Sixth Annual Report

of the

State Inspector of Coal Mines

1918

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1918

DENVER, COLORADO
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1919

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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 and San Miguel Counties.

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

Denver, Colorado, March 12, 1919.

To His Excellency,
OLIVER H. SHOUP,
Governor 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 Sixth Annual Report of this department.

The period covered began January 1 and ended December 31, 1918.

Respectfully,

JAMES DALRYMPLE,
State Inspector of Coal Mines.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 TO DECEMBER 31, 1918

RECEIPTS

Tax collected on coal mined	$27,515.92	
From sales of copies of the coal mining law	559.69	
Refund on mileage books and sale of old anemometers	174.98	
Balance brought forward from 1917	36,502.42	
Total		$64,753.01

DISBURSEMENTS

Salary chief inspector	$ 4,000.00	
Salary of five deputy inspectors	13,500.00	
Salary of chief clerk	1,500.00	
Salary assistant clerk	1,200.00	
Expenses of chief and deputy inspectors	6,351.90	
Mileage books for chief and deputy inspectors	1,401.91	
Automobile supplies and three new Ford machines	1,606.67	
Board of examiners, per diem and expenses	1,854.59	
Office Expenses—		
Printing, copies of coal mining law in different languages and printing of reports, blanks, etc.	1,602.38	
Postage stamps	692.56	
Stationery supplies	469.40	
Telephone service	90.00	
Telegraph service	119.25	
Advertising examinations for mine officials	15.58	
Filing case	132.50	
Express company	33.21	
Instruments, three typewriters, six anemometers and repairs	461.46	
Extra clerical help	356.65	
Electrical supplies	145.13	
Miscellaneous	85.33	
Total		$35,618.52
Surplus		$29,134.49

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, 1918

Number of mines operated	249
Number of new and old mines opened	27
Number of mines closed, 15; abandoned, 6; total	21
Tons of sub-bituminous coal produced	2,530,111
Tons of semi-bituminous coal produced	1,285,476
Tons of bituminous coal produced	8,778,869
Tons of anthracite coal produced	63.599
Total number of tons of coal produced	12.658,055
Increase in 1918	142,750
Tons of run of mine produced	4.828,677
Tons of lump coal produced	3,686,759
Tons of egg coal produced	35,932
Tons of nut coal produced	882,675
Tons of pea coal produced	93,940
Tons of slack coal produced	3,130,072
Per cent of slack produced	40
Tons of coal mined by hand	7,738.063
Tons of coal mined by machines	4,919 992
Kind and number of machines used: Compressed air, 162; Electric, 208; total	370
Tons loaded at mines for shipment	10,758,773
Tons shipped out of the State	3,054.206
Tons sold to local trade and used by employes	334,701
Tons used at mines for steam and heat	325,905
Tons of coal made into coke	1,238,676
Tons of coke made	435,107
Number of coke ovens used	1,988
Number of days coke ovens were operated	224
Number of men employed at coke ovens	566
Number of miners employed (average): pick, 4,936; machine, 2,581; total	7,517
Number of other underground employes	3,833
Number of surface employes	3,024
Total number of men employed in and about the mines	14,374
Number of foreign employes (average)	6,870
Number of employes speaking English (average)	7,504
Number of days worked (eight hours)	169.2
Daily production per miner	9.9
Annual production per miner	1,675
Number and type of safety lamps used: Flame, 673; Electric, 4,598; total	5,271
Number of carbide lamps used	7,609
Number of pounds of carbide used (approximately)	289,201
Number of pounds of permissible powder used	977,878
Number of pounds of black powder used	1,837,939
Number of pounds of dynamite powder used	82,161
Number of men killed: underground, 69; surface, 2; total	71
Number of men injured	1,227
Number killed per thousand employed	4.9
Number injured per thousand employed	85.5
Number of tons of coal produced for each life lost	177,578
Number of tons of coal produced for each non-fatal accident	10,275.5
Number of men employed for each life lost	102.5
Number of men employed for each non-fatal accident	11.7
Number of widows left	38
Number of children left fatherless	88
Cost of development work in mines during year 1918 (approximately)	$1,149,993.00
Number of days lost account of car shortage (reported by 107 mines)	3,152
Number of tons lost through shortage of labor (reported by 84 mines)	1,086,997

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

Note: Evidently an error has been made in reporting either in the number of tons of coal made into coke, or in the number of tons of coke made. If the coal tonnage is correct, then the coke produced should be about 750,000 tons or 60 per cent of the coal tonnage.

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1918

INTRODUCTION

The coal production for the year 1918 amounted to 12,658,055 tons, the largest ever recorded in this state. The increase of 142,750 tons over the production of 1917 is attributable to the continuation of the war up to the beginning of November. From then on until the end of the year, compared with the same period of the preceding year, the production decreased 381,742 tons. During the first ten months of the year, had the railroad facilities and labor supply been equal to the demand for fuel, the production would have been much larger. One hundred and seven mines reported a loss of 3,152 days on account of a shortage of railroad cars. Eighty-four mines reported a loss of 1,086,997 tons, due to a shortage of labor.

In the lignite or sub-bituminous fields considerable time was lost because there was no market for the slack of this grade of coal. At the majority of the mines of these fields, everything that goes through 2½-inch perforation is classed as slack, the percentage running about fifty per cent. In my opinion, there is a great probability that by employing shotfirers, where practicable, the rate of percentage of slack will be reduced, and in addition there will be a marked improvement in the sanitary conditions by cutting out all unnecessary shooting during the day. Under present conditions in many of the mines considerable unnecessary shooting is done during working hours.

Miners tamping and firing their own shots: The law requires that all holes and charges shall be examined by a shotfirer or shot examiner before the shooting is done, but very little attention is given this provision of the law by mine foremen, or the miners. Consequently the results are a high percentage of slack accompanied by loss of time, and smoky atmosphere. Generally speak-

ing, any recommendations made at the mines where the above conditions exist, have been received under protest. The owners of these mines see only the immediate expense of hiring shotfirers, and the miners fear a reduction in wages. However, experience has proven that the employment of shotfirers is a financial benefit through increased earnings by the gaining of a larger amount of marketable coal, and the effect on the miners is the reverse of what they fear; there is no reduction in wages, but a great improvement in the sanitary conditions of the mines where the shooting is done in conformity with the law.

During the year the Deputy Inspectors examined 269 mines, of which 249 were producing mines. At the close of the year twenty-one mines were abandoned or temporarily closed. There were 869 inspections made, of which thirty-one were joint inspections.

Fatal accidents investigated	70
Inquests attended	61
Scales examined	30
Complaints investigated	28
Prosecutions	4
Miles traveled by auto	23,627
Miles traveled by rail	38,407
Miles purchased	41,364
Miles on hand	9,400

Heretofore deaths resulting after thirty days from date of accident were not charged against the industry. But in order to conform with the Federal Reports and the State Industrial Records all fatal accidents in and about the coal mines hereafter will be included in the list of fatalities charged against the industry.

Responsibility for fatal accidents as placed by the inspectors:

On deceased	12
On owner	5
On co-worker	1
On deceased and co-worker	3
On deceased and owner	3
On owner and co-worker	1
Unavoidable	38
Unable to place	8

FATAL ACCIDENTS 1918
BY MONTHS, AGE AND EXPERIENCE

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
6	4	8	5	8	10	3	4	3	9	7	4	71

Age of Deceased	Number Accidents	Years of Experience	Number Accidents
16 to 21	6	1 to 5	30
21 to 25	10	5 to 10	9
25 to 30	8	10 to 15	6
30 to 35	11	15 to 20	8
35 to 40	10	20 to 25	4
40 to 45	14	25 to 30	1
45 to 50	6	30 to 35	2
50 to 60	6	35 to 40	2
		Not Known	9

There were 66 fatal accidents from what may be termed general causes, such as falls of rock, falls of coal, mine cars and motors, electricity, etc., and five from explosions of gas.

Twenty-three or 32.4 per cent were company men.

Forty-eight or 67.6 per cent were miners.

NON-FATAL ACCIDENTS: One thousand, two hundred and twenty-seven persons were injured, a decrease of two hundred and thirty-six compared with 1917. The increase in tonnage and the number employed further increases the tons produced per injury and decreases the number injured per thousand employed.

In examining the tables it will be observed that the data reported by many of the mines is incomplete. Many operators were delinquent in filing their reports on time, often excusing their omission by stating that they were not supplied with blanks. In the future annual report blanks will be sent by registered mail, and acknowledgment will be asked for by a return card. I earnestly request the co-operation of the operators by sending in both their monthly and annual reports on time, as complete statistical tables show the growth and extent of an industry far more accurately than any general opinion or estimate.

In conclusion, I beg to tender my sincere thanks to the deputy inspectors and clerical help for their able assistance.

Respectfully submitted,

JAMES DALRYMPLE,
State Inspector of Coal Mines.

TABLE

DIRECTORY OF COAL MINES IN STATE OF COLO

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	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.	Vulcan	Boulder	Geo. T. Peart, Supt.	Denver
Rocky Mountain Fuel Co.	Mitchell	Boulder	Geo. T. Peart, Supt.	Denver
Rocky Mountain Fuel Co.	Acme	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
Big Four Coal & Coke Co.	Centennial	Boulder	P. M. Peltier	Denver
Fox Coal Mining Co.	Fox	Boulder	S. A. Snyder	Denver
Matchless Fuel Co.	Matchless	Boulder	S. A. Snyder	Denver
Brooks Fuel Co.	Nonpareil	Boulder	W. E. Brooks, Supt.	Louisville
Big Six Coal Co.	Sunnyside	Boulder	Charles Liley, Supt.	Louisville
Red Ash Coal Co.	Red Ash	Boulder	A. A. Evans	Frederick
Cracker Jack Coal Co.	Cracker Jack	Boulder	W. W. Morgan	Boulder
Engineers' Leasing Co.	Cambro	Boulder	Wm. B. Millikin	Denver
Boulder Bl'k Diam'd Coal Co.	Black Diamond	Boulder	Geo. Williams, Supt.	Boulder
Strathmore Mine Co.	Strathmore	Boulder		Lafayette
Electric Fuel Co.	Electric	Boulder	Closed	
Globe Coal Mining Co.	Capitol	Boulder		Denver
J. T. Lewis	Lewis	Boulder	J. T. Lewis	Gorham
New Mile High Coal Co.	Mile High	Boulder	Closed	
David Allen	Star	Boulder	David Allen	Lafayette
James Cowie	Cowie	Boulder	Closed	
Juanita Coal & Coke Co.	King	Delta	J. S. Bowie	Bowie
Hall & Motto	Red Mountain	Delta	A. W. Hall	Cedaredge
Paonia Coal Co.	Farmers	Delta		Paonia
Winton Coal Co.	Winton	Delta	J. C. Bowerman	Cedaredge
Green Valley Coal Co.	Green Valley	Delta		Cedaredge
Independent Lumber Co.	Kurtzville	Delta	C. E. Goddard	Hotchkiss
Frank Converse	Converse	Delta		Paonia
Grand Mesa Fuel Co.	Fairview	Delta	Watson Ziegler	Delta
May Coal Co.	May	Delta	P. B. Jenkins	Paonia
Bruton & Patton	Coalby	Delta		Cedaredge
S. S. Duncan	Bennett	Delta		Hotchkiss
Chas. G. States	States	Delta		Cedaredge
C. O. Thomas	Rollins	Delta		Delta
Pike's Peak Con. Fuel Co.	Pikeview	El Paso	Robert O'Neil	Colo. Spgs.
Keystone Mining Co.	Keystone	El Paso	Robert O'Neil	Colo. Spgs.
W. D. Corley	Klondyke	El Paso		Colo. Spgs.
Tudor Coal Co.	Danville	El Paso	W. D. Tudor	Colo. Spgs.
Thomas Coal Co.	Williamsville	El Paso		Colo. Spgs.
Alexander Patterson	City No. 2	El Paso		Colo. Spgs.
Alexander Patterson	Patterson	El Paso	Closed	Colo. Spgs.
Thomas D. Davis	Franceville	El Paso		Colo. Spgs.
Colorado Fuel & Iron Co.	Rockvale	Fremont	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Coal Creek	Fremont	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Fremont	Fremont	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Nonac	Fremont	E. H. Weitzel	Pueblo
Victor-American Fuel Co.	Chandler	Fremont	B. W. Snodgrass	Denver
Victor-American Fuel Co.	Radiant	Fremont	B. W. Snodgrass	Denver
Wolf Park Coal Co.	Wolf Park	Fremont	Chas. J. Tobias	Denver
Gibson Lumber & Fuel Co.	Royal Gorge	Fremont	Herman Loehr	Canon City
Brookside Coal Mining Co.	Brookside	Fremont	John Lippis	Canon City
Williamsburg Slope C. Co.	Emerald	Fremont	S. P. Smith	Florence
Orecchio Coal Co.	Orecchio	Fremont	Tom Orecchio	Florence
Samuel Petry	Willie	Fremont		Florence
Peoples Coal Sup. Co.	Smith Tanner	Fremont	E. S. Whitlock	Pueblo

No. 1.

RADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness Feet	In.
I. W. Griffiths	Lafayette	C.B.&Q. & C.&S.	Simpson	6 to 12	
Geo. Swearingen	Lafayette	C.B.&Q. & C.&S.	Standard	4 to 9	
Aug. Sire	Lafayette	C. B. & Q.	Vulcan	6 to 8	
J. J. Thomas	Lafayette	C. B. & Q.	Simpson	4 to 10	
L. G. Wilson	Louisville	C. & S.	Lower Acme	6 to 8	
Edward Hodgson	Louisville	C. & S.	Hecla Middle	4 to 5	
Thomas Hilton	Gorham	C. & S.	Gorham	4 to 6	
F. J. L. MacCormac	Superior	C. & S.	Industrial	4 to 10	
Frank Etchells	Gorham	C. & S.	Laramie	3	6
Albert E. Oliver	Broomfield	C. & S.	Laramie	7	
Wm. Andrew	Louisville	C. & S.	Laramie	6	
Edward Taylor	Gorham	C. & S.		6 to 8	
Geo. H. Kennedy	Louisville	C. & S.		4	6
A. Viggers	Louisville	C. & S.	Laramie	7	
Charles Liley	Louisville	C. & S.	Laramie	4	4
Albert McCullough	Gorham	C. & S.	Gorham	7	
W. W. Morgan	Gorham	C. & S.	Laramie	7	
John G. Miller	Lafayette	C. B. & Q.	Laramie	6	6
Geo. Williams	Boulder	None	Laramie	7	
Ed. John	Lafayette	C. & S.		12	
O. B. Thomas	Lafayette	C. B. & Q.	Laramie	5	8
J. T. Lewis	Gorham	None	Laramie	5	4
Daniel M. Allen	Lafayette	None	Laramie	4	6
Alex R. Bowie	Bowie	D. & R. G.	King	11	
A. W. Hall	Cedaredge	None		7	6
E. E. Cox	Paonia	None		7 to 9	
J. C. Bowerman	Cedaredge	None	Winton	12 to 13	
C. W. Rinehart	Cedaredge	None		4 to 6	
C. E. Goddard	Hotchkiss	None		14	
Frank Converse	Paonia	None		13	
Ed. Hickson	Delta	None		6	
P. B. Jenkins	Paonia	None		7	6
Qualls Bruton	Cedaredge	None		4	8
S. S. Duncan	Hotchkiss	None		6	6
Chas. G. States	Cedaredge	None	Rollins No. 1	13	
C. O. Thomas	Delta	None	Grand Mesa	11	
Robert O'Neil	Colo. Spgs.	D. & R. G.	Fox Hill	10	
Robert O'Neil	Colo. Spgs.	R. I.		7	
W. K. Anderson	Colo. Spgs.	A. T. & S. F.		4 to 10	
J. Tudor, Sr.	Colo. Spgs.	A. T. & S. F.		9	
T. E. Thomas	Colo. Spgs.	None		6	
Alexander Patterson	Colo. Spgs.	None		18	
Alexander Patterson	Colo. Spgs.	None		5	
Thomas D. Davis	Colo. Spgs.	None		8	
Henry Johns	Rockvale	A. T. & S. F.	Laramie	3	6
Ben Beach	Coal Creek	A. T. & S. F.	Laramie	3	6
Wm. J. Davis	Florence	D. & R. G.	Canon City	4	
Chas. O'Neil	Canon City	A. T. & S. F.	Canon City	6	
W. A. Ream	Chandler	D. & R. G.	Laramie	5	
W. L. Morgan	Pyrolite	A. T. & S. F.	Laramie	3	6
Mozart Lewis	Canon City	A. T. & S. F.	Chandler	4' 4" to 5	9
Stanley Pavalsky	Canon City	A. T. & S. F.	Canon City, 3, 3, 4	3½, 4 & 6	
John Lippis	Canon City	None		5	6
H. J. Smith	Florence	A. T. & S. F.		3	
Tom Orecchio	Florence	A. T. & S. F.	Magnet	4	
Samuel Petry	Florence	None	Rockvale	3	3
A. M. Smith	Florence	None		3	

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DIRECTORY OF COAL MINES IN STATE OF COLO

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office
McLean Bros.	Double Dick	Fremont		Florence
James Rocchio	Rocchio	Fremont		Coal Creek
Donnelly & Donnelly	Wil'msb'g Slope, 1	Fremont		Florence
Donnelly & Donnelly	Wil'msb'g Slope, 2	Fremont		Florence
Rocky Mtn. Fuel Co.	Garfield-Vulcan	Garfield	George T. Peart	Denver
Rocky Mtn. Fuel Co.	Midland	Garfield	George T. Peart	Denver
Gibson Asphaltum Co.	Carbonera	Garfield	M. W. Cooley	Watson, Ut
Bracken & Cozza	Harvey Gap	Garfield		New Castle
Richard Knapp	Smith	Garfield		New Castle
Utah. Fuel Co.	Somerset	Gunnison	W. C. Ferguson, Supt.	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 Anth. M. Co.	Smith-Anthracite	Gunnison		Denver
Crested Butte Coal Co.	Bulkley	Gunnison		Denver
Pueblo & Mining Co.	Horace	Gunnison	C. L. Ross	Crest'd B't.
Littell Coal & Mining Co.	Porter	Gunnison	C. L. Ross	Crest'd B't.
Ohio Creek Coal Mining Co.	Ohio Creek	Gunnison	Geo. D. Manville	Gunnison
Baldwin Fuel Co.	Baldwin-Star	Gunnison		Denver
Colorado Fuel & Iron Co.	Walsen-Robinson	Huerfano	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Cameron	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.	Pictou	Huerfano	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Lester	Huerfano	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Tioga	Huerfano	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Hezron	Huerfano	See Caddell &	Oldham
Oakdale Coal Co.	Oakdale	Huerfano	John D. Jones	Oakview
Mutual Coal Co.	Mutual	Huerfano	S. S. Murphy	Denver
Turner Coal Co.	Turner	Huerfano	J. B. Dick	Walsenb'rg
Sunnyside Coal Mining Co.	Sunnyside	Huerfano	W. F. Oakes	Denver
Union Coal & Coke Co.	Pryor	Huerfano		Denver
Big Four Coal & Coke Co.	Big Four	Huerfano	P. M. Peltier	Denver
Victor-American Fuel Co.	Ravenwood	Huerfano	B. W. Snodgrass	Denver
Aztec Coal Mining Co.	Toltec	Huerfano	Geo. Fruth	Denver
Alliance Coal Co.	Reliance	Huerfano		Denver
Gordon Coal Co.	Gordon	Huerfano	J. B. Dick	Walsenb'rg
Rugby Fuel Co.	Rugby	Huerfano	Geo. D. Kimball	Denver
Loma Fuel Co.	Jobal	Huerfano	Joseph Ball	Pictou
Loma Fuel Co.	Loma	Huerfano	Mine closed	
L. H. McGowan	Vesta	Huerfano	Camp Shumway	Cp.Sh'mwy.
Breen Coal Mining Co.	Breen	Huerfano	Martin F. Brennan	Walsenb'rg
Geo. McNally Coal Co.	Maitland	Huerfano		Maitland
Black Canon Coal & Fuel Co	Caddell	Huerfano	Talton F. Crane	Denver
Monument Valley Fuel Co.	New Maitland	Huerfano	E. D. Bowers	Colo. Spgs.
Drysdale Coal Co.	Larimore	Huerfano		Strong
Caprock Fuel Co.	Caprock	Huerfano	S. M. Thompson	Walsenb'rg
Caddell & Oldham	Hezron Lease	Huerfano	R. W. Caddell	Lester
Caddell & Carlson	Cuchara Canon	Huerfano		Walsenb'g.
Steve Mattivi	Bunker Hill	Huerfano		Rugby
Brennan Coal Co.	Brennan	Huerfano	James Turner, Supt.	Walsenb'g.
Northern Colo. Fuel Co.	Coalmont	Jackson	E. S. Sims, Supt.	Coalmont
North Park Coal Co.	Moore	Jackson	J. M. Purdie, Supt.	Coalmont
Leyden Coal Co.	Leyden	Jefferson		Denver
Shepherd & Maughan	Justrite	Jefferson		Golden
Western Collieries Co.	Satanic	Jefferson	Leverett Davis	Denver
Calumet Fuel Co.	Perins Peak	La Plata	W. C. Ferguson, Supt	Denver
Hesperus Fuel Co.	Hesperus	La Plata	J. W. Gifford, Supt.	Hesperus
American Smlt. & Ref. Co.	San Juan	La Plata	R. P. Raynolds, Supt.	Durango
O. K. Coal Co.	O. K.	La Plata		Durango

No. 1—Continued

RADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness Feet	In.
J. T. McLean	Florence	None	Rockvale	2	8
James Rocchio	Coal Creek	None		3	6
Henry Donnelly	Florence	None	Rockvale	3	4
Henry Donnelly	New Castle	None	Rockvale	3	4
J. P. Davis	Florence	Colo. Midland	Wheeler	42	
John Featherstone	New Castle	Colo. Midland	A. & C.	14 & 7	
Homer D. Ford	Mack	Uintah		8	
Dan Bracken	New Castle	None		6	6
Richard Knapp	New Castle	None		15	9
Robert Williams, Jr.	Somerset	D. & R. G.	Mesa Verde	24	
Wm. Manley	Crested Butte	D. & R. G.		14	
Wm. Manley	Crested Butte	D. & R. G.		3	
John G. Featherstone	Baldwin	D. & R. G.	Baldwin	7	
James Hare	Crested Butte	D. & R. G.		4	
Fred Gulliford	Crested Butte	D. & R. G.		6	
John Arnott	Crested Butte	D. & R. G.	Laramie	2	7
W. R. Kerr	Crested Butte	D. & R. G.		6	6
Geo. D. Manville	Gunnison	D. & R. G.		5 to 7	
Worked under contract	Baldwin	D. & R. G.		7	
W. S. Getchell	Walsen	C.&S & D.&R.G.	Walsen-Robinson	4 to 8	
C. H. Kaiser	Farr	C. & S.	Walsen	4	6
W. G. Deck	Rouse	D. & R. G.	Walsen	6	
John Haddow	Ideal	C. & S.	Robinson	3	6
W. S. Getchell	Pictou	D. & R. G.		4 to 10	
W. J. Tyson	Lester	D. & R. G.	Walsen	6	
W. J. Tyson	Tioga	D. & R. G.	Robinson	5 to 8	
John D. Jones	Oakview	D. & R. G.	Mammoth	5 to 12	
J. C. Davidson	Walsenburg	D. & R. G.	Walsen	6 to 7	
Robt. K. Graham	Delcarbon	D. & R. G.	Walsen	6	
R. T. Bell	Strong	D. & R. G.	Walsen	4½ to 5½	
Chas. Beuchat	Pryor	C.&S & D.&R.G.	Wals.-Camer'n-Rob'sn.	3 to 6	
Robt. Hood	Tioga	C.&S & D.&R.G.	Robinson	6	
H. H. Warner	Ravenwood	C. & S.	Raton	2	8
S. B. Smith	Toltec	D. & R. G.	Rob'sn-Wals.-Camer'n.	2½ to 4	
P. G. Cameron	Ojo	D. & R. G.		5 to 14	
R. F. Poli	Op. Shumway	D. & R. G.	Cameron	4	
Thos. McLaughlin	Rugby	C.&S & D.&R.G.		3	6
G. E. Pleasant	Pictou	D. & R. G.		4	6
		D. & R. G.		3 to 6	
Robt. Turner	Op. Shumway	D.&R.G. & C.&S.	Walsen	3	6
Martin F. Brennan	Walsenburg	C. & S.	Walsen	4 to 4	6
Geo. McNally	Maitland	D. & R. G.	Robinson-Lennox	4, 3 & 2	8
Hugh McGinn	Walsenburg	D.&R.G. & C.&S.	Robinson-Cameron	2′ 8″ to 3	
H. Capp	Op. Shumway	D. & R. G.	Lennox	3½ to 6	
Geo. Drysdall	Strong	D. & R. G.	Walsen	6	
F. M. Owens	Walsenburg	C. & S.	Cameron	3	3
R. W. Caddell	Lester	D. & R. G.		5	6
Robert Caddell	Walsenburg	D. & R. G.		3	8
Steve Mattivi	Rugby	None	Walsen	5	6
James Turner	Walsenburg	D. & R. G.	Robinson	3	9
E. S. Simms	Coalmont	C. W. & E.	Coalmont	40	
J. M. Purdie	Coalmont	C. W. & E.	Coalmont	48	
Geo. C. McFarlane	Golden R.F.D.	D. I. M.		7	
Thos. Shepherd	Golden	None		4 to 5	
Bert Lloyd	Mt. Morrison	C. & S.	Mt. Morrison	8 to 16	
Henry Richards	Perins	R. G. S.	Mesa Verde	3½ to 6½	
I. W. Gifford	Hesperus	R. G. S.	Fox Hills Group	5 to 6	
R. P. Raynolds	Durango	R.G.S., D.& R.G.	Mesa Verde	2½ to 4	
W. W. Bay	Durango	None	Mesa Verde	4	9

TABLE

DIRECTORY OF COAL MINES IN STATE OF COLO

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office
Sunshine Coal Co.	Sunshine	La Plata	Thos. G. Pierce	Durango
Baudino & Co.	Morning Star	La Plata	John Baudino	Durango
P. A. Olson	Black Hawk	La Plata		Durango
Dinbaldo & Fernandino	City	La Plata		Durango
Colorado Fuel & Iron Co.	Primero	Las Anim's.	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Sopris	Las Anim's.	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Frederick	Las Anim's.	E. H. Weitzel	Pueblo
Colorado Fuel & Iron Co.	Morley	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
Colorado Fuel & Iron Co.	Toller	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	Denver
Victor-American Fuel Co.	Bowen	Las Anim's.	B. W. Snodgrass	Denver
Victor-American Fuel Co.	Gray Creek	Las Anim's.	B. W. Snodgrass	Denver
Victor-American Fuel Co.	Cass	Las Anim's.	B. W. Snodgrass	Denver
Victor-American Fuel Co.	Hastings (closed)	Las Anim's.	B. W. Snodgrass	Denver
Rocky Mountain Fuel Co.	Forbes No.4 & 9	Las Anim's.	Geo. T. Peart	Denver
Rocky Mountain Fuel Co.	Piedmont	Las Anim's.	Geo. T. Peart	Denver
Rocky Mountain Fuel Co.	La Belle	Las Anim's.	Geo. T. Peart	Denver
Rocky Mountain Fuel Co.	Southwestern	Las Anim's.	Geo. T. Peart	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
Royal Fuel Co.	Royal	Las Anim's	Samuel Tescher, Supt.	Denver
American Smelt. & Ref. Co.	Cokedale Nos. 1 & 2	Las Anim's	G. P. Bartholomew	N. Y. City
Huerfano Coal Co.	Ludlow	Las Anim's	S. S. Murphy	Denver
Thompson-Mitchell Fuel Co.	Boncarbo	Las Anim's	T. A. Thompson	Boncarbo
National Fuel Co.	Thor	Las Anim's	Samuel Tescher	Denver
Bear Canon Coal Co.	Bear Canon	Las Anim's	P. D. Miller	Vallorso
Empire Coal Co.	Empire	Las Anim's	J. W. Siple	Denver
Rapson Coal Mining Co.	Rapson No. 1	Las Anim's	W. W. Curtis	Colo. Spgs.
Bl'k Diam'd-Nig. H. M. Co.	Three Pines	Las Anim's	J. E. McLaughlin	Trinidad
Jeffryes Fuel Co.	Jeffryes	Las Anim's	Albert G. Jeffryes	Trinidad
Black Hawk Coal Co.	Primrose	Las Anim's	J. J. Wolfersperger	Pueblo
Wootton Land & Coal Co.	Turner No. 1	Las Anim's	A. V. Berg	Wootton
Cedar Hill Coal & Coke Co.	Greenville	Las Anim's	J. H. Wilson	Trinidad
Cedar Hill Coal & Coke Co.	Black Diamond	Las Anim's	J. H. Wilson	Trinidad
Ideal Fuel Co.	Jewel	Las Anim's	R. C. Cox	Aguilar
Santa Fe Coal Co.	Santa Fe	Las Anim's	F. A. Williams	Denver
F. P. Wood & Co.	Wood	Las Anim's	F. P. Wood	Trinidad
Prospect Mine Co.	Prospect	Las Anim's		Trinidad
Premium Coal Co.	Premium-Star	Las Anim's		Walsenb'rg
Colorado Coal Mines Co.	Mallot	Las Anim's	Closed	
Liberty Coal Mining Co.	Liberty	Las Anim's	W. T. Thatcher	Trinidad
Deep Vein Coal Co.	Deep Vein	Las Anim's	F. P. Shew	Trinidad
H. A. Moore Coal Co.	Madrid	Las Anim's	H. A. Moore	Trinidad
Joerger Fuel Co.	Beshoar	Las Anim's		Trinidad
Azar Coal Co.	Moore	Las Anim's		Trinidad
L. Leone	Leone	Las Anim's		Trinidad
Jas. E. McLaughlin	Henderson	Las Anim's		Trinidad
Jas. E. McLaughlin	McLaughlin	Las Anim's	Closed	Trinidad
Chas. Hines Coal Co.	Hines	Las Anim's		Trinidad
Trinidad Coal Mining Co.	Valley	Las Anim's	W. B. Wayt	Walsenb'rg
H. H. Woodford	Baldy	Las Anim's		Trinidad
Wichita Fuel Co.	Wichita	Las Anim's		Rugby
Lunney & Granger	Keystone	Las Anim's		Trinidad
Walter Williams	Williams	Las Anim's		Trinidad

No. 1—Continued

RADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness Feet	In.
F. E. Pierce	Durango	None	Mesa Verde	6	
Anton Baudino	Durango	None		5	6
P. A. Olson	Durango	None		4	
Angelo Dinbaldo	Durango	None		2	6
Joseph Haske	Primero	C. & W.	Trinidad	4½ to 7	
John Deldosso	Sopris	C.& W., C.& S.	Laramie, Cretaceous.	.1–2′ 8″ to 4 .2–4′ 6″ to 6	6
James O'Neil	Valdez	C. & W.	Laramie, Cretaceous	5.9 to 9	
Chas. Chamber	Morley	A. T. & S. F.	Laramie, Cretaceous	5 to 8	
John Shaw	Starkville	A. T. & S. F.	Starkville	6	
G. B. Parker	Berwind	C. & S.	Berwind	5	6
G. B. Parker	Tabasco	C. & S.	Hastings	6	6
D. L. Hansen	Tollerberg	C. & S.	Berwind	6	
T. P. Davis	Engleberg	D. & R. G.		5 to 7	
D. J. Griffith	Delagua	C. & S. E.	Raton	5	8
James Struthers	Bowen	C. & S.	Vermijo	5	6
James Struthers	Gray Creek	C. & S.	Vermijo	5	
Chas. H. Peet	Hastings	C. & S. E.	Raton	4	
Thos. Gibby	Hastings	C. & S. E.	Raton	6	
J. H. Dalby	Forbes	C. & S.	Forbes	4 to 8	
William Morgan	Sopris	C. & W.	Piedmont, Lower	3.3 to 6	
William Morgan	Sopris	C. & W.	La Belle	4	2
William Morgan	Aguilar	C. & S.	Robinson, Up. & Low	4	6
O. C. Cook	Brodhead	C. & S.	Brodhead No. 4	4	
O. C. Cook		C. & S.	Brodhead No. 3	4	
T. B. Davis	Aguilar	C. & S.	Laramie, Walsen	6	6
D. D. Dodge	Cokedale	S.&S. & D.&R.G.	Cokedale	5	
F. McDermott	Ludlow	C. & S.	Hastings & Berwind	4 to 6	
C. R. Garrett	Boncarbo	D. & R. G.	Primero	5	
Eph Wagstaff	Bowen	C. & S.	Laramie, Up'r & Lower	5	2
P. D. Miller	Vallorso	C. & S.	Cameron	3	6
Wm. Waddell	Aguilar	C. & S.	Peerless	7	
C. G. Curtis	Rugby	C.&S. & D.&R.G.	Robinson	3 to 4	
J. E. McLaughlin	Tollerberg	C. & S.	Laramie No. 4	4	2
Albert G. Jeffryes	Trinidad	Trin. Elec. T. Ry.	Starkville	6 to 7	
David Lewis	Rugby	C.&S. & D.&R.G.	Primrose	4	
Andrea Baldini	Wootton	A. T. & S. F.	Laramie	3	8
J. H. Wilson	Ludlow	C. & S.	Trinidad	6	
J. H. Wilson	Rugby	C. & S.	Rugby	3	
R. C. Cox	Aguilar	C. & S.	Robinson	2½ to 3½	
Geo. Gully	Trinidad	A. T. & S. F.	Laramie No. 4	6	
John McLiver	Trinidad	C. & S.	Middle Sopris	2	6
Joe Smith	Trinidad	None	Laramie, Lower	2	10
T. J. Stone	Rugby	None	Walsen	3	6
James O'Neil	Forbes	C. & S.		4	4
J. P. Shew	Trinidad	None		6	
Jas. McKeown	Trinidad	None	Sopris, Upper	2	6
R. Joerger	Trinidad	None		3	2
Wm. Azar	Trinidad	None	Sopris, Upper	3	
L. Leone	Trinidad	None		3	
Jas. E. McLaughlin	Trinidad	None	El Moro	5 to 6	6
Jas. E. McLaughlin	Trinidad	None	El Moro		
M. C. Broyles	Trinidad	None		6	
J. W. Horning	Sopris	C. & S.		3	9
H. H. Woodford	Trinidad	None			
Henry Collard	Rugby	None		3 to 3	6
Ambrose Lunney	Trinidad	None		3	8
Walter Williams	Trinidad	None	Piedmont	3	3

TABLE

DIRECTORY OF COAL MINES IN STATE OF COLO

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office
Trinidad Coal Co.	Baldy Mt.	Las Anim's.	Geo. W. Haigh	Trinidad
Phillips Coal Co.	Phillips	Las Anim's.		Trinidad
R. Marsh	Fisher's Peak	Las Anim's.		Trinidad
Sandy Coal Co.	Sandy (closed)	Las Anim's.	Closed	Trinidad
Broyles Coal Co.	Broyles Star	Las Anim's.		Trinidad
Bert Boaglio	Pickford	Las Anim's.		Trinidad
Morris Coal Co.	Morris	Las Anim's.	Morris White	Trinidad
Commercial Coal Co.	Verdun	Las Anim's.	Mark Brown	Trinidad
Grand Jct. Min. & Fuel Co.	Cameo	Mesa	A. M. McNeil	Denver
Palisade Coal & Supply Co.	Palisade	Mesa	J. W. Cummins	Palisade
P. V. Coal Co.	P. V.	Mesa	Tim Tinsley	Cameo
Midwest Coal & Iron Co.	Midwest	Mesa	Jno. Sandburg	Denver
Midwest Coal & Iron Co.	Hilltop	Mesa	Jno. Sandburg	Denver
Garfield C. M. & Trans. Co.	Garfield	Mesa	Geo. Smith	Palisade
Book Cliff Coal Co.	Book Cliff	Mesa		Grand Jct.
W. D. Stokes	Stokes	Mesa		Palisade
Anchor Coal Co.	Anchor No. 2	Mesa	L. L. Travis	Gisborn, U.
Liberty Coal & Merc. Co.	Liberty (Fidel)	Mesa	Edward W. Weckel	Fruita
C. F. Thomas	Thomas	Mesa		Grand Jct.
Salt Wash Mining Co.	Hunter	Mesa	James B. Hunter	Fruita
Black Diamond Coal Co.	Black Diamond	Mesa	J. C. Jackson	Grand Jct.
Farmers Mutual Coal Co.	Farmers	Mesa		Grand Jct.
Valley Commercial Co.	Valley	Mesa	Closed	
Axial Basin Develop't Co.	Collom	Moffat	M. F. Streeter	Axial
Mancos Fuel Co.	Mancos	Montezuma		Mancos
French & Welborn	School Sec. Lease	Montezuma		Mancos
Moffitt-Carlile	Moffit-Carlile	Montezuma		Cortez
Geo. S. Todd	Todd	Montezuma		Cortez
J. F. Mowry	Mitchell Springs	Montezuma		Cortez
Enstrom Coal Co.	Missouri	Montrose		Nucla
Wm. J. Oberding	Knauss	Montrose		Nucla
H. A. Kennedy	Lou Creek	Ouray		Ridgway
Rapini Bros.	Placita	Pitkin		Carbondale
Rocky Mountain Fuel Co.	Marion	Pitkin	Geo. T. Peart	Denver
Reynolds & Babcock	Black Diamond	Rio Blanco.		Meeker
W. S. Montgomery	Lion Canon	Rio Blanco.		Meeker
Rio Blanco Coal Co.	Fairfield	Rio Blanco.		
Moffat Coal Co.	Moffat 1 & 2	Routt	R. M. Perry	Denver
Colorado & Utah Coal Co.	Harris	Routt		Denver
Victor-American Fuel Co.	Pinnacle	Routt	F. W. Whiteside	Denver
Victor-American Fuel Co.	Wadge	Routt	F. W. Whiteside	Denver
McNeil Coal Co.	McGregor	Routt	John McNeil, Jr.	Denver
Bear River Coal Co.	Bear River	Routt	Geo. N. Sparling	Denver
Hayden Bros. Coal Corp.	Hayden No. 1 & 2	Routt	Louis A. Hayden	Denver
Indian Creek Coal Mng. Co.	Grayland	Routt	John McDowell, Supt.	Coalview
Routt Pinnacle Coal Co.	Routt Pinnacle	Routt	Geo. H. Miller	Denver
International Fuel Co.	Wolf Creek	Routt	G. Zarlingo	Denver
Elk Creek Mining Co.	Elk Creek	Routt	Ronald L. Paterson	Pool
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
E. W. Kain	Gartman	Routt		Bear River
Walter Coal Co.	Postal	Routt	V. A. Walter	Denver
Van Wert Bros.	Ben Male	Routt	Closed	
R. C. Jones	Butcher Knife	Routt		Bear River
D. W. Jones	Mule Gulch	Routt		Oak Creek
National Fuel Co.	Puritan	Weld	Samuel Tescher	Denver
Consolidated C'l & C'ke Co.	Baum	Weld	C. L. Baum	Denver
Evans Fuel Co.	Evans	Weld	G. Zarlingo	Denver

No. 1—Continued

RADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	In.
Geo. W. Haigh	Trinidad	None	Trinidad	9	....
J. C. Mitchell	Boncarbo	D. & R. G.	Primero	5	....
R. Marsh	Trinidad	None		3	10
Walter Williams	Trinidad	None	Starkville	8	....
M. C. Broyles	Trinidad	None			....
Bert Boaglio	Trinidad	None		2	....
John Burns	Trinidad	None	Sopris	4	6
Hall Stewart	Trinidad	None		2	8
D. M. McNeil	Cameo	D. & R. G.	Cameo	6	....
J. J. Neish	Palisade	D. & R. G.		3	10
Tim Tinsley	Cameo	D. & R. G.		3 to 6	....
Victor Hansen	Palisade	D. & R. G.		4	8
Closed	Palisade	None		5	....
Geo. Smith	Palisade	D. & R. G.		7	6
D. B. Wright	Grand Jctn.	D. & R. G.		6	....
W. D. Stokes	Palisade	D. & R. G.		4	....
C. F. Gross	Fruita	None		6	6
Carl Hicks	Fruita	None		8	6
C. F. Thomas, Jr.	Grand Jctn.	None		4	10
John Gimple	Fruita	None		5	....
J. C. Jackson	Grand Jctn.	None		5 to 6	....
	Grand Jctn.	None	Palisade	5	....
					....
L. H. Friend	Axial	None		25	....
John R. Freeman	Mancos	None		2½ to 3	....
W. H. French	Mancos	None	Mesa Verde	4	6
Walter J. Moffit	Cortez	None		6	....
Geo. S. Todd	Cortez	None	Mesa Verde	3	3
J. F. Mowry	Cortez	None		2	6
E. Enstrom	Nucla	None		6	....
Wm. J. Oberding	Nucla	None		5	....
H. A. Kennedy	Ridgway	None		40	....
Joe Rapini	Carbondale	C. & M.		3	3
John G. Featherstone	Glenw'd Spgs.	C. & M.	Anderson	5	....
F. M. Babcock	Meeker	None		18	....
T. E. Linderman	Meeker	None		7	8
F. W. Fairfield	Meeker	None			....
John Alexander	Oak Creek	D. & S. L.	Pinnacle	10	....
B. A. Harris	Mt. Harris	D. & S. L.	Wadge	8	....
C. L. Mitton	Oak Creek	D. & S. L.	Pinnacle	9 to 14	....
J. A. Halbert	Mt. Harris	D. & S. L.	Wadge	8	8
Chas. F. Smith	MacGregor	D. & S. L.	McNeil	7	....
Joe Simpson	Bear River	D. & S. L.	Pinnacle	8	....
Joe Mathews	Haybro	D. & S. L.	Shuster	7	....
John McDowell	Coalview	D. & S. L.	Pinnacle	8	6
W. L. Dixon	Coalview	D. & S. L.	Pinnacle	7	....
S. D. Domenico	Mt. Harris	D. & S. L.	Wolf Creek	6 to 14	....
J. E. Smith	Pool	D. & S. L.	Hitchens	9 to 11	....
A. E. Dawson	Pool	D. & S. L.	Curtis	5	....
W. S. Clark	Coalview	D. & S. L.		6	....
Ralph Wooden	Pool	D. & S. L.		7	6
E. W. Kain	Bear River	None		6	....
F. L. Tobin	Oak Creek	D. & S. L.		6	....
					....
R. C. Jones	Bear River	None	Pinnacle	5	4
D. W. Jones	Oak Creek	None		6	....
Henry Thomas	Erie	U. P.	Laramie	10	6
C. W. Smith	Dacono	U. P.		6	10
J. E. Daley	Frederick	U. P.		8	....

TABLE

DIRECTORY OF COAL MINES IN STATE OF COLO

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office
W. E. Russell Coal Co.	Russell	Weld	Wm. E. Russell	Denver
Louisville Coal & L. Co.	Firestone	Weld	R. A. Mauro	Denver
Shamrock Coal Co.	Shamrock	Weld		Erie
Rocky Mountain Fuel Co.	Frederick	Weld	Geo. T. Peart	Denver
Rocky Mountain Fuel Co.	Grant	Weld	Geo. T. Peart	Denver
				Denver
United Collieries Co.	Monroe	Weld	Andrew Walker	
United Collieries Co.	Eureka	Weld	Andrew Walker	Denver
Boulder Valley Coal Co.	Boulder Valley	Weld	P. M. Peltier	Denver
F. J. Barnes	White Ash	Weld		La Salle
H. E. Chroop	Peerless	Weld		Frederick
David Brimble	New Washington	Weld		Erie

No. 1—Continued

RADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Name of Superintendent	Mine Postoffice Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
				Feet	In.
Wm. Burt	Firestone	U. P.		6	
L. B. Domenico	Firestone	U. P.		5½ to 6	
Thos. Morgan	Erie	U. P.	Laramie	8	
Thomas Gibby	Frederick	U. P.	Frederick	7	6
Thomas Gibby	Frederick	U. P.	Grant	10	6
Edward Walker	Erie	U. P.		8	
Edward Walker	Erie	U. P.		8	
M. W. Padfield	Erie	U. P.		6	
F. J. Barnes	La Salle	None		2	8
H. E. Chroop	Frederick	None			
David Brimble	Erie	None		4	6

TABLE

POWER EQUIPMENT OF COAL MINES IN THE STATE

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Allen Coal Co.	Allen	....	.....	....	.....
Allen, David	Star	....	.....	1	150
Alliance Coal Co	Reliance	....	.....	4	320
American Smelting & Refining Co.	Cokedale No. 1 and 2	....	.....	7	630
American Smelting & Refining Co.	San Juan	....	.....	....	.....
Anchor Coal Co.	Anchor No. 2	....	.....	....	.....
Azar Coal Co.	Moore	....	.....	....	.....
Aztec Coal Mining Co.	Toltec	....	.....	4	360
Axial Basin Development Co.	Collom	1	25	....	.....
Baldwin Fuel Co.	Baldwin-Star	No	Equi	pm	ent
Barnes, J. F.	White Ash	No	Equi	pm	ent
Baudino & Co.	Morning Star	No	Equi	pm	ent
Bear Canon Coal Co.	Bear Canon	....	.....	....	.....
Bear River Coal Co.	Bear River	....	.....	5	595
Big Four Coal & Coke Co.	Big Four	....	.....	5	750
Big Four Coal & Coke Co.	Centennial	....	.....	3	200
Big Six Coal Co.	Sunnyside	3	240	....	.....
Black Canon Fuel & Coal Co.	Caddell	....	.....	....	.....
Black Diamond Coal Co.	Black Diamond	No	Equi	pm	ent
Black Diamond Niggerh'd Coal M. Co.	Three Pines	....	.....	....	.....
Black Hawk Coal Co.	Primrose	....	.....	....	.....
Boaglio, Bert	Pickford	....	.....	....	.....
Book Cliff Coal Co.	Book Cliff	....	.....	....	.....
Boulder Black Diamond Coal Co.	Boulder Black Diamond	....	.....	2	180
Boulder Valley Coal Co.	Boulder Valley	....	.....	2	250
Bracken & Cozza	Harvey Gap	No	Equi	pm	ent
Breen Coal Mining Co.	Breen	....	.....	....	.....
Brennan Coal Co.	Brennan	No	Equi	pm	ent
Brimble, David	New Washington	No	Equi	pm	ent
Brooks Fuel Co.	Nonpareil	3	325	....	.....
Brookside Coal Mining Co.	Brookside	No	Equi	pm	ent
Broyles Coal Co.	Broyles-Star	....	Not	rep	orted
Bruton & Patton	Coalby	No	Equi	pm	ent
Caddell & Carlson	Cuchara Canon	....	.....	1	60
Caddell & Oldham	Hezron Lease	....	.....	....	.....
Calumet Fuel Co.	Perins Peak	....	.....	....	.....
Caprock Fuel Co.	Caprock	....	.....	....	.....
Cedar Hill Coal & Coke Co.	Greenville	....	.....	1	90
Cedar Hill Coal & Coke Co.	Black Diamond	....	.....	2	100
Chroop, H. E.	Peerless	....	Not	rep	orted
Colorado Coal Mines Co.	Mallot	....	Not	rep	orted
Colorado Fuel & Iron Co.	Rockvale	....	.....	6	480
Colorado Fuel & Iron Co.	Coal Creek	....	.....	....	.....
Colorado Fuel & Iron Co.	Fremont	....	.....	4	400
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 Robinson	....	.....	2	160
Colorado Fuel & Iron Co.	Cameron	....	.....	....	.....
Colorado Fuel & Iron Co.	Rouse	....	.....	9	1000

No. 2

OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918

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 Ft. Per Minute
..	.....	2	19	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
1	40	....	.....	....	.....	1	490	1	450	2	....	....	....	....	....	.....
1	250	....	.....	....	.....	3	480	1	280	8	....	....	....	....	....	.....
..	.....	....	.....	6	650	1	113	1	678	....	....	....	....	4	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
..	.....	2	70	....	.....	....	.....	....	.....	1	1	....	....	....	1	213
..	.....	1	4	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	5	2310	2	400	17	....	....	....	....	2	1000
..	.....	1	2½	....	.....	1	20	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	6	....	....	....	1	1	.....
2	65	....	.....	2	170	3	.....	1	20	3	....	....	....	....	....	.....
1	150	....	.....	....	.....	11	1100	1	150	....	....	....	8	2	2	.....
5	275	....	.....	....	.....	2	.....	1	.....	8	....	....	2	....	1	650
3	200	....	.....	....	.....	3	60	1	60	4	....	....	....	....	4	600
..	.....	....	.....	2	80	....	.....	....	.....	7	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	8	1	....	....	....	....	.....
..	.....	....	.....	1	100	....	.....	....	.....	3	....	....	....	1	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	3	2	....	....	....	....	.....
3	60	....	.....	....	.....	2	300	1	200	2	....	....	....	....	1	360
1	350	....	.....	....	.....	2	.....	1	100	2	1	....	....	....	1	700
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	1	.....	1	30	....	.....	4	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
2	130	....	.....	....	.....	5	100	1	15	4	....	....	....	....	1	750
..	.....	....	.....	....	.....	....	.....	....	.....	4	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
1	30	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	1	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	8	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
1	15	....	.....	1	150	4	.....	....	.....	....	....	....	....	....	....	.....
2	60	....	.....	....	.....	....	.....	....	.....	4	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
7	420	....	.....	....	.....	7	500	1	100	29	....	....	....	....	....	.....
..	.....	....	.....	....	.....	2	120	2	120	20	....	....	....	....	....	.....
5	500	....	.....	....	.....	4	1020	2	750	26	....	....	....	....	....	.....
1	75	....	.....	....	.....	3	200	1	100	2	....	....	....	....	....	.....
7	450	....	.....	1	40	2	350	....	.....	50	....	....	....	....	1	1500
6	345	....	.....	1	30	3	300	2	150	11	....	....	....	....	1	1200
2	125	....	.....	2	300	14	5020	7	3450	114	....	....	....	1	....	.....
..	.....	....	.....	2	260	8	1470	1	600	49	....	....	....	....	....	.....
7	1406	....	.....	5	609	12	3650	4	2000	30	....	....	....	....	....	.....

TABL

POWER EQUIPMENT OF COAL MINES IN THE STAT

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse
Colorado Fuel & Iron Co.	Ideal	....	.....	....	.....
Colorado Fuel & Iron Co.	Pictou	....	.....	....	.....
Colorado Fuel & Iron Co.	Lester	....	.....	....	.....
Colorado Fuel & Iron Co.	Hezron	See	Hezro	n L	eas
Colorado Fuel & Iron Co.	Primero	....	.....	8	78
Colorado Fuel & Iron Co.	Sopris	....	.....	10	82
Colorado Fuel & Iron Co.	Frederick	....	.....	2	20
Colorado Fuel & Iron Co.	Morley	....	.....	6	60
Colorado Fuel & Iron Co.	Starkville	....	.....	3	42
Colorado Fuel & Iron Co.	Berwind	....	.....	2	15
Colorado Fuel & Iron Co.	Tabasco	....	.....	12	122
Colorado Fuel & Iron Co.	Toller	....	.....	3	30
Colorado Fuel & Iron Co.	Engle	....	.....	4	40
†Colorado Springs Co.	City No. 1	....	.....	....	.....
Colorado & Utah Coal Co.	Harris	....	.....	4	46
Commercial Coal Co.	Verdun	....	.....	....	.....
Consolidated Coal & Coke Co.	Baum	....	.....	4	50
Converse, Frank	Converse	....	.....	....	.....
Corley, W. D.	Klondyke	....	.....	2	25
Cowie, James	Cowie	....	No	rep	ort
Cracker Jack Coal Co.	Cracker Jack	....	.....	....	.....
Crested Butte Anthracite Mining Co.	Smith Anthracite	....	.....	2	15
Crested Butte Coal Co.	Bulkley	....	.....	....	.....
Curtis Coal Co.	Curtis-Routt	2	140	....	.....
Davis, Thos. D.	Franceville	....	.....	....	.....
Deep Vein Coal Co.	Deep Vein	....	.....	....	.....
Dinbaldo & Fernandino	City	....	.....	....	.....
Donnelly & Donnelly	Williamsburg Slope No. 1	....	.....	1	7
Donnelly & Donnelly	Williamsburg Slope No. 2	....	.....	1	7
Drysdale Coal Co.	Larimore	....	.....	1	12
Duncan, S. S.	Bennett	....	.....	....	.....
Electric Fuel Co.	Electric	....	Not	rep	orte
Elk Creek Mining Co.	Elk Creek	....	.....	1	2
Empire Coal Co.	Empire	....	.....	1	4
Engineers Leasing Co.	Cambro	....	.....	2	16
Enstrom Coal Co.	Missouri	No	Equi	pm	ent
Evans Fuel Co.	Evans	....	.....	3	28
Farmers Mutual Coal Co.	Farmers	Min	e aba	ndo	ned
Federal Coal Mining Co.	Lennox	....	.....	1	5
Fox Coal Mining Co.	Fox	2	180	....	.....
French & Welborn	School Section Lease	No	Equi	pm	ent
Garfield Coal Mining & Transp. Co.	Garfield	....	.....	....	.....
Gibson Lumber & Fuel Co.	Royal Gorge	....	.....	....	.....
Gilson Asphaltum Co.	Carbonera	....	.....	....	.....
Globe Coal Mining Co.	Capitol	....	.....	2	200

†Mine not operating. In course of development.
*Oil.

o. 2—Continued.

F COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

wer 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 Total	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 Ft. Per Minute
.	.....	....	.....	1	100	....	.....	....	.....	45	....	....	....	1	....	.....
.	.....	....	.....	....	.....	5	1400	3	800	37	....	....	....	....	....	.....
.	.....	....	.....	....	.....	3	1500	1	800	30	....	....	....	....	....	.....
.	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
5	780	....	.....	....	.....	4	500	4	500	74	....	....	....	7	....	.....
.	.....	....	.....	....	.....	5	350	3	8	61	....	....	....	2	....	.....
1	125	....	.....	2	300	5	375	1	60	56	....	....	....	4	....	.....
1	275	....	.....	2	400	7	627	4	428	50	....	....	....	2	....	.....
1	350	....	.....	....	.....	4	665	1	600	45	....	1	....	7	....	.....
1	20	....	.....	....	.....	7	300	2	100	60	....	....	....	7	....	.....
3	2500	....	.....	5	1350	11	1600	5	1000	40	....	....	....	....	....	.....
3	510	....	.....	....	.....	5	1100	1	400	30	....	....	....	....	....	.....
3	300	....	.....	2	300	2	200	1	50	13	....	....	....	2	....	.....
.	.....	....	.....	....	.....	2	1250	2	900	....	....	....	....	....	....	.....
7	800	....	.....	2	360	6	450	1	90	23	....	....	....	1	....	.....
.	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
4	500	....	.....	2	150	4	50	1	40	14	....	....	....	1	....	.....
.	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
1	250	....	.....	....	.....	2	400	1	.....	5	....	....	....	....	1	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
2	110	....	.....	....	.....	1	100	....	.....	10	....	....	....	....	....	.....
.	.....	....	.....	....	.....	....	.....	....	.....	5	....	....	....	....	....	.....
2	140	....	.....	1	60	2	.....	1	.....	2	....	....	....	....	....	.....
.	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	*1	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
1	45	1	6	....	.....	1	50	1	50	1	....	....	....	....	....	.....
1	45	1	6	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
1	40	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
1	15	....	.....	....	.....	....	.....	....	.....	3	....	1	....	....	....	.....
1	60	....	.....	....	.....	7	1825	2	300	9	....	....	....	....	....	.....
..	.....	....	.....	....	.....	5	400	2	100	2	....	....	....	....	....	.....
4	240	....	.....	....	.....	5	300	1	150	11	....	....	....	....	2	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
1	50	....	.....	....	.....	....	.....	....	.....	....	....	....	....	1	....	.....
2	80	....	.....	....	.....	3	300	1	300	7	....	....	....	....	2	700
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
..	.....	....	.....	....	.....	2	111	1	75	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
2	.....	....	.....	....	.....	1	100	1	.....	3	....	....	....	....	3	750

TABLI

POWER EQUIPMENT OF COAL MINES IN THE STAT

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Gordon Coal Co.	Gordon	....	.....	....	.....
Grand Junction Mining & Fuel Co.	Cameo	....	.....	4	100
Grand Mesa Fuel Co.	Fairview	....	.....	....	.....
Green Valley Coal Co.	Green Valley	....	.....	....	.....
Hall & Motto	Red Mountain	....	.....	2	15
Hayden Bros. Coal Corporation	Hayden No. 1 and 2	....	.....	4	60
Hesperus Fuel Co.	Hesperus	....	.....	2	25
Hines Coal Co.	Hines	....	.....	....	.....
Huerfano Coal Co.	Ludlow	....	.....	3	38
Ideal Fuel Co.	Jewel	....	.....	....	.....
Independent Lumber Co.	Kurtzville	....	.....	....	.....
Indian Creek Coal Mining Co.	Grayland	....	.....	....	.....
International Fuel Co.	Wolf Creek	....	.....	1	15
Jeffryes Fuel Co.	Jeffryes	....	.....	....	.....
Joerger Fuel Co.	Beshoar	....	.....	....	.....
Jones, R. C.	Butcher Knife	No	Equi	pm	ent
Jones, W. D	Mule Gulch	....	.....	....	.....
Juanita Coal & Coke Co.	King	....	.....	5	300
Kain, E. W.	Gartman	....	.....	....	.....
Kennedy, H. A.	Lou Creek	....	.....	....	.....
Keystone Mining Co.	Keystone	....	.....	2	300
Knapp, Richard	Smith	No	Equi	pm	ent
Leone, L.	Leone	....	.....	....	.....
Lewis, J. T.	Lewis	....	.....	....	.....
Leyden Coal Co.	Leyden	....	.....	6	125
Liberty Coal Mining Co.	Liberty	....	.....	....	.....
Liberty Coal & Mercantile Co.	Fidel-Liberty	....	.....	....	.....
Littell Coal & Mining Co.	Porter	....	.....	3	60
Loma Fuel Co.	*Jobal	....	.....	....	.....
Loma Fuel Co.	Loma	....	Dis	ma	ntled
Louisville Coal & Land Co.	Firestone	3	300	....	.....
Lunney & Granger	Keystone	....	Not	rep	orted
Mancos Fuel Co.	Mancos	....	.....	....	.....
Marchetti, Andrew	†Marion	....	.....	....	.....
Marsh, R.	Fishers Peak	....	.....	....	.....
Matchless Fuel Co.	Matchless	2	180	....	.....
Mattivi, Steve	Bunker Hill	No	Equi	pm	ent
May Coal Co.	May	....	.....	....	.....
McGowan, L. H.	Vesta	....	.....	....	.....
McLaughlin, Jas. E.	Henderson	....	Not	rep	orted
McLaughlin, Jas. E.	McLaughlin	....	Mi	ne c	losed
McLean Bros.	Double Dick	....	.....	....	.....
McNally, Geo. & Co.	Maitland	....	.....	....	.....
McNeil Coal Co.	McGregor	....	.....	2	240
Midwest Coal & Iron Co.	Midwest	....	.....	....	.....

*Power supplied by a power company.
†Listed under the mines of the Rocky Mountain Fuel Co.
‡Siphon.

No. 2—Continued.

OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

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 Ft. Per Minute
..	.....	....	.....	....	.....	4	600	1	600	7	....	....	....	....	....	.....
2	275	....	.....	2	175	2	120	2	40	8	....	....	....	4	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
1	18	....	.....	....	.....	1	100	1	30	....	....	....	....	....	....	.....
..	.....	....	.....	2	600	6	800	1	100	....	....	1	....	5	....	.....
2	248	....	.....	2	150	3	87	1	145	8	....	....	....	1	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
3	225	....	.....	1	250	1	.....	....	.....	15	....	....	....	3	....	.....
..	.....	....	.....	1	440	....	.....	....	.....	2	....	....	....	3	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	2	35	2	.....	2	....	....	....	....	....	.....
4	100	....	.....	....	.....	3	60	2	75	2	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	6	....	....	....	1	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
2	200	....	.....	1	50	2	250	....	.....	10	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
..	.....	1	4	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
2	250	....	.....	1	50	2	140	2	130	6	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	2	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	‡	.....	....	.....	1	....	....	....	....	....	.....
2	800	....	.....	1	150	9	250	1	120	20	....	....	....	1	2	3200
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
3	50	....	.....	....	.....	2	150	....	.....	5	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
1	50	....	.....	....	.....	5	500	2	350	6	....	....	....	....	1	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
4	200	....	.....	....	.....	4	300	1	300	17	....	....	....	....	2	1300
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	6	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
..	.....	....	.....	2	200	3	400	1	250	6	....	....	....	....	....	.....
3	275	....	.....	2	175	2	432	2	30	6	....	....	....	2	....	.....
..	.....	....	.....	....	.....	....	.....	....	.....	5	....	....	....	3	....	.....

TABL

POWER EQUIPMENT OF COAL MINES IN THE STAT

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse
Midwest Coal & Iron Co.	Hill Top	....	.....	Clo	se
Moffat Coal Co.	Moffat No. 1 and 2	2	100	4	10
Moffitt-Carlile Coal Co.	Moffitt-Carlile	No	Equi	pm	en
Montgomery, W. S.	Lion Canon	No	Equi	pm	en
Monument Valley Fuel Co.	New Maitland	....	.....	1	1
Moore, H. A.	Madrid	....	.....	1	
Morris Coal	Morris	....	.....	....	....
Mowry, J. F.	Mitchell-Springs	No	Equi	pm	en
Mutual Coal Co.	Mutual	....	.....	3	4
National Fuel Co.	Monarch No. 1	1	60	....	....
National Fuel Co.	Monarch No. 2	....	.....	3	3
National Fuel Co.	Thor	....	.....	2	1
National Fuel Co.	Puritan	....	.....	6	6
New Mile High Coal Co.	Mile High	....	.....	Clo	se
Northern Colorado Fuel Co.	Coalmont	....	.....	2	2
North Park Coal Co.	Moore	1	60	....	....
Oakdale Coal Co.	Oakdale	5	750	....	....
Oberding, Wm. J.	Knauss	No	Equi	pm	en
Ohio Creek Coal Mining Co.	Ohio Creek	....	.....	....	....
O. K. Coal Co.	O. K.	....	.....	....	....
Olson, P. A.	Black Hawk	....	.....	....	....
Orecchio Coal Co.	Orecchio	....	.....	....	....
Palisade Coal & Supply Co.	*Palisade	....	.....	....	....
Paonia Coal Co.	Farmers	....	.....	....	....
Patterson, Alexander	Patterson	....	.....	2	
Patterson, Alexander	City No. 2	....	.....	1	
Peoples Coal & Supply Co.	Smith-Tanner	....	.....	1	
Petry, Samuel	Willie	....	.....	....	....
Phillips Coal Co.	Phillips	....	.....	....	....
Pike's Peak Consolidated Fuel Co.	Pikeview	....	.....	4	12
Premium Coal Co.	Premium Star	....	.....	....	....
Prospect Mine Co.	Prospect	....	.....	....	....
Pueblo Fuel & Mining Co.	Horace	....	.....	6	2
P. V. Coal Co.	P. V.	....	.....	1	1
Rapini Bros.	Placita	1	45	....	....
Rapson Coal Mining Co.	Rapson No. 1	2	200	....	....
Red Ash Coal	Red Ash	....	.....	1	
Reynolds & Babcock	Black Diamond	....	.....	....	....
Rio Blanco Coal Co.	Fairfield	....	Not	rep	ort
Rocchio, James	Rocchio	....	.....	....	....
Rocky Mountain Fuel Co.	Simpson	....	.....	5	7
Rocky Mountain Fuel Co.	Standard	....	.....	4	3
Rocky Mountain Fuel Co.	Vulcan	....	.....	2	2
Rocky Mountain Fuel Co.	Mitchell	....	.....	3	2
Rocky Mountain Fuel Co.	Acme	....	.....	3	4

*Power supplied by the Palisade Service Co.

o. 2—Continued.

F COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

Power Plant					Pumps				Haulage					Air Compressors	
Engines															
Steam Engines (All Classes)		Internal Combustion Engines (Gas)		Electric Dynamos (All Classes)						Number of Locomotives					
Total Horse Power	Number	Total Horse Power	Number	Total Kilowatts	Number	Total Capacity Gallons per Minute	Pumps Delivering Water to the Surface: Number	Pumps Delivering Water to the Surface: Total Gallons Per Minute	Number of Horses and Mules	Gasoline	Steam	Compressed Air	Electric	Number	Total Capacity Cubic Ft. Per Minute
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
1200	....	.....	2	350	9	230	3	12	13	....	2	....	3	2	2000
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
40	....	.....	....	.....	2	250	1	150	4	....	....	....	....	....	.....
.....	....	.....	1	50	1	25	1	50	2	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
190	....	.....	....	.....	4	650	2	200	7	....	....	....	5	....	.....
.....	....	.....	....	.....	1	100	1	20	3	....	....	....	....	1	150
.....	....	.....	....	.....	9	200	2	20	20	....	....	....	1	1	1000
.....	....	.....	....	.....	....	.....	....	.....	13	....	....	....	3	....	.....
.....	....	.....	....	.....	4	300	2	50	21	....	....	....	1	2	1800
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
250	....	.....	....	.....	1	100	1	100	4	....	....	....	....	....	.....
135	....	.....	....	.....	4	50	1	50	1	....	....	....	....	....	.....
650	....	.....	2	375	11	700	1	45	26	1	....	....	3	2	1100
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	6	....	....	....	1	....	.....
.....	....	.....	....	.....	1	30	1	30	1	....	....	....	....	....	.....
30	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
30	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
65	....	.....	1	16	1	200	1	200	2	....	....	....	1	....	.....
.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
500	....	.....	3	235	3	300	2	300	15	....	....	....	4	....	.....
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
100	....	.....	....	.....	4	1000	2	450	11	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	1	558
45	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
150	....	.....	1	62	....	.....	....	.....	12	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	1	1	....	1	450
.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
661	....	.....	3	230	17	2300	4	500	22	....	....	....	3	1	1600
.....	....	.....	....	.....	5	244	1	244	11	....	....	....	2	2	1050
150	....	.....	....	.....	10	300	3	200	7	....	....	....	....	1	900
300	....	.....	....	.....	2	60	2	60	5	....	....	....	2	1	800
350	....	.....	....	.....	8	700	3	500	14	....	....	....	1	2	1646

TABLI

POWER EQUIPMENT OF COAL MINES IN THE STATI

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Rocky Mountain Fuel Co.	Hecla	....	.....	3	28!
Rocky Mountain Fuel Co.	Gorham	....	.....	....	.....
Rocky Mountain Fuel Co.	Industrial	....	.....	2	22!
Rocky Mountain Fuel Co.	Garfield Vulcan	....	.....	3	30(
Rocky Mountain Fuel Co.	Midland	....	.....	2	25(
Rocky Mountain Fuel Co.	Alpine	....	.....	3	26(
Rocky Mountain Fuel Co.	Forbes No. 4 and 9	....	.....	1	8(
Rocky Mountain Fuel Co.	Piedmont	....	.....	2	12(
Rocky Mountain Fuel Co.	La Belle	....	.....	....	.....
Rocky Mountain Fuel Co.	Southwestern	....	.....	1	10(
Rocky Mountain Fuel Co.	Marion	....	.....	2	160
Rocky Mountain Fuel Co.	Frederick	....	.....	4	400
Rocky Mountain Fuel Co.	Grant	....	.....	1	80
Routt Pinnacle Coal Co.	Routt-Pinnacle	....	.....	2	300
Royal Fuel Co.	Royal	....	.....	3	260
Rugby Fuel Co.	Rugby	....	.....	....	.....
Russell, W. E. Coal Co.	Russell	....	.....	3	375
Salt Wash Mining Co.	Hunter	No	Equi	pm	ent
Sandy Coal Co.	Sandy	....	.....	1	.....
Santa Fe Coal Co.	Santa Fe	....	.....	....	.....
Shamrock Coal Co.	Shamrock	....	.....	2	180
Shepherd & Maughan	Justrite	1	16	....	.....
States Coal Co.	States	....	.....	....	.....
Stokes, W. D.	Stokes	....	.....	....	.....
Strathmore Mine Co.	Strathmore	....	.....	3	150
Sunshine Coal Co.	Sunshine	....	.....	....	.....
Sunnyside Coal Mining Co.	Sunnyside	....	.....	1	125
Temple Fuel Co.	Brodhead No. 9	....	.....	1	60
Temple Fuel Co.	Alta	....	.....	....	.....
Thomas Coal Co.	Williamsville	....	.....	1	60
Thomas, C. F.	Thomas	No	Equi	pm	ent
Thomas, C. O.	Rollins	....	.....	....	.....
Thompson-Mitchell Fuel Co.	*Boncarbo	....	.....	....	.....
Tiogo Coal Co.	*Tioga	....	.....	....	.....
Todd, Geo. S.	Todd	....	.....	....	.....
Trinidad Coal Co.	Baldy Mountain	....	.....	....	.....
Trinidad Coal Mining Co.	Valley	....	.....	1	80
Tudor Coal Co.	Danville	1	35	....	.....
Turner Coal Co.	*Turner	....	.....	....	.....
Union Coal & Coke Co.	Pryor	....	.....	2	180
United Collieries Co.	Monroe	....	.....	1	80
United Collieries Co.	Eureka	Min	e Dis	ma	ntled
Utah Fuel Co.	Somerset	....	.....	7	825
Valley Commercial Co.	Valley	No	Equi	pm	ent
Van Wert Bros.	Ben Male	....	Not	rep	orted

*Electric power purchased.
†For sprinkling.

Mo. 2—Continued.

OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

Power Plant: Engines: Steam Engines (All Classes): Total Horse Power	Power Plant: Engines: Internal Combustion Engines (Gas): Number	Power Plant: Engines: Internal Combustion Engines (Gas): Total Horse Power	Power Plant: Engines: Electric Dynamos (All Classes): Number	Power Plant: Engines: Electric Dynamos (All Classes): Total Kilowatts	Pumps: Number	Pumps: Total Capacity Gallons per Minute	Pumps: Pumps Delivering Water to the Surface: Number	Pumps: Pumps Delivering Water to the Surface: Total Gallons Per Minute	Haulage: Number of Horses and Mules	Haulage: Number of Locomotives: Gasoline	Haulage: Number of Locomotives: Steam	Haulage: Number of Locomotives: Compressed Air	Haulage: Number of Locomotives: Electric	Air Compressors: Number	Air Compressors: Total Capacity Cubic Ft. Per Minute
100	....	.....	....	.....	3	300	2	60	4	....	....	....	1	2	900
.....	....	.....	....	.....	12	600	2	250	17	....	....	....	1	1	1500
350	....	.....	1	145	6	1200	2	150	14	....	....	....	2	....	.....
134	....	.....	1	100	3	.....	1	†60	5	....	....	....	1	1	135
328	....	.....	3	137	3	580	2	400	5	....	....	....	....	....	.....
350	....	.....	2	145	2	300	1	150	9	....	....	....	....	....	.....
.....	....	.....	1	100	8	300	1	40	27	1	....	....	3	....	.....
35	....	.....	1	3	2	100	1	40	18	....	....	....	2	....	.....
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	1	....	.....
100	....	.....	....	.....	1	.....	....	.....	4	....	1	....	3	....	.....
100	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
300	....	.....	....	.....	6	250	2	200	11	....	....	....	....	2	2900
70	....	.....	1	60	2	88	1	7	5	....	....	....	....	....	.....
300	....	.....	1	200	1	20	1	.....	2	....	....	....	1	....	.....
300	....	.....	....	.....	8	300	1	150	13	....	....	....	....	....	.....
.....	....	.....	....	.....	1	.....	1	.....	11	....	....	....	1	....	.....
280	....	.....	....	.....	8	75	1	75	11	....	....	....	....	2	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	1	....	....	....	.....
.....	....	.....	....	.....	1	30	1	15	3	....	....	....	1	....	.....
140	....	.....	....	.....	....	.....	2	95	5	....	....	....	....	....	.....
12	....	.....	....	.....	....	.....	....	.....	4	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	1	.....	....	.....	2	....	....	....	....	....	.....
60	....	.....	....	.....	1	.....	....	.....	1	....	....	....	....	1	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	1	175	3	208	2	74	4	....	....	....	2	....	.....
.....	....	.....	....	.....	15	250	2	250	30	....	....	....	5	1	130
.....	....	.....	....	.....	....	.....	....	.....	3	....	....	....	....	....	.....
60	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	4	140	4	140	6	....	....	....	4	....	.....
.....	....	.....	....	.....	2	50	1	1	3	....	....	....	3	....	.....
.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
20	....	.....	....	.....	1	30	1	400	1	....	....	....	....	....	.....
50	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	16	....	....	....	....	....	.....
150	....	.....	1	100	2	250	....	.....	20	....	....	....	....	....	.....
80	....	.....	....	.....	3	80	1	12	1	....	....	....	....	1	400
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
1422	....	.....	2	375	6	1230	2	520	23	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....

TABLE

POWER EQUIPMENT OF COAL MINES IN THE STATE

Name of Operator	Name of Mine	Boilers			
		Cylindrical		Tubular	
		Number	Total Horse Power	Number	Total Horse Power
Victor-American Fuel Co.	Chandler	....	.....	2	400
Victor-American Fuel Co.	Radiant	....	.....	....	.....
Victor-American Fuel Co.	Ravenwood	....	.....	....	.....
Victor-American Fuel Co.	Delagua	....	.....	....	.....
Victor-American Fuel Co.	Bowen	....	.....	....	.....
Victor-American Fuel Co.	Gray Creek	....	.....	....	.....
Victor-American Fuel Co.	Cass	....	.....	....	.....
Victor-American Fuel Co.	*Hastings	....	.....	....	.....
Victor-American Fuel Co.	Pinnacle	5	650	....	.....
Victor-American Fuel Co.	Wadge	....	.....	3	450
Walter Coal Co.	Postal	No	Equi	pm	ent
Western Collieries Co.	Satanic	....	.....	....	.....
Wichita Fuel Co.	Wichita	....	.....	....	.....
Williams Coal Co.	Williams	....	.....	1	35
Williamsburg Slope Coal Co.	Emerald	....	.....	....	.....
Winton Coal Co.	Winton	....	.....	....	.....
Wolf Park Coal Co.	Wolf Park	....	.....	2	160
Wood, F. P. & Co.	Wood	....	.....	....	.....
Woodford, H. H.	Baldy	....	Not	rep	orted
Woottoon Land & Coal Co.	Turner-Wootton	....	.....	2	450

*Power purchased.

No. 2—Continued.

OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

Power Plant																
Engines						Pumps				Haulage					Air Compressors	
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 Ft. Per Minute
....	.....	....	.....	1	100	2	500	1	75	26	....	....	....	....	....	.....
....	.....	....	.....	....	.....	1	30	1	30	16	....	....	....	....	....	.....
....	.....	....	.....	....	.....	1	75	1	75	11	....	....	....	....	....	.....
....	.....	....	.....	2	600	8	1400	2	30	67	....	....	....	14	....	.....
....	.....	....	.....	1	.....	....	.....	....	.....	12	....	....	....	5	....	.....
....	.....	....	.....	....	.....	2	60	1	20	14	....	....	....	5	....	.....
....	.....	....	.....	1	150	....	.....	....	.....	6	....	....	....	1	....	.....
....	.....	....	.....	....	.....	5	.....	1	70	18	....	....	....	....	1	200
....	.....	....	.....	1	.....	5	.....	1	60	....	....	2	....	2	....	.....
1	200	....	.....	1	125	2	100	2	100	2	4	....	....	....	....	.....
....	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
....	.....	....	.....	....	.....	1	75	1	75	1	....	....	....	....	1	400
....	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	....	....	.....
1	16	....	.....	....	.....	....	.....	....	.....	1	....	1	....	....	....	.....
....	.....	....	.....	....	.....	2	.....	1	90	3	....	....	....	....	....	.....
....	.....	....	.....	....	.....	....	.....	....	.....	1	....	....	....	....	....	.....
....	.....	....	.....	....	.....	3	335	1	250	6	....	....	....	....	1	250
....	.....	....	.....	....	.....	....	.....	....	.....	2	....	....	....	1	....	.....
....	.....	....	.....	....	.....	....	.....	....	.....	....	....	....	....	....	....	.....
3	530	....	.....	3	315	2	200	2	50	5	....	....	....	2	....	.....

TABLE No. 4

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

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
Allen Coal Co.	Allen	.....	.....	7,591	.....	7,591	.....	.....	.....
Allen, David	Star	.....	.....	135	.....	135	.....	.....	.....
Alliance Coal Co.	Reliance	.....	2	14,069	36,016	50,085	2,140	50	15,440
American Smelting & Refining Co.	Cokedale Nos. 1 and 2	.....	4	20,206	119,447	139,653	.....	.....	18,235
American Smelting & Refining Co.	San Juan	.....	.....	27,739	.....	27,739	.....	.....	1,779
Anchor Coal Co.	Anchor No. 2	.....	.....	1,961	.....	1,961	1,200	50	.....
Azar Coal Co.	Moore	.....	.....	3,690	.....	3,690	1,075	182	.....
Aztec Coal Mining Co.	Toltec	4	4	2,787	59,643	62,430	15,900	1,850	1,450
Axial Basin Development Co	Collom	.....	.....	548	.....	548	1,125	300	.....
Baldwin Fuel Co.	Baldwin Star	.....	.....	3,305	.....	3,305	1,500	.....	.....
Barnes, J. F.	White Ash	.....	.....	1,438	.....	1,438	2,000	.....	.....
Baudino & Co.	Morning Star	.....	.....	3,429	.....	3,492	1,375	.....	.....
Bear Canon Coal Co.	Bear Canon	.....	1	12,079	49,751	61,830	.....	100	10,000
Bear River Coal Co.	Bear River	.....	.....	50,515	.....	50,515	24,550	.....	.....
Big Four Coal & Coke Co.	Big Four	10	2	19,229	57,647	76,876	28,925	160	2,306
Big Four Coal & Coke Co.	Centennial	4	2	20,291	61,574	81,865	31,962	24	123
Big Six Coal Co.	Sunnyside	3	.....	.....	22,670	22,670	8,125	.....	.....
Black Canon Coal & Fuel Co.	Caddell	.....	2	3,768	14,000	17,768	12,375	.....	12,175
Black Diamond Coal Co.	Black Diamond	.....	.....	246	.....	246	125	.....	.....
Black Diamond Niggerh'd C. M. Co.	Three Pines	.....	.....	43,151	.....	43,151	.....	.....	8,075
Black Hawk Coal Co.	Primrose	.....	.....	34,759	.....	34,759	.....	128	16,475
Boaglio, Bert	Pickford	.....	.....	678	.....	678	.....	.....	.....
Book Cliff Coal Co.	Book Cliff	.....	.....	9,356	.....	9,356	1,590	.....	.....

Boulder Black Diamond Coal Co.	Boulder Blk. Diamond	2	.....	.....	9,761	9,761	3,500	.....	.....
Boulder Valley Coal Co.	Boulder Valley	3	.....	1,057	7,342	8,399	4,325	3	.....
Bracken & Cozza	Harvey Gap	.....	.....	1,262	.....	1,262	.....	.....	1,650
Breen Coal Mining Co.	Breen	.....	1	10,609	21,016	31,625	500	.....	3,000
Brennan Coal Co.	Brennan	.....	1	.....	340	340	.....	.....	500
Brimble, David	New Washington	.....	.....	298	.....	298	200	.....	.....
Brooks Fuel Co.	Nonpareil	4	.....	500	28,778	29,278	8,750	.....	.....
Brookside Coal Mining Co.	Brookside	.....	1	.....	19,404	19,404	4,425	.....	.....
Broyles Coal Co.	Broyles-Star	.....	.....	740	.....	740	.....	.....	.....
Bruton & Patton	Coalby	.....	.....	814	.....	814	.....	.....	.....
Caddell & Carlson	Cuchara Canon	.....	.....	2,861	.....	2,861	4,100	75	.....
Caddell & Oldham	Hezron Lease	.....	.....	4,547	.....	4,547	.....	.....	6,000
Calumet Fuel Co	Perins Peak	.....	3	.....	60,527	60,527	50	.....	8,251
Caprock Fuel Co.	Caprock	.....	.....	6,659	.....	6,659	.....	.....	250
Cedar Hill Coal & Coke Co.	Greenville	.....	.....	31,594	.....	31,594	.....	.....	12,000
Cedar Hill Coal & Coke Co.	Black Diamond	.....	.....	28,458	.....	28,458	375	.....	4,000
Chroop, H. F.	Peerless	.....	.....	1,031	.....	1,031	.....	.....	.....
Colorado Coal Mines Co.	Mallot	.....	.....	8,330	.....	8,330	.....	.....	.....
Colorado Fuel & Iron Co.	Rockvale	.....	.....	179,066	.....	179,066	61,450	7,160	.....
Colorado Fuel & Iron Co.	Coal Creek	.....	.....	169,801	.....	169,801	12,950	.....	9,000
Colorado Fuel & Iron Co.	Fremont	.....	.....	168,939	.....	168,939	45,300	24,923	.....
Colorado Fuel & Iron Co.	Nonac	.....	.....	14,216	.....	14,216	2,100	.....	.....
Colorado Fuel & Iron Co.	Crested Butte	.....	.....	143,873	.....	143,873	.....	.....	.....
Colorado Fuel & Iron Co.	Floresta	.....	.....	18,853	.....	18,853	.....	430	1,955
Colorado Fuel & Iron Co.	Walsen-Robinson	.....	15	189,183	294,210	483,393	36,136	4,311	63,875
Colorado Fuel & Iron Co.	Cameron	.....	9	34,560	186,133	220,693	24,800	.....	11,859
Colorado Fuel & Iron Co.	Rouse	.....	.....	183,538	.....	183,538	10,650	.....	21,976
Colorado Fuel & Iron Co.	Ideal	.....	.....	178,501	.....	178,501	.....	.....	44,797
Colorado Fuel & Iron Co.	Pictou	.....	4	92,981	74,248	167,229	.....	.....	17,600
Colorado Fuel & Iron Co.	Lester	.....	2	116,116	12,706	128,822	.....	1,584	30,454
Colorado Fuel & Iron Co.	Hezron	.....	.....	12,334	.....	12,334	.....	.....	.....
Colorado Fuel & Iron Co.	Primero	.....	.....	373,724	.....	373,724	.....	1,018	36,554
Colorado Fuel & Iron Co.	Sopris	.....	1	299,341	20,899	320,240	.....	214	71,022
Colorado Fuel & Iron Co.	Frederick	.....	1	303,345	5,691	309,036	.....	3,124	38,010
Colorado Fuel & Iron Co.	Morley	.....	.....	291,292	.....	291,292	.....	142	1,092
Colorado Fuel & Iron Co.	Starkville	.....	.....	237,846	.....	237,846	.....	.....	.....
Colorado Fuel & Iron Co.	Berwind	.....	3	154,692	70,427	225,119	.....	600	16,248
Colorado Fuel & Iron Co.	Tabasco	.....	1	189,890	14,294	204,184	.....	400	28,512

TABLE No. 4—(Continued)

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

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	Hard	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Colorado Fuel & Iron Co.	Toller	.....	.....	133,247	.....	133,247	.....	998	3,508
Colorado Fuel & Iron Co.	Engle	.....	.....	75,490	.....	75,490	.....	.....	.....
Colorado Springs Co.	City No. 2	No	pr	oduction	In cours	e of deve	lopment		
Colorado & Utah Coal Co.	Harris	.....	1	249,468	2,514	251,982	137,050	939	.....
Commercial Coal Co.	Verdun	.....	.....	339	.....	339	.....	.....	.....
Consolidated Coal & Coke Co.	Baum	.....	7	113,430	.....	113,430	42,500	.....	.....
Converse, Frank	Converse	.....	.....	961	.....	961	.....	.....	.....
Corley, W. D.	Klondyke	.....	2	.....	15,617	15,617	5,250	200	.....
Cowie, James	Cowie	.....	.....	10	.....	10	.....	.....	.....
Cracker Jack Coal Co.	Cracker Jack	3	.....	700	14,056	14,756	.....	.....	.....
Crested Butte Anthracite M. Co.	Smith-Anthracite	.....	.....	31,449	.....	31,449	6,375	.....	1,000
Crested Butte Coal Co.	Bulkley	.....	.....	13,297	.....	13,297	5,250	.....	.....
Curtis Coal Co.	Curtis-Routt	.....	1	11,721	422	12,143	10,025	600	.....
Davis, Thos. D.	Franceville	.....	.....	859	.....	859	750	.....	.....
Deep Vein Coal Co.	Deep Vein	.....	.....	5,933	.....	5,933	2,475	5	165
Dinbaldo & Fernandino	City	.....	.....	74	.....	74	.....	.....	.....
Donnelly & Donnelly	Williamsb'g Slope No. 1	.....	.....	1,003	.....	1,003	900	20	.....
Donnelly & Donnelly	Williamsb'g Slope No. 2	.....	.....	230	.....	230	.....	.....	.....
Drysdale Coal Co.	Larimore	.....	.....	1,896	.....	1,896	1,725	.....	.....
Duncan, S. S.	Bennett	.....	.....	770	.....	770	452	.....	.....
Electric Fuel Co.	Electric	.....	.....	4,716	.....	4,716	.....	.....	.....
Elk Creek Mining Co.	Elk Creek	.....	.....	12,680	.....	12,680	15,000	50	.....
Empire Coal Co.	Empire	.....	.....	47,126	.....	47,126	.....	.....	6,972

Engineers Leasing Co.	Cambro	3			10,393	10,393	8,750		400
Enstrom Coal Co.	Missouri			593		593	365		
Evans Fuel Co.	Evans	5			70,160	70,160	27,500		
Farmers Mutual Coal Co.	Farmers			111		111			
Federal Coal Mining Co.	Lennox			2,833		2,833	3,675		
Fox Coal Mining Co.	Fox	3		4,206	60,778	64,984	18,625		
French & Welborn	School Section Lease			544		544	1,250		
Garfield Coal M. & Trans. Co.	Garfield			11,284		11,284	2,750		
Gibson Lumber & Fuel Co.	Royal Gorge			30,401		30,401	12,500	800	3,500
Gilson Asphaltum Co.	Carbonera			13,266		13,266			1,200
Globe Coal Mining Co.	Capitol	2			3,029	3,029	1,500		
Gordon Coal Co.	Gordon		4	711	49,014	49,725	19,700	1,103	
Grand Junction Mining & Fuel Co.	Cameo		4	29,411	100,120	129,531		6,000	30,000
Grand Mesa Fuel Co.	Fairview			900		900			
Green Valley Coal Co.	Green Valley			1,423		1,423	675	10	
Hall & Motto	Red Mountain			5,352		5,352	1,250		
Hayden Bros. Coal Corporation	Hayden Nos. 1 and 2			34,592		34,592	1,166		
Hesperus Fuel Co.	Hesperus			39,727		39,727			8,455
Hines Coal Co.	Hines			3,067		3,067			
Huerfano Coal Co.	Ludlow		3	15,103	117,681	132,784	73		15,768
Ideal Fuel Co.	Jewel		2	25,300	4,801	30,101			2,000
Independent Lumber Co.	Kurtzville			1,308		1,308	750		50
Indian Creek Coal M. Co.	Grayland		1	20,792		20,792	11,350	1,500	
International Fuel Co.	Wolf Creek			12,978		12,978			
Jeffryes Fuel Co.	Jeffryes		2	36,005	4,000	40,005			8,000
Joerger Fuel Co.	Beshoar			4,923		4,923			
Jones, R. C.	Butcher Knife			141		141	375		
Jones, W. D.	Mule Gulch			300		300	350		
Juanita Coal & Coke Co.	King		1	69,987	5,000	74,987			
Kain, E. W.	Gartman			850		850		20	
Kennedy, H. A.	Lou Creek			641		641	300		
Keystone Mining Co.	Keystone		1	45,222	23,125	68,347	18,750		2,000
Knapp, Richard	Smith			235		235	300	30	
Leone, L.	Leone			3,462		3,462			300
Lewis, J. T.	Lewis			2,551		2,551	1,100		
Leyden Coal Co.	Leyden	11		38,322	86,006	124,328	40,925	1,420	
Liberty Coal Mining Co.	Liberty			6,969		6,969			1,503
Liberty Coal & Mercantile Co.	Fidel-Liberty			1,839		1,839	200		

TABLE No. 4—(Continued)

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

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
Littell Coal & Mining Co.	Porter	.....	.....	15.505	.....	15,505	1,500	.....	.....
Loma Fuel Co.	Jobal	.....	3	.....	42,236	42,236	.....	800	3,780
Loma Fuel Co.	Loma	.....	.....	7,310	.....	7,310	.....	.....	.....
Louisville Coal & Land Co.	Firestone	5	.....	.....	53,837	53,837	.....	.....	.....
Lunney & Granger	Keystone	.....	.....	1,543	.....	1,543	.....	.....	300
Mancos Fuel Co.	Mancos	.....	.....	685	.....	685	.....	.....	.....
Marchetti, Andrew	Marion		See	mine	under R	ocky Mt.	Fuel Co.		
Marsh, R.	Fishers Peak	.....	.....	922	.....	922	.....	.....	.....
Matchless Fuel Co.	Matchless	6	.....	8,283	55,031	63,314	18,525	.....	.....
Mattivi, Steve	Bunker Hill	.....	.....	950	.....	950	.....	.....	50
May Coal Co.	May	.....	.....	872	.....	872	.....	.....	.....
McGowan, L. H.	Vista	.....	2	.....	39,448	39,448	.....	.....	.....
McLaughlin, Jas. E.	Henderson	.....	.....	3,388	.....	3,388	.....	.....	.....
McLaughlin, Jas. E.	McLaughlin	.....	.....	300	.....	300	.....	.....	.....
McLean Bros.	Double Dick	.....	.....	1,575	.....	1,575	1,850	84	.....
McNally, Geo. & Co.	Maitland	.....	2	363	19,510	19,873	.....	.....	5,000
McNeil Coal Co.	McGregor	.....	4	.....	74,732	74,732	50,450	1,500	.....
Midwest Coal & Iron Co.	Midwest	.....	1	12,720	.....	12,720	9,000	.....	.....
Midwest Coal & Iron Co.	Hilltop	.....	.....	1,843	.....	1,843	.....	.....	.....
Moffat Coal Co.	Moffat Nos. 1 and 2	.....	6	89,311	207,309	296,620	108,275	190	194
Moffitt-Carlile Coal Co.	Moffitt-Carlile	.....	.....	400	.....	400	975	.....	.....
Montgomery, W. S.	Lion Canon	.....	.....	939	.....	939	.....	.....	.....
Monument Valley Fuel Co.	New Maitland	.....	1	7,310	9,073	16,383	6,600	225	.....

Moore, H. A.	Madrid	.....	1	2,171	3,321	5,492	.....	.....	1,200
Morris Coal Co.	Morris	.....	.....	661	.....	661	675	.....	.....
Mowry, J. F.	Mitchell Springs	.....	.....	125	.....	125	250	.....	.....
Mutual Coal Co.	Mutual	.....	5	6,145	145,421	151,566	44,450	383	1,993
National Fuel Co.	Monarch No. 1	.....	1	.....	5,301	5,301	.....	.....	.....
National Fuel Co.	Monarch No. 2	7	.....	44,623	93,680	138,303	49,125	.....	.....
National Fuel Co.	Thor	.....	.....	64,495	.....	64,495	.....	.....	22,901
National Fuel Co.	Puritan	12	.....	14,921	218,207	233,128	105,000	750	.....
New Mile High Coal Co.	Mile High	.....	.....	623	.....	623	.....	.....	.....
Northern Colorado Fuel Co.	Coalmont	.....	.....	46,737	.....	46,737	26,475	200	.....
North Park Coal Co.	Moore	.....	.....	37,767	.....	37,767	25,925	50	.....
Oakdale Coal Co.	Oakdale	2	3	112,405	112,240	224,645	45,000	250	15,000
Oberding, Wm. J.	Knauss	.....	.....	427	.....	427	100	200	.....
Ohio Creek Coal Mining Co.	Ohio Creek	.....	.....	4,388	.....	4,388	3,375	.....	.....
O. K. Coal Co.	O. K.	.....	.....	5,463	.....	3,463	450	.....	.....
Olson, P. A.	Black Hawk	.....	.....	106	.....	106	50	2	.....
Orecchio Coal Co.	Orecchio	.....	.....	12,910	.....	12,910	13,150	.....	.....
Palisade Coal & Supply Co.	Palisade	.....	1	31,910	649	32,559	7,440	.....	.....
Paonia Coal Co.	Paonia	.....	.....	5,119	.....	5,119	8,000	.....	.....
Patterson, Alexander	City No. 2	.....	.....	2,546	.....	2,546	1,125	.....	.....
Patterson, Alexander	Patterson	.....	.....	1,577	.....	1,577	750	.....	.....
People's Coal & Supply Co.	Smith-Tanner	.....	.....	3,150	.....	3,150	1,825	160	.....
Petry, Samuel	Willie	.....	1	3,829	6,000	9,826	2,500	300	.....
Phillips Coal Co.	Phillips	.....	.....	1,026	.....	1,026	.....	.....	2,000
Pike's Peak Consolidated Fuel Co.	Pikeview	.....	3	30,413	175,421	205,834	65,000	.....	.....
Premium Coal Co.	Premium Star	.....	.....	9,572	.....	9,572	.....	.....	3,000
Prospect Coal Co.	Prospect	.....	1	430	10,480	10,910	.....	.....	621
Pueblo Fuel & Mining Co.	Horace	.....	.....	27,675	.....	27,675	18,000	600	300
P. V. Coal Co.	P. V.	2	.....	802	14,304	15,106	5,625	380	.....
Rapini Bros.	Placita	.....	.....	12,213	.....	12,213	.....	2,200	2,200
Rapson Coal Mining Co.	Rapson No. 1	.....	2	7,177	39,851	47,028	.....	125	2,225
Red Ash Coal Co.	Red Ash	1	.....	.....	16,122	16,122	6,875	.....	.....
Reynolds & Babcock	Black Diamond	.....	.....	3,242	.....	3,242	.....	.....	.....
Rio Blanco Coal Co.	Fairfield	.....	.....	617	.....	617	.....	.....	.....
Rocchio, James	Rocchio	.....	.....	1,381	.....	1,381	1,950	.....	.....
Rocky Mountain Fuel Co.	Simpson	11	.....	123,014	34,673	157,687	40,300	.....	.....
Rocky Mountain Fuel Co.	Standard	8	.....	11,811	106,484	118,295	20,275	.....	5,891
Rocky Mountain Fuel Co.	Vulcan	7	.....	14,054	82,338	96,392	23,150	.....	.....

TABLE No. 4—(Continued)

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

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
Rocky Mountain Fuel Co.	Mitchell	3	.....	29,288	39,117	68,405	9,900	.....	.....
Rocky Mountain Fuel Co.	Acme	8	.....	8,056	123,448	131,504	37,650	.....	.....
Rocky Mountain Fuel Co.	Hecla	4	.....	373	36,372	36,745	11,575	.....	.....
Rocky Mountain Fuel Co.	Gorham	9	.....	30,369	89,860	120,229	27,225	.....	.....
Rocky Mountain Fuel Co.	Industrial	.....	7	47,330	78,036	125,366	31,175	.....	.....
Rocky Mountain Fuel Co.	Garfield-Vulcan	.....	.....	36,638	.....	36,638	.....	.....	5,974
Rocky Mountain Fuel Co.	Midland	.....	.....	22,603	.....	22,603	3,250	.....	5,396
Rocky Mountain Fuel Co.	Alpine	.....	.....	59,966	.....	59,966	24,500	.....	.....
Rocky Mountain Fuel Co.	Forbes Nos. 4 and 9	.....	6	128,885	29,463	158,348	.....	.....	24,570
Rocky Mountain Fuel Co.	Piedmont	.....	.....	62,463	.....	62,463	.....	.....	9,764
Rocky Mountain Fuel Co.	La Belle	.....	.....	14,831	.....	14,831	.....	.....	5,502
		Not	in	use					
Rocky Mountain Fuel Co.	Southwestern	.....	2	10,248	.....	10,248	.....	.....	1,191
Rocky Mountain Fuel Co.	Marion	.....	.....	18,341	.....	18,341	.....	.....	833
Rocky Mountain Fuel Co.	Frederick	7	.....	.....	47,277	47,277	19,975	.....	.....
Rocky Mountain Fuel Co.	Grant	.....	3	1,132	8,524	9,656	4,275	.....	.....
Routt-Pinnacle Coal Co.	Routt-Pinnacle	.....	.....	12,902	.....	12,902	5,500	.....	.....
Royal Fuel Co.	Royal	.....	.....	171,297	.....	171,297	.....	477	5,136
Rugby Fuel Co.	Rugby	.....	.....	47,733	.....	47,733	.....	.....	.....
Russell, W. E., Coal Co.	Russell	8	.....	.....	60,699	60,699	19,800	200	.....
Salt Wash Mining Co.	Hunter	.....	.....	369	.....	369	125	.....	.....
Sandy Coal Co.	Sandy	.....	.....	908	.....	908	.....	.....	.....
Santa Fe Coal Co.	Santa Fe	.....	.....	26,780	.....	26,780	.....	450	7,900
Shamrock Coal Co.	Shamrock	.....	2	2,307	48,000	50,307	1,050	.....	.....
Shepherd & Manghan	Justrite	.....	.....	1,082	.....	1,082	1,200	500	.....
States Coal Co.	States	.....	.....	682	.....	682	250	.....	.....
Stokes, W. D.	Stokes	.....	.....	2,943	.....	2,943	150	250	.....

Strathmore Mine Co.	Strathmore	1	.....	.....	8,747	8,747	4,500	.....	.....
Sunshine Coal Co.	Sunshine	.....	.....	3,912	.....	3,912	1,125	.....	.....
Sunnyside Coal Mining Co.	Sunnyside	.....	4	1,671	89,521	91,192	44,100	200	.....
Temple Fuel Co.	Brodhead No. 9	.....	7	.....	139,778	139,778	.....	.....	22,000
Temple Fuel Co.	Alta	.....	.....	40,976	.....	40,976	.....	.....	6,000
Thomas Coal Co.	Williamsville	.....	.....	4,296	.....	4,296	2,900	.....	.....
Thomas, C. F.	Thomas	.....	.....	414	.....	414	525	.....	7
Thomas, C. O.	Rollins	.....	.....	217	.....	217	150	.....	.....
Thompson-Mitchell Fuel Co.	Boncarbo	.....	4	9,572	86,153	95,725	.....	8,000	50,000
Tioga Coal Co.	Tioga	.....	3	13,880	12,407	26,287	1,325	50	2,500
Todd, Geo. S.	Todd	.....	.....	173	.....	173	175	.....	.....
Trinidad Coal Co.	Baldy Mountain	.....	.....	1,098	.....	1,098	.....	.....	200
Trinidad Coal Mining Co.	Valley	.....	.....	3,022	.....	3,022	4,000	.....	37
Tudor Coal Co.	Danville	.....	.....	10,846	.....	10,846	4,100	.....	.....
Turner Coal Co.	Turner	.....	7	.....	134,474	134,474	.....	.....	27,918
Union Coal & Coke Co.	Pryor	.....	4	37,296	42,858	80,154	.....	.....	.....
United Collieries Co.	Monroe	1	.....	1,000	20,290	21,290	6,885	.....	.....
United Collieries Co.	Eureka	.....	.....	4,797	.....	4,797	.....	.....	.....
Utah Fuel Co.	Somerset .....(Not used)	.....	1	333,684	.....	333,684	.....	.....	34,500
Valley Commercial Co.	Valley	.....	.....	87	.....	87	.....	.....	.....
Van Wert Bros.	Ben Male	.....	.....	422	.....	422	.....	.....	.....
Victor American Fuel Co.	Chandler	.....	6	20,603	156,358	176,961	30	.....	25,570
Victor American Fuel Co.	Radiant	.....	4	4,826	38,636	43,462	14,000	165	2,308
Victor American Fuel Co.	Ravenwood	.....	1	43,303	15,509	58,812	.....	.....	18,960
Victor American Fuel Co.	Delagua	.....	4	446,937	108,725	555,662	.....	.....	19,519
Victor American Fuel Co.	Bowen	.....	4	73,403	29,019	102,422	.....	.....	23,985
Victor American Fuel Co.	Gray Creek	.....	4	31,770	3,799	35,569	.....	.....	3,164
Victor American Fuel Co.	Cass	.....	3	110	15,158	15,268	.....	.....	1,718
Victor American Fuel Co.	Hastings	2	.....	5,165	6,779	11,944	.....	1,285	4.437
Victor American Fuel Co.	Pinnacle	.....	3	129,860	253	130,113	65,275	267	250
Victor American Fuel Co.	Wadge	.....	2	13,553	26,302	39,855	9,400	1,335	500
Walter Coal Co.	Postal	.....	.....	650	.....	650	3,250	.....	300
Western Collieries Co.	Satanic	1	.....	100	300	400	25	.....	250
Wichita Fuel Co.	Wichita	.....	.....	1,582	.....	1,582	.....	.....	50
Williams, Walter	Williams	.....	.....	1,257	.....	1,257	.....	.....	1,000
Williamsburg Slope Coal Co.	Emerald	.....	.....	13,304	.....	13,304	100	60	.....
Winton Coal Co.	Winton	.....	.....	1,465	.....	1,465	350	.....	.....
Wolf Park Coal Co.	Wolf Park	.....	1	6,143	25,093	31,236	.....	.....	.....
Wood, F. P., & Co.	Wood	.....	1	.....	20,129	20,129	.....	.....	.....
Woodford, H. H.	Baldy	.....	.....	2,227	.....	2,227	.....	.....	.....
Wootton Land & Fuel Co.	Turner	.....	.....	34,540	.....	34,540	8,200	.....	.....
Totals		162	208	7,738,063	4,919,992	12,658,055	1,837,939	82,161	977,878

TABLE No. 6

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES IN THE STATE OF COLORADO FOR THE YEAR ENDED DECEMBER 31, 1918.

Total Production Distributed	Loaded at Mines for Shipment	Sold to Local Trade and Used by Employes	Used at Mines for Steam and Heat	Coal Made Into Coke	Coke Made
12,658,055	10,758,773	334,701	325,905	1,238,676	435,107

Table No. 5 omitted.

TABLE No. 7

NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1918.

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.)	1	10	226	105	342
2. Falls of face or pillar coal	.....	1	48	43	92
3. Mine cars and locomotives	.....	6	201	115	322
4. Gas explosions and burning gas	.....	.....	14	1	15
5. Coal-dust explosions (including gas and dust combined)	.....	1	2	.....	3
6. Explosives	.....	.....	7	2	9
7. Suffocation from mine gas	.....	.....	1	.....	1
8. Electricity	.....	1	4	3	8
9. Animals	.....	.....	35	19	54
10. Mining machines	.....	7	22	23	52
11. Mine fires (burned, suffocated, etc.)	.....	.....	.....	.....	.....
12. Other causes	.....	6	127	110	243
In Shaft:					
13. Falling down shafts or slopes	.....	.....	2	2	4
14. Objects falling down shafts or slopes	.....	.....	1	.....	1
15. Cages or skips	.....	.....	.....	.....	.....
16. Other causes	.....	.....	.....	.....	.....
Total number killed in mine	1	32	690	423	1,146
On Surface:					
17. Mine cars and mine locomotives	.....	.....	14	7	21
18. Electricity	.....	.....	.....	.....	.....
19. Machinery	.....	4	5	4	13
20. Boiler explosions or bursting steam pipes	.....	.....	.....	.....	.....
21. Railway cars and locomotives	.....	.....	4	2	6
22. Other causes	.....	.....	20	21	41
Total number killed on the surface	.....	4	43	34	81
GRAND TOTAL	1	36	733	457	1,227

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, 1918.

CAUSES	UNDERGROUND AND SHAFT																Surface Fatalities	Total Fatalities
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Runners and Scrapers	Shot Firers	Drivers and Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Brattlcemen	Timbermen and Rockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground		
Underground:																		
1. Falls of roof (coal, rock, etc.)	1	....	.....	20	4	1	.....	.....	.....	.....	.....	2	.....	.....	.....	28	....	....
2. Falls of face or pillar coal	.....	....	.....	4	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	....	....
3. Mine cars and locomotives	.....	....	.....	6	3	.....	.....	5	.....	.....	.....	.....	.....	1	5	20	....	....
4. Gas explosions and burning gas	.....	....	.....	1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	2	5	....	....
5. Coal-dust explosions (including gas and dust combined)	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
6. Explosives	.....	....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	....	....
7. Suffocation from mine gases	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
8. Electricity (shock or burns)	.....	....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	....	....
9. Animals	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	....	....
10. Mining machines	1	....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	....	....
11. Mine fires (burned, suffocated, etc.)	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
12. Other causes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
Shaft:																		
13. Falling down shafts or slopes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
14. Objects falling down shafts or slopes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
15. Cages or skips	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
16. Other causes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
Total underground	2	....	....	35	10	4	1	6	.....	.....	.....	2	.....	1	8	69	....	....

Surface:																		
17. Mine cars and mine locomotives	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
18. Electricity (shock or burns)	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
19. Machinery	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	....
20. Boiler explosions or bursting steam pipes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
21. Railway cars and locomotives	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	....
22. Other causes	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....
Total	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	....
Grand total	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	71
Number employed in each occupation (a)	207	53	192	4,936	2,581	498	171	1,051	208	103	348	484	117	112	289	11,350	....	....

(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, 1918

UNDERGROUND	Employed in and around the mines of Colorado
1. Foremen	207
2. Assistant foremen	53
3. Fire bosses	192
4. Pick miners	4,936
5. Machine miners	2,581
6. Machine runners and scrapers	498
7. Shot firers	171
8. Drivers and runners	1,051
9. Motormen and assistants	208
10. Doorboys and helpers	103
11. Trackmen and brattice men	348
12. Timbermen and rockmen	484
13. Pump and pipemen	117
14. Electricians and helpers	112
15. All others	289
Total underground	11,350
SURFACE	
1. Superintendents	171
2. Foremen	86
3. Blacksmiths and carpenters	268
4. Engineers and firemen	390
5. Machinists and helpers	102
6. Trackmen and helpers	100
7. All others at mine	1,737
8. Coke-oven employees	566
9. Office employees	170
Total surface	3,590
Total employees	14,940
Days mines were operated during the year	169.2

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

TABLE A

SHOWING BY COMPANIES: TOTAL NUMBER OF TONS PRODUCED AND NUMBER OF MEN EMPLOYED; NUMBER OF FATAL ACCIDENTS; NUMBER OF MEN EMPLOYED PER FATAL ACCIDENT AND NUMBER OF TONS PRODUCED PER FATAL ACCIDENT; NUMBER OF NON-FATAL ACCIDENTS; NUMBER OF MEN EMPLOYED PER NON-FATAL ACCIDENT AND NUMBER OF TONS PRODUCED PER NON-FATAL ACCIDENT; NUMBER KILLED PER 1,000 EMPLOYED AND NUMBER OF MEN INJURED PER 1,000 EMPLOYED.

1918

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
Allen Coal Co.	7,591	15	.....	.....	.....	.....	.....	.....	.....	.....
Allen, David	135	3	.....	.....	.....	.....	.....	.....	.....	.....
Alliance Coal Co.	50,085	77	.....	.....	.....	6	13	.....	.....	168.8
American Smelting & Refining Co.	167,392	115	3	38	55,797	32	3.6	5,231	26	260.9
Anchor Coal Co.	1,961	3	.....	.....	.....	.....	.....	.....	.....	.....
Azar Coal Co.	3,690	6	.....	.....	.....	.....	.....	.....	.....	.....
Aztec Coal Mining Co.	62,430	122	1	122	62,430	2	56	31,215	8.2	16.4
Axial Basin Development Co.	548	5	.....	.....	.....	.....	.....	.....	.....	.....
Baldwin Fuel Co.	3,305	5	.....	.....	.....	.....	.....	.....	.....	.....
Barnes, J. F.	1,438	2	.....	.....	.....	.....	.....	.....	.....	.....
Baudino & Co.	3,492	4	.....	.....	.....	.....	.....	.....	.....	.....
Bear Canon Coal Co.	61,830	63	1	63	61,830	4	16	15,458	16	63.5
Bear River Coal Co.	50,515	74	1	74	50,515	4	18.5	12,969	13.5	54
Big Four Coal & Coke Co.	158,741	175	2	87	79,371	14	12.5	11,340	11.4	79.8
Big Six Coal Co.	22,670	36	.....	.....	.....	5	7	4,534	.....	138.8
Black Canon Fuel & Coal Co.	17,768	31	.....	.....	.....	1	31	17,768	.....	32.3
Black Diamond Coal Co.	246	3	.....	.....	.....	.....	.....	.....	.....	.....
Black Diamond Niggerhead Coal M. Co.	43,151	72	.....	.....	.....	1	72	43,151	.....	12.5
Black Hawk Coal Co.	34,759	52	.....	.....	.....	1	52	34,759	.....	19.2
Boaglio, Bert	678	2	.....	.....	.....	.....	.....	.....	.....	.....
Book Cliff Coal Co.	9,356	12	.....	.....	.....	2	6	4 678	.....	166.6
Boulder Black Diamond Coal Co.	9,761	13	.....	.....	.....	.....	.....	.....	.....	.....

Boulder Valley Coal Co.	8,399	20	.....	.....	.....	.....	.....	.....	.....	.....
Bracken & Cozza	1,262	3	.....	.....	.....	.....	.....	.....	.....	.....
Breen Coal Mining Co.	31,625	41	2	20	16,312	6	7	5,271	48.8	146.4
Brennan Coal Co.	340	7	.....	.....	.....	.....	.....	.....	.....	.....
Brimble, David	298	1	.....	.....	.....	.....	.....	.....	.....	.....
Brooks Fuel Co.	29,278	31	.....	.....	.....	6	5	4,879	.....	194
Brookside Coal Mining Co.	19,404	15	.....	.....	.....	2	7	.....	.....	133.3
Broyles Coal Co.	740	2	.....	.....	.....	.....	.....	.....	.....	.....
Bruton & Patton	814	4	.....	.....	.....	.....	.....	.....	.....	.....
Caddell & Carlson	2,861	6	1	6	2,861	.....	.....	1,137	166.6	.....
Caddell & Oldham	4,547	18	.....	.....	.....	4	5	.....	.....	222
Calumet Fuel Co.	60,527	79	.....	.....	.....	3	.....	20,176	.....	38
Caprock Fuel Co.	6,659	23	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Hill Coal & Coke Co.	68,252	74	.....	.....	.....	4	18.5	17,063	.....	54
Chroop, H. E.	1,031	2	.....	.....	.....	.....	.....	.....	.....	.....
Colorado Coal Mines Co.	8,330	20	1	20	8,330	1	20	8,330	50	50
Colorado Fuel & Iron Co.	4,231,286	5,334	18	296	235,071	416	12.8	10,171	3.4	78
Colorado Springs Co.	No Produ	ction	.....	.....	.....	2	.....	.....	.....	.....
Colorado & Utah Coal Co.	251,982	186	1	186	251,982	18	10.3	13,999	5.4	97.2
Commercial Coal Co.	339	3	.....	.....	.....	.....	.....	.....	.....	.....
Consolidated Coal & Coke Co.	113,430	115	.....	.....	.....	6	19	37,810	.....	52.2
Converse, Frank	961	2	.....	.....	.....	.....	.....	.....	.....	.....
Corley, W. D.	15,617	24	.....	.....	.....	2	12	7,808	.....	83.3
Cowie, James	10	5	.....	.....	.....	.....	.....	.....	.....	.....
Cracker Jack Coal Co.	14,756	9	1	.....	14,756	.....	.....	.....	91.1	.....
Crested Butte Anthracite Mining Co.	31,449	49	.....	.....	.....	7	7	4,493	.....	143
Crested Butte Coal Co.	13,297	24	.....	.....	.....	1	24	13,297	.....	41.7
Curtis Coal Co.	12,143	22	.....	.....	.....	.....	.....	.....	.....	.....
Davis, Thos. E.	859	2	.....	.....	.....	.....	.....	.....	.....	.....
Deep Vein Coal Co.	5,933	7	.....	.....	.....	.....	.....	.....	.....	.....
Dinbaldo & Fernandino	74	2	.....	.....	.....	.....	.....	.....	.....	.....
Donnelly & Donnelly	1,233	8	.....	.....	.....	.....	.....	.....	.....	.....
Drysdale Coal Co.	1,896	38	.....	.....	.....	.....	.....	.....	.....	.....
Duncan, S. S.	770	2	.....	.....	.....	.....	.....	.....	.....	.....
Electric Fuel Co.	4,716	16	.....	.....	.....	1	.....	4,716	.....	62.5
Elk Creek Mining Co.	12,680	26	.....	.....	.....	3	8.6	4,227	.....	115
Empire Coal Co.	47,126	49	.....	.....	.....	9	5.5	5,236	.....	184
Engineers Leasing Co.	10,393	17	.....	.....	.....	.....	.....	.....	.....	.....

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
Enstrom Coal Co.	593	1	.....	.....	.....	.....	.....	.....	.....	.....
Evans Fuel Co.	70,160	94	.....	.....	.....	7	13.4	10,153	.....	74.5
Farmers Mutual Co.	111	2	.....	.....	.....	.....	.....	.....	.....	.....
Federal Coal Mining Co.	2,833	13	.....	.....	.....	.....	.....	.....	.....	.....
Fox Coal Mining Co.	64,984	69	.....	.....	.....	1	69	64,988	.....	14.5
French & Welborn	544	4	.....	.....	.....	.....	.....	.....	.....	.....
Garfield Coal Mining Co.	11,284	16	.....	.....	.....	2	8	5,642	187.5	125
Gibson Lumber & Fuel Co.	30,401	46	.....	.....	.....	2	23	15,200	.....	43.5
Gilson Asphaltum Co.	13,266	8	.....	.....	.....	.....	.....	.....	.....	.....
Globe Coal Mining Co.	3,029	23	.....	.....	.....	.....	.....	.....	.....	.....
Gordon Coal Co.	49,725	64	1	64	49,725	2	32	24,862	15.6	31.2
Grand Junction Mining & Fuel Co.	129,531	94	1	94	129,531	8	11.8	15,664	10.6	84.8
Grand Mesa Fuel Co.	900	2	.....	.....	.....	.....	.....	.....	.....	.....
Green Valley Coal Co.	1,423	2	.....	.....	.....	.....	.....	.....	.....	.....
Hall & Motto	5,352	5	.....	.....	.....	.....	.....	.....	.....	.....
Hayden Bros. Coal Corporation	34,592	78	1	78	34,592	13	6	2,671	12.8	166.4
Hesperus Fuel Co.	39,727	53	.....	.....	.....	4	13.3	9,932	.....	75.5
Hines Coal Co.	3,067	6	.....	.....	.....	.....	.....	.....	.....	.....
Huerfano Coal Co.	132,784	125	1	125	132,784	10	125	13,278	8	80
Ideal Fuel Co.	30,101	51	1	51	30,101	.....	.....	.....	19.6	.....
Independent Lumber Co.	1,308	2	.....	.....	.....	.....	.....	.....	.....	.....
Indian Creek Coal Mining Co.	20,792	27	.....	.....	.....	1	27	20,792	.....	37
International Fuel Co.	12,978	18	.....	.....	.....	.....	.....	.....	.....	.....
Jeffryes Fuel Co.	40,005	56	1	56	40,005	9	6.2	4,445	.....	160.3
Joerger Fuel Co.	4,923	10	.....	.....	.....	1	10	4,923	.....	100
Jones, R. C.	141	1	.....	.....	.....	.....	.....	.....	.....	.....
Jones, W. D.	300	2	.....	.....	.....	.....	.....	.....	.....	.....
Juanita Coal & Coke Co.	74,987	69	1	69	74,987	3	23	24,996	14.5	43.5
Kain, E. W.	850	4	.....	.....	.....	.....	.....	.....	.....	.....
Kennedy, H. A.	641	2	.....	.....	.....	.....	.....	.....	.....	.....

Keystone Mining Co.	68,347	72	.....	.....	.....	10	7.2	6,835	.....	139
Knapp, Richard	235	5	.....	.....	.....	.....	.....	.....	.....	.....
Leone, L.	3,462	5	.....	.....	.....	1	5	3,462	.....	200
Lewis, J. T.	2,551	2	.....	.....	.....	1	2	1,276	.....	500
Leyden Coal Co.	124,328	151	.....	.....	.....	29	5.2	4,280	.....	192
Liberty Coal Mining Co.	6,969	9	.....	.....	.....	.....	.....	.....	.....	.....
Liberty Coal & Mercantile Co.	1,839	3	.....	.....	.....	.....	.....	.....	.....	.....
Littell Coal & Mining Co.	15,505	31	.....	.....	.....	1	31	15,505	.....	32.3
Loma Fuel Co.	49,546	65	1	65	49,546	.....	.....	.....	15.4	.....
Louisville Coal & Land Co.	53,837	54	.....	.....	.....	2	27	26,918	.....	37.2
Lunney & Granger	1,543	4	.....	.....	.....	.....	.....	.....	.....	.....
Mancos Fuel Co.	685	2	.....	.....	.....	.....	.....	.....	.....	.....
Marchetti, Andrew	13,424	26	.....	.....	.....	1	26	13,424	.....	38.5
Marsh, R.	922	2	.....	.....	.....	.....	.....	.....	.....	.....
Matchless Fuel Co.	63,314	88	.....	.....	.....	6	14.3	10,552	.....	68.2
Mattivi, Steve	950	4	.....	.....	.....	.....	.....	.....	.....	.....
May Coal Co.	872	6	.....	.....	.....	.....	.....	.....	.....	.....
McGowan, L. H.	39,448	46	.....	.....	.....	1	46	39,448	.....	21.5
McLaughlin, Jas. E.	3,688	7	.....	.....	.....	.....	.....	.....	.....	.....
McLean Bros.	1,575	3	.....	.....	.....	.....	.....	.....	.....	.....
McNally, Geo. & Co.	19,873	39	.....	.....	.....	1	39	19,873	.....	25.6
McNeil Coal Co.	74,732	107	.....	.....	.....	4	26.7	18,683	.....	37.4
Midwest Coal & Iron Co.	14,563	36	.....	.....	.....	.....	.....	.....	.....	.....
Moffat Coal Co.	296,620	241	3	80	98,873	20	12.5	14,831	12.4	44.4
Moffitt-Carlile Coal Co.	400	3	.....	.....	.....	.....	.....	.....	.....	.....
Montgomery, W. S.	939	2	.....	.....	.....	.....	.....	.....	.....	.....
Monument Valley Fuel Co.	16,383	22	.....	.....	.....	.....	.....	.....	.....	.....
Moore, H. A.	5,492	10	.....	.....	.....	3	.....	1,830	.....	100
Morris Coal Co.	661	8	.....	.....	.....	.....	.....	.....	.....	.....
Mowry, J. F.	125	1	.....	.....	.....	.....	.....	.....	.....	.....
Mutual Coal Co.	151,566	118	2	59	75,783	14	8.4	10,825	16.9	118.3
National Fuel Co.	441,227	379	3	126	147,076	35	10.8	12,606	7.9	92.3
New Mile High Coal Co.	623	5	.....	.....	.....	.....	.....	.....	.....	.....
Northern Colorado Fuel Co.	46,737	32	.....	.....	.....	.....	.....	.....	.....	.....
North Park Coal Co.	37,767	21	.....	.....	.....	2	10.5	18,884	.....	95.2
Oakdale Coal Co.	224,645	205	2	102	112,322	26	7.9	8,642	9.8	127.4
Oberding, W. J.	427	2	.....	.....	.....	.....	.....	.....	.....	.....
Ohio Creek Coal Mining Co.	4,388	10	.....	.....	.....	.....	.....	.....	.....	.....

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
O. K. Coal Co.	5,463	5	.....	.....	.....	3	1.7	1,821	.....	600
Olson, P. A.	106	4	.....	.....	.....	.....	.....	.....	.....	.....
Orecchio Coal Co.	12,910	16	.....	.....	.....	.....	.....	.....	.....	.....
Palisade Coal & Supply Co.	32,559	50	.....	.....	.....	1	50	32,559	.....	20
Paonia Coal Co.	5,119	4	.....	.....	.....	.....	.....	.....	.....	.....
Patterson, Alexander	4,123	18	.....	.....	.....	.....	.....	.....	.....	.....
People's Coal & Supply Co.	3,150	7	.....	.....	.....	.....	.....	.....	.....	.....
Petry, Samuel	9,829	14	.....	.....	.....	1	14	9,829	.....	71.4
Phillips Coal Co.	1,026	23	.....	.....	.....	.....	.....	.....	.....	.....
Pike's Peak Consolidated Fuel Co.	205,834	151	.....	.....	.....	9	16.8	22,870	.....	59.9
Premium Coal Co.	9,572	11	.....	.....	.....	.....	.....	.....	.....	.....
Prospect Mine Co.	10,910	26	.....	.....	.....	2	13	5,455	.....	77
Pueblo Fuel & Mining Co.	27,675	46	.....	.....	.....	4	11.5	6,919	.....	87
P. V. Coal Co.	15,106	19	.....	.....	.....	.....	.....	.....	.....	.....
Rapini Bros.	12,213	11	.....	.....	.....	4	2.8	3,053	.....	363.6
Rapson Coal Mining Co.	47,028	61	.....	.....	.....	4	15.2	11,757	.....	65.6
Red Ash Coal Co.	16,122	19	1	19	16,122	1	19	16,122	52.6	52.6
Reynolds & Babcock	3,242	3	.....	.....	.....	.....	.....	.....	.....	.....
Rio Blanco Coal Co.	617	2	.....	.....	.....	.....	.....	.....	.....	.....
Rocchio, James	1,381	2	.....	.....	.....	.....	.....	.....	.....	.....
Rocky Mountain Fuel Co.	1,281,570	1,201	6	200	213,595	161	75	7,960	4.9	134
Routt Pinnacle Coal Co.	12,902	29	.....	.....	.....	5	58	2,584	.....	172.4
Royal Fuel Co.	171,297	144	.....	.....	.....	5	28.8	34,259	.....	34.7
Rugby Fuel Co.	47,733	59	.....	.....	.....	3	19.7	15,777	.....	50.8
Russell, W. E., Coal Co.	60,699	53	1	53	60,699	5	10.6	12,140	18.9	94.5
Salt Wash Mining Co.	369	2	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Coal Co.	908	9	.....	.....	.....	.....	.....	.....	.....	.....
Santa Fe Coal Co.	26,780	50	.....	.....	.....	8	6.2	3,098	.....	160
Shamrock Coal Co.	50,307	34	.....	.....	.....	.....	.....	.....	.....	.....
Shepherd & Maughan	1,082	3	.....	.....	.....	.....	.....	.....	.....	.....

States Coal Co.	682	1	.....	.....	.....	.....	.....	.....	.....	.....
Stokes, W. D.	2,943	6	.....	.....	.....	.....	.....	.....	.....	.....
Strathmore Mine Co.	8,747	8	.....	.....	.....	.....	.....	.....	.....	.....
Sunshine Coal Co.	3,912	3	.....	.....	.....	.....	.....	.....	.....	.....
Sunnyside Coal Mining Co.	91,192	85	2	43	45,596	6	14.1	15,320	23.5	70.6
Temple Fuel Co.	180,754	166	2	83	90,377	13	12.8	13,904	12.3	78.3
Thomas Coal Co.	4,296	7	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, C. F.	414	3	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, C. O.	217	2	.....	.....	.....	.....	.....	.....	.....	.....
Thompson & Mitchell Fuel Co.	95,725	119	.....	.....	.....	6	19.8	15,841	.....	50.3
Tioga Coal Co.	26,237	53	.....	.....	.....	3	17.7	8,746	.....	56.6
Todd, Geo. S.	173	2	.....	.....	.....	.....	.....	.....	.....	.....
Trinidad Coal Co.	1,098	3	.....	.....	.....	.....	.....	.....	.....	.....
Trinidad Coal Mining Co.	3,022	10	.....	.....	.....	.....	.....	.....	.....	.....
Tudor Coal Co.	10,846	14	.....	.....	.....	3	4.7	3,615	.....	214
Turner Coal Co.	134,474	119	.....	.....	.....	14	8.5	9,605	.....	117.6
Union Coal & Coke Co.	80,154	84	.....	.....	.....	6	14	13,423	.....	71.4
United Collieries Co.	26,087	32	.....	.....	.....	.....	.....	.....	.....	.....
Utah Fuel Co.	333,684	237	1	237	333,684	25	9.5	13,347	4.2	105
Valley Commercial Co.	87	2	.....	.....	.....	.....	.....	.....	.....	.....
Van Wert Bros.	422	2	.....	.....	.....	.....	.....	.....	.....	.....
Victor American Fuel Co.	1,170,068	1,155	8	145	146,259	134	8.3	8,732	7.2	120.2
Walter Coal Co.	650	7	.....	.....	.....	.....	.....	.....	.....	.....
Western Collieries Co.	400	19	.....	.....	.....	.....	.....	.....	.....	.....
Wichita Fuel Co.	1,582	4	.....	.....	.....	.....	.....	.....	.....	.....
Williams Coal Co.	1,257	10	.....	.....	.....	.....	.....	.....	.....	.....
Williamsburg Slope Coal Co.	13,304	39	.....	.....	.....	5	7.8	2,661	.....	128.2
Winton Coal Co.	1,465	2	.....	.....	.....	.....	.....	.....	.....	.....
Wolf Park Coal Co.	31,236	60	.....	.....	.....	6	10	5,206	.....	100
Wood, F. P. & Co.	20,129	31	.....	.....	.....	3	10.3	6,710	.....	96.8
Woodford, H. H.	2,227	3	.....	.....	.....	.....	.....	.....	.....	.....
Wootton Land & Coal Co.	34,540	61	.....	.....	.....	4	15.2	8,635	.....	65.6
Total	12,658,055	14,374	71	102.5	177,578	1,227	11.7	10,275.5	4.94	85.5

The Marion, operated by Andrew Marchetti, was taken over by the Rocky Mountain Fuel Co. in September, 1918. Therefore, part of the tonnage in Table 1 is charged to A. Marchetti, but in the other table is listed under those of the Rocky Mountain Fuel Co.

The Tioga Mine, operated by the Tioga Coal Co., was taken over by the Colorado Fuel & Iron Co. in August, 1918, but produced no coal since then.

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

BOULDER COUNTY, 1918

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	309	99	157,687	600
Standard	Rocky Mountain Fuel Co.	Lafayette	Sub-Bituminous	203.5	110	118,295	500
Vulcan	Rocky Mountain Fuel Co.	Lafayette	Sub-Bituminous	291.9	73	96,392	400
Mitchell	Rocky Mountain Fuel Co.	Lafayette	Sub-Bituminous	309.9	53	68,405	300
Acme	Rocky Mountain Fuel Co.	Louisville	Sub-Bituminous	210.4	118	131,504	800
Hecla	Rocky Mountain Fuel Co.	Louisville	Sub-Bituminous	227.4	40	36,745	200
Gorham	Rocky Mountain Fuel Co.	Gorham	Sub-Bituminous	284	92	120,229	350
Industrial	Rocky Mountain Fuel Co.	Superior	Sub-Bituminous	251.5	129	125,366	800
Monarch No. 1	National Fuel Co.	Downer	Sub-Bituminous	259	11	5,301	100
Monarch No. 2	National Fuel Co.	Broomfield	Sub-Bituminous	249	142	138,303	750
Centennial	Big Four Coal & Coke Co.	Louisville	Sub-Bituminous	202	89	81,865	500
Fox	Fox Coal Mining Co.	Marshall	Sub-Bituminous	179	69	64,984	500
Matchless	Matchless Fuel Co.	Louisville	Sub-Bituminous	233.7	88	63,314	500
Nonpareil	Brooks Fuel Co.	Louisville	Sub-Bituminous	278	31	29,278	200
Sunnyside	Big Six Coal Co.	Louisville	Sub-Bituminous	241.5	36	22,670	100
Red Ash	Red Ash Coal Co.	Gorham	Sub-Bituminous	247.5	19	16,122	200
Cracker Jack	Cracker Jack Coal Co.	Boulder	Sub-Bituminous	269	9	14,756	60
Cambro	Engineers Leasing Co.	Lafayette	Sub-Bituminous	326	17	10,393	200
Black Diamond	Boulder Black Diamond Coal Co.	Boulder	Sub-Bituminous	257	13	9,761	200
Strathmore	Strathmore Mine Co.	Lafayette	Sub-Bituminous	211	8	8,747	45
Electric	Electric Fuel Co.	Louisville	Sub-Bituminous	128	16	4,716	50
Capitol	Globe Coal Mining Co.	Lafayette	Sub-Bituminous	94	23	3,029	100
Lewis	J. T. Lewis	Gorham	Sub-Bituminous	201.5	2	2,551	15
Mile High	New Mile High Coal Co.	Lafayette	Sub-Bituminous	69	5	623	50
Star	David Allen	Lafayette	Sub-Bituminous	25	3	135	.....
Cowie	James Cowie	Boulder	Sub-Bituminous	16.7	5	10	.....
Totals—Number	of Mines Operated, 26			140.3	1,300	1,331,181	.....

DELTA COUNTY, 1918

King	Juanita Coal & Coke Co.	Bowie	Bituminous	189.5	69	74,987	600
Red Mountain	Hall & Motto	Cedaredge	Bituminous	302	5	5,352	30
Farmers	Paonia Coal Co.	Paonia	Bituminous	172	4	5,119	40
Winton	Winton Coal Co.	Cedaredge	Semi-Bituminous	220	2	1,465	50
Green Valley	Green Valley Coal Co.	Cedaredge	Semi-Bituminous	250	2	1,423	20
Kurtzville	Independent Lumber Co.	Hotchkiss	Semi-Bituminous	250	2	1,308	.....
Converse	Frank Converse	Paonia	Semi-Bituminous	195	2	961	10
Fairview	Grand Mesa Fuel Co.	Delta	Semi-Bituminous	127	2	900	20
May	May Coal Co.	Paonia	Semi-Bituminous	37.2	6	872	40
Coalby	Benton & Patton	Cedaredge	Semi-Bituminous	136	4	814	20
Bennett	S. S. Duncan	Hotchkiss	Semi-Bituminous	188	2	770	25
States	States Coal Co.	Cedaredge	Semi-Bituminous	175.5	1	682	50
Rollins	C. O. Thomas	Delta	Semi-Bituminous	66	2	217	.....
Totals—Number	of Mines Operated, 13			177.6	103	94,870	.....

EL PASO COUNTY, 1918

Pikeview	Pikes Peak Consolidated Fuel Co.	Colo. Springs	Sub-Bituminous	238.5	151	205,834	900
Keystone	Keystone Mining Co.	Colo. Springs	Sub-Bituminous	280	72	68,347	600
Klondyke	W. D. Corley	Colo. Springs	Sub-Bituminous	280	24	15,617	200
Danville	Tudor Coal Co.	Colo. Springs	Sub-Bituminous	205	14	10,846	100
Williamsville	Thomas Coal Co.	Colo. Springs	Sub-Bituminous	258	7	4,296	50
City No. 2	Alexander Patterson	Colo. Springs	Sub-Bituminous	59	10	2,546	100
Patterson	Alexander Patterson	Colo. Springs	Sub-Bituminous	63	8	1,577	.....
Franceville	Thos. E. Davis	Colo. Springs	Sub-Bituminous	147	2	859	.....
Totals—Number	of Mines Operated, 8			191.3	288	309,922	.....

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

FREMONT COUNTY, 1918

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	298	275	179,066	600
Coal Creek	Colorado Fuel & Iron Co.	Coal Creek	Semi-Bituminous	281	221	169,801	600
Fremont	Colorado Fuel & Iron Co.	Florence	Semi-Bituminous	297	246	168,939	800
Nonac	Colorado Fuel & Iron Co.	Canon City	Semi-Bituminous	304	25	14,216	75
Chandler	Victor-American Fuel Co.	Chandler	Semi-Bituminous	285.5	175	176,961	700
Radiant	Victor-American Fuel Co.	Pyrolite	Semi-Bituminous	298.5	56	43,462	175
Wolf Park	Wolf Park Coal Co.	Canon City	Semi-Bituminous	218.4	60	31,236	325
Royal Gorge	Gibson Lumber & Fuel Co.	Canon City	Semi-Bituminous	244	46	30,401	150
Brookside	Brookside Coal Mining Co.	Canon City	Semi-Bituminous	294.5	15	19,404	60
Emerald	Williamsburg Slope Coal Co.	Florence	Semi-Bituminous	237	39	13,304	100
Orecchio	Orecchio Coal Co.	Florence	Semi-Bituminous	303.5	16	12,910	40
Willie	Samuel Petry	Florence	Semi-Bituminous	289	14	9,829	35
Smith Tanner	People's Coal & Supply Co.	Florence	Semi-Bituminous	263.5	7	3,150	15
Double Dick	McLean Bros.	Coal Creek	Semi-Bituminous	276	3	1,575	40
Rocchio	James Rocchio	Coal Creek	Semi-Bituminous	248	2	1,381	5
Williamsburg Slope, 1	Donnelly & Donnelly	Florence	Semi-Bituminous	162	4	1,003	25
Williamsburg Slope, 2	Donnelly & Donnelly	Florence	Semi-Bituminous	44	4	230	25
Totals—Number	of Mines Operated, 17			255.5	1,208	876,868	

GARFIELD COUNTY, 1918

Garfield-Vulcan	Rocky Mountain Fuel Co.	New Castle	Semi-Bituminous	218.3	43	36,638	300
Midland	Rocky Mountain Fuel Co.	Glenw'd Sp'gs.	Semi-Bituminous	236.4	46	22,603	600
Carbonera	Gilson Asphaltum Co.	Mack	Bituminous	298	8	13,266	60
Harvey Gap	Bracken & Cozza	New Castle	Bituminous	126	3	1,262	10
Smith	Richard Knapp	New Castle	Bituminous	7.5	5	235	5
Totals—Number	of Mines Operated, 5			148	105	74,004	

GUNNISON COUNTY, 1918

Somerset	Utah Fuel Co.	Somerset	Bituminous	269.9	237	333,684	1,800
Crested Butte	Colorado Fuel & Iron Co.	Crested Butte	Bituminous	307	157	143,873	800
Floresta	Colorado Fuel & Iron Co.	Floresta	Anthracite	304	39	18,853	100
Alpine	Rocky Mountain Fuel Co.	Baldwin	Semi-Bituminous	259.6	62	59,966	300
Smith-Anthracite	Crested Butte Anthracite M. Co.	Crested Butte	Anthracite	245	49	31,449	300
Bulkley	Crested Butte Coal Co.	Crested Butte	Anthracite	138	24	13,297	200
Horace	Pueblo Fuel & Mining Co.	Crested Butte	Bituminous	292	46	27,675	150
Porter	Littell Coal & Mining Co.	Crested Butte	Semi-Bituminous	124	31	15,505	150
Ohio Creek	Ohio Creek Coal Mining Co.	Gunnison	Semi-Bituminous	132	10	4,388	50
Baldwin-Star	Baldwin Fuel Co.	Baldwin	Bituminous	208	5	3,305	25
Totals—Number	of Mines Operated, 10			227.9	660	651,995	

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

HUERFANO COUNTY, 1918

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-Robinson	Colorado Fuel & Iron Co.	Walsen	Bituminous	298	640	483,393	1,800
Cameron	Colorado Fuel & Iron Co.	Farr	Bituminous	293	244	220,693	800
Rouse	Colorado Fuel & Iron Co.	Rouse	Bituminous	299	243	183,538	800
Ideal	Colorado Fuel & Iron Co.	Ideal	Bituminous	296	234	178,501	700
Pictou	Colorado Fuel & Iron Co.	Pictou	Bituminous	269	196	167,229	600
Lester	Colorado Fuel & Iron Co.	Lester	Bituminous	292	174	128,822	500
Hezron	Colorado Fuel & Iron Co.	Lester	Bituminous	118	36	12,334	.....
Oakdale	Oakdale Coal Co.	Oakview	Bituminous	282	205	224,645	800
Mutual	Mutual Coal Co.	Walsenburg	Bituminous	273.9	118	151,566	700
Turner	Turner Coal Co.	Walsenburg	Bituminous	224.7	119	134,474	800
Sunnyside	Sunnyside M. Coal Co.	Strong	Bituminous	247.5	85	91,192	675
Pryor	Union Coal & Coke Co.	Pryor	Bituminous	264.1	84	80,154	400
Big Four	Big Four Coal & Coke Co.	Tioga	Bituminous	207.8	86	76,876	600
Ravenwood	Victor-American Fuel Co.	Ravenwood	Bituminous	258.4	122	62,430	500
Toltec	Aztec Coal Mining Co.	Toltec	Bituminous	294.2	85	58,812	350
Reliance	Alliance Coal Co.	Ojo	Bituminous	239.7	77	50,085	200
Gordon	Gordon Coal Co.	Walsenburg	Bituminous	249.1	64	49,725	300
Rugby	Rugby Fuel Co.	Rugby	Bituminous	250.9	59	47,733	250
Jobal	Loma Fuel Co.	Pictou	Bituminous	279.5	35	42,236	300
Loma	Loma Fuel Co.	Walsen	Bituminous	60	30	7,310	200
Vesta	L. H. McGowan	Camp Shumway	Bituminous	211.1	46	39,448	300
Breen	Breen Coal Mining Co.	Walsenburg	Bituminous	244.5	41	31,625	150
Tioga	Tioga Coal Co.	Tioga	Bituminous	172	53	26,287	500
Maitland	Geo. McNally & Co.	Maitland	Bituminous	257	39	19,873	100
Caddell	Black Canon Coal & Fuel Co.	Walsenburg	Bituminous	231.5	31	17,768	200

New Maitland	Monument Valley Fuel Co.	Camp Shumway	Bituminous	238	22	10,810	100
Larimore	Drysdale Coal Co.	Strong	Bituminous	93.5	38	7,469	125
Capcock	Capcock Fuel Co.	Walsenburg	Bituminous	219	23	6,659	30
Hezron Lease	Caddell & Oldham	Lester	Bituminous	80.7	18	4,547	50
Cuchara Canon	Caddell & Carlson	Walsenburg	Bituminous	253	6	2,861	25
Bunker Hill	Steve Mattivi	Rugby	Bituminous	88	4	950	25
Brennan	Brennan Coal Co.	Walsenburg	Bituminous	24	7	340	.....
Totals—Number	of Mines Operated, 32			222.2	3,264	2,620,385	.....

JACKSON COUNTY, 1918

Coalmont	Northern Colorado Fuel Co.	Coalmont	Sub-Bituminous	173.1	32	46,737	200
Moore	North Park Coal Co.	Coalmont	Sub-Bituminous	234	21	37,767	300
Totals—Number	of Mines Operated, 2			203.5	53	84,504	.....

JEFFERSON COUNTY, 1918

Leyden	Leyden Coal Co.	Leyden	Sub-Bituminous	209	151	124,328	1,200
Justrite	Shepherd & Maughan	Golden	Sub-Bituminous	224	3	1,082	7
Satanic	Western Collieries Co.	Morrison	Sub-Bituminous	30	19	400	100
Totals—Number	of Mines Operated, 3			154.3	173	125,810	.....

LA PLATA COUNTY, 1918

Perin's Peak	Calumet Fuel Co.	Durango	Bituminous	273	79	60,527	350
Hesperus	Hesperus Fuel Co.	Durango	Semi-Bituminous	197.6	53	39,727	250
San Juan	American Smelting & Ref. Co.	Durango	Bituminous	270	32	27,739	450
O. K.	O. K. Coal Co.	Durango	Bituminous	241	5	5,463	70
Sunshine	Sunshine Coal Co.	Durango	Bituminous	215.2	3	3,912	21
Morning Star	Baudino & Co.	Durango	Bituminous	233	4	3,492	15
Black Hawk	P. A. Olson	Durango	Bituminous	30	4	106	2
City	Dinbaldo & Fernandino	Durango	Bituminous	15	2	74	4
Totals—Number	of Mines Operated, 8			184.4	182	141,040	.....

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

LAS ANIMAS COUNTY, 1918

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	299	436	373,724	1,300
Sopris	Colorado Fuel & Iron Co.	Sopris	Bituminous	296	364	320,240	1,200
Frederick	Colorado Fuel & Iron Co.	Valdez	Bituminous	300	315	309,036	1,001
Morley	Colorado Fuel & Iron Co.	Morley	Bituminous	303	310	291,292	1,000
Starkville	Colorado Fuel & Iron Co.	Starkville	Bituminous	301	306	237,846	800
Berwind	Colorado Fuel & Iron Co.	Berwind	Bituminous	304	277	225,119	800
Tabasco	Colorado Fuel & Iron Co.	Tabasco	Bituminous	308	236	204,184	800
Toller	Colorado Fuel & Iron Co.	Tollerburg	Bituminous	288	205	133,247	470
Engle	Colorado Fuel & Iron Co.	Engleburg	Bituminous	298	155	75,490	400
Delagua	Victor-American Fuel Co.	Delagua	Bituminous	298.8	410	555,662	2,400
Bowen	Victor-American Fuel Co.	Bowen	Bituminous	276	94	102,422	800
Gray Creek	Victor-American Fuel Co.	Gray Creek	Bituminous	280.5	58	35,569	400
Cass	Victor-American Fuel Co.	Hastings	Bituminous	159.7	28	15,268	200
Hastings	Victor-American Fuel Co.	Hastings	Bituminous	132	71	11,944	700
Brodhead No. 9	Temple Fuel Co.	Brodhead	Bituminous	289	123	139,778	500
Alta	Temple Fuel Co.	Brodhead	Bituminous	241	43	40,976	150
Royal	Royal Fuel Co.	Aguilar	Bituminous	301	144	171,297	600
Forbes No. 9	Rocky Mountain	Forbes	Bituminous	307	21	39,905	700
Forbes No. 4	Rocky Mountain	Forbes	Bituminous	285.5	115	118,443	
Piedmont	Rocky Mountain Fuel Co.	Sopris	Bituminous	266.1	73	62,463	200
La Belle	Rocky Mountain Fuel Co.	Sopris	Bituminous	274.4	18	14,831	150
Southwestern	Rocky Mountain Fuel Co.	Aguilar	Bituminous	158.3	27	10,248	300
Cokedale Nos. 1 & 2	American Smelting & Ref. Co.	Cokedale	Bituminous	306.5	83	139,653	450
Ludlow	Huerfano Coal Co.	Ludlow	Bituminous	277.5	125	132,784	600
Boncarbo	Thompson-Mitchell Fuel Co.	Boncarbo	Bituminous	317	119	95,725	600

Thor	National Fuel Co.	Bowen	Bituminous	261.1	71	64,495	350
Bear Canon	Bear Canon Coal Co.	Tollerburg	Bituminous	300.8	63	61,830	250
Empire	Empire Coal Co.	Aguilar	Bituminous	292.3	49	47,126	200
Rapson No. 1	Rapson Coal Mining Co.	Rugby	Bituminous	304	61	47,028	300
Three Pines	Black Diamond Niggerhead Coal M. Co.	Tollerburg	Bituminous	305.5	72	43,151	250
Jeffryes	Jeffryes Fuel Co.	Trinidad	Bituminous	278	56	40,005	200
Primrose	Black Hawk Coal Co.	Rugby	Bituminous	272	52	34,759	200
Wootton-Turner	Wootton Land & Coal Co.	Wootton	Bituminous	291.5	61	34,540	200
Greenville	Cedar Hill Coal & Coke Co.	Ludlow	Bituminous	275	36	31,594	300
Black Diamond	Cedar Hill Coal & Coke Co.	Rugby	Bituminous	271	38	28,458	150
Jewel	Ideal Fuel Co.	Aguilar	Bituminous	275.2	51	30,101	100
Santa Fe	Santa Fe Coal Co.	Aguilar	Bituminous	258	50	26,780	300
Wood	F. P. Wood & Co.	Trinidad	Bituminous	267	31	20,129	100
Prospect	Prospect Mine Co.	Trinidad	Bituminous	248	26	10,910	75
Premium-Star	Premium Coal Co.	Rugby	Bituminous	198	11	9,572	50
Mallot	Colorado Coal Mines Co.	Rugby	Bituminous	145	20	8,330	30
Liberty	Liberty Coal Mining Co.	Trinidad	Bituminous	270	9	6,969	.....
Deep Vein	Deep Vein Coal	Trinidad	Bituminous	254	7	5,933	50
Madrid	H. A. Moore Coal Co.	Trinidad	Bituminous	219	10	5,492	50
Beshoar	Joerger Fuel Co.	Trinidad	Bituminous	216	10	4,923	50
Moore	Azar Coal Co.	Trinidad	Bituminous	214	6	3,690	45
Leone	S. Leone	Trinidad	Bituminous	251	5	3,462	20
Henderson	Jas. E. McLaughlin	Trinidad	Bituminous	257.5	4	3,388	13
McLaughlin	Jas. E. McLaughlin	Trinidad	Bituminous	25	3	300	.....
Hines	Hines Coal Co.	Trinidad	Bituminous	243	6	3,067	25
Valley	Trinidad Coal Mining Co.	Sopris	Bituminous	123	10	3,022	40
Baldy	H. H. Woodford	Trinidad	Bituminous	209	3	2,227	30
Wichita	Wichita Fuel Co.	Rugby	Bituminous	114	4	1,582	25
Keystone	Lunney & Granger	Trinidad	Bituminous	132	4	1,543	.....
Williams	Walter Williams	Trinidad	Bituminous	168	10	1,257	15
Baldy Mountain	Trinidad Coal Co.	Trinidad	Bituminous	229	3	1,098	25
Phillips	Phillips Coal Co.	Boncarbo	Bituminous	16	23	1,026	150
Fishers Peak	R. Marsh	Trinidad	Bituminous	245	2	922	20
Sandy	Sandy Coal Co.	Trinidad	Bituminous	38	9	908	50
Broyles-Star	Broyles Coal Co.	Trinidad	Bituminous	98	2	740	.....
Pickford	Bert Boaglio	Trinidad	Bituminous	220	2	678	6
Morris	Morris Coal Co.	Trinidad	Bituminous	90	8	661	50
Verdun	Commercial Coal Co.	Trinidad	Bituminous	80	3	339	.....
Totals—Number	of Mines Operated, 63			235.3	5,047	4,449,181	.....

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

MESA COUNTY, 1918

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
Camero	Grand Junction Mining & Fuel Co.	Cameo	Semi-Bituminous	254	94	129,531	600
Palisade	Palisade Coal & Supply Co.	Palisade	Semi-Bituminous	255	50	32,559	200
P. V.	P. V. Coal Co.	Cameo	Semi-Bituminous	134.5	19	15,106	100
Midwest	Midwest Coal & Iron Co.	Palisade	Semi-Bituminous	196	26	12,720	500
Hilltop	Midwest Coal & Iron Co.	Palisade	Semi-Bituminous	49	10	1,843	25
Garfield	Garfield Coal Mining & Trans. Co.	Palisade	Semi-Bituminous	212	16	11,284	75
Book Cliff	Book Cliff Coal Co.	Grand Junction	Semi-Bituminous	274	12	9.356	100
Stokes	W. D. Stokes	Palisade	Semi-Bituminous	216	6	2,943	50
Anchor No. 2	Anchor Coal Co.	Fruita	Semi-Bituminous	267	3	1,961	40
Liberty (Fidel)	Liberty Coal & Mercantile Co.	Fruita	Semi-Bituminous	238	3	1,839	10
Thomas	C. F. Thomas	Grand Junction	Semi-Bituminous	70	3	414	20
Hunter	Salt Wash Mining Co.	Fruita	Semi-Bituminous	72	2	369	10
Black Diamond	Black Diamond Coal Co.	Grand Junction	Semi-Bituminous	47	3	246	8
Farmers	Farmers Mutual Coal Co.	Grand Junction	Semi-Bituminous	86	2	111	.....
Lynch Valley	Valley Commercial Co.	Fruita	Semi-Bituminous	22	2	87	.....
Totals—Number	of Mines Operated, 15			159.5	251	220,369	.....

MOFFAT COUNTY, 1918

Collom	Axil Basin Development Co.	Axil	Bituminous	110	5	548	200
Totals—Number	of Mines Operated, 1			110	5	548	.....

MONTEZUMA COUNTY, 1918

Mancos	Mancos Fuel Co.	Mancos	Sub-Bituminous	125	2	685	8
School Section Lease	French & Welborn	Mancos	Sub-Bituminous	90	4	544	16
Moffitt-Carlile	Moffitt & Carlile	Mancos	Sub-Bituminous	84	3	400	5
Todd	Geo. S. Todd	Cortez	Sub-Bituminous	61	2	173	10
Mitchell Springs	J. F. Mowry	Cortez	Sub-Bituminous	40	1	125	2
Totals—Number	of Mines Operated, 5			80	12	1,927	

MONTROSE COUNTY, 1918

Missouri	Enstrom Coal Co.	Nucla	Sub-Bituminous	197	1	593	5
Knauss	Wm. J. Oberding	Nucla	Sub-Bituminous	75	2	427	
Totals—Number	of Mines Operated, 2			136	3	1,020	

OURAY COUNTY, 1918

Lou Creek	H. A. Kennedy	Ridgway	Sub-Bituminous	120	2	641	25
Totals—Number	of Mines Operated, 1			120	2	641	

PITKIN COUNTY, 1918

Placita	Rapini Bros.	Carbondale	Bituminous	205	11	12,213	100
Marion	Rocky Mountain Fuel Co.	Glenw'd Sp'gs	Bituminous	178	26	18,341	200
Totals—Number	of Mines Operated, 2			191.5	37	30,554	

RIO BLANCO COUNTY, 1918

Black Diamond	Reynolds & Babcock	Meeker	Bituminous	143.1	3	3,242	25
Lion Canon	W. S. Montgomery	Meeker	Bituminous	166	2	939	6
Fairfield	Rio Blanco Coal Co.	Meeker	Bituminous	153	2	617	6
Totals—Number	of Mines Operated, 3			154	7	4,798	

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 1918, AND CAPACITY OF MINE PER DAY IN TONS.

ROUTT COUNTY, 1918

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
Moffat Nos. 1 & 2	Moffat Coal Co.	Oak Creek	Bituminous	141.5	241	296,620	2,500
Harris	Colorado & Utah Coal Co.	Mt. Harris	Bituminous	152.2	186	251,982	2,000
Pinnacle	Victor-American Fuel Co.	Oak Creek	Bituminous	173.6	128	130,113	800
Wadge	Victor-American Fuel Co.	Oak Creek	Bituminous	178.9	50	39,850	400
McGregor	McNeil Coal Co.	McGregor	Bituminous	142.8	107	74,732	600
Bear River	Bear River Coal Co.	Bear River	Bituminous	123.1	74	50,515	500
Hayden Nos. 1 & 2	Hayden Bros. Coal Corporation	Haybro	Bituminous	84	78	34,592	800
Grayland	Indian Creek Coal M. Co.	Coalview	Bituminous	173.2	27	20,792	200
Routt-Pinnacle	Routt Pinnacle Coal Co.	Coalview	Bituminous	120	29	12,902	400
Wolf Creek	International Fuel Co.	Mt. Harris	Bitumionus	152	18	12,978	200
Elk Creek	Elk Creek Mining Co.	Pool	Bituminous	140.5	26	12,680	200
Curtis-Routt	Curtis Coal Co.	Pool	Bituminous	161	22	12,143	150
Allen	Allen Coal Co.	Coalview	Bituminous	131	15	7,591	100
Lennox	Federal Coal Mining Co.	Pool	Bituminous	57.6	13	2,833	50
Gartman	E. W. Kain	Bear River	Bituminous	100	4	850	50
Postal	Walter Coal Co.	Oak Creek	Bituminous	130	7	650	.....
Ben Male	Van Wert Bros.	Oak Creek	Bituminous	53	2	422	.....
Kutcher Knife	R. C. Jones	Bear River	Bituminous	35	2	300	15
Mule Gulch	D. W. Jones	Oak Creek	Bituminous	71	1	141	5
Totals—Number	of Mines Operated, 19	.....	.....	122.3	1,030	962,691	.....

Puritan	National Fuel Co.	Erie	Sub-Bituminous	207.7	155	233,128	1,800
Baum	Consolidated Coal & Coke Co.	Dacona	Sub-Bituminous	198.5	115	113,430	1,000
Evans	Evans Fuel Co.	Frederick	Sub-Bituminous	134.7	94	70,160	700
Russell	W. E. Russell Coal Co.	Firestone	Sub-Bituminous	200	53	60,699	500
Firestone	Louisville Coal & Land Co.	Firestone	Sub-Bituminous	237	54	53,837	400
Shamrock	Shamrock Coal Co.	Erie	Sub-Bituminous	160.2	34	50,307	500
Frederick	Rocky Mountain Fuel Co.	Frederick	Sub-Bituminous	135.4	57	47,277	700
Grant	Rocky Mountain Fuel Co.	Frederick	Sub-Bituminous	51	25	9,656	800
Monroe	United Collieries Co.	Erie	Sub-Bituminous	274	19	21,290	140
Eureka	United Collieries Co.	Erie	Sub-Bituminous	100	13	4,797	100
Boulder Valley	Boulder Valley Coal Co.	Erie	Sub-Bituminous	175.5	20	8,399	75
White Ash	F. J. Barnes	La Salle	Sub-Bituminous	291	2	1,438	5
Peerless	H. E. Chroop	Frederick	Sub-Bituminous	118	2	1,031	.....
New Washington	David Brimble	Erie	Sub-Bituminous	99	1	298	2
Totals—Number	of Mines Operated, 14			170.2	644	675,747	.....
Totals—Number	of Mines Operated in State, 249			169.2	14,374	12,658,055	.....

TABLE C

PRODUCTION OF COUNTIES BY MONTHS—1918.

Months	Boulder	Delta	El Paso	Fremont	Garfield
January	165,333	9,458	44,713	90,403	7,852
February	123,755	6,065	31,283	83,611	6,583
March	82,147	4,289	24,253	77,333	5,636
April	98,010	6,288	26,379	70,278	4,412
May	81,542	6,353	17,819	74,125	8,342
June	104,850	6,142	17,819	70,705	8,817
July	111,067	9,471	15,309	70,268	9,076
August	110,930	9,952	19,024	75,762	8,112
September	109,341	7,814	21,188	70,971	4,566
October	115,074	10,434	24,710	75,725	4,937
November	103,844	8,947	29,984	58,515	2,689
December	125,288	9,657	37,441	59,172	2,982
Totals	1,331,181	94,870	309,922	876,868	74,004

Months	Gunnison	Huerfano	Jackson	Jefferson	La Plata
January	62,235	229,229	9,778	20,570	14,227
February	52,501	225,951	5,874	13,259	11,157
March	55,702	193,513	5,935	8,470	10,442
April	48,083	215,498	6,353	9,897	10,844
May	56,833	235,430	8,287	8,067	11,583
June	49,544	228,761	8,913	8,534	9,790
July	53,940	234,290	7,713	11,253	12,047
August	53,627	248,756	7,394	8,726	13,405
September	53,986	216,854	6,219	9,757	11,295
October	60,843	237,392	6,439	7,635	12,690
November	52,431	183,537	4,478	8,181	10,212
December	52,270	171,174	7,121	11,461	13,348
Totals	651,995	2,620,385	84,504	125,810	141,040

Months	Las Animas	Mesa	Moffat	Montezuma	Montrose
January	402,712	23,457	.....	413	72
February	376,781	20,008	.....	69	48
March	389,683	18,503	.....	.....	32
April	376,997	19,802	.....	41	17
May	378,843	23,506	.....	82	25
June	357,578	20,512	.....	74	50
July	376,406	22,684	.....	43	38
August	394,892	15,830	.....	.....	.....
September	363,773	15,950	.....	.....	40
October	397,256	17,030	.....	.....	72
November	342,379	12,272	.....	99	95
December	291,881	10,815	548	1,106	531
Totals	4,449,181	220,369	548	1,927	1,020

Months	Ouray	Pitkin	Rio Blanco	Routt	Weld
January	165	3,975	780	31,185	116,444
February	216	2,011	700	31,395	80,113
March	Idle	2,742	334	91,689	39,677
April	.....	3,515	309	51,956	41,961
May	.....	2,239	238	123,836	19,619
June	.....	2,151	212	121,136	36,359
July	.....	1,701	191	126,236	51,715
August	28	4,321	196	109,099	46,267
September	18	2,246	345	95,720	49,219
October	86	1,708	510	97,304	57,628
November	41	1,960	180	57,748	56,451
December	87	1,985	803	25,387	80,294
Totals	641	30,554	4,798	962,691	675,747

TABLE C—(Continued)

PRODUCTION OF COUNTIES BY MONTHS—1918—(Continued)

Months	Total Tonnage
January	1,233,001
February	1,071,380
March	1,010,380
April	990,640
May	1,056,769
June	1,051,947
July	1,113,448
August	1,126,321
September	1,039,302
October	1,127,473
November	934,043
December	903,351
Total	12,658,055

TABLE D

SHOWING BY COUNTIES INCREASE OR DECREASE OF PRODUCTION
1917-1918

Counties	Tons Produced 1917	Tons Produced 1918	Increase	Decrease
Boulder	1,277,265	1,331,181	53,916	.....
Delta	103,248	94,870	.....	8,378
El Paso	374,620	309,922	.....	64,698
Fremont	871,531	876,868	5,337	.....
Garfield	104,608	74,004	.....	30,604
Gunnison	653,233	651,995	.....	1,238
Huerfano	2,375,562	2,620,385	244,823	.....
Jackson	86,289	84,504	.....	1,785
Jefferson	131,141	125,810	.....	5,331
La Plata	138,523	141,040	2,517	.....
Las Animas	4,447,726	4,449,181	1,455	.....
Mesa	209,166	220,369	11,203	.....
Moffat	250	548	298	.....
Montezuma	1,600	1,927	327	.....
Montrose	1,684	1,020	.....	664
Ouray	1,129	641	.....	488
Pitkin	22,964	30,554	7,590	.....
Rio Blanco	4,657	4,798	141	.....
Routt	1,057,685	962,691	.....	94,994
Weld	652,424	675,747	23,323	.....
Totals	12 515,305	12,658,055		

Increase, 1918 ..... 142,750 tons

TABLE E

COKE PRODUCTION IN 1918 BY COMPANIES AND COUNTIES

COMPANIES	Total No. of Ovens Operated	Total Tonnage	COUNTIES	Total No. of Ovens Operated	Total Tonnage
Colorado Fuel & Iron Co.	1,428	243,680	Gunnison	51	19,534
American Smelting & Ref. Co.	379	173,680	La Plata	29	10,458
Victor-American Fuel Co.	181	17,747	Las Animas.	1,908	405.115
Totals	1,988	435,107		1,988	435,107

The above enumerated coke ovens operated 224 days.

TABLE F

SHOWING BY COUNTIES THE COAL PRODUCTION OF 1918 IN PREPARED SIZES

Counties	Mine Run	Lump	Nut	Pea	Egg	Slack	Total
Boulder	590,270	377,074	30,060	425	.....	333,352	1,331,181
Delta	11,556	46,110	18,473	.....	.....	18,731	94,870
El Paso	220,262	63,809	2,045	.....	.....	23,806	309,922
Fremont	52,518	464,283	120,082	2,339	.....	237,646	876,868
Garfield	61,770	5,378	1,054	39	.....	5,763	74,004
Gunnison	493,771	83,403	9,258	395	.....	65,168	651,995
Huerfano	542,936	1,052,145	408,097	74,757	.....	542,450	2,620,385
Jackson	15,058	35,857	8,475	421	.....	24,693	84,504
Jefferson	53,107	32,960	6,976	.....	.....	32,767	125,810
La Plata	101,801	20,213	4,815	1,022	.....	13,189	141,040
Las Animas	2,173,220	723,927	134,664	13,386	.....	1,403,984	4,449,181
Mesa	77,044	77,002	26,816	484	.....	39,023	220,369
Moffat	548	.....	.....	.....	.....	.....	548
Montezuma	1,300	526	.....	.....	.....	101	1,927
Montrose	820	175	.....	.....	.....	25	1,020
Ouray	641	.....	.....	.....	.....	.....	641
Pitkin	30,554	.....	.....	.....	.....	.....	30,554
Rio Blanco	395	3,436	888	.....	.....	79	4,798
Routt	274,524	382,251	110,972	672	35,932	158,340	962,691
Weld	126,582	318,210	.....	.....	.....	230,955	675,747
Totals	4,828,677	3,686,759	882,675	93,940	35,932	3,130,072	12,658,055

In the mine run the Anthracite production of 63,599 tons is included.

TABLE G

TABULATION SHOWING THE NUMBER OF MEN OF THE DIFFERENT NATIONALITIES EMPLOYED IN AND ABOUT THE MINES OF COLORADO.

(Poll taken in December, 1918.)

Nationalities	No. of Men	Nationalities	No. of Men
Americans	2,896	Greeks	485
English	177	Russians	93
Welsh	147	Poles	138
Scotch	142	Bohemians	60
Irish	25	Swedes	60
Negroes	255	Danes	4
Italians	2,158	Finlanders	40
French	93	Japanese	27
Belgians	9	Corean	1
Spanish	53	Rumanians	17
Mexicans	1,618	Swiss	1
Slavonians	1,075	Albanian	1
Germans	466	Syrians	2
Hungarians	101	Armenians	3
Servians	101	Hollander	1
Montenegrins	23	Lithuanians	11
Bulgarians	257	Turks	4
		Total	10,545

(a) Out of 249 mines which operated in Colorado in 1918, only 155 mines reported, leaving 94 mines where no account of the nationality of the men employed was given.

(b) The Germans are mostly Austrian Germans.

(c) The Croatians are included with the Slavonians.

A LIST OF THE FATAL ACCIDENTS WHICH OCCURRED IN THE COAL MINES OF COLORADO DURING THE YEAR 1918.

January 4—JOSE OLGUIN, Mexican, miner, age 23 years, single, employed by the Colorado Coal Mines Company, at the Mallot mine, Las Animas County, was instantly killed by a fall of rock. Deceased was working alone in Room No. 1 and was an experienced miner. This mine being recently opened up there was no timbering agreement in effect. However, Olguin thought it necessary to keep the place propped at close intervals and had carried three rows of props from 3 to 3½ feet apart up to within 6½ feet of the face. If the timbers had been set close to the face the accident would probably have been avoided. The rock that fell was in the form of a circular pot, not visible by slips. It was six feet wide and eighteen inches in diameter.

January 5—EDWARD MOORE, American, machine helper, age 35 years, married, one child, employed by the Moffat Coal Co. at the Moffat No. 2 mine, Routt County, injured on December 28th, 1917, caused by being struck by a lever of a mining machine and died on the above date. On the day of the accident the machine made its first cut into the coal down into the rock under the coal seam. The machine was then blocked to get it out, and start it to cut across to the other side of the slope. The machine lurching slackened the chain. Deceased put down his shovel and went to the lever of the rachet to tighten the chain, and while attending to this, the clutch slipped out from the gear wheel, causing the lever to spring back with great force, striking deceased on the temple over his left eye, from the effect of which he died. The accident was unforeseen and, therefore, unavoidable.

January 17—STEVE SASICH, Servian, miner, age 23 years, married, two children, employed by the Temple Fuel Company, at the Brodhead mine, Las Animas County, came to his death by an electric shock. There is a three-track parting on the slope at this mine and the man trips are made at this point. The trolley lines on the center or passing track and on the loaded track are guarded by double boards on either end of the parting, leaving a space of about 75 feet in the center with a single board to guard the outby side, also the empty track has a single board on the outby side. There is sufficient room for safety between the guards on empty and loaded tracks. However, the deceased tried to pass between a loaded trip standing on

the above track. From evidence obtained, it was shown that all the men had been warned by the mine officials to keep off the loaded and empty tracks. The deceased had no business between the cars as he could not pass on the rib side of the cars. He was taking an unwarranted chance crawling between the cars, as there was no trip being landed at the time, the first man trip, which he intended to take, having just reached the outside, therefore he was responsible for the accident which caused his death.

January 18—JOHN FATUR, Slavonian, miner, age 39 years, married, four children, 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 an entry and, with his partner, had just finished brushing and had tested the roof thoroughly. They were in the act of laying track when a pot fell out of the roof, killing Fatur instantly and breaking the leg of the miner working with him. The slips of the pot were not visible. As the men had removed the draw-slate and used all means available to determine the safety of the working place, the accident is classed "unavoidable."

January 29—AUSTINUS AUSTIRUS, Greek, miner, age 35 years married, one child, employed by the Bear Canon Coal Company, Beaver Canon mine, Las Animas County, was killed by a fall of rock. Deceased was mining a "hung shot" in a room when the mine foreman visited his place and instructed him to take down some draw-slate projecting over the coal. Deceased disregarded the orders and continued to mine off the standing shot, thus exposing more of the draw-slate, which came down on him, throwing him down and burying his face in coal slack, causing suffocation. Deceased should either have taken down the draw-slate or propped it. His death was due to his own negligence.

January 31—JOHN AGNES, Colored, miner, age 42 years, married, five children, employed by the Colorado Fuel & Iron Company, at the Walsen mine, Huerfano County, was killed by a fall of rock. Deceased was working in a pillar. He and his partner had taken up one length of rail and propped up the road head preparatory to throwing the track nearer face, and while digging off the coal to load a car, released a slip around a large pot, which fell, swinging out of place six or seven timbers, completely covering deceased, who died before he could be rescued from under the fall. The accident was unforeseen and unavoidable. Deceased and his partner had used their best judgment to secure their working place.

February 8—MIKE KAMPWRUKI, Greek, miner, age 44 years, married, no children, employed by the Colorado Fuel & Iron Company, at the Ideal mine, Huerfano County, was killed by

a fall of rock. Deceased was working in a pillar off a cross entry. The place where the accident occurred was about 30 feet from the end of the pillar which had caved, and the foreman had moved him back to cut through the pillar again, as he did not consider it safe at the end. Deceased had set five props in the old cross cut and two where he had taken out the coal he was loading, when a large pot came down, knocking out three timbers and, falling on deceased, killed him instantly. The pot was invisible. The deceased had used his best judgment to protect himself. The timbers left standing were set up in workmanlike manner, showing deceased to be experienced. No blame can be fixed and the accident was unavoidable.

February 11—LUIGI CATTANACCI, Italian, miner, age 23 years, single, employed by the Victor-American Fuel Company, at the Gray Creek mine, Las Animas County, was killed by being caught between car and roof. Deceased was stealing a ride on a loaded trip from the lower parting to the surface. Within 100 feet from the entrance of the mine the rope rider changes rope and while in the act of making this change he discovered the body of deceased on the second car of the trip. About 400 feet from the mine entrance the roof is lower and no doubt the deceased struck against the roof so severely that his neck was broken. Deceased had no right on the trip; he should have used the regular man-way provided. He violated section 57 of the law and is responsible for his death.

February 19—ISMAH TAPIA, Mexican, machine runner, age 19 years, single, employed by the American Smelting & Refining Company, at the Cokedale mine, Las Animas County, was killed by a motor jumping the track. Deceased got an empty mine car to load which was standing beyond the motor. He could not get it past the motor, which he then started, but having no experience, could not reverse it. He rode it for 100 feet, when it left the track and caught him between the motor and a pillar, crushing his right leg and causing his death eight hours later from the loss of blood and shock. Deceased was not familiar with the operating of a motor and he should not have attempted to start it, but waited for the regular motorman. The responsibility rests with the deceased.

February 20—FRANK POZZETTI, Italian, miner, age 32 years, married, two children, employed by the Utah Fuel Company, at the Somerset mine, Gunnison County, was killed by a fall of rock. Deceased was mining coal near the end of a pillar, close to a cave, when a piece of coal fell from the face, striking him on the head and shoulder, killing him instantly. From the evidence obtained, it seems a bump occurred, dislodging some

coal, and struck deceased before he could get out of the way. He was a careful miner and the accident cannot be charged to anyone.

February 22—HARRY NOZENSKY, Russian, machine miner, age 26 years, single, employed by the W. E. Russell Coal Company, at the Russell mine, Weld County, was injured on the 8th of February igniting some black powder and died on the 22nd inst. At the time of the accident deceased was preparing a cartridge at the mouth of the room when his lamp fell off, igniting the powder in two jacks and burnt him. Deceased should have placed his open light so that there was no chance for it to come in contact with the powder. Carelessness on part of the deceased caused the accident.

March 4—HENRY KOSMIDER, Slavonian, machine miner, age 48 years, married, three children, employed by the Aztec Coal Mining Company, at the Toltec mine, Huerfano County, was injured on the 2nd of February by a fall of bone coal and died on the above date. From evidence gathered the accident occurred in a room. The timbers were set up as per agreement. Deceased had sounded the roof and was trying to take down the bone coal when it fell on him. He had used his best judgment trying to protect himself, therefore the accident cannot be charged to anyone.

March 7—JOHN VAMVAS, Greek, machine miner, age 35 years, single, employed by the Victor-American Fuel Company, at the Ravenwood mine, Huerfano County, was killed by a fall of rock. Deceased was working in a room loading coal from a crosscut. There was some draw slate overhanging which he had secured with two props. While loading the coal from a machine cut he released a slip which was not visible before the pot fell. Deceased had used his best judgment in propping the slate. The accident cannot be charged to anyone.

March 12—GEO. KATSARALIKES, Greek, pick miner, age 30 years, single, employed by the Victor-American Fuel Company, at the Delagua mine, Las Animas County, was killed by a fall of rock. Deceased had just finished unloading a car of rock in his room when he and his partner were notified by driver that the place was working and to retire. Deceased pushed the car from the place and then went back to remove the tracks. While thus engaged the roof gave way, burying him and causing instant death. Had deceased not gone back to take out the track he would have escaped. However, the accident was caused by the danger inherent to mining.

March 16—THAD KNOX, American, car dropper, age 28 years, married, one child, employed by the Ideal Fuel Company, at the Jewel mine, Las Animas County, was injured on the 6th

by being run over by a railroad car, from the effects of which he died on the above date. Deceased had dropped a car on to the railroad scales and had placed a piece of wood on the track to hold the car. In order to start the car again he had to use a piece of iron. While attempting to climb on the car to set the brakes his foot slipped, causing him to fall under the car, which crushed his right leg. The accident is classed "unavoidable."

March 21—MATT MILINKOVICH, Austrian, pick miner, age 28 years, single, employed by the Colorado Fuel & Iron Company, at the Primero mine, Las Animas County, was killed by a fall of rock. Deceased was working on the left hand side off a chain pillar. He got some loose coal which had been left where the place was holed through. While in the act of taking down the loose coal, which was only four inches thick, the roof gave way, releasing a large rock from a slip which had not been visible, and fell on deceased. The place was well timbered and the accident was a result of the danger inherent to coal mining.

March 21—MANUEL VILLANUEVA, Mexican, miner, age 26 years, married, no children, employed by the Colorado Fuel & Iron Company, at the Coal Creek mine, Fremont County, was electrocuted by coming into contact with an electric wire. Deceased was going up the slope which was used as a man-way and stumbled. Reaching out his hand for support he grasped a power wire. It was discovered that the insulation of this particular wire was broken. It took several minutes to loosen him from the wire and he did not regain consciousness. Responsibility for the accident rests with the company because of the defective wire.

March 28—JOS. VENCENTI, Italian, pick miner, age 44 years, widower, one child, employed by the Oakdale Coal Company, at the Oakdale mine, Huerfano County, was killed by a fall of rock. A fall of top coal had occurred on a roadway and deceased and his partner were engaged loading it. Deceased had sounded the roof with his pick and found it apparently safe. They commenced loading the second car when a rock came down on Vencenti, killing him almost instantly. The place was well timbered and showed that Vencenti was an experienced and careful miner, therefore the accident is classed as "unavoidable."

April 3—JOE ALVAREZ, Mexican, pick miner, age 26 years, single, employed by the National Fuel Company, at the Thor mine, Las Animas County, was killed by a fall of rock. According to evidence the deceased had just finished loading a car of coal in a room and which the driver had pulled out a few minutes prior to the accident. Deceased was alone and apparently working in the cut at the face of room, which was

narrow and eight feet in advance of the butts, when a rock gave way from the roof and fell on deceased, killing him. The rock was surrounded by a large, smooth slip. The place being narrow and the rock of large dimensions, it was hard to detect. A practical miner would have considered the roof good, and the accident was the result of the danger inherent to the work performed.

April 7—NICK KAPETANKIS, Greek, miner, age 44 years, married, four children, employed by the National Fuel Company, at the Monarch No. 1 mine, Boulder County, was injured by a fall of rock on April 4, and died on the above date. Deceased and his partner had loaded a car on an entry where the coal was thin. In order to get sufficient clearance for the cars and mules they had taken down about two feet of rock and had brushed it up to the face and were drilling a hole to shoot down a new cut made by the machine when the rock from the face fell on deceased. The roof or brushing was full of slips and required the utmost precaution on part of the workmen. The partner stated they had sounded the roof and it was good. Yet the accident might have been prevented had deceased and his partner set up a temporary prop to secure the rock until they were ready to take it down.

April 9—JOHN BEBER, Austrian, pick miner, age 26 years, single, employed by the Colorado Fuel & Iron Company, at the Rockvale mine, Fremont County, was killed by a premature shot. Deceased and his partner had just finished mining a shot, had drilled and tamped up the shot, and deceased was preparing to fire the same with a squib while his partner had gone to the men on the left of their working place to notify them that they were going to fire a shot into the coal. In the meantime deceased lighted the squib, which ignited the powder instead of the sulphur taper on the squib and brought the coal down immediately, striking deceased and killing him. He very likely had brought his carbide lamp into contact with the fuse portion of the squib, which set off the powder. The accident was due to the carelessness of the deceased. It was shown that on several occasions he had removed his tools from the vicinity of a shot after he had ignited the squib.

April 15—JOHN S. MUNSON, American, rollerman, age 44 years, widower, no children, employed by the Hayden Bros. Coal Corporation, at the Hayden No. 2 mine, Routt County, was instantly killed by a trip of runaway cars. Deceased was standing about twenty feet from the slope at the outby end of the double track off the first north entry. The trip rider had started from the first north with a trip of four cars and when it had been pulled up the slope 115 feet from the first north the rope broke and the cars ran back, catching deceased, and crushed him against a pillar of coal. The grade of the slope

at the point where the cars were when the rope broke is about 20%. The rope was of steel and ¾ inch in thickness. There was no drag on or attached to the rear end of the last car of the trip. If one had been used it might have thrown the cars off the track and thus prevented the accident.

April 28—JOHN ISELLA, Italian, rockman, age 23 years, single, employed by the Colorado Fuel & Iron Company, at the Fremont mine, Fremont County, was killed by a fall of rock. Deceased was employed to gob rock. On the day of the accident he was waiting for some rock to gob and he left his room and stood at an intersection off a dip and an entry where a shot had been fired into the brushing to make the entry higher. This shot broke through to a slip that ran along the upper side of the entry. Where a shot had been fired a brace had been set up against the rock on the side of the road. The shot had loosened the rock secured by the brace. It was decided to take the rock down and while one of the men working at this point removed the brace the rock from the roof and the sides of the entry fell, catching Isella, killing him and injuring two other men. The accident was one inherent to the danger of the work, and while deceased had wandered away from his own working place, responsibility for the accident cannot be charged to him or to the company.

May 16—PHILPI DEMITRO, Greek, miner, ago 45 years, married, one child, employed by the Moffat Coal Company, at the No. 2 mine, Routt County, was injured on April 27th by a fall of pillar coal and died on the above date. From evidence obtained a shot had been fired in the room close to the lower pillar and the force of the explosion had worked in a cleat in the coal along the lower pillar and released considerable coal. The fire boss had visited the room the morning of the accident and found the loose coal along the pillar. In order to draw the attention of the miners to the danger he placed a chalk mark on the dangerous part of the coal. Deceased started to load coal lying in front of the loose pillar coal and in doing so caused the pillar coal to fall. Had deceased taken down the coal or spragged it, the accident might have been avoided.

May 8—AGUSETA VALENQUELE, Mexican, machine miner, age 24 years, married, three children, employed by the Temple Fuel Company, at the Brodhead mine, Las Animas County, was killed by a fall of rock. Deceased and his partner had been warned that the roof of the room in which they were working was bad and that they had better set up a couple of props. Deceased said he would after he had loaded a car, but instead of doing so continued to load until he was at the third car, when a pot, about ten feet long and six feet wide, fell,

crushing him to death. The accident was due to carelessness on part of deceased and his partner in not heeding the warning and making their working place secure.

May 10—FRANK PELINE, Italian, pick miner, age 43 years, married, seven children, employed by the Colorado Fuel & Iron Company, at the Tabasco mine, Las Animas County, was injured by a fall of rock on the 6th of May and died on the above date. The accident occurred in pillar workings and deceased was engaged in taking up the track, as the place was working heavily, to commence work further back on the pillar, as he was ordered to do by the mine foreman, when a cave occurred which resulted as above stated. Deceased was careful and an experienced miner, and from evidence obtained the accident was unforeseen and unavoidable.

May 20—WILLIAM LYNCH, American, timberman, age 34 years, single, employed by the Big Four Coal & Coke Company, at the Big Four mine, Huerfano County, was killed by a fall of rock. According to evidence given by co-worker, who was with deceased when the accident occurred, they had been sent by the mine foreman to a back entry to timber it for the machine men. They both realized that a rock hanging partly on a pillar and partly on the coal face was loose. Deceased ordered his companion to watch it and later tried to take it down, but failed. He then proceeded to work so close to it that when it fell it struck his shoulder and caught deceased, who was working on the opposite side of the entry and who at the moment of the fall had stepped into the center of the entry. The accident might have been avoided had the men either taken down the rock or secured it with props. They showed poor judgment in protecting themselves.

May 23—PETER BARRON, Russian, pick miner, ago 58 years, married, no children, employed by the Breen Coal Mining Company, at the Breen mine, Huerfano County, was killed by a fall of rock. Deceased was skipping up a pillar in a room preparing to throw the track over to the rib. He had set a cross bar, but had not set up props in the road head for protection. He evidently was loading some loose coal from the rib about four feet ahead of the cross timber when he released a slip and it broke off over the bar, catching deceased. The roof at this mine is very treacherous and in pillar workings requires great care. From indications the slip was visible, and deceased had long experience in the mine, therefore the cause of the accident may be charged to his neglect in not setting another cross bar.

May 23—MIKE MORIMILE, Italian, top cager, age 26 years, single, employed by the Colorado Fuel & Iron Company, at the Rockvale mine, Fremont County, was injured on the 20th inst.

by being caught between rope and drum of engine in the hoisting engine room, from the effects of which he died on the above date. On the morning of the accident deceased was late ten minutes and probably, in order to get to his place of duty at the top of shaft as quickly as possible, he went through the engine room and tried to pass through an opening 2 feet 11 inches high and 2 feet 5 inches wide. The hoisting rope was running within 7½ inches of the side of the wall next to deceased and 20 inches from the other side. It was thought that deceased was crossing over the rope to get out through the wide part of the opening in the wall and in doing so was caught by the rope and drawn in the drum, where he was found by the engineer, who stopped the engine when he heard deceased cry out. The responsibility of the accident is charged to the deceased. He had no business attempting to reach the top of the shaft by way of the engine room.

May 23—JAMES P. ETCHELLS, American, superintendent and mine foreman, age 40 years, married, three children, employed by the National Fuel Company, at the Monarch No. 1 mine, Boulder County, came to his death by being electrocuted. Deceased was moving an electric cutter out of an entry. The cable reel was secured with a wire to guard against pulling out the contact plug. The wire had become unfastened and worked itself into the connecting plug, causing short circuiting and charging the machine caused the accident. It seems that the method employed by deceased to guard against such an accident was the very cause of it. No one can be blamed for the occurrence.

May 24—JOHN DOUGHERTY, American, mine foreman, ago 54 years, married, one child, employed by the Colorado Fuel & Iron Company, at the Walsen mine, Huerfano County, was killed by a fall of rock. Deceased was making his daily examination of the working places. He went into pillar workings which had been working heavily the day before, and the men had been removed from the place to let it cave or settle. There was no eyewitness to the accident. Evidently deceased was doing his duty as required by law and went into the place to ascertain the condition and was caught by a fall of rock. The accident was unavoidable.

June 3—SAMUEL SARRIS, Greek, miner, age 25 years, single, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County, was found dead on main haulage road. He was assigned to clean a track twenty minutes prior to his dead body being found by two miners. Three physicians examined him and declared that he had been in perfect health. There is a possibility that he might have come in contact with a live wire. No one was present and responsibility cannot be charged to anyone for his death.

June 7—JOE BICICE, Austrian, miner, age 24 years, single, was employed by the Colorado & Utah Coal Company, at the Harris mine, Routt County, was injured on the 6th by a fall of rock and died the day after. Deceased and Mike Burch were working in a room under some draw slate which Burch had tried to take down. Being unable to do so, they thought rock safe to work under. While working under the rock they relieved the support, allowing the draw slate to fall with great force, injuring Burch slightly but striking Bicice so severely that it caused his death. The assistant mine foreman states that two hours prior to the accident he advised the men to take the rock down or set up props. This is denied by Burch. However, both are at fault. The mine foreman should have seen that either the rock was taken down or made safe, and the men showed poor judgment in not making the rock safe.

June 11—TOBEY MONTAYA, Spaniard, driver, age 22 years, married, one child, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County, was killed by a runaway car. Deceased was hauling coal and, reaching the spragging place, he failed to put in a sprag, which was required at this point. It seems he was riding the rear end of the car until he reached the parting onto the motor haulage, where he came in contact with a prop, fracturing his skull. There was ample room for spragging, but perhaps deceased's inexperience as a driver may have caused the accident, or it may be classed as inherent to the danger of the calling.

June 13—LLOYD JONES, American, age 21 years, was killed by falling down a shaft in a Durango mine, La Plata County. He had come to the mine for a wagon load of coal. Not finding anyone around, he went into the mine without a light and fell into the shaft. Deceased was not an employe of the mine and he crossed the danger signal. The accident is not charged to the industry.

June 13—EUGENIO M. VELORAS, Mexican, pick miner, age 38 years, single, employed by the Colorado Fuel & Iron Company, at the Primero mine, Las Animas County, was killed by a fall of coal. Deceased and partner had started to mine in a room off an entry. At this point there is a band of rock from 20 inches to three feet from the bottom of the coal. They had mined to a depth of 20 inches when they struck an invisible slip running at an angle of 20 degrees and tapering out at the back of the rock. Deceased was in a lying position when the coal and rock gave way from the slip, covering his head and crushing his skull. A coal sprag was left in the center of the mining to protect the coal, but no brace was set up against the

rock, which might have held the rock in place when the coal gave way from the slip. The accident may be classed as inherent to the danger of the work.

June 15—SAUL CARSON, American, boss driver, age 32 years, married, three children, employed by the Rocky Mountain Fuel Company, at the Industrial mine, Boulder County, was killed by being struck by an electric motor and trip of loaded cars. Deceased was on his way to a parting and met a motor coming with a trip of loaded cars, and in rushing away from it he came in contact with a prop that overbalanced him and he fell on the roadway. The motor coming along ran over him, causing instant death. The headlight on the motor was out of commission and this may have misled the deceased in estimating the distance the motor was from him. However, the deceased was partly to blame in not using greater precaution to get into the clear, and the local management in not having headlight of motor in working order.

June 15—NATHAN BIVENS, American, rope rider, age 38 years, married, four children, employed by the Mutual Coal Company, at the Mutual mine, Huerfano County, was injured while assisting in putting derailed cars back on the track, and in doing so he ruptured himself to the extent that an operation was necessary, but proved fatal. Deceased was doing his duty when the accident occurred and the operation was necessary to correct the injury, therefore the accident was unavoidable and no blame can be charged to anyone.

June 23—E. W. C. SUTTER, American, electrician, age 32 years, married, no children, employed by the Rocky Mountain Fuel Company, at the Midland mine, Garfield County, was killed by a trip of runaway cars. Deceased was on the new slope attending to his duties as an electrician when a trip of four cars ran away, dislodging timbers on the slope, causing the roof to fall in and catching him. Deceased came to his death through no fault of his own, but through the neglect of a coworker and the company. The trip rider traveling at a rate of speed allowing the rope to drag and thereby throwing it off sooner than he should, the company in not having a derail or other device below the knuckle to stop trips from going back down the slope.

June 24—GEORGE BEST, English, machine runner, age 37 years, single, employed by the Loma Fuel Company, at the Jobal mine, Huerfano County, was killed by a fall of rock. Deceased was digging coal at the face of a room when a pot fell out of the roof, crushing him to death. There was no evidence of a slip and the working place was well timbered. It was an accident unavoidable and unforeseen.

June 25—MAXWELL FERGUSON, Scotch, blacksmith, age 48 years, married, five children, employed by the Big Four Coal & Coke Company, at the Centennial mine, Boulder County, was killed by a kick from a mule. Deceased was engaged in shoeing a mule in the mine. The mule was not accustomed to underground work, but was not vicious. After receiving a blow in the groin he took a short rest and then finished shoeing the mule. He ascended the shaft and felt so ill that a physician was called, who advised that he be taken to the hospital. He refused to go, but in the night grew worse and was taken to the hospital, but died before he got there. From evidence obtained, no one was to blame for the accident.

June 28—SOLOMON VIGIL, American, machine miner, age 41 years, married, three children, employed by the American Smelting & Refining Company, at the Cokedale No. 2 mine, Las Animas County, was killed by a fall of rock. Deceased and two partners were loading out coal after being cut and shot by the machine in pillar workings. In this particular part of the mine there is draw slate on top of coal varying from eight to ten inches in thickness and has a tendency to hang to the roof after the coal is shot. The draw slate commenced to work and gave warning. The other two men came out at once and told deceased to come from under the slate. According to evidence he refused and was caught in the fall. The accident may be charged to deceased.

July 15—HARRIS MARTIS, Greek, pick miner, age 32 years, married, two children, employed by the Oakdale Coal Company, at the Oakdale mine, Huerfano County, was killed by a fall of top coal. Deceased was working in a room when a triangular piece of top coal fell which had been formed by two slips intersecting and were not visible. Therefore this accident may be considered as one unforeseen.

July 22—JOSEPH KILHOFFER, Alsatian, miner, age 54 years, married, two children, employed by the Red Ash Coal Company, at the Red Ash mine, Boulder County, was injured by a fall of rock on the 17th and died from the effects of it on the above date. There was no eyewitness to the accident. He was found moaning with his head pinned between a car and a slab of rock. His working place showed the timbers 14 feet 10 inches from the face. The mine foreman had left a mark on the roof as a sign that timber should be placed. Therefore both deceased and the mine foreman were negligent in their duties, the former in not obeying orders to timber his place and the latter in not enforcing the system of timbering established at this mine. In all probability had the place been timbered properly the accident would have been avoided.

July 22—JOHN FLODQUIST, Swede, machine miner, age 21 years, single, employed by the Sunnyside Coal Mining Company, at the Sunnyside mine, Huerfano County, was killed by a runaway car. Deceased and his partner were working in Room 8 and former had come out to the main slope to switch a car into the room when a runaway car from the main trip came down the slope, jumping the track and striking deceased at the lower corner of the room, killing him instantly. According to the testimony of the rope rider he had stopped at Room 3 to put an empty car into this room and he neglected to change switch points for the same before detaching the empty car from the trip and it ran wild. The accident may be charged to the carelessness of the rope rider in not changing the switch points.

August 9—MONICO ALAMILLO, Mexican, pick miner, age 46 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Morley mine, Las Animas County, was killed by a fall of rock. Deceased was working in a room taking off coal preparatory to getting room for a switch and in doing this he had released a large slip which was not visible until after the fall. The props had been set on the gob side of the room when the latter had been driven and they had become rotten. When the coal was taken down they gave way, swinging out the props deceased had set. The cause of the accident was unforeseen and unavoidable.

August 19—JASO CHENAN, Austrian, pick miner, age 34 years, married, one child, employed by the Victor-American Fuel Company, at the Delagua mine, Las Animas County, was killed by a runaway car. The room where the accident occurred is a level track for a distance of 82 feet to the face, where the car is let down by hand. Deceased was on the front end of the car and rode to face without dropping brake to check the speed of the car, and he was caught between the car and the face of coal, receiving such injuries that he died shortly after. There was sufficient space on both sides of the track to get off the car had deceased so desired. Accident is classed as inherent to the danger of the work.

August 20—MIKE MUSIC, Austrian, miner, age 44 years, single, employed by the Sunnyside Coal Mining Company, at the Sunnyside mine, Huerfano County, was killed by a fall of coal off a pillar. Deceased was mining off a standing shot and while mining under the coal to a powder break the coal suddenly fell, striking deceased, and resulted in his death. The place was well timbered. Had deceased placed two sprags against the coal the accident would have been avoided.

August 22—HERMAN STRAUB, German, machine miner, age 47 years, married, three children, employed by the American Smelting & Refining Company, at the Cokedale mine, Las Animas County, was injured by a fall of top coal and died the day after, on the above date. Deceased was cleaning along the side of the pillar for the purpose of taking in his machine to put in a cut. While in the act of doing this a piece of coal fell from the roof and struck him. It seems that a hole had been fired that had been drilled into the top coal, but left the coal hanging with a powder break in it, which caused it to be a dangerous piece of coal. Deceased stated that he had examined the coal and considered it safe. The judgment of deceased was at fault and he did not deem it necessary to protect himself.

September 8—PAOLO GUGLIELMOTTO, Italian, pick miner, age 49 years, married, four children, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County, was injured by a fall of coal and slate on the 6th of September and died on the above date. Deceased was working in room pillar. He had mined part of the coal on the rib until he reached a break two feet deep. He started to load a car when the coal gave way from the rib and caught him, injuring him fatally. The accident may be classed as unavoidable.

September 10—ADOLPHO GARCIA, Mexican, pick miner, age 23 years, married, no children, employed by the Jeffryes Fuel Company, at the Jeffryes mine, Las Animas County, was killed by a fall of rock. Deceased was drawing a pillar in a room when a rock gave way from front of coal, caused by an invisible slip, striking him with such force that he died eleven hours later. The accident may be classed as unavoidable.

September 21—WARREN GILES, American, machine miner, age 40 years, married, no children, employed by the Cracker Jack Coal Company, at the Cracker Jack mine, Boulder County, was injured by a runaway car on the 20th and died on the 21st of September. Deceased was cutting coal with his puncher machine and his partners were loading coal. There were two cars on the track, one at Room No. 3 and the other at No. 4, and deceased was cutting at No. 2 neck. These cars were not spragged, but held in place by an inch thick block placed under the wheel of each car. The grade along these rooms dips about 12%. The car that they were loading started down grade and struck the other car and they bumped into deceased, causing such injuries that he died next day. The accident is attributable to the neglect and carelessness of his fellow workers.

October 9—J. H. WALKER, American, shot firer, age 32 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Cameron mine, Huerfano County, was burned by an explosion of fire damp on the 8th and died on the above date. Deceased had gone into the mine with an open light to fire shots and entered a room which he evidently had not first examined with a safety lamp. The consequence was that he ignited a body of gas which burned him. Electric lamps are used exclusively at this mine on account of it generating explosive gas. The fact that deceased did not take proper precaution to examine all working places where shots are fired with a safety lamp before firing them, and that the mine officials allowed him to use an open flame to fire any shots is sufficient evidence to charge the responsibility of the accident to the negligence and carelessness of both deceased and the mine officials.

October 15—FRANK SYMES, Austrian, pick miner, age 61 years, married, no children, employed by the Moffat Coal Company, at the Moffat mines, Routt County, was injured on September 26th by being caught between a car wheel and rail, and which resulted in his death on the above date. He and his partner, on the day of the accident, had loaded three cars and they started with two front cars down to the main track, deceased following the second car. From some cause unknown, the third car started down after the other cars, overtook deceased and ran over his right foot, cutting off four toes. If the third car had been completely blocked it could not have gotten away and it would, therefore, seem that deceased and his partner were careless, and the responsibility of the accident may be charged to them. While the injury was not serious at the beginning, an amputation of the leg below the knee became necessary and he died from the effects of this operation.

October 15—STEVE CALLAS, Greek, hoisting engineer, age 25 years, single, employed by the Victor-American Fuel Company, at the Pinnacle mine, Routt County, was killed by a trip of cars striking him. It was the duty of deceased to hoist up empty cars and lower loaded ones from an entry or engine plane. On the day of the accident he let down a trip of three cars and they came down the entry so fast that Joseph Snyder, a track man, who was standing 20 feet from deceased, ran behind a loaded car in an adjoining room. From where he stood he saw a light coming from the engine out to the entry. After the trip had stopped, he went down the entry and found deceased lying dead before the engine along the rail next to the engine. No one knows why he came out of the entry. From the condition of the engine it seems probable that the trip was getting beyond control and that he applied the power against

the movement of the drum and in so doing broke the gear wheel that connected with the motor gear wheel and burned out the armature, which must have caused a flame. Whether deceased was struck by the flame or a part of the gear wheel, forcing him out into the entry, where he was struck by the cars, is a question. Responsibility for the accident cannot be determined.

October 21—WM. J. CADDELL, Scotch, driver, age 57 years, married, one child, employed by Caddell & Carlson, at the Hezron mine, Huerfano County, was killed by an explosion of gas. The work of this mine consists of drawing pillars and stumps. No new work is being developed. Open lights were used, as very little gas was detected, this only on the caves in the fourth south and a feeder at the face of the main slope. The ventilation being good, it was not considered necessary to install closed lights as a safety or sanitary measure. The deceased was driving a couple of loaded cars in the back entry, the miners were eating their lunches, when a cave occurred back in the gobs and drove an accumulation of gas on their lamps, which ignited, burning the deceased and four other miners at work in this section. No gas had ever been detected on the pillar caves in this section of the mine as far as the caves were accessible. Seemingly the fan had stopped at this time, the power having gone off about thirty minutes before the accident occurred—off for 10 or 15 minutes and came on again and was off from 10 to 15 minutes at the time the accident occurred. Five hours after the accident no explosive gases could be found in that section of the mine, the air being short-circuited 300 feet out by the face of the caves. Therefore the stopping of the fan for the short intervals was not responsible for the accident, but was due to the fall in the gobs, driving the gas out on the open lights of the miners and was unforeseen and unavoidable.

October 24—FRANK TARTANJ, Austrian, pick miner, age 39 years, single, employed by the Chicosa Fuel Company, at the Forbes No. 9 mine, Las Animas County, was killed by a fall of rock. Deceased had cleaned up the coal at the face of the entry prior to brushing the roof, which is here necessary for height. He then started to take down a rock at a distance of 12 feet from the face of the entry when he struck an invisible slip which gave way, covering deceased and killing him instantly. The accident was unforeseen and unavoidable.

October 24—VALENTINE SUPPAN, Austrian, machine miner, age 48 years, widower, one child, employed by the Gordon Coal Company, at the Gordon mine, Huerfano County, was killed by a runaway trip. Deceased was on his way out of the mine and

was at the junction of the main slope and manway, about 300 feet from the mouth of the haulage slope, when a trip of loaded cars broke loose and, going back down the slope, struck Suppan at the curve, where the cars were derailed, killing him instantly. From evidence submitted, it seems that the loaded trip was hanging on the knuckle on the tipple, and as there was another trip to be hoisted from the mine they let the mules out before making the last trip. The switch tender on the tipple let the loaded trip in on the switch-back on the tipple. He removed the drag, belled the trip back and evidently forgot to throw the switch to allow the cars to run into the tipple, and instead they started down the slope. The engineer noticed that the cars were getting too much headway and began to tighten up on the brake. Just then he got a bell to stop, and evidently tightened the brake too suddenly, with the result that rope snapped and trip went down the slope. The switch tender testified that he threw the switch and that it opened again, there being no throw on the latches. The accident may be charged to both the company and the switch tender, the former for not providing a throw on the latches and the latter for not throwing the switch at the proper time.

October 30—ENTINIO BACA, Mexican, pick miner, age 21 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 splitting a room pillar and had started to take coal from the left side when a rock gave way between the coal and cross bars, a space of three feet. It was discovered that a slip ran parallel with line of rib and when the coal was taken from the same the rock came down on the deceased, causing such injuries that he died a few hours later. Pillar was well timbered and the accident is classed as unforeseen and unavoidable.

October 30—SAM JOVICH, Servian, pick miner, age 32 years, single, employed by the Bear River Coal Company, at the Bear River mine, Routt County, was injured between two loaded cars on the 18th of October and died on the above date. The rope rider on the slope stated that he was coming up the slope with one loaded car on the rope. He was on the right front end of the car and deceased got on the left end. He ordered him off the car but deceased refused to comply. When they reached the main back entry the car ran into another car or cars that had been turned loose to run out on the slope and the deceased's leg was crushed so seriously that he died from the effects of the injury. The accident may be charged to both the company and deceased, the former for not putting in a runaway latch or some device to prevent the cars from running out from the back entry, and the latter for not obeying the instructions of the rope rider.

October 31—M. J. MARTINEZ, Mexican, rope rider, age 18 years, single, employed by the Colorado Fuel & Iron Company, at the Primero mine, Las Animas County, was killed by being caught under a loaded car. Deceased was riding on the first car of the trip next to the rope when the trip broke in two, throwing the deceased under the car, resulting in his death. The mine cars are equipped with double draw bars and double couplings. However, at the time of the accident only one draw bar and coupling were in use and attached to the cars. The accident might have been avoided had the double draw bars and couplings been used.

November 4—MILTON BELLIN, American, company man, age 30 years, single;

November 4—CRADOC DAVIS, Welsh, company man, age 45 years, single, and

November 4—ROBERT WILKES, Russian, miner, age 39 years, single, employed by the Garfield Mine Leasing Company, at the Garfield-Vulcan mine, Garfield County, were killed by an explosion of gas. Deceased were engaged putting in a concrete stopping in the back entry to shut off that part of the mine on account of a fire which is supposed to exist in some of the upraises and also because that part of the mine is about finished. The stopping was nearly completed when an explosion took place, blowing it out, striking the men and killing them instantly. Cause of the explosion could not be determined because the mine was not safe to enter and has been sealed until such time as it is safe to open it. See special report on Vulcan explosion.

November 8—JAMES LOWE, American, rope rider, age 38 years, single, employed by the Huerfano Coal Company, at the Ludlow mine, Huerfano County, was crushed to death between two cars and rib. The deceased was riding the front end of the trip to the mouth of the mine, where it was dropped onto the tipple by the tail rope. While he was removing the clevis pin from the head rope to let the trip down, the first car ran into some rock that had slabbed off the rib, derailing the first two cars and jolting them off onto the rib, the cars catching and crushing him to death. As the equipment was in good order and plenty of room on the opposite side to have left the trip had the fall of rock been observed by the deceased, it is clear that the accident was unforeseen and unavoidable.

November 17—ALBERT LLOYD, Welsh, driver, age 41 years, married, five children, employed by the Grand Junction Mining & Fuel Company, at the Cameo mine, Mesa County, was injured on October 28th by being run over by an empty car and died on the above date. Deceased was breaking in a mule,

driving between partings. He was following another mule which was pulling a trip of four empty cars and he having a trip of two empty cars. When he arrived at the inside parting his trip was going on the empty car side of the parting. However, the mule shied off on the loaded car side of the parting. Lloyd stepped off on the rib side of the parting, where there is not much clearance. He held on to the mule and slipped and fell. The mule and two wheels of the front car ran over his legs, breaking and crushing his legs so badly that he was taken to the hospital, where he died twenty days later. The accident may be classed as unavoidable.

November 24—JOSE PARRA, Mexican, pick miner, age 39 years, married, no children reported, employed by the Mutual Coal Company, at the Mutual mine, Huerfano County, was injured by a fall of rock on August 26th and died November 24th. No investigation was made because death resulted four months after the accident occurred.

November 25—JOE GLAVINE, Italian, pick miner, age 42 years, married, three children, employed by the Colorado Fuel & Iron Company, at the Starkville mine, Las Animas County, was killed by a car running over him. Deceased was hauling his own coal to a cross-cut parting. One loaded car was already on the parting and when he arrived there with the second car he evidently went to the rear of the first car. The mule turned around and pushed back the car, throwing him under it, crushing him so severely that he died a few hours later. The accident was unforeseen and unavoidable.

November 30—MARK MOLEVICH, Slav, pick miner, age 52 years, single, employed by the Breen Coal Mining Company, at the Breen mine, Huerfano County, was killed by a fall of rock. Deceased was working in a room loading a car when a pot fell on him out of the roof between the timbers, injuring him to the extent that he died several hours later. The timbering of the place showed that the deceased was an experienced miner. The slips around the pot rock were not visible before the fall and therefore the accident was due to a misadventure.

December 2—STEVE SCHULTZ, Pole, machine helper, age 30 years, single, employed by the Loma Fuel Company, at the Jobal mine, Huerfano County, was injured on June 20th by a fall of rock and died on the above date. His death resulted so long after his injury no investigation was made.

December 5—A. R. CHAPMAN, American, driver, age 48 years, married, one child, employed by the Juanita Coal & Coke Company, at the King mine, Delta County, was injured on the

3rd instant by being caught between a trip of loaded cars and rib. Deceased was lowering a trip of seven cars down the slope at end of parting, where the grade is in favor of the load for a distance of 100 feet, then rises toward the slope. The cars are equipped with brakes. Deceased was on the back end of the last car and coming down the parting, and ran up towards the slope when the car started back. Deceased either stepped off on the rib side, where there was no clearance, or slipped when applying the brakes and was caught between the cars. There is four feet clearance between tracks. Deceased had worked in coal mines only six months and his death may be attributed to his lack of experience.

December 13—LOUIS GONZALES, Mexican, driver, age 19 years, single, employed by the Victor-American Fuel Company, at the Delagua mine, Las Animas County, was killed by falling under a loaded car. Deceased left the face of a room on the rear end of a car and rode a distance and when sixty feet from the main entry he got off the car to go to the front end, and in doing so slipped on the rail, falling on the track, breaking his neck. The track was practically level at the point where the accident occurred, with sufficient clearance to pass the car. The accident was unforeseen and unavoidable.

December 28—GWILIM LLEWELLYN, Welsh, pick miner, age 40 years, married, four children, employed by the Colorado Fuel & Iron Company, at the Coal Creek mine, Fremont County, was killed by being crushed under a loaded car. Deceased was acting as a driver in the absence of the regular driver. On the day of the accident he went to a room to pull out a loaded car. From some cause unknown he fell off the front end of the car close to a dip entry, where he was found dead with the loaded car on top of him. The cause of the accident cannot be determined and therefore the responsibility for same cannot be placed.

REPORT ON EXPLOSION AT VULCAN MINE, GARFIELD COUNTY, COLORADO, NOVEMBER 4, 1918.

On November 4, at 7:30 p. m., an explosion occurred, killing three men and injuring four. The mine being considered too dangerous to enter, no examination was made.

The following statement was made to me by Mine Foreman Morgan Williams, verified by three men employed at the mine:

"On November 2, at 3:30 p. m., while the men were in the mine, an explosion took place. Could not say in what part of the mine it occurred. Withdrew the men to Room 13 until I could make an examination of inner workings. Found conditions normal. Returned to Room 13. Ten minutes later another explosion occurred. Withdrew men from the mine and made another examination. Saw a haze up in rooms, could not say whether it was steam or smoke; opened door on slant at Room 22, cutting air off from the inner workings. Came out and reported to Supt. Davis at 4 p. m. We both went into mine to face of entry and found conditions same as on previous examination. Put the men to work that night to pull rails and other materials back to Room 18, and put in concrete stoppings at that point on main and back entries. This work was completed by Sunday morning. No one worked that day. Monday morning discovered that the ventilation had reversed itself, making the tunnel the return.

Entered the mine at Room 6, found a piece of paper; on the entry at Room 13 found pit car partly loaded with gravel. This car had been blown out from Room 18, where it had been left standing. After completing the stoppings Sunday morning, went to Room 17, found atmosphere smoky. Went outside, notified superintendent. We both entered the mine and upon reaching Room 18 found that the stoppings put in Saturday night had been blown out. At this point the superintendent complained of being sick, so we both returned to the surface.

The explosion doors at fan house were blown open and blades of fan slightly injured. The rooms were worked in blocks, five rooms to the block.

Room 26 was the last room. Rooms 17, 18, 19, 20 and 21 were worked out before the Rooms 22, 23, 24, 25 and 26 were started, and were sealed off on account of fire. The five inside rooms were well filled with coal when the Colorado Midland Railroad stopped operating. The coal in these rooms, because of lack of railroad cars, could not be loaded out promptly and consequently became hot. Finally sufficient railroad cars were secured from the D. & R. G. R. R. to take care of the coal."

The conditions existing prior to the accident and the statement of the mine foreman lead me to believe that accident was caused by an accumulation of explosive gases in Rooms 22 to 26 coming in contact with fire.

It was while rebuilding the stoppings blown out between Saturday night and Sunday morning that the explosion occurred that killed the three men above referred to.

After this explosion and before the mine was sealed up, explosions took place at intervals of several hours. Because of this the mine was considered too dangerous to enter.

(Signed) JAMES W. GRAHAM,
Deputy State Inspector of Coal Mines.

Note: The Bureau of Mines issues a monthly statement of coal mine fatalities in the United States, including a list of permissible explosives, lamps and mining equipment.

Due to the time required for printing, some unavoidable delay in getting information to the mining public results; therefore advance announcement is hereby made of the approval of alternating current coal-cutting equipments in two voltages.

Approval No. 104 has been assigned to a 220-volt alternating current explosion-proof coal-cutting equipment manufactured by the Sullivan Machinery Co., Claremont, N. H.

Approval No. 104-A has been assigned to a 440-volt alternating current explosion-proof coal-cutting equipment manufactured by the Sullivan Machinery Co., Claremont, N. H.

VAN. H. MANNING,
Director.

REPORT OF THE EXPERIMENTAL MINE TESTS WITH COLORADO COAL FROM A TRINIDAD DISTRICT MINE.

A 2¼-ton sample of "run-of-mine" coal was secured from the face of a new crosscut. This sample was loaded into tight barrels and shipped to the Experimental Mine near Bruceton, Pa. The large sample of "run-of-mine" coal was crushed and pulverized to correspond with the size of the road dust found in the mine and was used for the tests covered by this report. The face samples gave the following average analysis:

Coal as received:	
Moisture	2.54
Volatile matter	34.53
Fixed carbon	50.16
Ash	12.77
Moisture plus ash	15.31
Ratio Vol. / Vol. plus F. C.	40.75

Upon arrival of the large coal sample at the Experimental Mine, a sample representing the entire shipment was taken for analysis and the remainder was stored in the mine in a saturated atmosphere to prevent loss of moisture. The following is the analysis of the sample:

Laboratory No., 30146.	
Moisture	1.86
Volatile matter	34.89
Fixed carbon	47.99
Ash	15.26
Moisture plus ash	17.12
Ratio Vol. / Col. — F. C.	42.09

This sample approximates the face sample (No. 29465) taken when the large sample was prepared, except for the loss of a small amount of water and the addition of five per cent of ash. Samples of the coal taken during the series of tests showed an average ash content of 11.15 per cent, which more nearly approximates the face sample.

A sample of road dust was taken in 1911 and two more in 1917. All particles courser than 20-mesh were discarded from consideration, since previous tests in the Experimental Mine have indicated that they do not materially affect the explosibility of the dust.

ANALYSIS OF ROAD DUST SAMPLES.

Lab. No.	Moisture	Volatile Matter	Fixed Carbon	Ash	Mois. Plus Ash	Ratio	Screen Test Cumulative % Thru	
							100	200
12030....	6.02	28.47	44.10	21.41	27.43	39.23	.....	..
29276....	10.23	26.07	30.13	33.57	43.80	46.39	18.0	5.6
29275....	4.80	31.16	37.42	26.62	31.42	45.43	38.5	23.0

EXPERIMENTAL MINE TESTS

Plan of Tests.

Two classes of tests, termed ignition and propagation tests, were made. In ignition tests, a mixture of the coal and shale dusts is distributed from the face of the entry outby for a distance of 350 feet in the main entry (see attached diagram), and also for a distance of 50 feet through the last cut-thru and 300 feet outby along the parallel entry. A blowout shot of four pounds of FFF black powder is then fired into the mixture from a cannon at the face of the entry. The ignition series determines what percentage of rock dust and moisture will prevent an explosion starting from a blowout shot under the test conditions.

In propagation tests the distribution is the same as in ignition tests, except for the first 50 feet outby the cannon; that is, from the face of the entry to the cut-thru. Pure Pittsburgh dust is distributed in this 50-foot zone, and the explosion originated by firing the blowout shot into it. The effect of the explosion in the 50-foot zone of Pittsburgh dust is approximately equivalent to the explosion of a body of explosive gas in the 50-foot zone or to an explosion of coal dust of less explosibility in a longer zone. The propagation series determines what percentage of rock dust and moisture, mixed with coal dust, will not permit propagation of an explosion under the test conditions. The sketch attached to this report shows the arrangement of zones in a propagation test.

Gas.

After the percentages of shale necessary to prevent ignition and propagation in the absence of gas are determined, tests are made to determine the additional amount of shale necessary to offset the presence of one per cent and of two per cent of gas in the ventilating current. The gas used in such tests is a natural gas which has a slightly lower explosive limit than methane, due to the presence in it of some ethane and possibly other members of the paraffin group. The gas is turned into the air current at the fan about 1,300 feet from the test zone; it is thoroughly mixed with the air when it reaches the test zone. Tests are made from time to time with flame safety lamps and by analysis apparatus to determine when the desired percentage of gas has been obtained. The igniting shot is fired as soon as possible after this condition is obtained, which is generally less than ten minutes.

Moisture.

In all tests an attempt is made to have the coal, so far as moisture is concerned, as nearly as possible in the condition obtain-

ing in the mine from which it comes. Coals of high moisture content generally lose most of this moisture when put through the crushing machinery. To overcome this, the coal is wetted before it is put through the machinery and after grinding it is stored in the mine in a saturated atmosphere. If the moisture content is still low, enough water is mixed with the coal dust just before it is placed in the mine for the test to bring the moisture up to the proper percentage.

Size of Dusts.

Two sizes of dust were used in the tests, one approximating the size of the road dusts found in the Trinidad Mine and the other a very fine dust giving the maximum explosibility.

The screen analyses indicate that the dust might average about 20 per cent through 200-mesh for a larger number of samples. Furthermore, dusts of this size have been frequently met with in other mines in which the coal somewhat resembled that obtained from the Trinidad Mine.

For the Experimental Mine tests, therefore, the coal dust was prepared so that 20 per cent of it would pass through 200-mesh, this being one of the standard sizes which have been adopted for regular testing. The size rating is always given by the per cent of 200-mesh dust present, because the finest dust is the most easily ignited, the most explosive, and therefore the most dangerous.

A small part of the coal sample was tested after being pulverized until practically all of it would pass through 100-mesh, with about 85 per cent through 200-mesh. This size furnished a basis of comparison for different coals which have been tested in the Experimental Mine, besides showing the maximum explosibility of the coal.

Preparation for Tests.

That part of the mine in which the tests are made has been covered with cement by means of the cement gun, and has a concrete floor. Before the dust to be tested is taken into the mine, the test zone is thoroughly cleaned by means of brooms and by blowing with a compressed air jet, which removes all traces of dust remaining from the previous tests. The dust to be tested is mixed in 100-pound lots and taken into the mine in closed metal cans. It is then distributed uniformly throughout the test zone, at the rate of one pound of coal dust per lineal foot of entry, except in the first 50 feet from the cannon, where two pounds per foot are used. One-third of the dust is placed on overhead cross shelves spaced ten feet apart, one-third on 3-inch shelves running along both ribs, and one-third on the floor.

In the 50-foot ignition zone, the dust is placed on side shelves along the ribs and scattered over the floor. Twenty-five pounds of the coal dust are placed on a plank platform laid on the floor in front of the cannon.

The more important data of the explosion tests is shown in the following table:

EXPERIMENTAL MINE TESTS ON COAL FROM THE TRINIDAD MINE.

Test No.	Mixture as Prepared		% Incombustible in Mixture H20—Ash	% Gas	Pressure		Was Ignition or Propagation obtained? Length of flame
	% Coal	% Shale			% No. / sq. in. Coal Ig 950 Thru A 950 200-m		
IGNITION TESTS, 20 MESH DUST.							
470	70	30	39.2	0.0	20	2 2	Yes, thru zone
469	60	40	47.8	0.0	20	1 1	No, 125 feet
471	50	50	56.5	1.7	20	8 7	Yes, thru zone
PROPAGATION TESTS, 20 MESH DUST.							
472	50	50	56.3	0.0	20	5 3	Yes, thru zone
473	25	75	78.1	1.6	20	1 1	No, 100 feet.
PROPAGATION TESTS, PULVERIZED DUST.							
474	25	75	78.2	0.0	92.4	3 3	Yes, thru zone

Note—Unless the flame passes thru the entire 350 feet testing zone, it is classed as having failed to ignite or propagnate.

Series of Tests.

Three ignition tests were made, all with 20-mesh dust; two of these were without gas, and one with 1.7 per cent gas.

Two propagation tests were made with 20-mesh dust, one without gas and one with 1.6 per cent gas. One propagation test was made with pulverized dust, this being without gas.

The average analysis of the 20-mesh Trinidad coal, just before mixing for the tests, was as follows:

Moisture	1.60
Volatile matter	36.67
Fixed carbon	50.58
Ash	11.15
	100.00

Ratio of volatile matter to total combustible is 42.03.

The analysis of the 100-mesh Trinidad coal, just before mixing for the test, was as follows:

Moisture	1.59
Volatile matter	36.19
Fixed carbon	51.06
Ash	11.16

Ratio of volatile matter to total combustible is 41.48.

The average analysis of the shale dust used in these tests was:

Moisture	1.23
Total incombustible	99.30

The average sizing tests of the coal and shale is as follows:

Material	Thru 20 Mesh	Thru 48 Mesh	Thru 100 Mesh	Thru 200 Mesh
20 mesh coal	98.6	95.0	56.2	20.0
Pulverized coal			99.2	92.4
20 mesh shale	95.6	76.4	53.6	40.8
Pulverized shale			99.8	97.0

The average sizing test on the pulverized Pittsburgh coal dust used in the ignition zone in propagation tests showed 99.8 per cent through 100-mesh, and 88.2 per cent through 200-mesh. The average analysis of this coal dust gave a moisture plus ash content of 5.85 per cent and a ratio of volatile combustible to total combustible of 39.42 per cent.

RESULTS OF THE TESTS.

Ignition Tests on Coarse Coal.

In Test No. 470, ignition was obtained with a mixture of 20-mesh coal dust containing 39.2 per cent total incombustible, but was not obtained in Test No. 469, with a mixture containing 47.8 per cent total incombustible, both tests being without gas.

In Test No. 471, ignition was obtained with a mixture of 20-mesh coal dust containing 56.5 per cent total incombustible, there being 1.7 per cent gas in the ventilating current. The pressures and flame velocities obtained in this test indicate that the dust would require a total incombustible content of about 65 per cent to prevent ignition in the present of 2 per cent of gas.

Propagation Tests on Coarse Coal.

In Test No. 472, propagation was obtained with a mixture of 20-mesh coal dust containing 56.3 per cent total incombustible, no gas being used.

In Test No. 473, propagation was not obtained with a mixture of 20-mesh coal dust having a total incombustible content of 78.1

per cent, there being 1.6 per cent of gas in the ventilating current. The flame extended only 100 feet into the mixed dust in this test, and in view of this fact it is considered very probable that this mixture would not propagate with 2 per cent of gas in the ventilating current. A still better conclusion would be to consider 80 per cent total incombustible as a safe mixture with 2 per cent of gas present.

Propagation Test on Pulverized Coal.

In Test No. 474, propagation was obtained with a mixture of pulverized coal dust containing 78.2 per cent total incombustible. there being no gas in the ventilating current.

APPLICATION OF EXPERIMENTAL MINE DATA.

The tests show that the coal dust from the Trinidad Mine as represented by this sample will propagate an explosion with considerable violence, even when mixed with a large percentage of inert material, and also that an explosion could easily be started by a blown out shot of black powder or by the ignition of a sufficient body of explosive gas. The danger of propagation of the explosion is greatly increased by the presence of gas, even in small quantities.

The total amount of incombustible necessary in a mixture to prevent ignition or propagation of an explosion under the test conditions is shown in the following table. The total incombustible includes the moisture and ash of the coal, as well as the admixed inert material.

20-MESH COAL OF WHICH 20% WILL PASS THROUGH 200-MESH.

	% Gas	Total Incombustible
Non-ignition	0	48
	2	65
Non-propagation	0	65
	2	80

The values given above are based on the results of tests in the Experimental Mine, which were made upon 6x9-foot entries. The danger of an explosion originating in room entries and in wide places is somewhat less than in entries without rooms.

Dust Accumulations.

Tests in the Experimental Mine have shown that a strong propagation could be obtained with as little as five ounces of coal dust per foot of entry when the dust was fine and dry. The coal dust, which is always present to some extent, should be rendered inert by wetting or by some other method such as stone dust.

Watering.

In rendering the coal dust inert by the use of water, the watering must be done regularly and at sufficiently close intervals to keep the dust wet at all times. The length of time between applications of water would depend upon whether the section treated was naturally dry or wet. The water should be applied to all surfaces and with enough force to wash down the dust from the timbers and ledges. Tests in the Experimental Mine have shown that an explosion started in dry dust will be propagated by mixtures of coal dust and water, unless there is enough water present to make a pasty mass of the dust.

ROCK DUST.

Kind of Dust.

Another method of rendering coal dust inert is the application of dry rock dust. For this purpose a dust should be chosen which contains no sharp particles such as are found in silica dusts and which should contain as little combustible material as possible. All dust should be fine enough that practically all of it will pass through 20-mesh, and 30 per cent or more through 200-mesh.

Some mines in the Pittsburgh, Pa., district, have used limestone for this purpose, getting that material which is prepared for fertilizing farms. A mine in Colorado has obtained sweepings ("adobe dust") from the dirt roads, which makes an excellent material for this purpose.

Quantity Necessary.

Since the effectiveness of this method of preventing coal dust explosions depends upon the ratio of the inert dust to the coal dust, as much of the accumulations of the coal dust should be removed as possible before adding the rock dust.

The table on page 94 shows that with the 2 per cent of gas in the ventilating current and where the fineness corresponds to that of the samples taken from the Trinidad Mine—that is, not more than 20 per cent through 200-mesh—enough inert dust should be added to make the total incombustible content 80 per cent, in order to prevent the propagation of an explosion. Since this usually figures out to be a comparatively small amount (two or three pounds per foot of entry), additional dust should be put in at the same time in order to neutralize the continued accumulation of coal dust.

In figuring the amount of rock dust necessary to use, only that portion which is 20-mesh and finer should be considered. If the rock dust used contains combustible matter and a proportionate amount of the incombustible amount of the rock dust is not available in rendering the coal dust inert, an extra amount should therefore be used.

Method of Application.

Where this method is used today the first application of rock dust to an entry is generally by hand, and in this manner may be made to stick upon the roof and ribs to the thickness of ¼ to ½ inch, even when these surfaces are comparatively smooth. Where the accumulations of fresh coal dust are rather large, it is often necessary to apply a second coating of rock dust after a few months. This may usually be accomplished by means of some sort of an injector, most of the dust being thrown in the air and carried along by the ventilating current from which it is deposited over the previous coatings of rock dust and coal dust.

The effectiveness of rock dusting may be retained for a much longer period, if every precaution is taken to prevent the forming and accumulation of fresh coal dust.

The development of a suitable machine for applying a thick coating of rock dust to the roof and ribs of entries would greatly stimulate introduction of this method of explosion prevention.

Rock Dust Barriers.

Attention is called also to the use of rock dust barriers for separating one section of the mine from another, so that in case an explosion should occur in one section, it would not be able to pass beyond the barriers and spread to other portions of the mine. Explosion tests in the Experimental Mine are always stopped at the end of the test zone by means of these devices. Such rock dust barriers and the rock dusting method are described in Technical Paper No. 84, which may be obtained on application to the Bureau of Mines, Washington, D. C.

Effect of Gases.

Attention is called to the fact that a small percentage of gas in the ventilating current greatly increases the explosibility of the dust as shown by the table on page 94.

CONCLUSION.

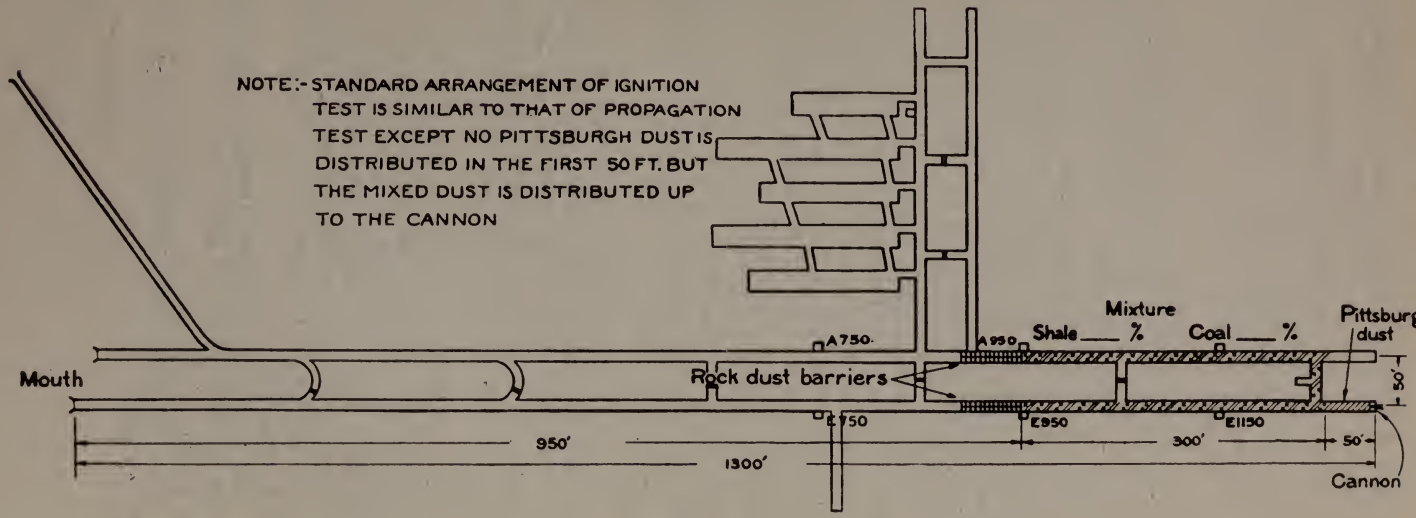
The Experimental Mine tests show that the dust from Trinidad coal is very explosive when dry, unless mixed with some inert material.

APPROVED: (Signed) J. W. PAUL,
Chief of Coal Mine Investigations.

APPROVED: (Signed) GEORGE S. RICE,
Chief Mining Engineer.

Note: Printed with the consent of the U. S. Bureau of Mines.

STANDARD ARRANGEMENT
OF
PROPAGATION TESTS
SHOWING
DISTRIBUTION OF DUSTS IN EXPLOSION ZONE



The following report of the Collon Mine was deemed worthy of being published in this report.

Because, although having operated a number of years as a small wagon mine and far away from a railroad, it is now branching out on a large scale. The company shows that it has faith in the property, and also that a railroad will open up that section of the country:

REPORT OF THE COLLOM MINE.

(Situated in T 3 and 4 North, Range 93 W, one and one-half miles south of Axial, Moffat County, Colorado.)

The No. 10 vein, upon which all the development has been done, is of a very fine quality of semi-bituminous coal, twenty-five feet thick without any impurities. The main heading is in 550 feet. A second opening 8x10 feet is being driven to connect with the air course, which runs parallel to the main entry and is now within 110 feet of breaking through to a connection.

The mine has eight headings with switches and tracks to the same all planned and worked to provide entries for the purpose of developing the mine into a heavy producer. Natural ventilation is used at the present time. A fan will be installed when the connection to the air course is finished and the necessity for an ample supply of fresh air is required.

An enclosed tipple is built, having a capacity of 200 tons a day, capable of separating and sizing the coal into lump, nut and slack. The nut is rescreened to make a cleaner product.

The mine now has five men and one horse working underground.

A sprinkling system is installed in the mine, consisting of a 1½-inch pipe line and one 12,000-gallon capacity water tank placed at a sufficient height to provide gravity flow throughout the mine and all over the camp. A power house built of stone of sufficient size to store 200 kegs of powder 500 feet from any other building is built.

A wash house, bunk house, capable of caring for twenty men; a dining and cook house, blacksmith and machine shop fully equipped, office and truck garage are built. All the buildings are substantial with a good foundation under each and painted and plastered, presenting an attractive and neat appearance.

All living quarters are steam heated, hot and cold water and sewer connected.

All men have to pass a medical examination and are insured to comply with the state mine law. All men receive medical attention at the mine.

The average daily production of the mine at present is fifty tons per day.

(Signed) Mr. Streeter,
General Manager.

(Signed) L. H. Friend,
Engineer.

LIST SHOWING NAMES OF THOSE RECEIVING CERTIFICATES AS FIRST CLASS MINE FOREMAN ON EXAMINATION HELD IN AUGUST, 1918.

Cert. No.	Name	Address
97	Aitken, William J.	Segundo, Colo.
150	Anderson, C. W.	Dacono, Colo.
159	Andrews, William	Louisville, Colo.
42	Angel, Robert	Rockvale, Colo.
262	Arnott, John H.	Crested Butte, Colo.
138	Atkins, Sam	Louisville, Colo.
18	Banks, William	Sopris, Colo.
113	Barron, Thomas W.	Valdez, Colo.
181	Bell, Richard	Strong, Colo.
76	Bickerton, John H.	Morley, Colo.
90	Bortman, John	Oakview, Colo.
270	Brown, Arthur C.	Cameo, Colo.
48	Bryan, John	Valdez, Colo.
120	Burris, C. W.	Lester, Colo.
145	Caldwell, A. J.	Colo. Springs, Colo.
99	Courtney, John	Tioga, Colo.
83	Cox, Joseph	Aguilar, Colo.
213	Daniels, Charles	Oak Creek, Colo.
121	Day, D. M.	Lester, Colo.
1	Dennison, John	Valdez, Colo.
16	Dolan, Charles	Berwind, Colo.
206	Domenico, Camillo	Mt. Harris, Colo.
191	Donaldson, Robt.	Colo. Sp'gs, Colo.
211	Dunn, G. Ellis	Oak Creek, Colo.
155	Edison, Swan	Lafayette, Colo.
176	Edwards, D. L.	Lafayette, Colo.
64	Feister, Dennis	Delagua, Colo.
7	Georgieff, Louis	Ideal, Colo.
157	Gilbert, Joe	Pyrolite, Colo.
129	Gilchrist, Archie	Denver, Colo.
196	Halbert, J. H.	Mt. Harris, Colo.
11	Hale, John	Valdez, Colo.
86	Heilner, George	Segundo, Colo.
154	Henderson, David T.	Lafay'te, Colo.
193	Hendricks, Robt. W.	Boulder, Colo.
46	Hoffman, A. O.	Colo. Springs, Colo.
96	Horsman, John	Starkville, Colo.
224	Husband, Thomas	Mt. Harris, Colo.
89	Isaacs, G. W.	Oakview, Colo.
36	Jackson, David	Tollerburg, Colo.
69	Johnson, Victor	Starkville, Colo.
64	Jones, C. A.	Rockvale, Colo.
183	Jones, Tass	Frederick, Colo.
8	Jones, Thomas I.	Tollerburg, Colo.
261	Kerr, W. R.	Crested Butte, Colo.
137	Krooll, John L.	Louisville, Colo.
128	Lambert, Walter B.	Arvada, Colo.
200	Lee, Thomas	Mt. Harris, Colo.
208	Lee, Thomas Wm.	Mt. Harris, Colo.
20	Lloyd, Bert	Trinidad, Colo.
271	Matteson, B. J.	Pueblo, Colo.
225	Morrell, D. C.	Mt. Harris, Colo.
274	Miller, August	Palisade, Colo.
10	McAllister, Archie	Engleburg, Colo.
22	McAllister, John	Engleburg, Colo.
273	McDonald, Allan	Louisville, Colo.
26	McGowan, James	Lester, Colo.
255	McIntyre, John	Crested Butte, Colo.
260	McShane, Wm.	Crested Butte, Colo.
84	Norris, Edw. L.	Tioga, Colo.
43	Oss, Leo	Tollerburg, Colo.
53	Penny, John W.	Coal Creek, Colo.
88	Pritchard, Chas.	Cokedale, Colo.
162	Ream, William A.	Chandler, Colo.
194	Rector, Herbert L.	Superior, Colo.
3	Riddle, A. M.	Valdez, Colo.
95	Robinson, Joe	Tabasco, Colo.
212	Ronaki, Albert	Bear River, Colo.
192	Rusher, Henry	Superior, Colo.
182	Schweiger, E. J.	Lafayette, Colo.
140	Smith, Henry	Louisville, Colo.
135	Streener, John	Colo. Springs, Colo.
103	Taylor, Philip H.	Lugby, Colo.
122	Thomas W. E.	Trinidad, Colo.
65	Turner, David	Maitland, Colo.
85	Wagstaff, Eph.	Bowen, Colo.
203	Walton, Arthur S.	Boulder, Colo.
186	Ward, Joe	Superior, Colo.
109	Waters, John H.	Tollerburg, Colo.
77	Williams, Wm. M.	Del Carb'n, Colo.
223	Wilson, George	Oak Creek, Colo.
148	Wilson, James A.	Florence, Colo.
72	Wilson, Thomas	Morley, Colo.
4	Wilton, William	Trinidad, Colo.
45	Zanotelli, O.	Sopris, Colo.

LIST SHOWING NAMES OF THOSE RECEIVING CERTIFICATES AS FIRST CLASS ASSISTANT MINE FOREMAN ON EXAMINATION HELD IN AUGUST, 1918.

Cert. No.	Name	Address
105	Baker, F. T.	Sopris, Colo.
101	Boyle, Orville B.	Del Carbon, Colo.
29	Bristle, Jacob	Walsen, Colo.
60	Dennison, Wm. K.	Valdez, Colo.
25	Jacobs, Alex	Trinidad, Colo.
110	Kauser, Martin	Delagua, Colo.
100	Richards, Evan	Tabasco, Colo.
40	Topping, Robt., Jr.	Ravenw'd, Colo.

Certified Fire Bosses

57	Allen, Lou M.	Tabasco, Colo.
9	Arnoldi, Pete	Ideal, Colo.
87	Barnett, Bernard P.	Boncarbo, Colo.
136	Bennett, Harry S.	Colo. Sp'gs, Colo.
33	Bessolo, Pete	Starkville, Colo.
272	Blyth, Thomas	
197	Bodnar, Joe	Oak Creek, Colo.
49	Brudhoe, George	Farr, Colo.
61	Bryan, Thomas	Valdez, Colo.
143	Davies, W. J.	Chandler, Colo.
108	Fernandez, J. C.	Tollerburg, Colo.
124	Harris, Thomas H.	Brodhead, Colo.
13	Hobbs, Milton	Tollerburg, Colo.
63	Komora, William	Sopris, Colo.
31	Lloyd, Wm. Henry.	Starkville, Colo.
15	Lux, Henry	Valdez, Colo.
32	Menardi, Pete, Jr.	Starkville, Colo.
79	Morrison, Thos. J.	Brodhead, Colo.
179	McCrory, Jesse	New Castle, Colo.
23	McFadden, J. R.	Segundo, Colo.
252	Neesham, Ralph H.	Somerset, Colo.
220	Neish, A. J.	McGregor, Colo.
39	Peazza, Tony De	Valdez, Colo.
68	Pickens, Andrew	Camp Shumway, Colo.
219	Piter, Paul	Bear River, Colo.
184	Powell, Albert H.	New Castle, Colo.
93	Sutherland, Harold A.	Walsenburg, Colo.
44	Young, C. H.	Tollerburg, Colo.

List of Certified Second Class Mine Foremen

130	Buchanan, James	Firestone, Colo.
70	Connor, Henry P.	Trinidad, Colo.
139	Dalby, F. E.	Louisville, Colo.
205	Daniels, Charles	Mt. Harris, Colo.
164	Deckrow, T. R.	New Castle, Colo.
204	Evans, Thomas	Mt. Harris, Colo.
265	Gross, C. F.	Fruita, Colo.
210	Haddon, A. J.	Bear River, Colo.
214	Halbert, Robert	Mt. Harris, Colo.
147	Humphrey, Joseph	Louisville, Colo.
207	Johnson, Henry C.	Mt. Harris, Colo.
170	Knapp, H. O.	Colo. Springs, Colo.
142	Liley, Charles	Louisville, Colo.
217	Little, W. E.	Oak Creek, Colo.
27	Loftus, W. J.	Rugby, Colo.
78	Lowe, Alexander M.	Trinidad, Colo.
102	Lowther, W. A.	Aguilar, Colo.
106	Mallot, H. A.	Rugby, Colo.
268	Manville, George D.	Gunnis'n, Colo.
41	Mason, William	Bowen, Colo.
58	Miller, Robert F.	Farr, Colo.
134	Penman, Stirling.	Canon City, Colo.
251	Sanborn, Ira Q.	Somerset, Colo.
175	Simpson, Joseph	Lafayette, Colo.
19	Smith, John	Tabasco, Colo.
216	Todd, George	Oak Creek, Colo.
28	Vickers, James W.	Rugby, Colo.
209	Wilson, O. L.	Bear River, Colo.
94	Wright, John D.	Berwind, Colo.

LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR NON-GASEOUS MINES ISSUED DURING THE YEAR 1918

Name and Address	Certificate No.
Beal, Perry, Palisade, Colo.	866
Bosman, Ben, Palisade, Colo.	822
Coseretto, Joe, Mt. Harris, Routt County	854
Cebery, John, Rugby, Colo.	846
Chantery, Christ, Tollerburg, Colo.	834
Channel, Frank, Colorado Springs. Colo.	872
Cicarone, Alfonso, Delagua, Colo.	841
Cipollina, Joe, Baldwin, Colo.	875
Collins, Charles, Pool, Routt Co.	882
Coles, W. E., McGregor, Routt County	860
Coots, Kern, Walsenburg, Colo.	835
Demtiroff, Nic, Frederick	865
Denny, John, Pool, Routt County	823
Dunham, W. B., Louisville, Colo.	821
Dytri, Lee, Colorado Springs, Colo.	871
Evans, George, Pool, Routt County. Colo.	883
Fievet, Lambert, Gorham, Colo.	842
Finley, Henry, Mt. Harris, Routt County	877
Gimple, Joe, Fruita, Colo.	873
Gross, Frank, Louisville, Colo.	892
Hamilton, Jas. O., Baldwin, Colo.	876
Harvey, John E., Oak Creek, Routt County	805
Hill, H. W., Trinidad, Colo.	869
Hocheder, Frank, Louisville, Colo.	888
Husband, William, Coal Creek, Colo.	818
Jacques, Frank, Louisville, Colo.	889
Kell, William C., Colorado Springs, Colo.	901
Kiddie, G. H., Bear River, Colo.	855
Machin, Jonathan, Louisville, Colo.	849
Merlino, Loui, Louisville, Colo.	859
Miller, A. D., Tollerburg, Colo.	833
Monacelli, Jos., Louisville, Colo.	858
Morris, Geo. W., Mancos, Colo.	800
Orliz, J. E., Forbes, Colo.	886
Peachey, A. W., Coalmont, Colo.	861
Poidak, George, Louisville, Colo.	893
Pennoff, Geo., Dacona, Colo.	864
Rasoff, John, Frederick, Colo.	863
Robis, Tony, Denver, Colo.	899
Shepherd, Charles, Bear River, Colo.	881
Sirokman, Geo., Louisville, Colo.	894
Sirokman, John, Louisville, Colo.	851
Sommers, P. A., Louisville, Colo.	898
Stafieri, Dominic, Louisville, Colo.	896
Stukal, Steve, Palisade, Colo.	867
Tavener, John, Pyrolite, Colo.	870
Thompson, Matthew, Trinidad, Colo.	806
Toderoff, Tony, Dacona, Colo.	862
Udovich, Tony, Delagua, Colo.	840
Van Arsdale, Fred, Louisville Colo.	850
Varcalli, George, Bowen, Colo.	799
Waite, Allen, Mt. Harris, Colo.	880
Webb, S. H., Bowen, Colo.	887
Winkler, Louis, Louisville, Colo.	895
Williams, J. H., Mt. Harris, Colo.	811
Zurick, John, Louisville, Colo.	900

LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR GASEOUS MINES ISSUED DURING THE YEAR 1918

Name and Address	Certificate No.
Ballantyne, Gilbert, Maitland, Colo.	801
Bathgate, Mt. Harris, Routt County	810
Bosley, Ben, Oakview, Huerfano County	817
Charles, Thomas, Oakview, Huerfano County, Colo.	868
Deckrow, T. R., Newcastle, Colo.	813
Dohlman, Andrew, Baldwin, Colo.	827
Easton, Frank, Ludlow, Colo.	839
Evans, David, Berwin, Colo.	825
Fernandez, J. C., Tollerburg, Colo.	848
Galasini, Domenic, Rouse, Colo.	830
Gilchrist, Jas., Crested Butte, Colo.	852
Gregar, Steve, Maitland, Colo.	803
Harding, Joe, Sopris, Colo.	845
Hanjak, Thedore, Rugby, Colo.	885
Hartsock, W. L., Oak Creek, Colo.	884
Heilner, Geo., Valdez, Colo.	826
Helwig, Frank, Walsen, Colo.	824
Hermes, Fred R., Walsenburg Colo.	804
Jones, Stephen, Tabasco, Colo.	815
Jones, Alfred, Tollerburg, Colo.	807
Kasenga, Joe., Louisville, Colo.	897
Lambert, Walter, Arvada, Colo.	816
Lazur, Geo., Walsenburg, Colo.	874
Lira, G., Sopris, Colo.	843
Loftus, W. J., Rugby, care Rapson Mine	836
Mack, J. E., Somerset, Colo.	831
Moran, Frank, Ojo, Colo.	838
Masito, John, Sopris, Colo.	844
Mike Manuppella, Glenwood Springs	812
Mohney, Leslie, Mt. Harris, Colo.	856
Morfe, Joe, Walsen, Colo.	809
Moxley, Geo., Tabasco, Colo.	115
McCrory, Jess, New Castle, Colo.	814
McIntosh, H. H., Trinidad, Colo.	802
Paynter, Robert, Strong, Huerfano County, Colo.	828
Peffer, Edward, Walsenburg, Colo.	808
Sandborn, Ira Q., Somerset, Colo.	829
Smith, John R., Newcastle, Colo.	819
Smith, John A., Cokedale, Colo.	832
Smith, H. M., Mt. Harris, Routt County, Colo.	857
Sunstedt, N. J., Baldwin, Colo.	878
Venturin, E., Mt. Harris, Colo.	853
Waters, J. H., Tollerburg, Colo.	847
Weir, James, Louisville, Colo.	902
Wright, T. J., Rugby, Colo.	837
Yakovich, Tony, Baldwin, Colo.	879

TABLE No. 3

VENTILATING EQUIPMENT OF COAL MINES IN STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1918.

Name of Operator	Name of Mine	Kind of Opening: Shaft Depth	Kind of Opening: Slope Length	Kind of Opening: Slope Pitch	Kind of Opening: Drift Length	Gaseous or Non-Gaseous A	Number and Type of Safety Lamp Used: Flame	Number and Type of Safety Lamp Used: Electric	Method of Ventilation	Name of Fan	Diameter Feet	Revolutions Per Minute	Water Gauge Developed Inches	Kind of Power Used	Number of Splits of Air Current	No. of Cubic Ft. of Air per Minute Entering the Mine at Inlet	Total No. of Cub. Ft. of Air per Minute Circulating in all the Splits	No. of Cubic Ft. of Air per Minute Passing out at Outlet	No. of Persons Employed (Inside)
Allen Coal Co	Allen				1 000	Non-Gaseous			Natural										12
Allen, David	Star	74				Non-Gaseous	1		Natural										
Alliance Coal Co	Reliance		2,950			Gaseous	6	110	Fan		12	120		Electric and Steam	2	30,600	6,800	5,400	52
												65	.1						18
American Smelting & Refining Co	Pokedale No 1 & 2				300-200	Non-Gaseous		125	Fan	Cappell & Paddle	15	17	.25	Steam and Electric	2	47,000	13,500	49,000	48
American Smelting & Refining Co	San Juan			10°	2,600	Non-Gaseous			Fan		10	104	3/16	Electric		14,180		13,310	27
Anchor Coal Co	Anchor No. 2		100		700	Non-Gaseous	1		Natural							12,000		12,000	4
Azar Coal Co	Moore				600	Non-Gaseous			Fan	Buffalo	2½			Gasoline					6
Aztec Coal Mining Co	Tofte		2,500	19%		Non-Gaseous	2		Fan	Sirocco	45x3	220	2.	Steam and Electric	2	25 000	11,000	27,000	98
Axil Basin Development Co	Collom			10°	600	Non-Gaseous	1		Natural										13
Baldwin Fuel Co	Baldwin-Star		600	3°		Non-Gaseous	1		Natural							3,600		1,060	5
Barnes, J. F.	White Ash	70			300	Non-Gaseous			Natural							3,000			4
Baudino & Co	Morning Star				600	Non-Gaseous	1		Natural							3,500		2,000	4
Bear Canon Coal Co	Bear Canon			2%	1,600	Non-Gaseous			Fan	Jeffrey	4 6	500		Electric		13,000		18 000	40
Bear River Coal Co	Bear River		900	17°		Non-Gaseous			Fan	Atlas	12			Steam	1				66
																		S 36,000	
Big Four Coal & Coke Co	Centennial	366				Gaseous			Fan	Crawf rd & McCrimmon	12	120		Electric and Steam	2	21,000	34,500	N.32,000	92
Big Four Coal & Coke Co	Big Four		3,500	27°		Non-Gaseous	2		Fan	Cole	14	90		Electric		27,360		28,000	84
Big Six Coal Co	Sunnyside	335				Gaseous			Fan		16	70				15,000		14,750	33
Black Canon Coal & Fuel Co	Caddell		2 800		600	Non-Gaseous			Fan		9x3	109		Electric		14,800		16,000	34
Black Diamond Coal Co	Black Diamond				260	Non-Gaseous			Natural										
Black Diamond Niggerhead Coal M. Co	Three Pines				900	Non-Gaseous			Fan	Stine	4	150		Coal Oil		8,400		8,300	59
Black Hawk Coal Co	Primrose		1,200	3°		Non-Gaseous			Fan	Stine	6	300		Electric		9,000		12,000	43
Boaglio, Bert	Pickford				200	Non-Gaseous			Natural										2
Book Cliff Coal Co	Book Cliff			26°	2,000	Non-Gaseous			Natural							3,000		3,000	15
Boulder Black Diamond Coal Co	Boulder Black Diamond		450	20°		Non-Gaseous			Fan		7	350		Steam		10,500		10,000	23
Boulder Valley Coal Co	Boulder Valley	347				Gaseous	1		Fan	Ajax	5	130		Electric		25,200		16,800	18
Bracken & Cozza	Harvey Gap			54°	510	Non-Gaseous			Natural										2
Breen Coal Mining Co	Breen		800	5°		Non-Gaseous	1		Fan	Stine	5	400		Electric		22,000		22,000	34
Brennan Coal Co	Brennan		200	3°		Non-Gaseous			Fan		14	50		Electric		15,000		15,000	7
Brimble, David	New Washington	50				Non-Gaseous			Fan		10								1
Brooks Fuel Co	Nonpareil	285				Non-Gaseous			Fan	Cappell	8	120		Steam	2	15,400	12,000	31,000	40
Brookside Coal Mining Co	Brookside		800	18%		Non-Gaseous	1		Natural					Electric		8,000		11,000	12
Broyles Coal Co	Broyles-Star		Not	Reported															6
Bruton & Patton	Coalby		180			Non-Gaseous			Natural										
Caddell & Carlson	Cuchara Canon		600	3°		Non-Gaseous			Natural										4
Caddell & Oldham	Herron Lease		3,000	4%		Gaseous	20		Fan		18	68		Electric	2	2,640	11,700	17,480	21
Calumet Fuel Co	Perins Lease		5,000	4½°		Non-Gaseous	4		Fan	Home Made	10	125	.75	Electric	3	28,650	6,980	30,520	67
Caprock Fuel Co	Caprock		750	2½°		Non-Gaseous	1		Fan							2,640		2,124	20
Cedar Hill Coal & Coke Co	Greenville				2,800	Non-Gaseous			Natural							30,000		34,000	27
									Natural										
Cedar Hill Coal & Coke Co	Black Diamond		800			Non-Gaseous			Fan		8	70		Steam		28,000	28,000	36,000	27
Chroop, H. C.	Peerless		Not	Reported															
Colorado Coal Mines Co	Mallot		Not	Reported															
Colorado Fuel & Iron Co	Rockvale	320				Gaseous	115		Fan	C. F. & I.	12	180	2.	Steam	2	100,800	107,670	100,400	211
Colorado Fuel & Iron Co	Coal Creek	396	4,600			Gaseous	2		Fan	C. F. & I.	6x12	150	2.	Electric	3	63,200	61,917	66,150	187
Colorado Fuel & Iron Co	Fremont	402				Gaseous			Fan	Gulbal	24	65	6/8	Steam	3	45,000	13,000	43,500	173
Colorado Fuel & Iron Co	Nome		3,000	5°		Non-Gaseous	1		Fan	C. F. & I.	10	65	½	Steam	1	16,000		16,500	15
Colorado Fuel & Iron Co	Crested Butte		2 200		5,400	Gaseous	2	159	Fan	Clifford & Cappell	13	120	¾	Steam		49,785		71,660	105
Colorado Fuel & Iron Co	Floresta		500			Gaseous	2	25	Fan	Sturtovant	15	100	1½	Steam		27,000	19,600	19,700	22
			4,000								16	120	1.5						
Colorado Fuel & Iron Co	Walsen-Robinson		5,000			Gaseous		500	Fan (2)	Clifford & Cappell	13	120	.7	Electric and Steam	5	52,310	33,060	62,160	395
Colorado Fuel & Iron Co	Cameron	170	6,000			Gaseous		190	Fan	Gulbal	20	59	1.1		1	30,500		33,000	131
Colorado Fuel & Iron Co	Rouse		4,800	10°		Gaseous	4	202	Fan	C. F. & I.	6x12	175	2.7	Electric	5	82,500	66,054	87,750	158
Colorado Fuel & Iron Co	Ideal		3,210	5.8%		Non-Gaseous	2		Fan	C. F. & I.	6x12	100	.4	Electric		13,580		72,000	146
Colorado Fuel & Iron Co	Pictou		5,500	6.3%		Gaseous	133	202	Fan	Cappell	12	154	1.7	Electric	2	56,595	56,595	60,420	124
Colorado Fuel & Iron Co	Lester		4,800	8.6%		Gaseous	2		Fan		5x12	130	1.¼	Electric	2	38,000	31,960	43,200	120
Colorado Fuel & Iron Co	Hezron	See H	ezron	Under Ca	dell &	Oldham													
											6x8	110	.8			N.45,792	N.26,268		
											8x10	125			3 op.	E.86,570	E.60,192		
Colorado Fuel & Iron Co	Primero		2,300	2%	7,700	Gaseous	20	300	Fan (3)	Cappell Steel Works	5x25	140	2.	Steam and Electric	11	W.63,500	W.63,502	195,862	333
												1)136	16						
Colorado Fuel & Iron Co	Sopris		4,150	15°	7,340	Gaseous		275	Fan (2)	C. F. & I.	6x12	2)219	3.9	Steam	12	117,200	107,280	116,800	312
Colorado Fuel & Iron Co	Frederick				11,650	Gaseous	9	303	Fan	Cappell	11x9½	168	1.6	Steam	3	63,500	26,240	87,800	221
												60	6.						
Colorado Fuel & Iron Co	Morley		3,000		5,000	Gaseous	7	234	Fan (2)	Sirocco	6x20	426	1.	Steam and Electric	9	150,380	171,620	164,870	314
Colorado Fuel & Iron Co	Starkville				8,400	Non-Gaseous	4	254	Fan	C. F. & I.	6x13	144	1.5	Steam and Electric	3	45,500	83,960	49,000	242
Colorado Fuel & Iron Co	Berwind				17,150	Gaseous	10	258	Fan	C. F. & I.	12	168	3.2	Electric	3	51,030	60,525	50,000	206
Colorado Fuel & Iron Co	Tabasco		5,000			Gaseous	8	179	Fan	C. F. & I.	12	210	3.3	Steam	4	75,915	82,750	8,400	169
Colorado Fuel & Iron Co	Toller	352		5°		Gaseous		145	Fan	Jeffrey	5x2	432	3.2	Electric	2	61,610	62,750	66,360	129
Colorado Fuel & Iron Co	Engle				10,000	Gaseous		110	Fan	Clifford	8x8	150	1.5	Steam	2	2,000	20,000	24,000	119
Colorado Springs Co	City No. 1		700	20%		Non-Gaseous			Fan	Cole	12	85		Electric	In	course of	develop	ment	
Colorado-Utah Coal Co	Harris		240	7°		Non-Gaseous	1		Fan	Ottumwa	12	120	.55	Steam	3	78,000	55,580	80,000	195
Commercial Coal Co	Verdun					Non-Gaseous			Natural										
Consolidated Coal & Coke Co	Baum	200				Non-Gaseous	3		Fan	Crawford & McCrimmon	18	85			3	30,000	30,000	55,000	132
Converse, Frank	Converse				110	Non-Gaseous			Natural							2,700			1
Corley, W. D	Klondyke	500				Non-Gaseous	1		Fan		6	500	.5	Steam		10,000		10,500	38
Cowie, James	Cowie	Mine	Idle	11 Mont	hs														
Cracker Jack Coal Co	Cracker Jack		1,200			Non-Gaseous			Natural					Electric					11
Crested Butte Anthracite M Co	Smith-Anthracite		1,750	11½°	650	Non-Gaseous	1		Fan		20	40		Steam		25,000		27,000	28
Crested Butte Coal Co	Bulkley		800		2,000	Non-Gaseous	1		Fan		10	60		Gasoline Engine		9,500		10,600	19
Curtis Coal Co	Curtis-Routt		1,800	16%		Non-Gaseous			Fan					Steam					16
Davis, Thos. D	Franceville		300	5°		Non-Gaseous			Natural	Cole									2
Deep Vein Coal Co	Deep Vein	68				Non-Gaseous			Natural							4,000		4,200	3
Dinbaldo & Fernandino	City		200	14°		Non-Gaseous			Natural										2
Donnelly & Donnelly	Williamsburg Slope No. 1	102	1,200	7°		Non-Gaseous			Natural							3,000		3,200	4
Donnelly & Donnelly	Williamsburg Slope No 2	38	175	15°		Non-Gaseous			Natural							2,500		2,500	5
Drysdale Coal Co	Larimore		700	3°		Non-Gaseous	1		Natural							5,700		6,500	13
Duncan, S. S.	Bennett				530	Non-Gaseous			Natural						1	2,160		2,160	2
Electric Fuel Co	Electric		Not	Reported															
Elk Creek Mining Co	Elk Creek				800	Non-Gaseous			Fan	Not yet running									17
Empire Coal Co	Empire		2,600	10%		Gaseous		60	Fan	Jeffreys	5	250		Electric		43,000		36,000	43
Engineers Leasing Co	Cambro		300	18%		Non-Gaseous			Fan	Crawford	10	50		Steam		10,800		11,300	28
Enstrom Coal Co	Missouri	50			150	Non-Gaseous			Natural										2
Evans Fuel Co	Evans	152				Non-Gaseous			Fan	Stine	8	260		Steam	4	24,000	62,910	64,000	28
Farmers Mutual Coal Co	Farmers			Mine aba	ndoned														
Federal Coal Mining Co	Lenox				350	Non-Gaseous			Natural										11
Fox Coal Mining Co	Fox	130				Non-Gaseous			Fan	Buffalo				Electric					33
French & Welborn	School Section Lease				265	Non-Gaseous			Natural										6
Garfield Coal Mining & Trans. Co	Garfield				850	Non-Gaseous			Natural										16
Gibson Lumber & Fuel Co	Royal Gorge	780	780	18°	1,200	Non-Gaseous	1		Fan	Cappell	12	75	3.	Electric	2	4,275		10,000	46
Gibson Asphaltum Co	Carbonera				1,800	Non-Gaseous			Natural						1	9,500		9 800	7
Globe Coal Mining Co	Capitol	221		2%		Gaseous	8		Fan	Buffalo	10	45		Steam		12,000		9,000	29
Gordon Coal Co	Gordon		3,000	2		Gaseous	2		Fan	Angle Vanes	3x10	90		Electric		18,380		18,480	45
Grand Junction Mining & Fuel Co	Cameo				1,500	Non-Gaseous	1		Fan		14	89		Electric		22,680		32,400	72
Grand Mesa Fuel Co	Fairview				800	Non-Gaseous			Natural						2	1,550	1,250	1,300	4
Green Valley Coal Co	Green Valley			8%	850	Non-Gaseous			Natural										2
Hall & Motto	Red Mountain			17°	350	Non-Gaseous			Natural							2,800		2,500	4
Hayden Bros. Coal Corporation	Hayden No. 1 and 2		1,000	10		Non-Gaseous	1		Fan	Jeffrey	10	160		Electric and Steam		11,000		12,000	50
Hesperus Fuel Co	Hesperus				3,000	Non-Gaseous	1		Fan		15	70	.5	Electric	2	12,040	9,650	25,000	41
Hines Coal Co	Hines				700	Non-Gaseous			Natural										4
Huerfano Coal Co	Ludlow				3,500	Non-Gaseous			Fan	Crawford & McCrimmon	18	78		Electric	5	48,000	38,000	73,000	98
Ideal Fuel Co	Jewel			17%	2,000	Non-Gaseous			Fan	Stine	12	100		Electric	3	7,722	12,536	21,558	51
Independent Lumber Co	Kurtzville				300	Non-Gaseous			Natural										6
Indian Creek Coal Mining Co	Grayland			20%	1,720	Non-Gaseous			Fan	Booster	3	440		Electric		3,000		3,000	21
International Fuel Co	Wolf Creek			12%	500	Non-Gaseous			Fan	Blower	5	450			1			19,240	17
Jeffryes Fuel Co	Jeffryes				1,500	Non-Gaseous			Fan	Stine	4	260	¼	Electric	3	25,510	25,320	24,000	73
Jowger Fuel Co	Bishoar			1%	653	Non-Gaseous			Natural										9
Jones, R. C.	Butcher Knife				355	Non-Gaseous			Natural										2
Jones, W. D	Mule Gulch					Non-Gaseous			Natural										2
Juanita Coal & Coke Co	King		3,800	5%		Non-Gaseous			Fan										1
										Vulcan	4x16	110	.03	Steam	3	93,200	35,950	93,650	48
Kain, E. W.	Gartman		240		320	Non-Gaseous			Natural										4
Kennedy, H. A	Lou Creek		40	26	900	Non-Gaseous			Fan	Champion	22	160		Gasoline Engine					2
Keystone Mining Co	Keystone			8	3,000	Non-Gaseous	1	2	Fan	Sirocco	4	262	.8	Electric	2	36,000	36,000	37,800	73
Knapp, Richard	Smith			45°	300	Non-Gaseous			Natural							1,110		1,280	2
Leone, L.	Leone				400	Non-Gaseous			Natural										5
Lewis, J. T.	Lewis		120	6°		Non-Gaseous			Natural						1	1,200			2
Leyden Coal Co	Leyden	792				Non-Gaseous	2		Fan	Crawford & McCrimmon	15	65	¾	Steam	2	60,000	60,000	60,000	113
Liberty Coal Mining Co	Liberty				500	Non-Gaseous			Natural										6
Liberty Coal & Mercantile Co	Fidel-Liberty		200	11°		Non-Gaseous			Natural							3,000		3,200	2
Littell Coal & Mining Co	Porter				1,000	Non-Gaseous	1		Fan		8	80		Steam		12,000		14,000	23
Loma Fuel Co	Jobal		1,600	5		Non-Gaseous	5		Fan	Buffalo	4	240		Electric		11 000		49,000	47
Loma Fuel Co	Loma		Mine	Damaged	fire														

Louisville Coal & Land Co	Firestone	115				Non-Gaseous	1		Fan			10	1,300		Steam		1,350		1,250	45
Lunney & Granger	Keystone		Slope			Non-Gaseous										2	1,400	1,000	1,250	8
Mancos Fuel Co	Mancos		600	45°		Non-Gaseous														1
Marchetti, Andrew	Marion	See	Mario	n under t	he Min	es of the Roc	ky Mo	untain	Fuel Co.											
Marsh, R	Fishers Peak				900	Non-Gaseous			Natural								7,000		7,500	3
Matchless Fuel Co	Matchless	238				Non-Gaseous			Fan	National					Electric		33,000			63
Mattivi, Steve	Bunker Hill				300	Non-Gaseous			Natural								3,000		3,000	
May Coal Co.	May			4%	800	Non-Gaseous			Natural								3,000		3,000	6
McGowan, L. H	Vesta		2,000	3½°		Gaseous			Fan	Cole		3½x11½	90		Electric		20,000		21,600	24
McLaughlin, Jas. E	Henderson	Inco	mple	te report																
McLaughlin, Jas. E	McLaughlin	Mine	idle 11	months in	1918															
McLean Bros	Double Dick		350	5°		Non-Gaseous			Natural								5,000		5,200	3
McNally, Geo. & Co	Maitland		4,500	5°		Gaseous	3		Fan	Clifford		16	142	.7	Electric		35,500		32,100	40
McNeil Coal Co	McGregor		2,300	5%		Non-Gaseous			Fan	Cole		12	45		Steam		22,000	22,000	24,000	74
Midwest Coal & Iron Co	Midwest			5°	1,250	Gaseous	1		Natural						Electric					33
Midwest Coal & Iron Co	Hilltop	Mine	closed	In March,	1918															
													120				27,000		15,000	
Moffat Coal Co	Moffat No. 1 and 2		4,000	7°	5,300	Non-Gaseous	4		Fan (2)	Jeffrey & Sirocco		6x10	130	.5	Electric	6	35,000		35,000	247
Moffitt-Carlile Coal Co	Moffitt-Carlile				200	Non-Gaseous			Natural											3
Montgomery, W. S	Lion Canon		500		300	Non-Gaseous			Natural											2
Monument Valley Fuel Co	New Maitland		2,100			Non-Gaseous			Fan	Home Made		10	116		Electric		13,450		14,820	17
Moore, H. A., Coal	Madrid				500	Non-Gaseous	1		Furnace						Electric					10
Morris Coal Co	Morris				600	Non-Gaseous	2		Natural											6
Mowry, J. F	Mitchell Springs				60	Non-Gaseous			Natural											1
Mutual Coal Co	Mutual	172				Gaseous	22	125	Fan	Crawford & McCrimmon		16	80		Steam and Electric	4	56,000	14,000	57,000	95
National Fuel Co	Monarch No 1	110				Non-Gaseous			Fan	Cole		14	60	1.	Steam		28,000		29,000	14
National Fuel Co	Monarch No 2	256				Non-Gaseous	2		Fan	Crawford & McCrimmon		14	80	1.1	Steam	3	18,500	18,500	51,900	137
National Fuel Co	Thor		1,500			Non-Gaseous	1		Fan	Crawford & McCrimmon		16	72	2.	Electric		56,700		57,160	57
National Fuel Co	Puritan	110				Non-Gaseous	1		Fan			5x18	90	.8	Steam	6	55,760		84,000	139
New Mile High Coal Co	Mile High			Mine aba	ndoned															
Northern Colorado Fuel Co	Coalmont		600			Non-Gaseous			Fan			12	40	5.	Steam	1	26,360		24,000	19
North Park Coal Co	Moore		800	12%	300	Non-Gaseous	1		Fan	Cole		66	130	.7	Steam	1	22,000	12,000	21,000	18
												9	112							
Oakdale Coal Co	Oakdale		3,000	12	3,500	Gaseous	2	180	Fan (2)	Sirocco & Jeffrey		6	160	1.	Electric	3	68,300	34,000	69,500	196
Oberding, Wm. J	Knauss				250	Non-Gaseous			Natural											1
Ohio Creek Coal Mining Co	Ohio Creek				700	Non-Gaseous			Natural									3,000	3,000	10
O. K. Coal Co	O. K.			8°	1,000	Non-Gaseous	1		Natural									6,500	6,000	6
Olson, P. A	Black Hawk		300	6°	250	Non-Gaseous			Natural											4
Orecchio Coal Co	Orecchio		600		2,250	Non-Gaseous			Natural									3,400	3,600	14
Palisade Coal & Supply Co	Palisade			7°	2,200	Non-Gaseous			Fan	Ajax		5	120		Electric		22,400		24,975	48
Paonia Coal Co	Paonia				1,000	Non-Gaseous			Natural							1	2,700		2,800	5
Patterson, Alexander	City No. 2	43		5%	700	Non-Gaseous			Natural								5,000		4,000	12
Patterson, Alexander	Patterson		350	5%		Non-Gaseous			Fan			11	80		Steam		4,000		3,500	
Peoples Coal & Supply Co	Smith-Tunner		1,100	6%	275	Non-Gaseous			Natural						Steam		1,204		1,204	8
Petry, Samuel	Willie		600			Non-Gaseous			Natural							1	3,000		3,000	13
Phillips Coal Co	Phillips		300	2°		Non-Gaseous			Natural											18
Pike's Peak Consolidated Fuel Co	Pikeview	170		3°		Non-Gaseous			Fan	Buffalo		10	135	1	Electric	3	45,390	46,650	48,230	153
Premium Coal Co	Premium Star				600	Non-Gaseous			Natural											7
Prospect Mine Co	Prospect				600	Non-Gaseous			Fan	Home made		4	250		Electric		7,000		8,000	12
Pueblo Fuel & Mining Co	Hornee	130				Gaseous	1		Fan			6	200		Steam		10,000		17,800	39
P. V. Coal Co	P. V.				1,400	Non-Gaseous			Natural								13,900		13,700	13
Raphl Bros	Phelta				1,500	Gaseous		20	Fan (2)			6	350		Electric	1	15,000		15,000	18
Rapson Coal Mining Co	Rapson No. 1		2 000	10%		Gaseous	1		Fan	Vale			90	5	Steam		25,000		25,000	49
Red Ash Coal Co	Red Ash				60	Non-Gaseous			Natural							2	3,000		2,600	12
Reynolds & Babcock	Black Diamond		200			Non-Gaseous			Natural											5
Rio Blanco Coal Co	Fairfield		Not	Reported																
Rocchio, James	Rocchio		250			Non-Gaseous			Natural											3
Rocky Mountain Fuel Co	Simpson	240				Non-Gaseous	3		Fan	Morris		12	126	1.	Steam	6	90,000	65,000	76,000	106
Rocky Mountain Fuel Co	Standard	265		1°		Gaseous	4		Fan	Vulcan		14	120	2.	Steam	4	40,760	28,760	44,400	85
Rocky Mountain Fuel Co	Vulcan	180		1		Gaseous	6		Fan	Clifford		11	100	¾	Steam	4	60,000		65,500	59
Rocky Mountain Fuel Co	Mitchell	321				Non-Gaseous	2		Fan	Cole		12	100	.5	Steam	3	23,000	23,000	24,000	41
Rocky Mountain Fuel Co	Acme	186				Non-Gaseous	4		Fan	Cole		13	90	1.	Steam and Electric	5	50,000	54,190	45,550	99
Rocky Mountain Fuel Co	Hecla	162	180	12		Non-Gaseous	2		Fan	Cole		11	70	1.3	Steam	2	16,215	16,215	17,250	40
Rocky Mountain Fuel Co	Gorham		2,000	16°		Non-Gaseous	1		Fan	Cole		13	134	⅝	Electric	4	40,800	24,600	42,700	63
Rocky Mountain Fuel Co	Industrial	254				Non-Gaseous	2		Fan	Colo		12	100	1.¼	Steam	3	45,000		48,000	112
Rocky Mountain Fuel Co	Garfield-Vulcan				800	Gaseous	12	30	Fan	Jeffrey		7	240	.8	A. C. Motor		12,000		14,000	18
Rocky Mountain Fuel Co	Midland		1,340			Non-Gaseous	2		Fan	Sirocco		5x3	190	.3	Steam		16,000		16,800	30
Rocky Mountain Fuel Co	Alpine	150		4	3,100	Non-Gaseous	2		Fan	Jeffrey		5	126	.2	Electric	1	28,350		28,350	44
Rocky Mountain Fuel Co	Forbes No. 4 and 9		3,900	1°		Gaseous	3		Fan	R M F		16	105	1.4	Electric	2	45,000	45,000	45,000	81
Rocky Mountain Fuel Co	Piedmont		140	11°		Gaseous	3	9	Fan	R M F		13	135	1.5	Steam and Electric		25,000	25,000	53,000	44
Rocky Mountain Fuel Co	La Belle				800	Non-Gaseous	1		Furnace					.1		1	5,940		5,940	17
												12	84	.5						
Rocky Mountain Fuel Co	Southwestern		2,100	8°		Non-Gaseous	2		Fan (2)	Cole & Stine		5	320	.2	Steam and Electric	1	32,000		39,000	33
Rocky Mountain Fuel Co	Marion				2,550	Non-Gaseous	1		Natural								12,000		8,000	18
Rocky Mountain Fuel Co	Frederick		400	27½%		Non-Gaseous	1		Fan	Cole		12	60	1.1	Steam	3	38,000	44,000	40,000	47
Rocky Mountain Fuel Co	Grant	150		1°		Non-Gaseous	1		Fan	Stine		7	300	.3	Electric	4	48,000	48,000	50,000	38
Routt-Pinnacle Coal Co	Routt-Pinnacle		450	27%		Non-Gaseous			Natural								6,444		3,700	19
Royal Fuel Co	Royal	273		8°		Gaseous	2	130	Fan	Jeffrey		10	175	1.1	Steam and Electric	1	55,000	55,000	57,000	144
Rugby Fuel Co	Rugby		1,500	12%		Non-Gaseous	1		Fan	Stine		7	190		Electric	3	14,000	5,400	12,000	32
Russell, W. E., Coal Co	Russell	280				Non-Gaseous	1		Fan	Cole		4x12	90		Steam	5	40,000	63,900	40,575	56
Salt Wash Mining Co	Hunter		450		300	Non-Gaseous			Natural											2
Sandy Coal Co	Sandy		75	30°		Non-Gaseous	1		Natural						Steam	2	2,000		2,000	9
Santa Fe Coal Co	Santa Fe				1,500	Non-Gaseous	2		Natural							2				35
Shamrock Coal Co	Shamrock	100				Non-Gaseous	1		Fan			3x10	90		Steam	2	5,200	8,900	17,200	30
Shepherd & Maughan	Justrite		210	45%		Non-Gaseous														2
States Coal Co	States		125	7%	300	Non-Gaseous	1		Natural							1	6,435	1,652	6,578	2
Stokes, W. D	Stokes		900			Non-Gaseous	1		Natural											9
Strathmore Mine Co	Strathmore	145				Non-Gaseous			Fan				62			1	12,100		12,100	6
Sunshine Coal Co	Sunshine				700	Non-Gaseous			Natural											3
Sunnyside Coal Mining Co	Sunnyside				1,500	Non-Gaseous	3		Fan			12	120		Electric	1	22,250		15,750	75
Temple Fuel Co	Brodhead No. 9		3,200	20%		Non-Gaseous	2		Fan	Jeffrey		8	154	¾	Electric		38,500		40,180	106
Temple Fuel Co	Alta				1,000	Non-Gaseous	1		Fan	Jeffrey		6	130	3/16	Electric		21,000		22,300	29
Thomas Coal Co	Williamsville		1,300			Non-Gaseous	1		Natural											8
Thomas, C. F	Thomas				1,200	Non-Gaseous	1		Natural											2
Thomas, C. O.	Rollins		200	1%	100	Non-Gaseous			Natural											3
Thompson-Mitchell	Boncarbo				3,000	Non-Gaseous	1		Fan (2)	Stine		1x3								
Tioga Coal Co	Tioga		900	15°		Non-Gaseous	1		Fan	Cole		1x4	1,000	1.5		2	21,400	20,800	20,800	121
Todd, Geo. S.	Todd			5%	250	Non-Gaseous			Natural			12	70	1.	Electric	2	27,600	27,600	21,000	53
Trinidad Coal Co	Baldy Mountain				300	Non-Gaseous	1		Natural											2
Trinidad Coal Mining Co	Valley		1,050	4°		Non-Gaseous			Natural											4
Tudor Coal Co	Danville		440	15°		Non-Gaseous	1		Natural											4
Turner Coal Co	Turner		3,200	4%		Non-Gaseous	3		Fan	Jeffrey		8x4	81		Electric	2	3,500	2,212	3,800	11
													85			2	23,000	54,350	41,600	96
Union Coal & Coke Co	Pryor		2,500	7%		Non-Gaseous	1		Fan (2)	Vulcan		4x12	90		Electric	5	32,000	32,000	32,000	69
United Collieries Co	Monroe		335			Non-Gaseous	1		Fan			8	80		Steam		21,700		22,250	18
United Collieries Co	Eureka		Dis	mantled																
Utah Fuel Co	Somerset		6,500	3°		Gaseous	48	200	Fan	Jeffrey		18x5	120	3.4	Steam	6	187,290	132,060	217,000	170
Valley Commercial Co	Valley		Mine	closed																
Van Wert Bros	Ben Male		Not	Reported																
Victor American Fuel Co	Chandler	465	6,000	5°		Gaseous	1	180	Fan	Cappell		10	120	1.¼	Electric	2	60,000	30,000	63,500	176
Victor American Fuel Co	Radiant				3,000	Non-Gaseous	2		Fan	Sirocco		6	125	.3	Electric		16,000		17,000	60
Victor American Fuel Co	Ravenwood		4,800	2°		Non-Gaseous	6		Fan	Stine		5	690	.8	Electric	2	25,750	25,750	27,750	76
Victor American Fuel Co	Delagua		3,000	2%	9,000	Non-Gaseous	11		Fan (2)	Cappell and Crawford & McCrimmon		12	125							
												20	75	1.9	Electric	7	133,021	133,044	134,750	359
Victor American Fuel Co	Bowen				6,400	Non-Gaseous	1		Fan	Home made		12x3½	125	.3	Electric	2	25,600	25,600	25,680	90
Victor American Fuel Co	Gray Creek		7,200		3,000	Gaseous	2		Fan	Stine		6		.5	Electric		29,640		31,780	73
Victor American Fuel Co	Cass			4%	1,800	Non-Gaseous	1		Fan	Stine		6	90	.2	Electric	2	8,000	8,210	8,210	45
Victor American Fuel Co	Hastings		7,000	5%		Gaseous	1	90	Fan	Sirocco		90x90	200		Electric & Comp. Air	2	85,000			30
					100								70							
Victor American Fuel Co	Pinnacle				3,300	Non-Gaseous	75		Fan (4)	Crawford & Jeffrey		8x10	54	¼	Steam	3	48,000		46,000	70
Victor American Fuel Co	Wadge		500	16%	500	Non-Gaseous	1		Fan	Stine			220		Electric		24,000	31,500	32,200	38
Walter Coal Co	Postal		300		200	Non-Gaseous			Natural											7
Western Collieries Co	Satanic	100	180	28°		Non-Gaseous			Natural								3,600		4,000	19
Wichita Fuel Co	Wichita		800	10%		Non-Gaseous			Natural								2,000		2,000	3
Williams, Walter	Williams		125	7°		Non-Gaseous	1		Natural							2	2,000		2,000	6
Williamsburg Slope Coal Co	Emerald		1,600	5%		Non-Gaseous	1		Fan	Sturtevant		8	136		Electric	2	12,300	7,580	12,400	25
Winton Coal Co	Winton				1,900	Non-Gaseous	1		Natural							3	3,136		3,136	3
Wolf Park Coal Co	Wolf Park	1,084		8%		Non-Gaseous	1										15,400		18,000	40
Wood, F. P. & Co	Wood				1,600	Non-Gaseous			Fan	Jeffrey		4	500		Electric					30
Woodford, H. H.	Baldy		Not	Reported																50
Woolton Land & Coal Co	Turner				1,000	Non-Gaseous	2		Fan	Sturtevant		8	185	.3	Electric	1	25,200	13,400	27,360	