Mallot		5,383		5,383		
Colorado Fuel & Iron Co.	Rockvale		197,383		197,383	9,610	
Colorado Fuel & Iron Co.	Fremont		178,514		178,514	6,060	505
Colorado Fuel & Iron Co.	Coal Creek		142,516		142,516	6,884	970
Colorado Fuel & Iron Co.	Nonac		20,444		20,444		
Colorado Fuel & Iron Co.	Crested Butte		139,184		139,184	3,485	
Colorado Fuel & Iron Co.	Floresta		30,476		30,476	1,316	6,883
Colorado Fuel & Iron Co.	Walsen	18	163,998	266,785	430,783	6,672	44,770
Colorado Fuel & Iron Co.	Robinson	(See Walsen)					
Colorado Fuel & Iron Co.	Rouse		225,437		225,437	785	31,606
Colorado Fuel & Iron Co.	Ideal		177,803		177,803	300	43,597
Colorado Fuel & Iron Co.	Cameron		33,256	141,936	175,242	1,434	9,684
Colorado Fuel & Iron Co.	Lester	13	131,760		131,760	370	28,305
Colorado Fuel & Iron Co.	Pictou		56,849	47,898	104,747	1,461	7,515
Colorado Fuel & Iron Co.	Iezron	2	11,028		11,028		1,704
Colorado Fuel & Iron Co.	Primero		428,374		428,374	2,092	36,393
Colorado Fuel & Iron Co.	Frederick		372,379		372,379	944	42,140
Colorado Fuel & Iron Co.	Sopris		350,041		350,041	812	73,444
Colorado Fuel & Iron Co.	Starkville		272,916		272,916	300	
Colorado Fuel & Iron Co.	Berwind	3	179,004	44,629	223,633	10	15,633
Colorado Fuel & Iron Co.	Tabasco		217,462		217,463	235	31,749
Colorado Fuel & Iron Co.	Morley		216,392		216,992	451	6,338
Colorado Fuel & Iron Co.	Engle		14,959		14,959	23	18
Colorado & Utah Coal Co.	Harris	1	288,254	4,634	292,888	139,325	
Commercial Coal Co.	Verdun		1,015		1,015	277	
Consolidated Coal Co.	Baum			93,062	93,062	40,000	
Converse, Frank	Converse	9	1,416		1,416		
Corley, W. D.	Klondyke		3,956		3,956	6,250	
Cracker Jack Coal Co.	Cracker Jack	1		11,281	11,281	7,000	
Crested Butte Anthracite M. Co.	Smith		19,380		19,380		2,000
Crested Butte Coal Co.	Bulkley		29,692		29,692		
Curtis Coal Co.	Curtis-Routt		11,634		11,634	675	1,150
Davis, Thomas E.	Granceville		1,465		1,465	375	
Deep Vein Coal Co.	Deep Vein		3,299		3,299	1,250	200
Dixon, W. J.	New Junction City		234		234		
Donnelly, Davis & Donnelly	Williamsville		1,358		1,358	1,350	250

TABLE No. 4—(Continued)
 MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
 DECEMBER 31, 1917—(Continued).

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)		Explosives Used (Pounds)			
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissibles
Elk Creek Mining Co.	Elk Creek			3,255		3,255	7,500	50	1,400
Empire Coal Co.	Empire			10,458		10,458			
Evans Fuel Co.	Evans	5		5,025	84,351	89,376	30,200		
Farmers Mutual Coal Co.	Farmers			804		804	250		
Farmers Progressive Coal Co.	Black Diamond			1,360		1,360			
Federal Coal Mining Co.	Lennox			5,985		5,985			
Fidel Coal Co.	Fidel			2,432		2,432			
Fox Coal Mining Co.	Fox	1		35,438	35,803	71,241	750		
Frederick Fuel Co.	Frederick	2			58,747	58,747	23,175		50
Garfield Coal M. & Transportation Co.	Garfield			13,368		13,368	5,000		6,703
Garfield Mine Leasing Co.	Garfield-Vulcan			34,473		34,473			1,800
Gibson Lumber & Fuel Co.	Royal Gorge			40,228		40,228			
Gilson Asphaltum Co.	Carbonera			14,670		14,670			
Gordon Coal Co.	Gordon		2	2,190	31,889	34,079	14,400		724
Grand Junction M. & Fuel Co.	Cameo		4	42,862	97,177	140,039			13,750
Grand Mesa Fuel Co.	Fairview			988		988	325		
Green Valley Fuel Co.	Green Valley			2,062		2,062	500	50	
Harvey Gap Coal Co.	Harvey Gap			1,271		1,271			
Hayden Bros. Coal Corporation.	Hayden No. 1 & 2			33,426		33,426	29,125		500
Hesperus Fuel Co.	Hesperus			40,795		40,795			6,540
Hines, Chas., Coal Co.	Hines			2,417		2,417			
Hotchkiss Fuel & Supply Co.	Bennett			1,306		1,306	625		
Huerfano Coal Co.	Ludlow	3		21,534	100,796	122,330		150	10,600
Ideal Fuel Co.	Jewel		2	13,557	9,080	22,637			9,875
Indian Creek Coal Mining Co.	Grayland			16,483		16,483	8,750		
International Fuel Co.	Wolf Creek			26,457		26,457	18,625	200	150
Jeffries Fuel Co.	Jeffries			77,588		77,588			14,000
Joetger Fuel Co.	Beshoar			534		534			30

Jones, D. W.	Jones	1	462	15,000	462	415	
Juanta Coal & Coke Co.	King	1	66,760	12,000	81,760	12,000	
Kennedy, H. A.	Lou Creek		1,129		1,129	475	
Keystone Mining Co.	Keystone	1	58,950	55,671	114,621	52,025	300
Leone, L.	Leone		2,702		2,702	500	100
Lewis, J. T.	Lewis		3,094		3,094	2,050	10
Leyden Coal Co.	Leyden	12	49,413	80,092	129,505	36,925	4,250
Littell Coal & Mining Co.	Porter		22,958		22,958	1,225	
Lloyd, Bert	Prospect	1	149	7,750	7,899		
Loma Fuel Co.	Loma	3	3,636	48,625	52,261		
Louisville Land & Coal Co.	Firestone		1,690	37,530	39,220	24,550	
Mancos Fuel Co.	Mancos	5	811		811	150	100
Marchetti, Andrew	Marion		10,312		10,312		
Marsh, R.	Fishers Peak		1,227		1,227		
Matchless Fuel Co.	Matchless		11,994	47,629	59,623	15,625	
McLaughlin, Jas. E.	McLaughlin & Henderson		3,445		3,445		
McLean, G. M.	Double Dick		2,417		2,417	155	
McNally, Geo. & Co.	Maitland	2		20,466	20,466	5,800	
McNeil Coal Co.	McGregor	2		70,199	70,199	75,000	
McPhail & Son	Moore		1,164		1,164	50	200
Midwest Coal & Iron Co.	Midwest		6,058		6,058	2,175	
Minnequa Coal Co.	Hilltop		2,820		2,820	1,375	
Moffat Coal Co.	Vesta	2		36,674	36,674	4	
Moffitt-Carlile Coal Co.	Moffitt No. 1 & 2	5	200,306	121,813	322,119	13,050	5,000
Moffitt-Carlile	Moffitt-Carlile		217		217	62,475	
Montgomery, W. S.	Lion Canon		1,114		1,114		
Monument Valley Fuel Co.	Larimore	2		21,102	21,102		700
Moore, H. A., Coal Co.	Madrid		709		709	100	4,816
Mowry, J. F.	Mitchell Springs		151		151	300	
Mutual Coal Co.	Mutual	5		92,516	92,516	24,450	50
National Fuel Co.	Monarch No. 1	1		3,911	3,911		1,647
National Fuel Co.	Monarch No. 2	7	29,267	107,364	136,631	48,675	
National Fuel Co.	Thor		48,825		48,825		8,650
National Fuel Co.	Puritan		21,087	182,819	203,906	75,350	
New Maitland Coal Co.	Hickory Canon	1	702	12,050	12,752	6,250	450
New Mile High Coal Co.	Mile High			3,471	3,471		
Northern Colorado Fuel Co.	Coalmont	1	59,644		59,644	23,200	
North Park Fuel Co.	Moore		26,645		26,645	16,175	250
Nuclea Coal Co.	Specht		122		122	50	
Oakdale Coal Co.	Oakdale	6		122,400	224,800	39,000	120
Oberding, W. J.	Knauss	3	102,400		365	100	3,600
Ohio Creek Coal Mining Co.	Ohio Creek		365		2,630	2,325	
O. K. Coal Co.	O. K.		6,290		6,290	550	
Oldland & Co.	Salmon		253		253	250	
Orecchio & Co.	Orecchio		7,120		7,120	6,300	

TABLE No. 4—(Continued)
 MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
 DECEMBER 31, 1917—(Continued).

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by (Compressed Air)	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible
Palisade Coal & Supply Co.	Palisade.	.....	.....	13,753	.....	13,753	925	.....	.....
Paonia Coal Co.	Farmer.	.....	.....	6,450	.....	6,450	1,250	.....	.....
Parivecchio, Bartola	Keystone.	.....	.....	3,000	.....	3,000	.....	.....	.....
Patterson, Alexander	Patterson.	.....	.....	1,795	.....	1,795	3,200	.....	.....
Peerless Coal Co.	Peerless.	1	.....	.....	1,678	1,678	800	.....	.....
Petry, Samuel	Willie.	.....	1	3,544	400	3,944	1,250	40	.....
Pikes Peak Consolidated Fuel Co.	Pikeview.	.....	5	70,261	170,823	241,084	.....	1,000	.....
Premium Coal Co.	Star.	.....	.....	4,711	.....	4,711	.....	173	.....
Pueblo Fuel & Mining Co.	Horace.	.....	.....	17,859	.....	17,859	15,800	.....	500
Rapin Bros.	Placita.	.....	.....	45,621	.....	45,621	.....	150	1,600
Rapson Coal Mining Co.	Rapson No. 1.	.....	1	6,578	3,733	6,578	3,625	.....	.....
Red Ash Coal Co.	Red Ash.	.....	.....	4,522	.....	4,522	1,400	50	.....
Red Mountain Coal Co.	Red Mountain.	.....	.....	2,615	.....	2,615	1,375	.....	.....
Reynolds & Babcock.	Black Diamond.	.....	.....	675	.....	675	.....	.....	.....
Rio Blanco Coal Co.	Fairfield.	.....	.....	1,659	.....	1,659	200	100	.....
Riverside Coal & Power Co.	Riverside.	.....	.....	251	.....	251	50	.....	.....
Rochio, James	Rochio.	.....	.....	135,823	.....	135,823	50,425	.....	1,447
Rocky Mountain Fuel Co.	Simpson.	11	1	4,268	58,048	100,690	17,725	.....	.....
Rocky Mountain Fuel Co.	Standard.	10	.....	16,987	96,422	100,690	24,075	.....	.....
Rocky Mountain Fuel Co.	Mitchell.	4	.....	21,590	85,188	102,175	17,725	.....	.....
Rocky Mountain Fuel Co.	Vulcan.	5	.....	.....	71,117	92,707	22,375	.....	.....
Rocky Mountain Fuel Co.	Acme.	9	.....	.....	43,156	43,156	13,125	.....	.....
Rocky Mountain Fuel Co.	Rex No. 1.	3	.....	2,458	24,647	27,105	4,650	.....	.....
Rocky Mountain Fuel Co.	Heda.	.....	.....	.....	18,848	18,848	4,900	.....	.....
Rocky Mountain Fuel Co.	Gorham.	10	.....	36,869	107,992	144,861	30,275	.....	.....
Rocky Mountain Fuel Co.	Industrial.	.....	7	54,876	75,159	130,035	31,725	.....	.....
Rocky Mountain Fuel Co.	Midland.	.....	.....	54,194	.....	54,194	19,525	.....	3,073
Rocky Mountain Fuel Co.	Alpine.	.....	.....	50,462	.....	50,462	21,425	.....	.....

Rocky Mountain Fuel Co.	Pinon	2	108,370	721	721	300	21,000
Rocky Mountain Fuel Co.	Piedmont		1,108		108,370		540
Rocky Mountain Fuel Co.	La Belle				1,108		
Routt Mountain Coal Co.	Routt-Mountain		19,166		19,166	12,050	600
Routt Pinnacle Coal Co.	Routt-Pinnacle		157,886		157,886	630	4,916
Royal Fuel Co.	Royal		49,799		49,799		
Rugby Fuel Co.	Rugby				72,102	22,725	
Russell, W. E., Coal Co.	Russell	8	300		300	100	
Salt Wash Mining Co.	Hunter		7,906		7,906		
Sandy Coal Co.	Sandy		215		215		400
Santa Fe Coal Co.	Santa Fe		309		309	1,200	
Scott, J. W.	Cloverdale		3,009		3,009	11,250	
Shamrock Coal Co.	Shamrock	1	1,836		39,027	1,500	
Shepherd & Maughan	Justrite		1,818		1,836	200	
States Coal Co.	States		529		818	300	
Stewart & Hovey	Rollins		3,189		529	175	
Stokes, W. D.	Stokes				3,189	75	
Strathmore Mine Co.	Strathmore	1	1,069		5,190	5,200	
Southwestern Fuel Co.	Southwestern		4,331		2,492		271
Sunshine Coal Co.	Sunshine		602		4,331	1,250	
Sunnyside Coal Mining Co.	Sunnyside	4	31,611		72,984	26,675	100
Temple Fuel Co.	Brodhead No. 9	6	32,839		114,086		28,000
Temple Fuel Co.	Alta		2,060		32,839		1,200
Temple Fuel Co.	Kenneth		620		2,060		
Thatcher & Son	Liberty		4,886		620	125	407
Thomas Coal Co.	Williamsville		4,875		4,886	3,750	
Thomas, C. F.	Thomas		2,028		875	125	5
Thompson & Mitchell Fuel Co.	Boncarbo		32,707		2,028	1,525	15,000
Tioga Coal Co.	Tioga		6,320		32,707	8,350	1,700
Tinsley & Cummins	P. V.	2	288		2,005	200	325
Todd, Geo. S.	Todd		321		288		
Trinidad Coal Co.	Baldy Mountain		6,813		321	2,400	600
Tudor Coal Co.	Danville No. 1 & 2		6,437		6,813		
Turner Coal Co.	Turner	4	44,774		82,350		100
Union Coal & Coke Co.	Pryor	4			90,792	(Not Report ed)	11,650
United Collieries Co.	Munroe	4			14,807	4,900	
United Collieries Co.	Eureka	1			2,277		
Utah Fuel Co.	Somerset	rg.1	337,542		337,542	1,400	37,650
Valley Commercial Co.	Valley	Em	400		400		
Van Wert Bros.	Ben Male		1,012		1,012		
Victor American Fuel Co.	Chandler	7	10,423		175,621		22,200
Victor American Fuel Co.	Radiant	5	13,883		34,567	6,225	1,541
Victor American Fuel Co.	Ravenwood	1	62,901		None		5,486
Victor American Fuel Co.	Delagua	4	494,914		90,815		11,423
Victor American Fuel Co.	Bowen		119,672		119,672		36,560
Victor American Fuel Co.	Hastings	1	69,859		74,221		7,276

TABLE No. 4—(Concluded)
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1917—(Continued).

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Victor American Fuel Co.	Gray Creek			41,792		41,792			3,474
Victor American Fuel Co.	Pinnacle	3		153,990	11,293	165,283	3,040	380	
Victor American Fuel Co.	Wadge			930		930	2,600	1,000	
Williams, M. S.	Black Diamond			5,259		5,259	1,000		
Williamsburg Slope Coal Co.	Emerald	1		14,453	1,347	15,800	350	200	
Winkler, Gus	Missouri			888		888			
Winton Coal Co.	Winton			2,037		2,037	875		
Wolf Park Coal Co.	Wolf Park			7,002	6,560	13,562		1,000	3,750
Wood, Franklin P., & Co.	Wood	1		1,101	4,000	5,101	(Not Report ed)		
Woodford, H. H.	Baldy			3,960		3,960			200
Wootton Land & Fuel Co.	Turner No. 2			23,245		23,245			8,000
Yampa Valley Coal Co.	Yampa Valley 1, 3 & 6			28,774		28,774	14,900		
Total		141	189	8,498,362	4,016,943	12,515,305	1,593,270	73,839	811,669

TABLE No. 3
VENTILATING EQUIPMENT OF COAL MINES IN STATE OF COLORADO FOR YEAR ENDING DECEMBER 31, 1917

TABLE No. 6

**PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES
IN THE STATE OF COLORADO FOR THE YEAR ENDED
DECEMBER 31, 1917.**

Total Production Distributed	Loaded at Mines for Shipment	Sold to Local Trade and Used by Employees	Used at Mines for Steam and Heat	Coal Made Into Coke	Coke Made
12,515,305	10,118,607	264,220	330,003	1,802,475	1,115,879

TABLE No. 7
NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1917.

CAUSES	Permanent Total Disability	Permanent Partial Disability	Temporary Disability		Total Injuries
			Time Lost More Than 14 Days	Time Lost Less Than 14 Days	
Underground:					
1. Falls of roof (coal, rock, etc.)	5	6	228	200	439
2. Falls of face or pillar coal	.....	3	45	35	83
3. Mine cars and locomotives	.....	10	197	157	364
4. Gas explosions and burning gas	.....	1	4	1	6
5. Coal-dust explosions (including gas and dust combined)	.....	.....	.....	.....	0
6. Explosives	.....	.....	3	2	5
7. Suffocation from mine gas	.....	.....	.....	.....	0
8. Electricity	.....	.....	3	10	13
9. Animals	.....	.....	37	58	97
10. Mining machines	.....	2	23	30	55
11. Mines fires (burned, suffocated, etc.)	.....	2	1	10	11
12. Other causes	.....	7	118	207	332
In Shaft:					
13. Falling down shafts or slopes	.....	.....	1	3	4
14. Objects falling down shafts or slopes	.....	.....	3	.....	3
15. Cages or skips	.....	.....	2	2	4
16. Other causes	.....	.....	4	4	4
Total number injured in mine	5	31	665	719	1,420
On Surface:					
17. Mine cars and mine locomotives	.....	.....	38	14	52
18. Electricity	.....	.....	3	3	6
19. Machinery	2	1	4	8	15
20. Boiler explosions or bursting steam pipes	.....	.....	.....	1	1
21. Railway cars and locomotives	.....	.....	4	4	8
22. Other causes	.....	.....	28	33	61
Total number injured on the surface	2	1	77	63	143
GRAND TOTAL	7	32	742	782	1,563

- A. PERMANENT TOTAL DISABILITY. Loss of both legs or arms, one leg and one arm, total loss of eyesight, paralysis or other condition permanently incapacitating workman from doing any work of a gainful occupation.
- B. PERMANENT PARTIAL DISABILITY. Loss of one foot, leg, hand, eye, one or more fingers, one or more toes, and dislocation where ligaments are severed or any other injury known in surgery to be permanent partial disability.
- C. In this column include only accidents which cause a loss of time more than the balance of the day or shift upon which the accident occurred.

TABLE No. 8

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED DECEMBER 31, 1917.

CAUSES	UNDERGROUND AND SHAFT																Total Fatalities
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine and Scrapers	Shot Firers	Drivers and Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Bratticemen	Timbermen and Blockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground	
Underground:																	
1. Falls of roof (coal, rock, etc.)	1	...	...	20	10	...	...	1	...	...	...	4	...	...	...	...	35
2. Falls of face or pillar coal	...	...	1	4	3	1	...	5	...	1	...	1	...	...	3	...	9
3. Mine cars and locomotives	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	12
4. Gas explosions and burn- ing gas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Coal-dust explosions (in- cluding gas and dust combined)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Explosives	1	...	1	93	...	...	1	13	...	2	3	3	1	1	3	122	1
7. Suffocation from mine gases	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
8. Electricity (shock or burns)	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...
9. Animals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Mining Machines	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
11. Mine fires (burned, suffo- cated, etc.)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12. Other causes	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2	...
Shafts:																	
13. Falling down shafts or slopes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Objects falling down shafts or slopes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Cages or skips	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Other causes	...	...	2	117	15	2	2	19	2	3	3	9	1	1	7	184	...
Total underground	1	...	2	117	15	2	2	19	2	3	3	9	1	1	7	184	...

TABLE No. 8—(Concluded)

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED DECEMBER 31, 1917.

CAUSES	UNDERGROUND AND SHAFT																Total Fatalities	
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Runners and Scrapers	Shot Fires	Drivers and Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Bratticemen	Timbermen and Rockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground		Surface Fatalities
Surface:																		
17. Mine cars and mine loco- motives	287	54	164	5,448	2,138	493	156	1,036	181	92	399	512	128	80	1,908	.....	.....	.....
18. Electricity (shock or burns.) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
19. Machinery .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
20. Boiler explosions or burst- ing steam pipes .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21. Railway cars and locomo- tives .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
22. Other causes .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total surface .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....
Number employed in each occupation. (a)	287	54	164	5,448	2,138	493	156	1,036	181	92	399	512	128	80	1,908	.....	.....	188

(a) To be supplied from Table 10.

TABLE No. 10

COAL MINE EMPLOYEES CLASSIFIED BY OCCUPATION IN THE STATE
OF COLORADO DURING YEAR ENDED DECEMBER 31, 1917

UNDERGROUND		Employed in and around the mines of Colorado
1. Foremen		205
2. Assistant foremen		54
3. Fire bosses		164
4. Pick miners		5,448
5. Machine miners		2,138
6. Machine runners and scrapers.....		493
7. Shot firers		156
8. Drivers and runners.....		1,036
9. Motormen and assistants.....		181
10. Doorboys and helpers.....		92
11. Trackmen and brattice men.....		399
12. Timbermen and rockmen.....		512
13. Pump and pipemen.....		128
14. Electricians and helpers.....		80
15. All others		387
Total underground		11,473
SURFACE		
1. Superintendents		152
2. Foremen		82
3. Blacksmiths and carpenters.....		285
4. Engineers and firemen.....		413
5. Machinists and helpers.....		101
6. Trackmen and helpers.....		77
7. All others at mine.....		1,521
8. Coke-oven employees		725
9. Office employees		154
Total surface		3,510
Total employees		14,984
Days mines were operated during the year.....		190.8

Table No. 9 is covered by Table No. 8.

TABLE A—(Continued)

COMPANIES	Total Production	No. of Men Employed	No. of Fatal Accidents	No. of Men Employed per Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Non-Fatal Accidents	No. of Men Employed per Non-Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Joerger Fuel Co.	534	16	1	16	534	1	16	534	62	62
Jones, D. W.	462	2	2	1	231	2	1	231	71	71
Juanita Coal & Coke Co.	81,760	70	2	35.88	40,880	2	35	16,352	71	71
Kennedy, H. A.	1,129	2	2	1	564.5	2	1	564.5	214	214
Keystone Mining Co.	114,621	103	103	1	1,113.8	103	1	5,210	214	214
Leone, L.	2,702	7	7	1	386.0	7	1	7,195	113	113
Lewis, J. T.	3,094	4	4	1	773.5	4	1	7,195	113	113
Leyden Coal Co.	129,505	159	159	1	814.5	159	1	7,899	55	55
Littell Coal & Mining Co.	22,958	32	32	1	717.5	32	1	17,420	66	66
Lloyd, Bert	7,899	18	18	1	438.8	18	1	19,610	48	48
Loma Fuel Co.	52,561	46	46	1	1,142.6	46	1	19,610	48	48
Louisville Coal & Land Co.	39,220	42	42	1	933.8	42	1	19,610	48	48
Mancos Fuel Co.	811	2	2	1	405.5	2	1	19,610	48	48
Marchetti, Andrew	10,312	18	18	1	572.9	18	1	19,610	48	48
Marchless Fuel Co.	1,227	2	2	1	613.5	2	1	19,610	48	48
McLaughlin, Jas. E.	59,623	82	82	1	727.1	82	1	19,610	48	48
McLean, G. W.	3,445	6	6	1	574.2	6	1	19,610	48	48
McNally, Geo., & Co.	2,417	4	4	1	604.3	4	1	19,610	48	48
McNeill Coal Co.	20,466	44	44	1	465.1	44	1	19,610	48	48
McPhail, Thos. & Son	70,199	84	84	1	835.7	84	1	19,610	48	48
Midwest Coal & Iron Co.	1,164	3	3	1	388.0	3	1	19,610	48	48
Minnequa Coal Co.	8,678	15	15	1	578.5	15	1	19,610	48	48
Moffatt Coal Co.	36,674	47	47	1	780.3	47	1	19,610	48	48
Moffitt-Carlisle Coal Co.	322,119	260	260	2	1,610.6	260	2	19,610	48	48
Montgomery, W. S.	217	3	3	1	72.3	3	1	19,610	48	48
Monument Valley Coal Co.	1,114	2	2	1	557.0	2	1	19,610	48	48
Moore, H. C. Coal Co.	21,102	36	36	1	586.2	36	1	19,610	48	48
Mowry, J. F.	709	4	4	1	177.3	4	1	19,610	48	48
Mutual Coal Co.	151	2	2	1	75.5	2	1	19,610	48	48
National Fuel Co.	92,516	88	88	1	1,051.3	88	1	19,610	48	48
New Maitland Coal Co.	393,273	349	349	1	1,124.2	349	1	19,610	48	48
New Mine High Coal Co.	12,752	26	26	1	490.5	26	1	19,610	48	48
Northern Colorado Fuel Co.	3,471	6	6	1	578.5	6	1	19,610	48	48
	59,644	35	35	1	1,698.4	35	1	19,610	48	48

[illegible]

TABLE A—(Concluded)

COMPANIES	Total Production	No. of Men Employed	No. of Fatal Accidents	No. of Men Employed per Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Accidents	No. of Fatal Accidents	No. of Men Employed per Non-Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Thatcher & Son.....	620	10	1	.....	.....	.....	.....	.....	.....	.....	.....
Thomas Coal Co.....	4,886	8	1	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, C. F.....	875	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thompson & Mitchell Fuel Co.....	2,028	89	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tinsley & Cummins.....	8,225	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tioga Coal Co.....	32,707	59	1	59	32,707	6	6	10	5,451	17	102
Todd, Geo. W.....	288	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trinidad Coal Co.....	921	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tudor Coal Co.....	6,813	28	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turner Coal Co.....	82,350	78	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union Coal & Coke Co.....	90,792	80	1	80	90,792	6	6	13	13,725	.....	77
United Collieries Co.....	17,084	27	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utah Fuel Co.....	337,532	213	2	107	168,771	26	26	8	12,982	9.4	122
Valley Commercial Coal Co.....	400	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Van Wert Bros.....	1,012	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Victor-American Fuel Co.....	1,284,522	1,175	124	9 +	10,359	168	168	7	7,646	106	143
Williams, M. S.....	5,259	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Williamsburg Slope Coal Co.....	15,800	37	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winkler, Gus.....	888	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winton Coal Co.....	2,037	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wolf Park Coal Co.....	13,562	44	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wood, Franklin P., & Co.....	5,101	19	1	44	13,562	5	5	9	2,712	22.9	114
Woodford, H. H.....	3,960	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wootton Land & Coal Co.....	29,245	49	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yampa Valley Coal Co.....	28,774	57	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total of State.....	12,515,305	13,970	188	74.3	66,571	1,563	1,563	9—	8,004	13.5—	112



TABLE B

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR, AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

BOULDER COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Simpson.....	Rocky Mountain Fuel Co.	Lafayette.	Sub-Bituminous	293.1	116	193,871	800
Standard.....	Rocky Mountain Fuel Co.	Lafayette.	Sub-Bituminous	283.7	97	100,690	500
Mitchell.....	Rocky Mountain Fuel Co.	Lafayette.	Sub-Bituminous	281.5	81	102,175	350
Vulcan.....	Rocky Mountain Fuel Co.	Lafayette.	Sub-Bituminous	272	73	92,707	500
Acme.....	Rocky Mountain Fuel Co.	Louisville	Sub-Bituminous	76.4	81	43,156	800
Rex No. 1.....	Rocky Mountain Fuel Co.	Louisville	Sub-Bituminous	139.6	36	27,105	*
Hecla.....	Rocky Mountain Fuel Co.	Louisville	Sub-Bituminous	193.2	19	18,848	150
Gorham.....	Rocky Mountain Fuel Co.	Gorham	Sub-Bituminous	293.6	115	144,861	650
Industrial.....	Rocky Mountain Fuel Co.	Superior.	Sub-Bituminous	269.5	131	130,935	700
Monarch No. 1.....	National Fuel Co.	Downer	Sub-Bituminous	148	11	3,911	200
Monarch No. 2.....	National Fuel Co.	Broomfield	Sub-Bituminous	245	137	136,631	750
Fox.....	Fox Coal Mining Co.	Marshall	Sub-Bituminous	239	67	71,241	500
Matchless.....	Matchless Fuel Co.	Louisville	Sub-Bituminous	224	82	59,623	500
Centennial.....	Big Four Coal & Coke Co.	Louisville	Sub-Bituminous	185.8	72	54,162	400
Sunnyside.....	Big Six Coal Co.	Louisville	Sub-Bituminous	244	42	26,914	150
Nonpareil.....	Brooks Fuel Co.	Louisville	Sub-Bituminous	280.5	23	25,388	200
Cracker Jack.....	Cracker Jack Coal Co.	Boulder	Sub-Bituminous	268	8	11,281	60
Red Ash.....	Red Ash Coal Co.	Gorham	Sub-Bituminous	230	9	6,578	200
Electric.....	Becker-Craig Coal Co.	Louisville	Sub-Bituminous	202	13	6,436	50
Black Diamond.....	M. S. Williams	Boulder	Sub-Bituminous	156	7	5,259	40
Strathmore.....	Strathmore Mine	Lafayette	Sub-Bituminous	156	7	5,190	35
Cambro.....	Cambro Coal Co.	Lafayette	Sub-Bituminous	199.5	9	4,638	200
Mill High.....	New Mill High Coal Co.	Lafayette	Sub-Bituminous	296	6	3,471	50
Lewis.....	J. T. Lewis	Gorham	Sub-Bituminous	262	4	3,094	
Totals—Number of Mines Operated. 24				226.6	1,246	1,277,265	

* Mine finished.

DELTA COUNTY, 1917

King Farmers.....	Juanita Coal & Coke Co.	Bowie.....	Bituminous.....	256.2	70	81,760	600
Red Mountain.....	Paonia Coal.....	Paonia.....	Bituminous.....	206	3	6,450	40
Green Valley.....	Red Mountain Coal Co.	Cedaredge.....	Bituminous.....	286	4	4,522	40
Winton.....	Green Valley Coal Co.	Cedaredge.....	Semi-Bituminous.....	262	2	2,032	20
Converse.....	Winton Coal Co.	Cedaredge.....	Semi-Bituminous.....	260	4	2,037	51
Bennett.....	Frank Converse	Paonia.....	Semi-Bituminous.....	244	2	1,416	30
Fairview.....	Farmers Progressive Coal Co.	Paonia.....	Semi-Bituminous.....	90	3	1,360	10
States.....	Hotchkiss Fuel & Supply Co.	Hotchkiss.....	Semi-Bituminous.....	286	2	1,306	20
Rollins.....	Grand Mesa Fuel Co.	Delta.....	Semi-Bituminous.....	150	2	988	
Black Diamond.....	States Coal Co.	Cedaredge.....	Semi-Bituminous.....	241	1	818	
	Stewart & Hovey.....	Delta.....	Semi-Bituminous.....	100	2	529	
Totals—Number.....	of Mines Operated, 11.....			213.4	95	103,248	

EL PASO COUNTY, 1917

Pikevley.....	Pikes Peak Consolidated Fuel Co.	Colo. Springs.....	Sub-Bituminous.....	298	158	241,084	1,000
Keystone.....	Keystone Mining Co.	Colo. Springs.....	Sub-Bituminous.....	300	103	114,621	600
Danville No. 1.....	Tudor Coal Co.	Colo. Springs.....	Sub-Bituminous.....	78	14	3,855	100
Danville No. 2.....	Tudor Coal Co.	Colo. Springs.....	Sub-Bituminous.....	76	8	2,978	100
Williamsville.....	Thomas Coal Co.	Colo. Springs.....	Sub-Bituminous.....	265	23	4,886	
Klondyke.....	W. D. Corley.....	Colo. Springs.....	Sub-Bituminous.....	167	12	3,956	30
Patterson.....	Alexander Patterson	Colo. Springs.....	Sub-Bituminous.....	44	3	1,735	
Franceville.....	Thomas D. Davis.....	Colo. Springs.....	Sub-Bituminous.....	202		1,465	
Totals—Number.....	of Mines Operated, 8.....			178.5	335	374,620	

TABLE B—(Continued)

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

FREMONT COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Rockvale.....	Colorado Fuel & Iron Co.....	Rockvale.....	Semi-Bituminous	284	294	197,383	650
Fremont.....	Colorado Fuel & Iron Co.....	Florence.....	Semi-Bituminous	297	252	178,514	800
Coal Creek.....	Colorado Fuel & Iron Co.....	Coal Creek.....	Semi-Bituminous	240	211	142,516	800
Nonac.....	Colorado Fuel & Iron Co.....	Canon City.....	Semi-Bituminous	303	30	20,444	75
Chandler.....	Victor-American Fuel Co.....	Chandler.....	Semi-Bituminous	281	168	186,044	900
Radiant.....	Victor-American Fuel Co.....	Pyrolite.....	Semi-Bituminous	281	68	47,950	400
Royal Gorge.....	Gibson Lumber & Fuel Co.....	Canon City.....	Semi-Bituminous	180	54	40,228	275
Emerald.....	Williamsburg Slope Coal Co.....	Florence.....	Semi-Bituminous	248	37	15,800	67
Brookside.....	Brookside Coal Mining Co.....	Canon City.....	Semi-Bituminous	284.5	13	14,000	100
Wolf Park.....	Wolf Park Coal Co.....	Canon City.....	Semi-Bituminous	255.5	44	13,562	250
Orechio No. 1.....	Orechio Coal Co.....	Florence.....	Semi-Bituminous	273	9	7,120	22
Willie.....	Samuel Petry.....	Florence.....	Semi-Bituminous	249	6	3,944	35
Double Dick.....	G. M. McLean.....	Florence.....	Semi-Bituminous	303.5	4	2,417	35
Williamsburg Slope.....	Donnelly, Davis & Donnelly.....	Florence.....	Semi-Bituminous	185	4	1,358	25
Rocchio.....	James Rocchio.....	Florence.....	Semi-Bituminous	47	3	251	5
Totals—Number	of Mines Operated, 15.....			247.6	1,197	871,531	

GARFIELD COUNTY, 1917

Midland.....	Rocky Mountain Fuel Co.....	Glen'wd Spr'gs.....	Semi-Bituminous	286.3	55	54,194	150
Garfield-Vulcan.....	Garfield Mine Leasing Co.....	New Castle.....	Semi-Bituminous	299.7	36	34,473	250
Carbonera.....	Gilson Asphaltum Co.....	Mack.....	Bituminous	313	9	14,670	60
Harvey Gap.....	Harvey Gap Coal Co.....	Rifle.....	Bituminous	191	4	1,271	15
Totals—Number	of Mines Operated, 4.....			272.5	104	104,608	

GUNNISON COUNTY, 1917

Somerset.....	Utah Fuel Co.....	Bituminous	294.8	213	337,542	1,800
Crested Butte.....	Colorado Fuel & Iron Co.....	Bituminous	281	132	139,184	800
Florista.....	Colorado Fuel & Iron Co.....	Anthracite	284	60	30,476	100
Alpine.....	Rocky Mountain Fuel Co.....	Semi-Bituminous	251	54	50,452	350
Bulkley.....	Crested Butte Coal Co.....	Bituminous	266.5	30	23,892	200
Smith.....	Crested Butte Anthracite M. Co.....	Anthracite	269	43	19,880	300
Porter.....	Littell Coal & Mining Co.....	Bituminous	190	32	22,958	150
Horace.....	Pueblo Fuel & Mining Co.....	Anthracite	292	40	17,859	150
Baldwin Star.....	Baldwin Fuel Co.....	Bituminous	170	6	3,050	25
Ohio Creek.....	Ohio Creek Mining Co.....	Semi-Bituminous	158	6	2,630	50
Totals—Number	of Mines Operated, 10.....		245.6	616	653,233	



TABLE B—(Continued)

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

HUERFANO COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Walsen.....	Colorado Fuel & Iron Co.....	Walsen.....	Bituminous	279	311	267,359	1,000
Robinson.....	Colorado Fuel & Iron Co.....	Walsen.....	Bituminous	270	305	163,424	1,000
Rouse.....	Colorado Fuel & Iron Co.....	Rouse.....	Bituminous	290.6	270	225,437	900
Ideal.....	Colorado Fuel & Iron Co.....	Ideal.....	Bituminous	286	220	177,803	700
Cameron.....	Colorado Fuel & Iron Co.....	Farr.....	Bituminous	274	259	175,242	850
Lester.....	Colorado Fuel & Iron Co.....	Lester.....	Bituminous	284	186	131,760	600
Pictou.....	Colorado Fuel & Iron Co.....	Pictou.....	Bituminous	264.5	175	104,747	900
Hezron.....	Colorado Fuel & Iron Co.....	Pryor.....	Bituminous	161	46	11,028	100
Oakdale.....	Oakdale Coal Co.....	Oakview.....	Bituminous	282	225	294,800	1,000
Mutual.....	Mutual Coal Co.....	Walsenburg.....	Bituminous	228.6	88	92,516	600
Pryor.....	Union Coal & Coke Co.....	Pryor.....	Bituminous	272.2	80	90,792	500
Turner.....	Turner Coal Co.....	Walsenburg.....	Bituminous	243.5	78	82,350	1,000
Big Four.....	Big Four Coal & Coke Co.....	Tioga.....	Bituminous	246.3	79	75,246	600
Sunnyside.....	Sunnyside Coal Mining Co.....	Strong.....	Bituminous	246.6	76	73,586	600
Ravenwood.....	Victor-American Fuel Co.....	Ravenwood.....	Bituminous	267	98	92,301	400
Toltec.....	Aztec Coal Mining Co.....	Toltec.....	Bituminous	241	129	58,788	350
Loma.....	Loma Fuel Co.....	Walsen.....	Bituminous	277	45	52,261	200
Rugby.....	Rugby Fuel Co.....	Rugby.....	Bituminous	268.5	59	49,799	250
Reliance.....	Alliance Coal Co.....	Ojo.....	Bituminous	208.2	76	41,998	600
Vesta.....	Minnequa Coal Co.....	Camp Shumway.....	Bituminous	193.7	47	36,674	225
Gordon.....	Gordon Coal Co.....	Walsenburg.....	Bituminous	219.1	51	34,079	500
Tioga.....	Tioga Coal Co.....	Tioga.....	Bituminous	230.1	59	32,707	500
Green.....	Green Coal Mining Co.....	Walsenburg.....	Bituminous	265.8	38	29,134	150
Caddell.....	Black Canon Coal & Fuel Co.....	Walsenburg.....	Bituminous	171.2	44	21,325	100
Larimore.....	Monument Valley Coal M. Co.....	Strong.....	Bituminous	238.3	36	21,102	200
Maitland.....	Geo. McNally & Co.....	Maitland.....	Bituminous	256	44	20,466	100
Hickory Canon.....	New Maitland Coal Co.....	Camp Shumway.....	Bituminous	248	26	12,752	150
Cuchara Canon.....	Caddell & Carlson.....	Walsenburg.....	Bituminous	187	8	2,978	20
Caprock.....	Caprock Fuel Co.....	Walsenburg.....	Bituminous	89.5	13	1,787	75
Pinon.....	Rocky Mountain Fuel Co.....	Camp Shumway.....	Bituminous	25	9	721	
Totals—Number	of Mines Operated, 30			232.5	3,180	2,375,562	

JACKSON COUNTY, 1917

Coalmont.....	Northern Colorado Fuel Co.....	Coalmont.....	Sub-Bituminous.....	178.2	35	59,644	450
Moore.....	North Park Fuel Co.....	Coalmont.....	Sub-Bituminous.....	192.5	19	26,645	300
Totals—Number	of Mines Operated, 2			185.4	54	86,289	

JEFFERSON COUNTY, 1917

Leyden No. 1 & 2.....	Leyden Coal Co.....	Golden.....	Sub-Bituminous.....	262	159	129,505	1,200
Justrite.....	Shepherd & Maughan.....	Golden.....	Sub-Bituminous.....	294	2	1,636	7
Totals—Number	of Mines Operated, 2			278	161	131,141	

LA PLATA COUNTY, 1917

Perins Peak.....	Calumet Fuel Co.....	Perins.....	Bituminous.....	191	68	57,424	350
Hesperus.....	Hesperus Fuel Co.....	Hesperus.....	Semi-Bituminous.....	187.8	49	40,735	300
San Juan.....	American Smelting & Refining Co.....	Durango.....	Bituminous.....	253	35	27,603	250
O. K.....	O. K. Coal Co.....	Durango.....	Bituminous.....	248	6	6,290	60
Sunshine.....	Sunshine Coal Co.....	Durango.....	Bituminous.....	202	4	4,331	21
Morning Star.....	Baudino & Co.....	Durango.....	Bituminous.....	240	3	2,080	10
Totals—Number	of Mines Operated, 6			220.3	165	138,523	

TABLE B—(Continued)

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

LAS ANIMAS COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Primero.....	Colorado Fuel & Iron Co.	Primero.....	Bituminous	307	460	428,374	1,500
Frederick.....	Colorado Fuel & Iron Co.	Valdez.....	Bituminous	309	362	372,379	1,500
Sopris.....	Colorado Fuel & Iron Co.	Sopris.....	Bituminous	309	396	350,041	1,150
Starkville.....	Colorado Fuel & Iron Co.	Starkville.....	Bituminous	300	310	272,916	800
Berwind.....	Colorado Fuel & Iron Co.	Berwind.....	Bituminous	302	281	223,633	900
Tabasco.....	Colorado Fuel & Iron Co.	Berwind.....	Bituminous	307	261	217,463	800
Morley.....	Colorado Fuel & Iron Co.	Morley.....	Bituminous	302	293	216,992	1,000
Engle.....	Colorado Fuel & Iron Co.	Trinidad.....	Bituminous	88	115	14,950	1,000
Delagua.....	Victor-American Fuel Co.	Delagua.....	Bituminous	307	434	585,729	2,500
Bowen.....	Victor-American Fuel Co.	Bowen.....	Bituminous	296	98	119,672	600
Hastings.....	Victor-American Fuel Co.	Hastings.....	Bituminous	177	87	74,221	1,200
Gray Creek.....	Victor-American Fuel Co.	Gray Creek.....	Bituminous	288	55	41,732	300
Cokedale No. 1 & 2.....	American Smelting & Refining Co.	Cokedale.....	Bituminous	317.5	131	231,133	600
Toller.....	Cedar Hill Coal & Coke Co.	Tollerburg.....	Bituminous	289	147	144,694	800
Greenville.....	Cedar Hill Coal & Coke Co.	Tollerburg.....	Bituminous	277.1	37	34,841	300
Black Diamond.....	Cedar Hill Coal & Coke Co.	Rugby.....	Bituminous	270	30	20,408	150
Brodhead No. 9.....	Temple Fuel Co.	Brodhead.....	Bituminous	288	122	145,697	500
Alta.....	Temple Fuel Co.	Brodhead.....	Bituminous	192	42	32,839	250
Kenneth.....	Temple Fuel Co.	Trinidad.....	Bituminous	15	32	2,060	
Forbes No. 9.....	Temple Fuel Co.	Forbes.....	Bituminous	331	121	145,850	700
Forbes No. 4.....	Chitosa Fuel Co.	Forbes.....	Bituminous	331	19	36,145	
Piedmont.....	Rocky Mountain Fuel Co.	Sopris.....	Bituminous	212.2	112	108,370	300
La Belle.....	Rocky Mountain Fuel Co.	Sopris.....	Bituminous	39.2	8	1,108	
Royal.....	Royal Fuel Co.	Agular.....	Bituminous	301	103	157,886	600
Ludlow.....	Huerfano Coal Co.	Ludlow.....	Bituminous	270.9	127	122,330	600
Jeffries.....	Jeffries Fuel Co.	Trinidad.....	Bituminous	306	75	77,588	300

Rapson No. 1.	Rapson Coal Mining Co.	Rugby.	Bituminous	252	73	49,354	400
Thor.	National Fuel Co.	Bowen.	Bituminous	267	59	48,825	500
Turner No. 2	Wootton Land & Fuel Co.	Wootton.	Bituminous	305	49	29,245	250
Primrose.	Black Hawk Coal Co.	Rugby.	Bituminous	284	46	28,601	150
Jewel.	Ideal Fuel Co.	Agular.	Bituminous	269.7	36	22,637	175
Three Pines.	Black Diamond Niggerhead C. M. Co.	Trinidad	Bituminous	257	14	11,317	100
Empire.	Empire Coal Co.	Agular.	Bituminous	201	25	10,458	250
Sandy.	Sandy Coal Co.	Trinidad	Bituminous	170	12	7,806	60
Prospect.	Bert Lloyd	Trinidad	Bituminous	292	18	7,839	60
Bear Canon	Bear Canon Coal Co.	Tollerburg	Bituminous	62.3	43	7,361	200
Colo No. 1 (Mallot)	Colorado Coal Mines Co.	Rugby.	Bituminous	103	22	5,383	150
Wood (Premium)	Franklin F. Wood & Co.	Sopris.	Bituminous	157	19	5,101	100
Star.	Premium Coal Co.	Rugby.	Bituminous	143	7	4,711	30
Baldy.	H. H. Woodford.	Trinidad	Bituminous	292	3	3,960	50
Deep Vein.	Deep Vein Coal Co.	Trinidad	Bituminous	115	9	3,299	25
Keystone.	Bartolo Parivecchio	Trinidad	Bituminous	218	3	3,000	25
McLaughlin.	Jas. E. McLaughlin.	Trinidad	Bituminous	266	4	2,787	20
Henderson	Jas. E. McLaughlin.	Trinidad	Bituminous	46	2	658	20
Leone.	L. Leone	Trinidad	Bituminous	124	7	2,702	22
Southwestern	Southwestern Fuel Co.	Agular.	Bituminous	88	24	2,492	100
Hines.	Chas. Hines Coal Co.	Trinidad	Bituminous	156	7	2,417	35
Boncarbo.	Thompson-Mitchell Fuel Co.	Boncarbo	Bituminous	25	89	2,028	75
Fishers Peak.	R. Marsh	Trinidad	Bituminous	251	2	1,227	20
Moore.	Thos. McPhail & Son	Trinidad	Bituminous	194	3	1,164	20
Verdun (Pinon)	Commercial Coal Co.	Trinidad	Bituminous	96.7	7	1,015	10
Baldy Mountain	Trinidad Coal Co.	Trinidad	Bituminous	224	4	921	20
Madrid	H. C. Moore Coal Co.	Cokedale	Bituminous	67	4	709	35
Liberty.	Thatcher & Son.	Forbes	Bituminous	42	10	620	50
Beshoar.	Joergel Fuel Co.	Trinidad	Bituminous	60	16	534	50
Santa Fe.	Santa Fe Coal Co.	Trinidad	Bituminous	25	29	215	100
Totals—Number	of Mines Operated, 56			208.8	4.331	4,447,726	

TABLE B—(Continued)

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

MESA COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Cameo.....	Grand Junction Mining & Fuel Co.	Cameo.....	Semi-Bituminous	303	105	140,039	800
Palisade.....	Palisade Coal & Supply Co.	Palisade.....	Semi-Bituminous	230.5	29	13,753	140
Garfield.....	Garfield Coal Mining & Tran. Co.	Palisade.....	Semi-Bituminous	216.5	20	13,368	150
Book Cliff.....	Book Cliff Coal Co.	Grand Junction.....	Semi-Bituminous	285	15	13,201	200
F. V.	Tinsley & Cummins.....	Cameo.....	Semi-Bituminous	195	10	8,225	100
Midwest.....	Midwest Coal & Iron Co.	Palisade.....	Semi-Bituminous	179	11	6,058	35
Hilltop.....	Midwest Coal & Iron Co.	Palisade.....	Semi-Bituminous	126	4	2,820	25
Stokes.....	W. D. Stokes.....	Palisade.....	Semi-Bituminous	209	6	3,189	50
Fidel.....	Fidel Coal Co.	Palisade.....	Semi-Bituminous	289	2	2,432	25
Riverside.....	Riverside Coal & Power Co.	Palisade.....	Semi-Bituminous	236	3	1,659	8
Anchor No. 2.....	Anchor Coal Co.	Palisade.....	Semi-Bituminous	204	2	1,387	40
Anchor No. 1.....	Anchor Coal Co.	Fruita.....	Semi-Bituminous	68	2	296	10
Thomas.....	C. F. Thomas.....	Fruita.....	Semi-Bituminous	249.2	1	875	20
Farmers.....	Farmers Mutual Coal Co.	Grand Junction.....	Semi-Bituminous	257	2	804	5
Valley.....	Valley Commercial Co.	Grand Junction.....	Semi-Bituminous	133	2	400	10
Black Diamond.....	Black Diamond Coal Co.	Fruita.....	Semi-Bituminous	45	3	360	10
Hunter.....	Salt Wash Mining Co.	Grand Junction.....	Semi-Bituminous	60	1	300	8
Totals—Number	of Mines Operated, 17.			193.2	218	209,166	

MOFFAT COUNTY, 1917

Collom.....	Joseph Collom.....	Axial.....	Bituminous	50	1	250	10
Totals—Number	of Mines Operated, 1			50	1	250	

MONTEZUMA COUNTY, 1917

Mancos.....	Mancos Fuel Co.....	Mancos.....	Sub-Bituminous.....	179	2	811	40
Todd.....	Geo. S. Todd.....	Cortez.....	Sub-Bituminous.....	143	1	288	10
Moffit-Carlile.....	Moffit-Carlile Coal Co.....	Cortez.....	Sub-Bituminous.....	73	3	217	10
Mitchell Springs.....	J. T. Mowery.....	Cortez.....	Sub-Bituminous.....	50	2	151	1½
Beal.....	Harry Beal.....	Cortez.....	Sub-Bituminous.....	79	1	133	
Totals—Number	of Mines Operated, 5			104.8	9	1,600	

MONTROSE COUNTY, 1917

Missouri.....	Gus Winkler.....	Nucla.....	Sub-Bituminous.....	186	1	888	3½
Knauss.....	W. J. Oberding.....	Nucla.....	Sub-Bituminous.....	87.5	1	365	1
Cloverdale.....	J. W. Scott.....	Nucla.....	Sub-Bituminous.....	106	1	309	1
Specht.....	Nucla Coal Co.....	Nucla.....	Sub-Bituminous.....	40	1	122	1½
Totals—Number	of Mines Operated, 4			104.9	4	1,684	

OURAY COUNTY, 1917

Lou Creek.....	H. A. Kennedy.....	Ridgeway.....	Sub-Bituminous.....	140	2	1,129	
Totals—Number	of Mines Operated, 1			140	2	1,129	

PITKIN COUNTY, 1917

Placita.....	Rapini Bros.....	Redstone.....	Bituminous.....	256	10	12,652	50
Marion.....	Andrew Marchetti.....	Cardiff.....	Bituminous.....	137	18	10,312	60
Totals—Number	of Mines Operated, 2			196.5	28	22,964	

TABLE B—(Concluded)

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1917, AND CAPACITY OF MINE PER DAY IN TONS.

RIO BLANCO COUNTY, 1917

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine per Day, Tons
Black Diamond	Reynolds & Babcock	Meeker	Bituminous	151.8	3	2,615	30
Lion Canon	W. S. Montgomery	Meeker	Bituminous	235	2	1,114	
Fairfield	Rio Blanco Coal Co.	Meeker	Bituminous	267	2	675	6
Salmon	Oldland & Co.	Meeker	Bituminous	40	6	253	6
Totals—Number of Mines Operated, 4				173.2	13	4,657	

ROUTT COUNTY, 1917

Moffat No. 1	Moffat Coal Co.	Oak Creek	Bituminous	272.5	53	80,056	2,500
Moffat No. 2	Moffat Coal Co.	Oak Creek	Bituminous	240.5	207	242,063	1,500
Harris	Colorado Utah Coal Co.	Mt. Harris	Bituminous	197.5	209	292,888	
Pinnacle	Victor-American Fuel Co.	Oak Creek	Bituminous	230	135	165,283	1,000
Wadge	Victor-American Fuel Co.	Mt. Harris	Semi-Anthracite	15	32	930	150
McGregor	McNeil Coal Co.	McGregor	Bituminous	207	84	70,199	500
Bear River	Bear River Coal Co.	Bear River	Bituminous	169.5	52	48,625	400
Hayden No. 1 & 2	Hayden Bros. Coal Corporation	Oak Creek	Bituminous	149	73	33,426	1,000
Yampa Valley No. 1	Yampa Valley Coal Co.	Oak Creek	Bituminous	135	19	9,985	**
Yampa Valley No. 3	Yampa Valley Coal Co.	Oak Creek	Bituminous	81	37	14,488	**
Yampa Valley No. 6	Yampa Valley Coal Co.	Oak Creek	Bituminous	102	23	26,457	100
Wolf Creek	International Fuel Co.	Mt. Harris	Bituminous	205.5	23	19,166	250
Routt Pinnacle	Routt Pinnacle Fuel Co.	Coalview	Bituminous	144.5	33	19,166	250
Grayland	Indian Creek Coal M. Co.	Coalview	Bituminous	209.8	21	16,483	150

** Closed down.

Curtis Routt.....	Curtis Coal Co.....	Pool.....	Bituminous.....	177.7	19	11,634	200
Allen.....	Allen Coal Co.....	Coalview.....	Bituminous.....	193.5	15	10,653	25
Lennox.....	Federal Coal Mining Co.....	Pool.....	Bituminous.....	135	8	5,985	150
Elk Creek.....	Elk Creek Mining Co.....	Pool.....	Bituminous.....	84.5	17	3,255	150
Ben Male.....	Van Wert Bros.....	Oak Creek.....	Bituminous.....	157	4	1,012	50
Jones.....	D. W. Jones.....	Oak Creek.....	Bituminous.....	85	2	462	
New Junction City.....	W. J. Dixon.....	Oak Creek.....	Bituminous.....	144	1	234	
Routt Mountain.....	Routt Mountain Coal Co.....	Bear River.....	Bituminous.....	26	7	100	
Totals—Number	of Mines Operated, 22.....			152.3	1,052	1,057,685	

WELD COUNTY, 1917

Puritan.....	National Fuel Co.....	Erie.....	Sub-Bituminous.....	220.3	142	203,906	1,400
Baum.....	Consolidated Coal & Coke Co.....	Dacomo.....	Sub-Bituminous.....	252.1	79	93,062	1,000
Evans.....	Evans Fuel Co.....	Frederick.....	Sub-Bituminous.....	197.4	75	89,376	750
Russell.....	W. E. Russell Coal Co.....	Firestone.....	Sub-Bituminous.....	239	57	72,102	400
Frederick.....	Frederick Fuel Co.....	Frederick.....	Sub-Bituminous.....	208.7	59	58,747	700
Shamrock.....	Shamrock Coal Co.....	Erie.....	Sub-Bituminous.....	220	31	42,036	400
Firestone.....	Louisville Coal & Land Co.....	Firestone.....	Sub-Bituminous.....	247	42	39,220	250
Grant.....	Carbon Fuel & Iron Co.....	Frederick.....	Sub-Bituminous.....	257.5	31	32,719	200
Munroe (Ideal).....	United Collieries Co.....	Erie.....	Sub-Bituminous.....	300	17	14,807	140
Eureka.....	Peerless Coal Co.....	Erie.....	Sub-Bituminous.....	55	10	2,277	100
Peerless.....	United Collieries Co.....	Frederick.....	Sub-Bituminous.....	176	2	1,678	20
Boulder Valley.....	Boulder Valley Coal Co.....	Erie.....	Sub-Bituminous.....	154	7	1,008	20
White Ash.....	W. C. Bedlien.....	La Salle.....	Sub-Bituminous.....	41	6	863	20
New Washington.....	David Brimble.....	Erie.....	Sub-Bituminous.....	156	1	631	2
Totals—Number	of Mines Operated, 14.....			192.4	559	652,424	
Grand Totals.....				190.8	13,970	12,515,305	

TABLE C
PRODUCTION OF COUNTIES BY MONTHS—1917.

Months	Boulder	Delta	El Paso	Fremont	Garfield
January	152,707	11,430	37,343	85,219	13,859
February	91,920	7,408	30,472	75,109	11,425
March	105,556	7,086	31,587	68,385	11,897
April	74,230	6,003	23,680	67,207	5,723
May	91,503	6,051	27,487	74,422	8,323
June	71,226	6,196	29,455	77,048	7,346
July	66,227	7,583	28,924	70,485	5,836
August	94,102	10,255	31,697	73,545	7,224
September	94,084	7,901	24,634	70,596	5,952
October	126,941	7,426	33,689	62,466	8,913
November	145,856	12,997	32,952	70,223	10,682
December	162,913	12,912	42,700	76,826	7,428
Total	1,277,265	103,248	374,620	871,531	104,608

Months	Gunnison	Huerfano	Jackson	Jefferson	La Plata
January	58,999	232,670	4,857	17,769	15,184
February	49,337	205,038	3,644	12,910	11,773
March	54,356	201,797	1,314	15,608	10,207
April	51,807	181,087	2,559	9,915	7,998
May	53,820	207,182	4,823	11,240	9,708
June	53,512	213,922	7,423	1,548	9,058
July	50,111	187,520	9,010	5,264	9,860
August	56,259	218,253	11,948	9,163	11,676
September	46,680	192,652	11,791	6,991	11,279
October	50,112	195,619	10,174	11,630	12,795
November	60,988	159,995	9,156	12,606	13,633
December	67,252	179,827	9,590	16,497	15,352
Total	653,233	2,375,562	86,289	131,141	138,523

Months	Las Animas	Mesa	Moffat	Montezuma	Montrose
January	412,359	22,410	.....	252	214
February	367,750	16,686	.....	146	174
March	417,041	11,253	.....	138	153
April	360,045	10,374	.....	77	86
May	360,253	14,321	.....	23	50
June	364,486	15,057	.....	47	20
July	346,786	16,097	.....	33	17
August	373,239	16,561	.....	65	70
September	345,272	17,380	.....	.....	89
October	376,000	19,944	.....	69	148
November	358,034	23,947	.....	149	192
December	366,461	25,136	250	601	471
Total	4,447,726	209,166	250	1,600	1,684

Months	Ouray	Pitkin	Rio Blanco	Routt	Weld
January	1,581	608	84,099	89,243
February	1,433	544	73,473	62,673
March	1,293	400	72,824	56,675
April	651	295	92,769	28,445
May	491	272	92,919	33,635
June	442	181	96,037	40,607
July	933	46	107,928	23,010
August	2,879	143	118,789	39,997
September	2,523	234	95,919	40,190
October	2,794	449	86,379	61,546
November	3,868	767	72,927	71,450
December	1,129	4,076	718	63,622	104,953
Total	1,129	22,964	4,657	1,057,685	652,424

TABLE C—(Concluded)
 PRODUCTION OF COUNTIES BY MONTHS—1917—(Continued)

Months	Total Tonnage
January	1,240,803
February	1,021,915
March	1,067,570
April	922,951
May	996,523
June	993,611
July	935,670
August	1,075,865
September	974,167
October	1,067,094
November	1,060,422
December	1,158,714
Total	12,515,305

TABLE D

SHOWING BY COUNTIES INCREASE OR DECREASE OF PRODUCTION
1916-1917.

Counties	1916	1917	Increase	Decrease
Boulder	1,061,250	1,277,265	216,015	.....
Delta	76,986	103,248	26,262	.....
El Paso	313,184	374,620	61,436	.....
Fremont	592,091	871,531	279,440	.....
Garfield	132,540	104,608	.....	27,932
Gunnison	511,755	653,233	141,478	.....
Huerfano	1,811,585	2,375,562	563,977	.....
Jackson	43,656	86,289	42,633	.....
Jefferson	149,522	131,141	.....	18,381
La Plata	111,406	138,523	27,117	.....
Las Animas	4,154,334	4,447,726	293,392	.....
Mesa	132,442	209,166	76,724	.....
Moffat	200	250	50	.....
Montezuma	2,855	1,600	.....	1,255
Montrose	922	1,684	762	.....
Ouray .....	.....	1,129	1,129	.....
Pitkin	41,513	22,964	.....	18,549
Rio Blanco	4,775	4,657	.....	118
Routt	919,895	1,057,685	137,790	.....
Weld	461,274	652,424	191,150	.....
Totals	10,522,185	12,515,305	.....	.....
Increase, 1917 .....	.....	.....	.....	1,993,120

TABLE E

COKE PRODUCTION IN 1917 BY COMPANIES AND COUNTIES.

COMPANIES	Total No. of Ovens	Total Tonnage	COUNTIES	Total No. of Ovens	Total Tonnage
Colorado Fuel & Iron Co.	1,735	850,603	Gunnison ..	52	19,830
American Smelting & Ref. Co.	378	190,274	Las Animas ..	2,210	1,084,670
Victor-American Fuel Co.	177	75,002	La Plata ..	28	11,379
Totals	2,290	1,115,879	.....	2,290	1,115,879

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE
COAL MINES OF COLORADO DURING THE YEAR
NINETEEN HUNDRED AND SEVENTEEN.

January 1—GEORGE COWLISHAW, English, fireboss, age 42 years, married, three children, one dependent, employed by the Colorado Fuel & Iron Company, at the Pictou mine, Huerfano County; was killed by being struck by a runaway car. While a trip of 12 cars and a truck with a hoist motor were descending the slope, the 10th car was derailed, detaching the 11th and 12th cars and the truck from the balance of the trip, and ran away down the slope. One car passed the truck during the derailment and caught deceased, who was standing at the upper corner of the 10th north switch, pushing him against the rib, causing such injuries that he died about 15 minutes later. Accident appears to have been unavoidable.

January 2—C. N. RAILEY, American, miner, age 35 years, single, employed by the Moffat Coal Company, at the Oak Hills No. 2 mine, Routt County; was injured by a lump of coal weighing two hundred pounds, which was dislodged and struck him, rupturing his intestines, from the effects of which he died January 3rd. The cause of the accident was not ascertained because the management did not deem it serious, and put men to work the next day in the place. The accident occurred in room 4, upper F slope. Three men work in the pillars because it takes that many to push up the empty car. At the time of the accident, they had started to load a car when the coal bumped, dislodging a piece with results as above stated.

January 13—STEFAMIN MARIO, Italian, miner, age 24 years, single, employed by the Colorado Fuel & Iron Company, at the Rouse mine, Huerfano County; was killed by a fall of rock. Deceased and his partner were working in the pillar of room No. 1, 3rd cross off 9th east entry. Assistant Mine Foreman Duffy had visited the place and noticed the roof cutting along the rib of the pillar. He said he ordered the work stopped until the place was timbered. There was a misunderstanding as to who should timber the place, and deceased's partner testified they were ordered to do the timbering, and while so engaged placing a cross bar under the loose rock, it fell on Mario, killing him and bruising his partner. Mr. Duffy states that he did not order the men to timber, but that the company men were to do it. The cause of the accident was apparently negligence on the part of the assistant mine foreman to make his orders clear, or disobedience and inexperience on the part of the deceased and his partner.

January 18—JOHN W. KUREN, American, shotfirer, age 30 years, married, three children, employed by the Colorado Fuel & Iron Company, at the Morley mine, Las Animas County;

was injured by the exploding of detonators carried on a belt fastened around his waist, puncturing his left side, exposing his intestines, from which he died on the 19th inst. Deceased had charged, tamped two holes and ignited the fuse to one, and was about to ignite the other when the detonators exploded. Not coming out of the mine at the regular time, two men went in to look for him, and found him a hundred feet away from the point where the accident occurred. Deceased was conscious and stated he did not know what caused the exploding of the detonators. The belt appeared to be a safely constructed device to carry the detonators. From evidence obtainable, responsibility for the accident could not be placed.

January 18—FRANK TOLENTINO, Italian, miner, age 54 years, married, five children, employed by the Rocky Mountain Fuel Company, at the Piedmont mine, Las Animas County; was killed by a fall of rock. The accident occurred in room pillar No. 3, of the 10th west entry off 4th south air course, and was caused by a slip releasing the rock and threw three props out that were supporting it. Whether the props were well set could not be ascertained. It is possible that the accident could have been avoided, had more timbers been set under the rock.

January 19—FRED H. TODD, American, miner, age 38 years, widower, four children, employed by the Bear River Coal Company, at the Bear River mine, Routt County; was killed by a fall of rock. Deceased with other miners was working in a room neck of 4th north slope. Four shots had been fired, two in the room neck and two in the slope; the face of which was about 9 feet from the room neck. Shortly after the shots had been fired, Todd with one of the men, Gus Maki, returned to the slope to see what had been done; while there a rock from the roof fell on deceased, inflicting injuries causing death and slightly injuring Maki. The roof must have been loose as the place was timbered to within five feet from the face. Deceased came to his death through violation of the law by him and his partner going back on the shots immediately after they were fired, and through violation of the law by the company in allowing those men in the mine while the shots were being fired.

January 31—DAVID KERR, Scotch, miner, age 58 years, widower, no children, employed by the Rocky Mountain Fuel Company, at the Industrial mine, Boulder County; was injured by a fall of coal from the face, and died on February 1st. Deceased and his brother, John Kerr, were loading coal in room No. 2, N. E. 6th entry. The coal had been undercut and shots had been fired, but not all the coal had been taken down, for some of the top coal was left hanging and the roof was bad. While deceased was working at these tops that had been left hanging, trying to get them down, a fall occurred, injuring him seriously, and he died the next day. The place was well timbered,

and there was a good supply of timbers on hand. Accident was unavoidable.

February 8—JOHN SCHMIDT, Austrian, miner, age not known, married, three children, employed by the Rocky Mountain Fuel Company, at the Rex No. 1 mine, Boulder County; was killed by a fall of top coal. The deceased was working on a small stump in straight south entry. He was using the pick undermining the coal when it suddenly gave way. On falling it dislodged a prop which was set under the top coal; he endeavored to get away, but was caught by a piece of top coal falling on him, causing such injuries that he died almost instantly. The place was well timbered and the accident may be classed as unavoidable.

February 20—JIM SUSANJ, Austrian, miner, age 27 years (sister in Delagua), single, employed by the Victor-American Fuel Company, at the Delagua mine, Las Animas county; was killed by a fall of draw slate. Deceased was working in the 3rd north entry taking out an entry pillar. The pillar was twenty feet wide and the thickness of the coal five feet, with eight inches of draw slate coming down with the coal as it was excavated. The place was timbered according to agreement, but deceased allowed the draw slate to hang too far from the coal face. His partner, who was working ten feet from deceased when the accident occurred, advised him to take down the draw slate, but he neglected to do so, and the result was that it fell on deceased, killing him almost instantly. Deceased must be charged with the responsibility of his death, in that he failed to take down the draw slate when requested to do so.

March 3—WILLIAM KIDDY, American, miner, age 38 years, married, one child, employed by the Royal Fuel Company, at the Royal mine, Las Animas County; was crushed to death under a mine car. Deceased relieved the regular rope rider and went down the slope, gathered a trip of loaded cars and while ascending the slope between rooms seven and eight deceased fell off the front car which ran over him, killing him instantly. From the information obtained, responsibility for the accident could not be charged to any one.

March 6—ISAAC VALDEZ, Mexican, miner, age 28 years, married, three children, employed by the Ideal Fuel Company, at the Jewel mine, Las Animas County; was injured by being crushed between a loaded car and a prop on the slope, from the effects of which he died on March 27th. From evidence obtained, deceased was coming from his working place when he met the rope rider, who was getting his last trip, and asked him to let him ride up the slope as he was very tired. He was told that it was against the law and rules of the mine, but he climbed in between two cars of the trip and after they had proceeded about thirty feet he was caught between a loaded car

and a prop on the side of the slope, crushing him so seriously that he died twenty-one days later at the Trinidad Hospital. Both deceased and the rope rider may be charged with the responsibility of this accident in not obeying the law and the rules of the mine.

March 9—W. I. RIPPI, American, hoisting engineer, age 32 married, one child, employed by the Colorado Fuel & Iron Company, at the Tabasco mine, Las Animas County; was killed by a runaway empty car. According to evidence, deceased had gone up the slope to notify the main trip runner of the main slope that there was a trip of loaded cars on the third north entry. The main trip runner started with a trip of empty cars down the slope; one of the cars became detached and ran away. Deceased saw the danger and ran ahead of the car; while running warned several men who were sitting on the side of the slope and who took refuge in a shelter hole 50 feet below the point where they had been sitting. The car overtook deceased at the third north entry, driving him against the loaded trip standing there, crushing him so severely that he died 15 minutes later. Deceased came to his death through the danger inherent to work of this kind.

March 14—FRANK ZARA, Italian, miner, age 46 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Berwind mine, Las Animas County; was killed by a fall of coal and rock. Deceased was working in a room pillar which was fairly well timbered at the point where the accident occurred. On the day previous to the accident, the assistant mine foreman told deceased and his partner, Joe Toreson, not to mine any more coal in that part of the pillar and ordered them back eight feet from the point where the accident occurred. The fireboss stated that on his visit the next morning, he put a tie with an arrow mark pointing to the coal being liberated from the roof. The deceased did not understand this mark and failed to sprag the coal with the result that when he began to mine, it fell bringing down also some rock. Deceased came to his death through his inability to understand the intent of the marked tie placed against the coal by the fireboss.

March 27—CLATO DELL ARMIS, Italian, miner, age 42 years, single, employed by the Cedar Hill Coal & Coke Company, at the Toller mine, Las Animas County; was killed by a fall of coal. The day previous to the accident deceased and his partner, Charles Henere, had broken through the pillar into room No. 9. The props under the top coal in this room were decayed, as they had been standing over two years. Henere stated that the mine foreman visited the place the morning of the accident and ordered deceased to take no more coal from that part of the pillar. Deceased failed to obey orders by returning to point of danger resulting in his death.

April 3—JOSE EMILIO SANCHEZ, Mexican, miner, age 28 years, married, no children, employed by the Colorado Fuel & Iron Company, at the Frederick mine, Las Animas County; was killed by a fall of rock. Deceased and his partner, Eucibio Madrid, were working in room pillar No. 34, off the east entry, off the main drift. The pillar had been cut through and the coal excavated back a distance of 24 feet. Four feet further on, a cross cut ran through the pillar. About 14 tons of coal had been loaded off the pillar when a junction of two slips close by the end of the pillar was effected, liberating the rock, swinging out the props which supported it, and fell on deceased, killing him, and causing an injury to the leg of Madrid. Had the slip been visible, the accident could have been avoided. From testimony given it was shown that four or five props had been set up under the roof during the day. The mine foreman had visited the places several hours prior to the accident and considered the timbering sufficient.

April 14—HARRY FOUNTIS, Greek, miner, age 48 years, married, seven children, employed by the Colorado Fuel & Iron Company, at the Walsen mine, Huerfano County; was injured by a fall of rock and died the following day. Deceased was working in room No. 8, off the 10th cross 6th west entry. He had loaded out the coal preparatory to setting a cross bar to support the roof. He had already set four props from the working face to protect himself while loading out the coal. A pot rock fell between the timbers and the face, knocking him down and causing such injuries that he died the next day. The defect in the roof had not been visible and as deceased had used his best judgment in trying to protect himself, and had timbered up all visible defects, the accident may be classed as "unforeseen and unavoidable." The mine foreman had visited the place twice before the accident and considered it safe, as the coal stuck to the roof and made the slip invisible.

April 26—NIK NIKOLA, Bulgarian, miner, age not stated, married, no record of children, employed by the Tioga Coal Company, at the Tioga mine, Huerfano County; was killed by a fall of rock. Deceased and Pete Nimo were working in the 1st west pillar when a rock fell between the working face and timber, striking deceased. According to Nimo's statement the rock fell from a slip in the roof immediately after he had sounded it. The rock was of such dimensions that it was difficult to detect the dangerous condition by sounding. All witnesses testified that the place was well timbered. The accident may be classed as "unavoidable."

Explosion at the Hastings mine in which 121 lives were lost:

April 27—TOM KONIGERES, Greek, miner, age 36 years, married, one child.

KERIAKAS PIETRAKAS, Greek, miner, age 26 years, married, two children.

ARCHIE SMITH, Colored, miner, age 39 years, single.

JOHN JUNOS, Greek, miner, age 20 years, single.

GUST CRISTULAKIS, Greek, miner, age 23 years, single.

JOE SMOLICK Austrian, miner, married, age 31 years, four children.

TOM CONKAS, Greek, miner, age 36 years, single.

SERAFINO ODOROZZI, Austrian, miner, age 35 years, single.

FRANK CHURICH, Austrian, miner, age 36 years, single.

JOSE VALADAZ, Mexican, miner, age 25 years, married, one child.

SAM FABIAN, Austrian, miner, age 29 years, single.

LIBOR GARDELKIE, Austrian, miner, age 38 years, married, three children.

VALENTINE PAVELIK, Polish, miner, age 31 years, single.

MIKE CHIEK, Polish, miner, age 30 years, single.

PEDRO DIAZ, Mexican, miner, age 26 years, married, no children.

ANTON POSLEP, Austrian, miner, age 38 years, married, three children.

A. B. FELIX, Austrian, miner, age 29 years, single.

ALEX DELY, Greek, miner, age 30 years, married, one child.

JOHN DIAKAS, Greek, miner, age 23 years, single.

CHAS. E. SMITH, American, miner, age 42 years, married, no children.

JAMES LEGAS, Greek, miner, age 35 years, single.

ANTON STEROS, Greek, miner, age 32 years, single.

MIKE KUNELIS, Greek, miner, age 24 years, single.

B. B. MYERS, American, miner, age 27 years, single.

STEVE BADEL, Greek, miner, age 38 years, married, two children.

FRANK ZARNADA, Austrian, miner, age 25 years, single.

JACK ZELE, Austrian, miner, age 29 years, married, one child

JACK TOMSICK, Austrian, miner, age 23 years, single.

TONY KRESOVICH, Austrian, miner, age 23 years, single.

LUDVIK YEDNIK, Austrian, miner, age 34 years, married, four children.

MARTIN KRESOVICH, Austrian, miner, age 29 years, married, two children.

WM. MEREDITH, Colored, miner, age 28 years, married, no children.

DAVE WILLIAMS, Welch, pit boss, age 34 years, married, four children.

H. J. MILLARD, Welsh, fireboss, age 26 years, married, one child.

D. H. REESE, mine inspector, American, age not given, married, two children.

JEFF JONES, Colored, trackman, age 46 years, married, no children.

PAUL VINCENZI, Mexican, trackman, age 20 years, single.

STEVE STUHLAS, Greek, driver, age 24 years, single.

JOE LEYVA, Mexican, trapper, age 16 years.

WM. SHORT, American, trackman, age 41 years, single.

BEN VALDEZ, Mexican, pumpman, age 27 years, married, three children.

FRANK MAURO, Italian, roadman, age 40 years, married, eight children.

STEVE ANTONUCCI, Italian, slopeman, age 53 years, married, one child.

FELIPO HERRERA, Mexican, trapper, age 16 years.

E. H. ATWOOD, American, timberman, age 42 years, married, one child.

JAMES HOWARD, Colored, driver, age 31 years, married, six children.

BRUNO NICCOLI, Italian, driver boss, age 34 years, married, five children.

GONZALES FLORES, Mexican, driver, age 22 years, married, no children.

PETE NENICH, Austrian, driver, age 22 years, single.

JOE HERNANDEZ, Spaniard, driver, age 27 years, married, one child.

FRANK PAPES, American, driver, age 23 years, single.

CHAS. NICCOLI, Italian, driver, age 34 years, married, five children.

JOE TRATOR, Polish, parting tender, age 29 years, single.

R. L. DAVIS, American, driver, age 33 years, single.

MATT STIMOC, Austrian, driver, age 28 years, single.

JAS. LOCKHARD, Colored, driver, age 31 years, married, two children.

ALEJANDRO VIGIL, Mexican, driver, age 35 years, married, five children.

GEORGE MARKES, Austrian, driver, age 23 years, single.

JOE TORCHIO, Italian, mason, age 58 years, married, five children.

M. BARBER, Italian, electrician helper, age 30 years, married, no children.

GEORGE CAPACO, Greek, miner, age 44 years, married, three children.

FRANK DOLAN, American, miner, age 25 years, single.

MIKE CORTESE, Italian, miner, age 31 years, married, three children.

PEDRO LOPEZ, Mexican, miner, age 30 years, single.

JOE CORRETICH, Austrian, miner, age 23 years, married, one child.

MIKE SKAULAS, Greek, miner, age 29 years, single.

JOHN TURKOVICH, Austrian, miner, age 30 years, married, two children.

JOHN SLOK, Austrian, miner, age 21 years, single.

MIKE JONAS, Greek, miner, age 23 years, single.

ISADORE DORADO, Mexican, miner, age 39 years, married, two children.

TONY GLAVICH, Austrian, miner, age 27 years, single.

FRANC GERL, Austrian, miner, age 20 years, single.

JESUS CADERIA, Mexican, miner, age 27 years, married, no children.

A. T. BROWN, American, miner, age 25 years, single.

GEO. F. BROWN, American, miner, age 35 years, single.

ANTON MARINCICH, Austrian, miner, age 37 years, single.

STEVE ROKICH, Austrian, miner, age 27 years, single.

TONY ZATKOVICH, Austrian, miner, age 42 years, married, four children.

JOHN CRESEVIK, Austrian, miner, age 32 years, single.

JOE KOSICH, Austrian, miner, age 25 years, single.

SALVATORE MARIANA, Italian, miner, age 25 years, single.

MATT VALENCICH, Austrian, miner, age 21 years, married, one child.

PIETRO BERTOLINA, Italian, miner, age 34 years, single.

FRANK KOSICH, Austrian, miner, age 36 years, single.

ARTHUR MITCHELL, Colored, miner, age 34 years, married, no children.

JESSE JOHNSON, Colored, miner, age 45 years, married, one child.

MARI SIMONELLI, Italian, miner, age 25 years, single.

TONY DE KLEVA, Austrian, miner, age 27 years, single.

E. O. PRATT, American, miner, age 45 years, married, three children.

JOHN NOWATIER, Italian, miner, age 33 years, married, six children.

THEROS VIHOS, Greek, miner, age 31 years, single.

JOHN METAXAS, Greek, miner, age 27 years, single.

GEORGE METAXAS, Greek, miner, age 37 years, married, four children.

SAM KIKOS, Greek, miner, age 37 years, married, no children.

JOHN PAPPAS, Greek, miner, age 40 years, married, five children.

JAMES METAXAS, Greek, miner, age 47 years, single.

JIM COSTAS, Greek, miner, age 30 years, single.

ATHAN PAPPAS, Greek, miner, age 27 years, single.

JOHN KLOBAS, Austrian, miner, age 30 years, married, two children.

MIKE OBRADOVICH, Servian, miner, age 45 years, married, three children.

THEROS PAPPAS, Greek, miner, age 43 years, married, six children.

FRANK VURNICK, Austrian, miner, age 48 years, single.

VINCENZO CIRCO, Italian, miner, age 39 years, married, five children.

HARIS BASAKAS, Greek, miner, age 36 years, married, one child.

ANTONIO SPANODDA, Italian, miner, age 32, single.

SPIROS PAPPAULIS, Greek, miner, age 26 years, single.

ANTON EVANCICH, Austrian, miner, age 40 years, married, one child.

DIMITRIUS PAPPAULIS, Greek, miner, age 33 years, married, four children.

GEORGE MERIDAKIS, Greek, miner, age 52 years, married, one child.

GEORGE PAPPAS, Greek, miner, age 35 years, married, no children.

GEORGE SKRAKES, Greek, miner, age 30 years, married, no children.

SAVERIANO DIAZ, Mexican, miner, age 35 years, married, one child.

MIGUEL MAYORGA, Mexican, miner, age 29 years, married, no children.

FREINTAFOLAS FLEITIS, Greek, miner, age 26 years, married, one child.

TOM MANVILLE, American, miner, age 33 years, single.

JOHN KOPELAS, Greek, miner, age 31 years, married, three children.

JOHN KATRES, Greek, miner, age 30 years, single.

JIM ANUSIS, Greek, miner, age 40 years, single.

JOE BANNER, American, miner, age 45 years, single.

ANDY TAKOVIC, Austrian, miner, age 29 years, married, three children.

TOM VLAHOS, Greek, miner, age 37 years, married, two children.

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REPORT ON HASTINGS EXPLOSION

The Hastings mine is situated in Las Animas County, seventeen miles north of Trinidad, on the Colorado & Southeastern R. R., connecting with the Colorado & Southern R. R. at Ludlow and the D. & R. G. R. R. at Barnes, three miles east of the mine.

The mine is operated by the Victor-American Fuel Company, main office in Denver, who also owns the Colorado & Southeastern railroad.

Victor electric head lamps were used exclusively except the superintendent, mine foreman, fireboss, company inspector, shotfirer, and some of the entrymen working in entries generating explosive gas, used safety lamps in conjunction with the electric lamps. The safety lamps being used for testing purposes.

The seam under operation at the time of the disaster, is known as the Berwind or "B" seam at Hastings; it is the lower seam lying above the Trinidad sandstone, and varies in thickness from $5\frac{1}{2}$ to 7 feet.

The coal is of the coking bituminous variety. The mine is opened on the "A" seam by a slope driven on the dip of the seam. At a point about 2,000 feet from the portal of the mine, a rock tunnel or slope connects the two seams, the vertical distance between them being about 40 feet.

The face of the main slope or "B" seam is approximately 8,000 feet from the surface, with an average dip of 5%. Seven pairs of north and south entries have been opened from the main slope and ranging from 300 to 1,800 feet in length. At this time only the fourth, sixth and seventh north entries, the sixth and seventh south entries and the main slopes were being worked, the others being worked out or stopped.

The mine was ventilated by a Sirocco fan 8 feet by 8 feet. The volume of air varied from 91,000 to 96,000 cubic feet per minute under a water gauge of 2.9 inches. The volume of air entering the "B" seam amounted to 50,000 cubic feet per minute, split at the third and fourth cross entries off the fourth north which were connected with the third north entry; this volume again meeting the main volume below the fourth north. Another split ventilated the fifth south entries. The balance of the workings were on a continuous current.

Haulage was done by rope and mules. Pumping was done by electric pumps stationed on the intake air.

In the main slopes the coal was cut by an electric mining machine, which was out of repair at this time.

About 9 a. m., April 27th, a trip of empty cars was descending the slope. The trip stopped and the trip-rider started down to investigate the cause of the trouble; seeing smoke come up the slope, he started for the outside, where he notified the superintendent that a fire or explosion had occurred in the mine.

I arrived at the scene of disaster at 2:30 p. m. and entered the mine at 2:50 p. m.

The fan was not injured as the force of the explosion did not reach the surface, having spent itself on the intake at the third north entry, and on the return at about the second north; at this point there is a very wet zone. From this point outward the stoppings were not destroyed, thus allowing the superintendent, night fireboss, and others to reach the third north entry very soon after the occurrence of the explosion. Here I found them repairing the stoppings below the fourth north entries and requested them to accompany me back to the third and fourth cross entries, off the fourth north, which were connected with the third north; those cross entries were on the first of the air, and as the explosion had spent itself in this vicinity, I concluded that if there were any live men in the mine, they could be found in these entries.

Our hopes were short lived, as upon entering the cross entries we found dead bodies burned, thus destroying the hope of finding anyone alive. On account of the destruction of stoppings and falls of rock materially affecting the air current, and all the workings below the fourth north being full of gas, the work of recovering the

bodies progressed very slowly. In order to get into the different entries with the volume of air at hand, each pair of entries were bratticed off as soon as the bodies in sight had been removed.

On the 8th day of May the face of the main slope was reached by Mr. Harrington and Mr. Herbert of the U. S. Bureau of Mines; Mr. Watson, Inspector for the Mutual Insurance Company; Mr. Whiteside, Mr. Ganey, Mr. D. J. Griffiths, and Mr. Cameron of the Victor-American Fuel Company, Mr. Dalrymple and myself. The electric cutting machine was found disconnected; the thumb screws that hold the feed wires in place were not there.

The shift that went on at 1 a. m. on the morning of the 10th found the body of David Reese on the main seventh south entry, opposite the second last cross cut, one hundred and twenty-five feet from the face of the entries.

The key-locked Wolf Safety lamp carried by him was found beside his body with the oil vessel disconnected from the other parts of the lamp. The expansion ring was found by Mr. Dalrymple on the following shift in the presence of Joseph Watson and myself.

The entrymen working in the seventh south back entry had a Wolf Safety lamp in their working place, one hundred and twenty-five feet inside of where the body of David Reese was found; so if the cause and the initial point as stated hereinafter is correct, those men either unknowingly or intentionally continued to work in an explosive atmosphere, as most of the gas given off in this part of the mine was at the face of the entries, and if the atmosphere was explosive or inflammable at the point where the body of Reese was found, it must have been explosive at the face of the entries, making it impossible for a Wolf Safety lamp to continue to burn. Therefore, it is evident that they either did not know, or did not care, what extinguished the flame of the safety lamp.

The Hastings "B" seam has always been considered a gaseous mine; daily analyses of the return air being made by the company gave the following results: Methane from four-tenths to sixty-six one hundredths of one per cent. In January, 1916, the Chief Inspector took a sample of the return air in the sixth south entry, which was at that time the outby workings. The analysis of this sample by Dr. Ekeley, State Chemist, gave eight-tenths of one per cent. methane.

This analysis was made with the hearty approval of the company as a check on their own work. Explosive gas was found occasionally at the face of some of the entries through a brattice being knocked down, or a door being left open, or some other derangement of the ventilation. It was also considered a wet mine. The grade is undulating, resembling waves, standing water accumulated in all the lower depressions. On top of the higher raises a state of dampness existed. Under such conditions the percentage of gas given off was not considered dangerous.

INITIAL POINT AND CAUSE OF EXPLOSION AND
EVIDENCE SUPPORTING SAME

In exploring the mine down to the seventh south, everything supported an upward tendency of the force; props, stoppings, doors, pit cars, etc., were all blown upward. Below the seventh, everything was blown towards the face of the slopes, which supports the belief that the point of origin was in the seventh south entry.

Upon reaching the point in this entry, where the body of David Reese was discovered, we found that the force traveled both inwardly and outwardly; that the deposits of coke were found on the inside of the rib projections to the south; and on the outside to the north. The fact that no part of the safety lamp was injured, or carried away from the body of its owner, proves that little or no violence existed here.

It is entirely within the bounds of reason to believe that the explosion was caused by a naked light coming in contact with a body of inflammable or explosive gas at this point. The wet condition of the mine did not prevent the dust from taking an active part in the explosion.

One hundred and twenty-one lives were lost. One hundred and one bodies were recovered. The remaining bodies will not be recovered until the ventilation is restored and the falls cleaned up.

It is to be deeply regretted that Walter Kerr lost his life in the noble work of helping to recover the bodies of his fellow men. His death was caused from heart failure, due to over-exertion.

Respectfully submitted,

(Signed)

HENRY P. KING,

Deputy State Inspector of Coal Mines, District No. 1.

May 6—WALTER KERR, American, miner, age 27 years, married, three children, member of the Berwind Colorado Fuel & Iron Company's Helmet Crew; took part in the rescue work at the Hastings explosion. While carrying a body out of the mine, he suddenly left his crew and was later found dead in a cross cut at the face of the seventh north entry. It was found that he had a defective heart, and over-exertion caused heart failure.

May 8—JOE POSPAHALA, Pole, miner, age 20 years, single, employed by the Colorado Fuel & Iron Company, at the Sopris mine, Las Animas County; was killed by a fall of rock. Deceased and his partner, Gaetano Martini, were working in room No. 3, off the second east air course, No. 2 mine. Deceased was in the act of loading a car when a piece of rock fell from the roof, striking him, from the effects of which he died a few hours later. This is a case where cross bars were not set sufficiently close enough to support the roof. The mine foreman may be considered partly responsible in not seeing that cross bars were properly set up.

May 19—WILLIAM C. BELL, American, miner, age 57 years, married, four children, employed by the International Fuel Company, at the Wolf Creek mine, Routt County; was killed by a slide of coal and rock. Deceased was working in room No. 2, off the back entry. He was using a bar to dislodge the top coal, which came down so quickly that he could not get away from under it. He was completely covered by sliding coal and rock that it took two hours before the body was recovered. The mine foreman had told Bell not to use the bar to dislodge the top coal, but to drill a hole on the rib close to where he had broken through. The man was inexperienced and not familiar with that kind of work. The accident under the circumstances was unavoidable.

May 14—M. IWATTA, Japanese, laborer, age not known, single, and K. KAWACHI, Japanese, laborer, age 32 years, married, no knowledge of children, employed by the Colorado & Utah Coal Company, at the Harris mine, Routt County; were killed by a runaway trip of cars. Deceased with one other co-worker were on the "F" slope when a rope broke, allowing two loaded and two empty cars to run away. Iwatta and Kawachi were caught and injured so seriously that the former died instantly and the other 36 hours later at the hospital. So far as evidence showed, the rope seemed in good condition; it was $\frac{5}{8}$ inch in diameter and never pulled more than the above described load. From information gathered, the accident may be classed as "unavoidable."

May 25—MIKE MANTILOVICH, Servian, timberman, age 33 years, married, no children, employed by the Pike's Peak Consolidated Fuel Company, at the Pikeview mine, El Paso County; was killed by being crushed between car and rib. Deceased occasionally acted as driver. On the day of the accident he was pulling two loaded cars from the slant on to the main entry, when in some manner he was caught between the first car and the rib of the straight entry and rolled between the car and rib, receiving such injuries that he died 36 hours later at a hospital. The accident was unavoidable, owing to the fact that deceased was not familiar with that kind of work.

May 28—JOHN PLUT, American, miner, age 18 years, single, employed by the Utah Fuel Company, at the Somerset mine, Gunnison County; was injured by a fall of rock May 17th, and died May 28th. Deceased was sitting with his back against a prop 18 feet from the face of room No. 10, waiting for cars, when, without any warning, a rock fell on him, bruising his head and back and causing spinal meningitis, which resulted in his death. The accident comes under the class of "unavoidable."

June 5—LOUIS GIACOMELLI, Italian, driver, age 21 years, single, employed by the Calumet Fuel Company, at the Perins

Peak mine, La Plata County; was killed by falling off the front end of a loaded trip of three cars which he was dropping down the entry to the parting. The front car ran over him, causing injuries from which he died a few hours later. The cars are equipped with brakes, and on the entries the driver has to stand on the bumpers to manipulate the brake. I was informed that there was considerable coal scattered on the road where the accident occurred. From evidence obtained, the accident may be classed as "unavoidable."

June 7—JOHN NORVASAD, Pole, miner, age 36 years, married, three children, employed by the Colorado Fuel & Iron Company, at the Cameron mine, Huerfano County; was killed by a fall of rock. Deceased was taking down coal from the face of new shaft slope when a pot rock 9 feet long, 5 feet wide and 3 feet thick fell on him, crushing him to death. A minute prior to the accident, the partner of deceased tested the roof and it sounded solid. From indications, the slips were invisible until the fall occurred. It was also apparent that deceased had done all in his power to protect himself and had carried out the orders of the mine foreman as well as he could. Therefore, no blame can be charged to anyone.

June 18—HENRY VALDEZ, Mexican, miner, age 49 years, widower, one child, employed by the Colorado Fuel & Iron Company, at the Cameron mine, Huerfano County; was injured on June 14th by a fall of rock. Deceased was in the act of taking down some loose coal off a room pillar when a rock weighing about 15 pounds fell, striking his left knee, causing a flesh wound from which he died four days later. From evidence obtained, the accident was due to his own carelessness in not using proper precaution in taking down loose coal with drawslate overhanging and in refusing the "first aid" service offered him by his co-workers. The wound became infected from lack of care.

June 15—W. V. PRICE, Welsh, miner, age 55 years, married, ten children, employed by the Oakdale Coal Company, at the Oakview mine, Huerfano County; was killed by a fall of coal and rock in a pillar room. At this point there is a layer of drawslate between the coal and the main sand roof. Deceased had told his son prior to the accident that he intended to load one car and then take down the top coal, but, instead of doing so, he continued to work under the top coal, with the result that it came down with some drawslate and killed him. This accident was due to a mistake of judgment in believing the roof safe when it was not.

June 15—JOHN SIRGER, Pole, miner, age 52 years, single, employed by the Union Coal & Coke Company, at the Pryor mine, Huerfano County; was instantly killed by a fall of rock. Deceased and his partner were taking a skip along a pillar and changing the track when a pot fell out of the roof. There were

three timbers under the outby side of the rock, but the slip was invisible, as the coal was supporting it. However, in taking off the coal from the rib, the pot was released and fell on deceased, killing him. The mine foreman had been in the place five minutes prior to the accident and did not see any defect. No one can be blamed for the accident.

June 18—SHERMAN STANTON, American, timberman, age 51 years, married, eight children, and JOSE WRIGHT, Mexican, timberman, age 46 years, single, employed by the Jeffryes Fuel Company, at the Jeffryes mine, Las Animas County; were both killed by a fall of rock. These men had only eight months' experience in coal mining, and were ordered by the mine foreman to timber a room neck. It seems they did not examine the roof before starting work to set props. When they were cutting the rib to set a prop, a rock gave way, covering both men, killing Wright instantly, and Stanton died 12 hours later. Practical timbermen might have avoided the accident. In my opinion, the company is responsible for the deaths in employing inexperienced men to do this kind of work.

June 18—IGNAZIO MESSINA, Italian, timberman, age 25 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Frederick mine, Las Animas County; was killed by a fall of rock. The mine foreman ordered deceased and his partner to take down a dangerous rock in a room. They started to do so and while in this act with spike bar or pick, the rock gave way, covering deceased and killed him instantly. The accident might have been avoided had deceased started to work outside of the rock instead of the center and worked towards the face of the room.

June 22—JOHN SAVIKS, Slav, miner, age 38 years, married, three children, employed by the Pike's Peak Consolidated Fuel Company, at the Pikeview mine, El Paso County; was killed by a fall of top coal. Deceased and his partner were taking a skip off an entry. Two feet of the coal bed, which is 8 feet thick, is left up for a roof. The last shot fired by deceased had penetrated the roof and loosened the top coal between center of entry and location of shot. He had been advised to come back because the place was working. However, a coal roof is considered good and safe, and generally gives warning before giving way, unless there are smooth and open slips present. It is my opinion, that deceased was relying on the warning, not knowing that the above-mentioned shot had penetrated the top coal, thereby liberating it along the edge of pillar and allowing it to fall on him. The accident may be classed as "unavoidable."

June 28—LOUIS LAPPAS, Greek, miner, age 24 years, married, no children, employed by the Moffat Coal Company, at the No. 2 mine, Routt County; was killed by a fall of rock in a room. Deceased had loaded a car and started it down the room when

in some manner a prop, set up to support a rock, was displaced and liberated the rock, which fell on him, resulting in his death. The prop displaced was in a decayed condition and set too close to the track. Deceased's partner stated that the coal was not built outside of the car and therefore was not the cause of the displacement. The mine foreman should have seen that the prop was in good condition and was properly set.

June 25—NICHOLAS HUER, Russian, miner, age 25 years, single, employed by the Rocky Mountain Fuel Company, at the Industrial mine, Boulder County; was killed by a fall of rock on an entry. Deceased and his partner had fired a shot which had released the support from a cross bar at the point of shooting. On this entry the system of timbering was hitch on room side and leg on the other, and while the cross bar was out of the hitch it was still supported by leg on the other end. The men were loading coal under the bar in this condition when the rock fell from a slip in the roof. Had the roof been secured by additional props before continuing work, the accident might have been avoided. Partner of deceased stated that there were no timbers, but the mine foreman at the inquest said that a supply was on hand. On account of conflicting statements, responsibility for the accident could not be determined.

June 29—MIKE THEORAKIS (on pay-roll as Theros), Greek, miner, age 34 years, married, no children, employed by the Grand Junction Mining & Fuel Company, at the Cameo mine, Mesa County; was killed instantly by being run over by a loaded car on the main haulage road. The mine foreman had taken deceased out of his working place the day of the accident and put him to driving. While taking a loaded car to the parting of an entry, he lost his balance and fell over in front of the car, which ran over him, crushing him to death. The bumper on the car was only $5\frac{1}{2}$ inches at its widest point. The drivers ride with one foot on the bumper and the other on the tail chain. It seems that the tail chain became unhooked from the car, allowing deceased to fall, as the bumper was too narrow for him to stand on without other support, and the coal being built out too far over the front of the car, it was impossible for him to hold on there. Responsibility for the accident may be charged to company for not having sufficient bumper room on car, and to co-worker in not properly loading car.

July 7—THOMAS W. LEWIS, American, miner, age 24 years, married, no children, employed by the C. F. & I. Co., at the Coal Creek mine, Fremont County; was injured by a fall of rock on July 2nd and died on the 7th inst. Deceased was working in room when a fall of rock occurred. The mine foreman had passed through the working place less than five minutes before the accident. All witnesses testified that the place

was in reasonably safe condition prior to the accident, and the conclusion is that the accident was unavoidable and no one to blame.

July 10—WILLIAM KATHADORES, Greek, miner, age 35 years, married, no children, employed by the Big Four Coal & Coke Company, at the Centennial mine; was killed by a fall of coal. Deceased and his partner, George Sparos, were working in a room which had advanced to its destination, driving through a pillar. They had shot the coal, but it did not fall. Just before the accident Sparos followed the driver out to get an empty car. He heard the coal fall, and upon his return to the face he found his partner under the coal. It appears that Kathadores was attempting to work down a standing shot and was shearing the coal near the right-hand rib when it fell on him and caused instant death. From the evidence given and from observation of the conditions where the accident occurred, no responsibility can be placed.

July 13—M. YOSHAKAWA, Japanese, miner, age 42 years, married and divorced, three children, employed by the Northern Colorado Fuel Company, at the Coalmont mine, Jackson County; was killed by a fall of top coal. Deceased was working between rooms Nos. 14 and 15. At the point where the accident occurred the entry is 20 feet wide, ten feet high, and the coal about 45 feet thick. A skip of coal was taken off both sides of the pillar and five feet more of the top coal was shot down. A shot had been fired on the top coal on each side close to the pillars. These shots took down the coal in the center of the entry, but the cleats of the coal ran at right angles to the entry, and, being out on both sides by the shots, loosened the coal and it fell on deceased, causing such injuries that he died shortly afterwards. The responsibility of the accident rests on the miners for not taking down the coal when it was loose, and the mine foreman may be blamed for not properly examining the place when he visited it the morning before the accident occurred.

July 13—ETAR SASSATELLI, Italian, miner, age 35 years, single, employed by the Loma Fuel Company, at the Loma mine, Huerfano County; was killed by a fall of rock. Deceased was working in the pillars off the skip entry and had set a row of props to break the roof in by and they had removed the track and used up all the surplus props to secure the place they were working, when the pillar caved suddenly, rode over the props and released a slip about 20 feet on the entry, the tail end of which caught Sassatelli and crushed him to death. The place was apparently well timbered as to props, but was not cross-barred. The mine foreman had not deemed it necessary to cross timber the entry, and the conditions found there on the last inspection of this department did not warrant any further timbering; therefore, no blame can be fixed for the accident.

July 15—FRANK MARK CORDOVA, Mexican, driver, age 33 years, married, four children, employed by the C. F. & I. Co., at the Frederick mine, Las Animas County; was injured by a fall of rock on the 14th and died the following day. The accident occurred in a room. The deceased and a boss driver went together to a room to load a car, and returning with loaded car, about 80 feet from the face and rounding a curve, the car left the track, knocking out a set of timbers, letting a rock fall from rib where a slip had started from end of timber to the rib, a distance of about 18 inches. Upon examination of the track, found same to be gauged and re-tied ten days previous to the accident. The rails seemed practically new and not surface bent. Whether the car had a bent axle could not be ascertained. This accident may be classed "unavoidable."

July 16—FRANCISCO RIGGIO, JR., Italian, trapper, age 17 years, single, employed by the Temple Fuel Company, at Brodhead mine, Las Animas County; was crushed to death under a mine car. The location where the deceased held a position as trapper and flag boy was at the junction of first west and eighth north entries. On the day of the accident a loaded trip was coming from the eighth north entry and when about 200 feet from deceased, in some way the two rear cars became uncoupled, probably were detached by a jolt of the motor, as no couplings or pins were broken. Deceased was not aware of the two rear cars being loose, so went to change the switch for the first west entry and was caught and crushed under the runaway cars. The average grade for the 200 feet from the point where the cars were detached from the main trip to deceased was $2\frac{1}{2}$ per cent. The company was using two kinds of couplings and had equipped some with new ones. It is possible that if all the couplings had been changed the accident might have been avoided. Therefore, the company may be charged with responsibility for this accident.

July 23—CELESTE NUMARI, Italian, timberman, age 48 years, married, five children, employed by the C. F. & I. Co., at the Sopris mine, Las Animas County; was killed by a fall of rock. This is a case where deceased had not obeyed the instructions of the foreman, who had advised deceased and his partner to timber room neck by taking out one prop at a time and then put up a bar. Instead, deceased knocked out the inside and the outside props, thus leaving the entire weight of rock on the center prop, and then proceeded to knock out this prop by the aid of a sledge. His partner protested against this procedure and begged him to come away from under the rock as it was working. The deceased struck the center prop two blows when the rock came down, killing deceased instantly.

July 26—AURELIO ELIGIO, Mexican, miner, age 28 years, single, employed by the C. F. & I. Co., at the Walsen mine; was killed by a fall of rock. The deceased was working in a room

mining a pillar. A cave occurred from No. 3 to No. 6 room without any warning, caught deceased in his working place and killed him instantly. The men in the other rooms narrowly escaped injury and stated that no warning was given before the cave occurred. From information gathered, the working places seem to have been well timbered and the deceased had set several props during the day, and while he had ordered a new supply which had not yet been received, he still had a couple of extra props in his working place. No blame can be fixed for the accident. Neither the mine officials nor deceased were negligent. Everything necessary had been done to make the working place safe as far as could be seen at that time.

July 30—HENRY PETERUFF, American, loader, age 19 years, single, employed by the Crested Butte Coal Company, at the Bulkley mine, Gunnison County; was killed by being run over by railroad cars. Deceased was employed at the coal tippie loading cars. In an attempt to get on cars to assist placing them on side-tracks, he slipped and fell and three railroad cars passed over his body, killing him instantly. From evidence obtained, the accident was "unavoidable."

August 16—ALBERTO IVERTINI, Italian, miner, age 27 years, single, employed by the Victor-American Fuel Company, at the Delagua mine, Las Animas County; was killed by a fall of rock. Deceased was working in a room with his partner and had mined in about one foot on a skip off a pillar. Ivertini was taking off a slip with a pick when a pot released by the coal, which had been removed from the face, came down, striking deceased and killing him instantly. The slip was invisible, and as the place was well timbered the accident may be classed as "unforeseen and unavoidable."

August 25—THOMAS L. EVERLY, American, miner, age 59 years, married, five children, employed by the Colorado Fuel & Iron Company, at the Rockvale mine, Fremont County; was killed by a fall of rock. The accident occurred in a room off the C-dip. The coal was nearly worked out at this point, except a small pillar. In taking out this pillar the roof over the coal was badly crushed. Deceased was mining coal off the pillar when the roof came down, killing him instantly. The place was fairly well timbered, except for a distance of 10 feet along the line of the coal face where the props were back 6 feet, and at this point the accident occurred. The fire boss should have seen that all parts of the place were timbered according to timbering agreement, and deceased should have set up more props in that part of his working place.

September 10—DEMETRO MRDJA, Austrian, miner, age 48 years, married, three children, employed by the National Fuel Company, at the Monarch No. 2 mine, Boulder County; was

killed by a fall of rock. Deceased and his partner, Steve Harvat, were working in a room loading coal after machines. Mrdja had pulled down a loose rock, but was not able to get it all down; he attempted to set a prop under the rock, but the prop was too short, and he then removed some loose coal from under it, when it fell on deceased, causing such injuries that he died the following night. Both deceased and the mine foreman are to blame for the accident. The deceased in shovelling loose coal from under the rock that was not secured, and the mine foreman in not having a supply of timber on hand which had been ordered by Harvat the morning of the accident.

September 12—GEO. W. DALTON, American, hoisting engineer, age 35 years, married, two children, employed by the Cedar Hill Coal & Coke Company, at the Black Diamond mine, Las Animas County; was killed by being caught in the hoisting machinery. There was no eye-witness to the accident. The engineer had told the rope rider who was at the engine room five or six minutes prior to the accident, that he would be ready in a few minutes to hoist a trip which was hanging on the rope. When the rope rider saw him the second time he was caught in the machinery. The accident may have been caused by the throttle being slightly open, and as the engineer did the firing of the boiler and was waiting for the steam to rise, so that he could hoist, he inspected the engine and was standing on the eccentric rod of the engine when the steam rose, starting the engine and throwing him into the machinery, killing him instantly. No responsibility can be placed, not knowing how the accident occurred.

September 28—DAVID SALAZAR, Mexican, miner, age 32 years, single, employed by the Rocky Mountain Fuel Company, at the Standard mine, Boulder County; was injured by a fall of top coal on the 14th of September, and died on the above date. Deceased and his partner were cutting and loading coal in a cross cut between entries. Salazar had sounded the top coal and, finding that it sounded all right, began to run the machine, and while cutting a board between a cross bar and the face, the top coal fell, injuring deceased. From the evidence given it seems there were indications of a roll appearing in the roof at the face and cross cut. Accident was unavoidable.

September 24—ABEL BAVIER, Belgian, miner, age 21 years, single, employed by the Utah Fuel Company, at the Somerset mine, Gunnison County; was killed by a fall of coal from the face of a room. Deceased was helping his partner loading a car. He was breaking a chunk of coal with his pick and knocked against the face, dislodging a piece of coal, which fell on deceased, injuring him so seriously that he died several hours afterwards. Accident was unavoidable.

October 4—ROCCO ROUTE, Italian, miner, age 23 years, married, one child, employed by the Rocky Mountain Fuel Company, at the Gorham mine, Boulder County; was injured on the 2nd by a fall of coal and died on the above date. The day of the accident was deceased's first shift in a coal mine. He was standing about 10 feet from a room face when some coal fell from it and displaced a prop, which struck him on the abdomen, resulting in his death two days later. Accident was unavoidable.

October 6—SAMUEL DEILLE, Italian, miner, age 32 years, married, three children, employed by the Colorado Fuel & Iron Company, at the Primero mine, Las Animas County; was injured by a fall of rock and died the following morning. Deceased was working on a pillar stump in a room. The stump was holed through to abandoned works, when he left his place to get the driver to haul a car away as the place was working. He returned to the place and fixed a joint on the track about 12 feet from the face when a prop gave way and released a rock. Whether deceased undermined the rock by displacing the prop when fixing the track is not known. The accident seems to have been unavoidable.

October 18—ABEL LEYBA, Mexican, driver, age 33 years, married, three children, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County; was killed by being crushed under a mine car. Deceased was driving from face of room to the mouth when he slipped and fell in front of the car and was run over. Examination showed track to be in good condition, with no grade. There was no evidence to show cause of the accident, and may be termed unavoidable.

October 22—ANDREW WOODBURN, American, switch tender, age 17 years, employed by the Gordon Coal Company, at the Gordon mine, Huerfano County; was killed by falling under a loaded trip of cars. Deceased's duties constituted switching in loaded and empty trips from the slope track on to the tippie. He left his place of duty, going down the slope and meeting the loaded trip coming out of the mine; he attempted to board the front end when his foot slipped off the bumper, throwing him beneath the trip, injuring him to the extent that he died twenty minutes later. The deceased was responsible for the accident in leaving his place of work and trying to ride the loaded trip, this not being one of his duties.

November 1—WILLIAM NEWMAN, Spaniard, trip brakesman, age 23 years, married, no children, employed by the Colorado Fuel & Iron Company, at the Morley mine, Las Animas County; had his left leg crushed under a mine car, from the shock of which he died five hours later. Deceased boarded a trip of cars coming out of the slope mouth. Preparatory to applying brakes upon reaching the tippie, he was struck by the second

car and knocked down, his left leg being run over and crushed to a pulp. Evidence showed that the ground where the deceased had to board the trip was not level and sloped back from the rail; also, pipe-line was above the rail. This obstruction, together with the fact that the indicator on the hoisting engine had been broken the day before and was not connected to the engine the day of the accident, are held to be the cause of the accident.

November 1—**UMBERTO UGOLINI**, Italian, driver, age 27 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Cameron mine, Huerfano County; was crushed to death by cars derailling on the main slope. Deceased, with several other drivers, under the direction of the boss-driver, were cleaning the main slope, the mine being idle. At the noon hour the boss-driver instructed the men to go to the first right entry and get their lunch and wait for him there when he would pick them up. They disregarded his instructions and returned to their work at a point 600 feet inside of the main slope; here the slope is narrow and the trips run at a high rate of speed on account of the 1% grade. The men seeing the trip approaching and trying to find shelter, either left some tools on the track or kicked a tool on it, derailling the trip, which caught Ugolini, killing him. The accident would have been avoided had the men obeyed orders.

November 13—**RAYMOND JONES**, American, driver, age 17 years, single, employed by the Colorado Fuel & Iron Company, at the Walsen mine, Huerfano County; was killed by being run over by empty mine car in a mine room. The deceased had gone to room No. 12 to place an empty car and was there informed by the miner that there was a loaded car inside and the deceased said that he would give the empty car to room No. 13. He evidently backed the car to the switch with the mule attached to the car and the mule started forward and threw deceased under the car, breaking his neck, causing instant death. The accident is classed as unavoidable.

November 16—**JOSE TENORIO**, Mexican, miner, age 24 years, married, one child, employed by the Colorado Fuel & Iron Company, at the Berwind mine, Las Animas County; was killed by a fall of rock. Deceased and his partner were loading a car close to the face of room when a large rock fell from a pothole in the roof. Examination of the roof showed it to be smooth and the slip invisible. The rock was of such large dimensions that it was almost impossible to tell by sounding if it was loose. The roof had been sounded before they started to work, and owing to it being low it was impossible to set cross bars. Investigation led to the conclusion that the accident was unavoidable.

November 28—GOTTARDO FRENZENA, Italian, miner, age 33 years, married, two children, and GIOVANNI FERRARI, Austrian, miner, age 22 years, single, employed by the Colorado Fuel & Iron Company, at the Rouse mine, Huerfano County; were killed by a fall of rock. The deceaseds were working at a pillar with six other miners. They were skipping the pillar and had just broken through it into a cross cut which was caved. There was some overhanging rock in the cross cut which the men secured with props as well as they knew how. While in the act of taking off more coal from the face of the skip, the overhanging rock swung down and threw the timbers out, caught the deceaseds, causing instant death. From indications, the place was well timbered; the mine foreman had examined the place a short time prior to the accident and could not detect any defect. The miners stated that the place was in good condition; therefore, the accident may be classed as unavoidable.

December 6—JOSEPH LENZINI, Italian, machine runner, age 31 years, married, one child, employed by the Geo. McNally Coal Company, at the Maitland mine, Huerfano County; was killed by a mining machine running over him. Deceased was moving his machine to a room to undermine same. He was going up a raise of about 5% and his machine was probably running faster than he realized. When within ten feet of the switch, he jumped from the machine, but was tripped by something and instead fell underneath the same and was crushed to death. The deceased was acting according to his duties when the accident occurred and conditions surrounding him were normal; therefore, responsibility for his death cannot be fixed.

December 8—PETER MILANO, Italian, timberman, age 40 years, widower, no children, employed by the Colorado Fuel & Iron Company, at the Fremont mine, Fremont County; was injured on the 4th by falling timber and died on the 8th. Deceased was putting up a brace across the roadway to prevent rock from falling off one side of the roadway. After the brace was set in place he began to remove some rock that had fallen on the roadway. While in a bent position doing this work, the brace slipped from its position and fell on the back part of his head, causing such injuries that he died four days later. He was a practical workman and, while his judgment may have failed him, he cannot be charged with the responsibility of his death.

December 15—HUGH FAUGHNAN, Irish, machine-helper, age 25 years, married, one child, employed by the Pike's Peak Consolidated Fuel Company, at the Pikeview mine, El Paso County; was injured on the 13th by a fall of coal and died two days later. The machine runner and deceased, who was his helper, were cutting in a room. The latter was in a stooping position,

removing slack from the machine, when a mass of coal fell from the face, striking Faughnan on head and chest, causing his death, as above stated. Machine runner testified that he had not noticed any slips or powder breaks at face of room and that he had worked in this mine for four years and had never in that time seen coal fall from the face in the way it did in this instance. The accident is classed as unavoidable.

December 21—NICK RAMPONE, Italian, motorman, age 27 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County; was killed by an electric shock. Deceased left drift mouth at 7:00 p. m. with motor and five cars attached to clean up track on entry J-6. He had loaded three cars when, in some way, he came in contact with a live wire, electrocuting him. There was no eye-witness to the accident. He was found dead at 1:30 a. m., his body lying in front of the motor and his right hand with a firm grip on the motor brake. The accident is classed as unavoidable.

December 22—WILLIAM BRUNTEN, American, machine-helper, age 22 years, single, employed by the Wolf Park Leasing Company, at the Wolf Park mine, Fremont County; was killed by an electric shock. Deceased was employed as helper on an electric cutting machine. In the entry where the accident occurred the humidity varies from a damp atmosphere to ponded water in the middle of the track. The feed wires operating the machine at this mine are wound on a spool attached to the machine, one end being attached to the main feed wires. In order to keep the wires out of the ponded water, they are placed on one side of the entry, thereby drawing them out of line with the spool and making it necessary for some one to guide the wires so that they will wind true on the spool. This the deceased was doing when he received the shock from which he died a few minutes later. The wires were insulated, but upon a close examination by day a defect was discovered, which might have been responsible for the accident, although similar accidents have occurred under same conditions where no defect in the insulation could be detected. The accident may be classed as resulting from the danger incident to the work being performed.

December 31—JOHN POLYEFKO, Hungarian, shotfirer, age 48 years, married, seven children, employed by the Colorado Fuel & Iron Company, at the Berwind mine, Las Animas County; was killed by an explosion accompanied by a blown-out shot. Deceased had started to fire shots in a cross cut room and had fired one shot when an explosion occurred, deranging the ventilation, wrecking many stoppings in the cross cuts and killing Polyefko by suffocation. Upon examination of the hole fired it was found to be drilled at such an angle that it increased the

thickness of one shot one foot for each two feet of hole drilled, making the shot about four feet in thickness at point, and one and a half at the head. Aetna-B permissible powder is used only at this mine, and all shots are tamped and fired when all other employees are out of the mine. Lamp cotton is used to light shots. Electric lights are used exclusively, except mine officials, who use safety lamps. Deceased's lamp was found in perfect condition. Deceased tamped the hole without first making an examination for gas. After he finished tamping hole he either lit the fuse or struck a match to light lamp cotton, which ignited a small body of gas. The fact that deceased was not mutilated by flying coal is evidence that he left the place before the shot exploded. Considering the humid condition of the place where the accident occurred, the conclusion is that the shot alone would not have caused any serious damage, but that he left his place quickly when he noticed that he had ignited a body of gas. He is responsible for his death by neglecting to examine for gas prior to tamping hole; also for firing a hole so improperly drilled.

NAMES OF CANDIDATES WHO HAVE PASSED THE
EXAMINATION FOR STATE INSPECTORS AND ARE
ELIGIBLE TO FILL THE FOLLOWING POSITIONS:

CHIEF INSPECTORS:

Joseph Cochrane, Albert Oliver, O. C. Cook.

DEPUTY INSPECTORS:

William James, Ira D. Zook, John McDonald.

E. W. Johnson and James Dalrymple, Jr., passed the examination in 1917. The former passed for Deputy Inspector, but did not receive certificate of competency because of not having worked in the mines of the State the length of time required by statute. The latter passed for Chief Inspector, but did not receive certificate on account of not being 30 years of age, as required by statute.

LIST OF CERTIFIED MEN WHO QUALIFIED BY EXAMINATION BEFORE THE STATE BOARD OF EXAMINERS FOR MINE OFFICIALS IN THE YEAR 1917

MINE EXAMINERS AND MINE FOREMEN HOLDING CERTIFICATES ISSUED IN THE YEAR 1917

Name	Address	Name	Address
Haas, Wm. W.	Walsenburg, Colo.	McCune, Robert	Delagua, Colo.
Mellinger, Sylvester	Trinidad, Colo.	Richards, Byron	Walsen, Colo.

FIRST-CLASS MINE FOREMEN HOLDING CERTIFICATES ISSUED DURING THE YEAR 1917

Name	Address	Name	Address
Axon, Charles H.	Denver, Colo.	Morgan, James	Lafayette, Colo.
Bertram, Thomas	Mt. Harris, Colo.	Morgan, Thomas	Erie, Colo.
Blair, L. E.	Mt. Harris, Colo.	Morgan, Wm. Thomas	Erie, Colo.
Bond, Volney D.	Denver, Colo.	Morris, J. W.	Delagua, Colo.
Brennan, J. T.	Primero, Colo.	Muir, John T.	Valdez, Colo.
Charlesworth, Jas.	Erie, Colo.	Murphy, John	Broomfield, Colo.
Clark, George	Brodhead, Colo.	McCluskey, Harry	Morley, Colo.
Cristel, V.	Sopris, Colo.	McCormick, Leo	Strong, Colo.
Cochrane, Joseph	Firestone, Colo.	McFadden, Jas.	Segundo, Colo.
Copley, Jas. Henry	Oak Creek, Colo.	McKeown, Pat	Maitland, Colo.
Cox, William	Berwind, Colo.	McNeil, Neil	Walsenburg, Colo.
Davis, David	Trinidad, Colo.	Nicol, James	Starkville, Colo.
Davis, Thomas	Pictou, Colo.	Nigro, O. F.	Crested Butte, Colo.
Davis, Evan R.	Palisade, Colo.	Norgard, John D.	Colo. Springs, Colo.
Di Pietra, Frank	Sopris, Colo.	Oldham, William	Lester, Colo.
Dixon, Joseph	Oakview, Colo.	Pascoe, Sidney	Denver, Colo.
Dowds, James	Durango, Colo.	Pitchford, Dudd C.	Erie, Colo.
Dyet, Alexander	Erie, Colo.	Pitchford, V. O.	Lafayette, Colo.
Flynn, Hugh T.	Hastings, Colo.	Reader, Roy L.	Primero, Colo.
Glanville, W. F.	Broomfield, Colo.	Reed, A. S.	Pyrolite, Colo.
Hodgson, Ed.	Louisville, Colo.	Roy, W. P.	Louisville, Colo.
Holt, Walter	Florence, Colo.	Schweiger, Jas. F.	Lafayette, Colo.
Hopkins, O. M.	Lafayette, Colo.	Segna, Candide	Sopris, Colo.
Harrison, John	Pictou, Colo.	Sidle, John	Louisville, Colo.
Jones, D. W.	Oak Creek, Colo.	Shaw, William	Sopris, Colo.
Jones, Thos. B.	Lafayette, Colo.	Smith, A. F.	Walsen, Colo.
Kennedy, Geo. H.	Canon City, Colo.	Stewart, D. M.	Lafayette, Colo.
Kerr, D. A.	Louisville, Colo.	Stone, T. J.	Walsenburg, Colo.
Kilpatrick, Edw.	Walsenburg, Colo.	Tescher, Samuel	Denver, Colo.
Kilpatrick, Robt.	Crested Butte, Colo.	Trousdale, John W.	Segundo, Colo.
LaSalle, Tony Wm.	Louisville, Colo.	Turner, Richard S.	Walsenburg, Colo.
Lee, Dan	Colorado Springs, Colo.	Urquhart, D. A.	Grey Creek, Colo.
Lenthall, Walter F.	Sopris, Colo.	Walker, Edward	Erie, Colo.
Lloyd, David T.	Palisade, Colo.	Wardle, James	Louisville, Colo.
Lowe, David	Brodhead, Colo.	Watson, N. M.	Tabasco, Colo.
Lumsden, Fred	Forbes, Colo.	Watson, Joseph, Jr.	Louisville, Colo.
Machin, Hugo	Louisville, Colo.	Webb, John	Erie, Colo.
Miller, John H.	Brodhead, Colo.	Williams, Gwilym	Trinidad, Colo.
Miller, Peter G.	Ludlow, Colo.	Williams, David L.	Lafayette, Colo.
Mills, Charles	Morley, Colo.		

SECOND-CLASS MINE FOREMEN HOLDING CERTIFICATES ISSUED DURING THE YEAR 1917

Name	Address	Name	Address
Amos, Oliver	Trinidad, Colo.	Horsman, John	Starkville, Colo.
Anderson, Otto	Morley, Colo.	Ivy, L. G.	Bear Creek, Colo.
Anderson, Wm. K.	Colo. Springs, Colo.	Jarrell, R. L.	Delagua, Colo.
Andrews, William	Louisville, Colo.	Johnson, Victor	Starkville, Colo.
Arnott, Jos. M.	Crested Butte, Colo.	Jones, Thos. J.	Ideal, Colo.
Bennett, F. C.	Berwind, Colo.	Manning, Fred F.	Denver, Colo.
Bonelli, Joseph	Frederick, Colo.	Marshall, William	Toltec, Colo.
Burris, C. W.	Lester, Colo.	Miller, August	Palisade, Colo.
Caminatti, Joe	Rugby, Colo.	McKeown, M. J.	Berwind, Colo.
Cox, George	Mt. Harris, Colo.	Poeppel, Samuel	Palisade, Colo.
Day, D. M.	Lester, Colo.	Pritchard, Charles	Cokedale, Colo.
Domenico, Camillo	Mt. Harris, Colo.	Rayburn, R. G.	Florence, Colo.
Domenico, L. B.	Frederick, Colo.	Ronaki, Albert	Mt. Harris, Colo.
Dunn, G. Ellis	Oak Creek, Colo.	Salisbury, Charles	Frederick, Colo.
Eder, John	Frederick, Colo.	Schweiger, E. J.	Lafayette, Colo.
Ellis, Elmer	Longmont, Colo.	Sellers, James B.	Hezron, Colo.
Flockhart, Adam	La Veta, Colo.	Sharpe, William	Dacona, Colo.
Gravelle, Iver	Pictou, Colo.	Smith, Henry	Louisville, Colo.
Hall, John	Segundo, Colo.	Smith, Charles H.	Cokedale, Colo.
Heilner, George	Oak Creek, Colo.	Thomas, C. F., Jr.	Grand Jct., Colo.
Hoffman, Albert O.	Colo. Spgs., Colo.	Walton, Arthur S.	Lafayette, Colo.

FIRE BOSSES HOLDING CERTIFICATES ISSUED DURING THE YEAR 1917

Name	Address	Name	Address
Chittick, William	Delagua, Colo.	Matkovich, Tony	Crested Butte, Colo.
Coster, Mike	Lafayette, Colo.	Patrick, Walter	Berwind, Colo.
Dodez, Emil	Bowie, Colo.	Raiston, James	Colo. Spgs., Colo.
Happs, John	Ravenwood, Colo.	Richardson, B. B.	Florence, Colo.
Hardin, Thomas T.	Cokedale, Colo.	Roberts, David	Pictou, Colo.
Kerr, W. B.	Crested Butte, Colo.	Stoiber, John, Sr.	Louisville, Colo.
Kos, Peter	Walsen, Colo.	Strang, Andrew	Ludlow, Colo.
Lira, Alessandro	Sopris, Colo.	Udovich, John	Primero, Colo.
Lumley, Edward	Oakview, Colo.		

FIRST-CLASS ASSISTANT MINE FOREMEN HOLDING CERTIFICATES ISSUED IN THE YEAR 1917

Name	Address	Name	Address
Binks, John	Tioga, Colo.	Dolan, Charles	Berwind, Colo.
Lee, Thomas W.	Walsenburg, Colo.	Stewart, Harry C.	Sopris, Colo.

ASSISTANT SECOND-CLASS MINE FOREMEN HOLDING CERTIFICATES ISSUED DURING THE YEAR 1917

Name	Address	Name	Address
Aitken, Wm. J.	Segundo, Colo.	Hodgson, L. L.	Louisville, Colo.
Bell, Rich'd A.	Camp Shumway, Colo.	Hunter, Raymond	Canon City, Colo.
Bielia, Sandy	Louisville, Colo.	Kausar, Martin	Walsen, Colo.
Campbell, D. O.	Berwind, Colo.	Lewis, George A.	Canon City, Colo.
Domenico, John A.	Mt. Harris, Colo.	Pasic, Joe W.	Crested Butte, Colo.
Evans, David	Berwind, Colo.	Pasic, John L.	Crested Butte, Colo.
Feister, Denes	Delagua, Colo.	Sidle, Samuel	Louisville, Colo.
Hamilton, James	Oakview, Colo.	Topping, Robt., Jr.	Ravenwood, Colo.
Harris, Thos. K.	Brodhead, Colo.	Turner, David	Maitland, Colo.
Hodgson, Frank E.	Louisville, Colo.	Westman, Axel	Pictou, Colo.

FIRST-CLASS MINE FOREMEN HOLDING CERTIFICATES FOR INDIVIDUAL MINES ONLY

Name	Address
Bay, W. W.	Durango, Colo.
	For the O. K. mine, only, La Plata County.
Bedlien, Wm. C.	La Salle, Colo.
	For the White Ash mine, only, La Plata County.
Bowie, Wallace	Bowie, Colo.
	For the King mine, only, Delta County.
Cerco, Tom, Steamboat Springs, Colo.	
	For the Twenty-Mile mine, only, Routt County.
Davis, Thomas D., Colo. Sprgs., Colo.	
	For the Franceville mine, only, El Paso County.

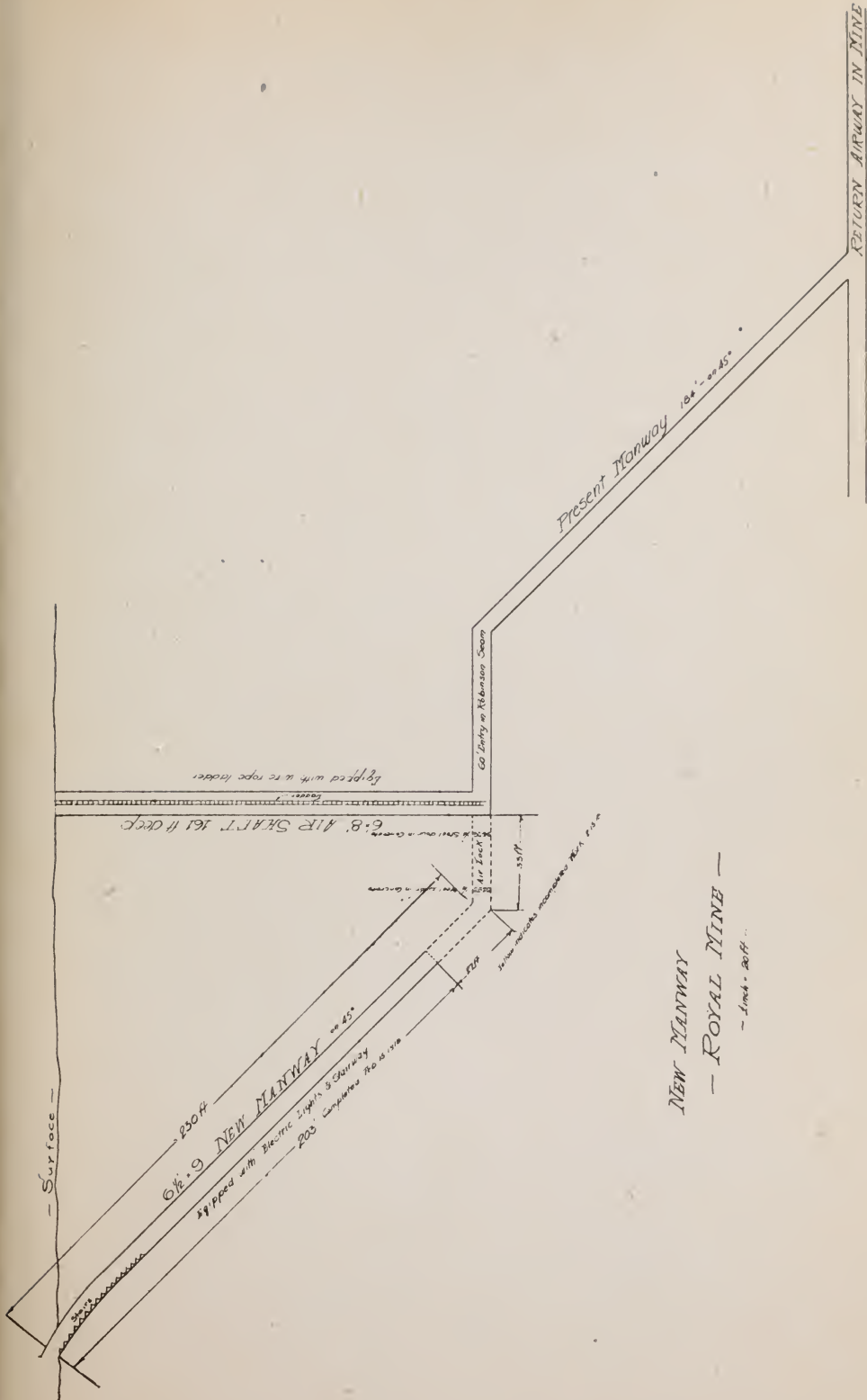
Name	Address
Dobson, George	Fruita, Colo.
	For the Anchor mines Nos. 1 and 2, and Valley Commercial mines, only, Mesa County.
Edison, Swan	Lafayette, Colo.
	For the Mile-High mine, only, Boulder County.
Lewis, J. T.	Gorham, Colo.
	For the Lewis mine, only, Boulder County.
Motto, Martin	Cedaredge, Colo.
	For the Red Mountain mine, only, Delta County.
Pierce, Thomas G.	Durango, Colo.
	For the Sunshine mine, only, La Plata County.
Tulbure, Paul	Pool, Colo.
	For the Lennox mine, only, Routt County.

LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR GASEOUS MINES ISSUED DURING THE YEAR 1917

Name and Address	Certifi- cate No.	Name and Address	Certifi- cate No.
Adair, William, Tabasco.....	766	Holden, Edward G., Hastings.....	790
Aitkin, Wm. J., Tabasco.....	772	Jekuhcik, John, Denver.....	668
Amadi, Joe, Pictou.....	706	Karnely, Matt, Somerset.....	720
Axon, Charles, Leyden.....	681	Klobis, Paul, Primero.....	768
Baker, W. C., Camp Shumway.....	771	Krolay, Mike, Somerset.....	770
Boulton, Arthur, Somerset.....	721	Larson, Otto, Berwind.....	699
Bortman, John E., Oakview, Colo. 662		Leonard, John, Aguilar.....	674
Broadmeadow, Arthur W., Mt. Harris.....	692	Lenzini, Joe, Ojo.....	664
Burt, William, Lafayette, Colo., Box 331.....	732	Livesay, R. J., Berwind.....	727
Caddell, R. W., Walsenburg, Colo. 780		Lloyd, D. T., Palisade.....	710
Caddell, Thos., Walsenburg, Colo. 700		Lumley, Edward, Oakview.....	723
Cadez, John, Pictou.....	792	Lunney, Ambrose, Trinidad.....	791
Cameron, D. B., Perins.....	724	Metcalf, William, Tioga.....	711
Carruthers, Thomas, Pictou.....	762	McIntosh, Geo., Ravenwood.....	785
Colmer, Charles, Rugby.....	712	Nardino, Jack, Sopris.....	796
Conner, Harry P., Hastings.....	758	Palmer, Josiah, Somerset.....	684
Cosgrove, Wm., Bowen.....	759	Palmer, J. W., Somerset.....	683
Coster, Mike, Lafayette.....	675	Panak, Jos., Maitland.....	660
Coughleton, Charles, Bowen.....	788	Patrick, Walter, Tabasco.....	669
Courtney, John, Strong.....	789	Pelligrina, Nick, Solar.....	728
Copley, J. H., Oak Creek.....	697	Polak, Frank, Oakview.....	793
Cowden, H. B., Rouse.....	666	Polyoffko, John, Berwind.....	775
Cox, William, Berwind.....	704	Reck, Angelo, Wootton.....	749
Craig, Joe, Boulder.....	685	Reese, Martin, Leyden.....	680
Cummings, J. H., Palisade, Box 506.....	746	Reese, Fred, Leyden.....	679
Dalby, Phillip, Ludlow.....	751	Richards, Emlyn, Berwind.....	773
Day, D. M., Lester.....	696	Richards, W. L., Oakview.....	663
Duncan, Chas., Lafayette.....	677	Roden, William, Morley.....	739
Feister, Denes, Delagua.....	682	Ross, Charles, Ojo.....	665
Figgs, B. M., Forbes.....	786	Scott, Harold, Ludlow.....	752
Fisher, Paul, Lester.....	694	Semenos, Steve, Ravenwood.....	670
Flynn, Hugh, Hastings.....	730	Shepherd, John, Toltec.....	705
Fontana, John, Mt. Harris.....	688	Shew, J. P., Trinidad.....	794
Generro, John, Forbes.....	733	Slager, Jno., Hastings.....	755
Georgieff, Louis, Tioga.....	667	Short, S. H., Sopris.....	703
Gillescoff, A., Lester.....	695	Snedden, Thos., Hastings.....	753
Glavians, Tony, Ludlow.....	731	Stewart, David, Tabasco.....	767
Graefe, Emile, Hastings.....	756	Sweeney, Joseph, Ludlow.....	764
Haddow, John, Sopris.....	748	Swofford, Lon, Hastings.....	757
Hains, J. H., Pallas.....	774	Thomas, William, Tabasco.....	745
Hayes, John Thomas, Oakview.....	722	Tsancoff, Racho, Ojo.....	678
Hamilton, Alexander, Bowen.....	787	Vance, Sam, Pallas.....	691
Hobbs, Milton, Tollersburg.....	747	Walker, J. H., Primero.....	769
Henderson, R. W., Camp Shum- way.....	708	Watson, M. M., Tabasco.....	726
		Westman, Alex., Hastings.....	754
		Wimmers, Chas., Cokedale.....	798

LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR NON-GASEOUS MINES ISSUED DURING THE YEAR 1917

Name and Address	Certifi- cate No.	Name and Address	Certifi- cate No.
Accocchera, Angela, Mt. Harris	689	Goodnite, Geo., Oak Creek	698
Anone, Pete, Ideal, Colo.	765	Green, William, Gunnison	750
Barnell, George, Pool	740	Haeck, John, Crested Butte	797
Barry, Wm., Brodhead	761	Harrigan, Neal, Walsenburg	784
Basco, Joe, Oak Creek	743	Hay, John, Mt. Harris	687
Begovich, Tom, Louisville	737	Hayes, Fred, Arvada	779
Bell, George, Lafayette	729	Manupella, Mike, Glenwood Springs	781
Boulard, K., Coalmont	702	Marcchetti, Jas., Carbondale	782
Burgess, Edgar, Arvada	735	Moschetti, Joseph, Canon City	733
Busheff, Nic. M., Firestone	777	Mazzocco, Fred, Firestone	776
Christian, A., Arvada	778	Micor, John, Maitland	661
Coates, Edward, Oak Creek	744	Mirich, Sam, Pool	741
Cooney, Wm., Mt. Harris	672	Mulvihill, John, Bear River	686
Crawshaw, Sam, Oak Creek	709	McMillin, George, Coal View	738
Daniels, Chas., Mt. Harris	707	Shaw, Jabe, Lafayette	736
Davis, Samuel, Floresta	760	Stambaugh, John C., Pallas	693
Di Donato, John, Mt. Harris	690	Tensbloom, Cal, Mt. Harris	671
Dill, John, Durango	725	Watts, M., Walsen	673
Dusia, Joe, Pike View	701	Westbrook, Harry, Lafayette	795
Eccher, Alex., Carbondale	783	Worman, John, Oak Creek	742
Galluccio, Angelo, Lafayette	676		



NEW MANWAY
 - ROYAL MINE -
 - 1 inch - 20 ft -

Mr. James Dalrymple.

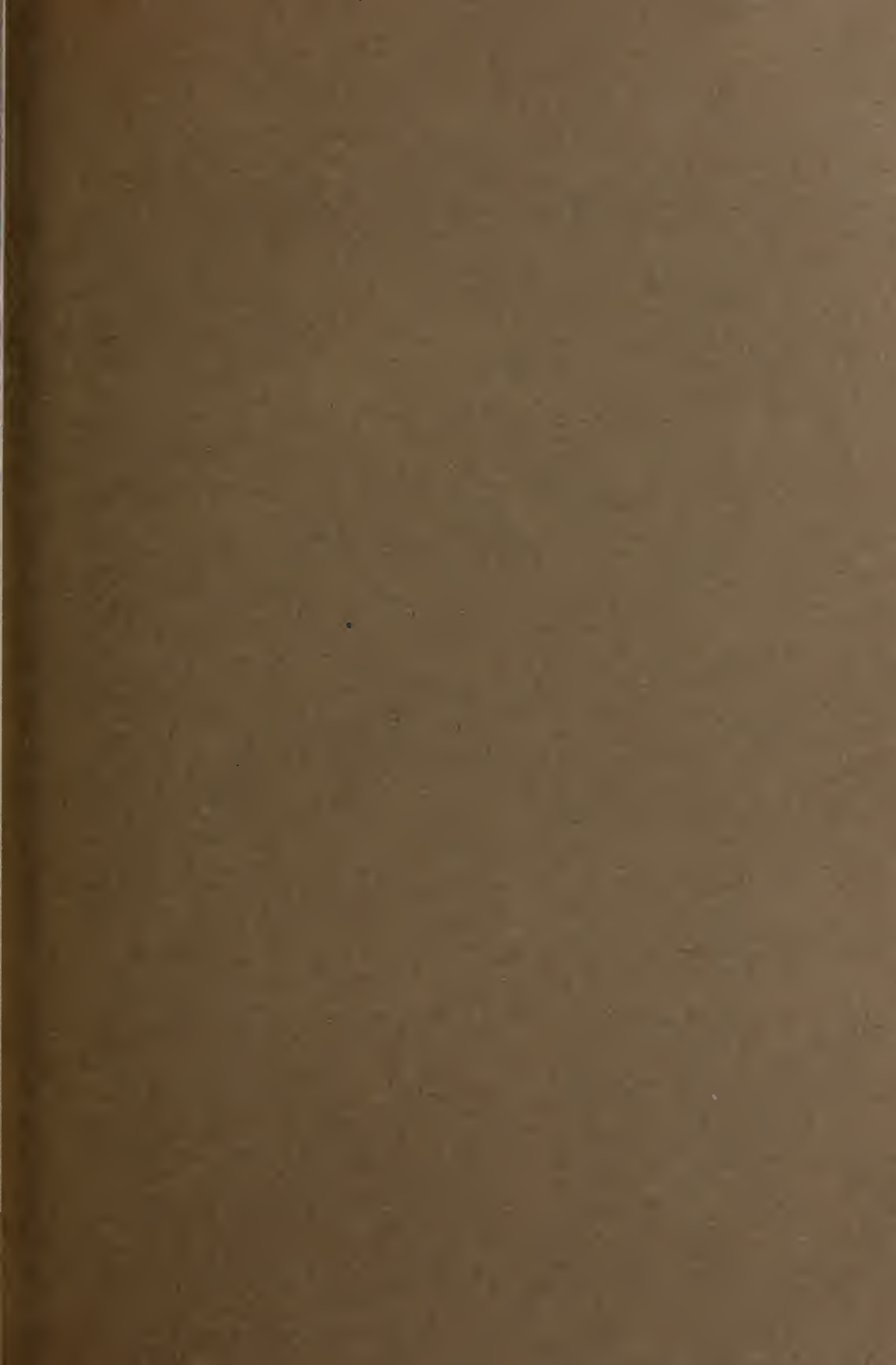
Dear Sir:

The drawing represents the new Man-way or Escape-way which is just being completed at the Royal mine. As you are aware, the only original Escape-way from the mine was through the air-shaft. Then we placed a wire rope ladder made out of 1¼-inch wire rope with ½-inch by 2-inch iron rungs in the airshaft. This, however, did not give an expeditious manner of escaping, for the reason that the men would be considerably worn out in climbing the 45 degree slope and the 161 feet of ladder. So it was decided to connect to the foot of the present airshaft and with the top of the old 45 degree Man-way with a new Man-way from the surface. This new Man-way is 6½ x 9 feet in the clear, equipped with stairs and electric lights. The distance from the surface to the connection to the air lock, or level entry at the foot of the airshaft, is 230 feet. The total distance completed February 15th, was 203 feet, leaving us 27 feet to drive in rock and 33 feet to drive as a level entry from the Robinson seam, which at this point is three feet thick. It is our intention to put in two doors constructed of ¼-inch steel-plate, set in concrete, so as to make an air lock at the foot of the airshaft. This will eliminate any danger of air escaping from the fan when one door is open and the other is closed.

This Man-way, when completed, will be more efficient than any hoisting equipment we could put in, for the reason it is fool-proof and can always be relied upon to offer an Escape-way from the mine. It will not be used promiscuously by the men; that is, they will not be going home at all hours of the day, for the reason it is too much of a climb to use daily. The total length on the 45 degree pitch is over 400 feet, but it can be used very satisfactorily for an Escape-way.

(Signed) ROYAL FUEL CO.





RECEIVED

MAR 16 1995

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