

NR 9/300.10/1916

COLORADO STATE PUBLICATIONS LIBRARY



3 1799 00125 0919

Fourth Annual Report
OF THE
State Inspector of
Coal Mines

1916



DENVER, COLORADO
BARNES BROS., STATE PRINTERS
1517

Fourth Annual Report

OF THE

State Inspector of
Coal Mines

1916



DENVER, COLORADO
EAMES BROS., STATE PRINTERS
1916

CONR
M
CG
1916
C.2

PERSONNEL OF THE STATE COAL MINING
DEPARTMENT

FIELD AND OFFICE

JAMES DALRYMPLE.....	Chief Inspector
HENRY P. KING.....	Deputy Inspector, Dist. No. 1
FRANK N. OBERDING.....	Deputy Inspector, Dist. No. 2
JAMES W. GRAHAM.....	Deputy Inspector, Dist. No. 3
A. E. THOMPSON.....	Deputy Inspector, Dist. No. 4
ADA R. TIBBITS.....	Chief Clerk
BIRDIE DORSEY.....	Assistant Clerk

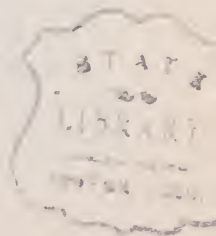
LETTER OF TRANSMITTAL

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

Sir: Herewith I have the honor to submit to you, in accordance with Section 37 of an Act entitled "Coal Mining Laws," the Fourth Annual Report of this Department. The period covered began January 1st and ended December 31st, 1916.

Respectfully,

JAMES DALRYMPLE,
Chief Inspector of Coal Mines.



STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 to DECEMBER 31, 1916

RECEIPTS

Tax collected on coal mined.....	\$32,600.15	
From sale of copies of the coal mining law.....	751.40	
Balance brought forward from 1915.....	20,111.11	
Total		\$53,462.66

DISBURSEMENTS.

Salary of chief inspector.....	\$ 3,000.00	
Salaries of four deputy inspectors.....	8,400.00	
Salary of chief clerk.....	1,500.00	
Salary of assistant clerk.....	1,200.00	
Expenses of chief and deputies.....	3,946.00	
Mileage books for chief and deputy inspectors.....	1,281.99	
Office expenses—		
Printing	1,846.90	
Stamps	400.00	
Typewriter and stand.....	73.13	
Stationery supplies, etc.....	178.87	
Telephone service	61.81	
Telegraph service	25.09	
Express	2.79	
Extra clerical help.....	280.00	
Miscellaneous	75.85	
Instruments, anemometer, repairs and other apparatus	138.39	
Four Ford automobiles and equipment.....	2,205.01	
Electrical supplies, batteries for flash lights.....	75.04	
Total		24,690.87
Surplus		\$28,771.79

FIELD EQUIPMENT

Twelve Anemometers.
 Five Speedometers.
 Four Pschycrometers.
 Five Marsant Safety Lamps.
 Five Koehler Safety Lamps.
 One Aneroid Barometer.
 Four Ford Automobiles and Equipment.

SUMMARY OF THE COAL PRODUCTION OF COLORADO, 1916

Number of mines operated.....	219
Number of new and old mines opened.....	8
Number of mines closed, 8; abandoned, 5; total.....	13
Tons of lignite coal produced.....	2,035,527
Tons of semi-bituminous produced.....	794,209
Tons of bituminous coal produced.....	7,945,366
Tons of anthracite coal produced.....	47,083
Total number of tons of coal produced.....	10,822,185
Increase in 1916.....	1,806,788
Tons of run-of-mine coal produced.....	4,428,043
Tons of lump coal produced.....	2,926,047
Tons of nut coal produced.....	656,522
Tons of slack coal produced.....	2,811,573
Per cent of slack.....	44. +
Tons mined by shooting off the solid.....	785,939
Tons of coal mined by hand.....	6,940,925
Tons of coal mined by machine.....	3,095,321
Total number of machines used: air, 150; electric, 133; total.....	283
Tons of coal shipped out of state.....	1,794,563
Average number of days worked for all producing mines.....	175.8
Pounds of carbide used (approximately).....	308,856
Gallons of illuminating oil used (approximately).....	9,211
Number of electric lamps used: Edison, 143; Manneson, 90; Victor, 538; Wico, 818; total.....	1,589
Number of men employed as miners.....	6,939
Total number of men employed in and about the mines.....	12,598
Daily production of each miner—average.....	8.66
Annual production of each miner—average.....	1,516.40
Total number of tons of coke produced.....	987,977
Total number of coke ovens in operation.....	1,990
Total number of men employed at coke ovens.....	717
Number of kegs of black powder used (approximately).....	50,570
Number of pounds of permissible powder used (approximately).....	721,122
Cost of development during the year (approximately).....	\$ 40,392.00
Number of men killed underground.....	39
Number of men killed on surface.....	5
Total number of men killed.....	44
Number of men injured.....	889
Number killed per 1,000 employed.....	3.35
Number injured per 1,000 employed.....	67
Number of tons produced for each life lost.....	239,095
Number of tons produced for each non-fatal accident.....	11,836
Number of men employed for each fatal accident.....	302.50
Number of men employed for each non-fatal accident.....	15
Number of widows left.....	28
Number of children left fatherless.....	56

NOTE—In enumerating mines opened and closed, these apply usually to very small country banks which come and go under different names in different localities, probably as a demand for a wagon load of coal prompts some enterprising miner or farmer to get a lease on some old mine and work it for a short time and then give it up or sub-lease it. This accounts for so many new names of mines that open and close during the course of each year.



Digitized by the Internet Archive
in 2013

Fourth Annual Report

OF THE

State Inspector of Coal Mines

1916

INTRODUCTION

The condition of the coal industry for this year shows marked improvement over the preceding year, both in production, market price and wages paid. The production amounted to 10,522,185 tons. Fourteen of the nineteen coal-producing counties contributed to the increase, which was 1,806,788 tons; 1,257,131 tons of the total was in run-of-mine, the bulk coming from Las Animas County. This was used at the steel works, either as coal or in the form of coke. The coke production amounted to 987,977 tons, an increase of 316,523 tons, compared with the preceding year. The selling price of coal advanced materially in the fall of the year, and the workers have received an increase in wages.

The monthly and annual reports from the operators, with few exceptions, are so incomplete that it is practically impossible for this department to give the full information required by law. The Federal Government has adopted a standard for mining statistics, a copy of which is hereto attached. The principal object of this is to make all coal mine inspection reports uniform, and to eliminate duplicate reports now made by the mine owners to the different state and federal institutions. The monthly and annual report forms furnished the operators by this department have been changed to conform with the federal requirements. The attention of the operators is drawn to the importance of filling in all details of the aforesaid reports, in order that this department may comply with the new statistical requirements. It will no longer be necessary for operators to report non-fatal accidents to this department, as arrangements have been made to get this information from the Industrial Commission.

Fourteen proposed amendments to the mining law are now being considered by the legislature, the object being to make the law more specific and to conform with the state compensation law.

Two mines were temporarily closed because of dangerous conditions.

One shot-firer's certificate was revoked for failure to do his duty.

There are fourteen mines that employ between five and ten men; forty-seven that employ five or less; fourteen that work between fifty and seventy-five days, and eight that work less than twenty-five days. Such mines reduce materially the average number of days worked by coal mines in the state. The average number of inspections made per mine by districts during the year is as follows:

Dist. 1:	3.15;
Dist. 2:	4.52;
Dist. 3:	3.50;
Dist. 4:	2.46,

being an average for the whole state of.....3.41 inspections.

It is evident from the above figures that the mines have not been inspected every ninety days, or four times a year, as required by our present law.

Our inspectors were obliged to spend considerable time adjusting tippie scales, thus seriously retarding inspection work. There are no technical scale men in the department, and this work has not been done satisfactorily. We are, therefore, of the opinion something should be done to relieve this situation.

Miles traveled by the Inspectors in the performance of their duties amounted to 59,514, an increase of 22,514 miles over 1915.

The number of shot-firers' certificates issued during the year is as follows: For gaseous mines, 97; non-gaseous mines, 95.

The demand for first- and second-class mine foremen and fire-bosses during the year was greater than the supply. To meet conditions, examinations for mine officials should be held as early as possible.

A great many of the small operators are continually delinquent in filing their monthly and annual reports, and it is only after much correspondence that the department is able to get them at all. This causes the department a great deal of unnecessary trouble and expense, as well as hampering the work, and practically making it impossible for the office to fulfill the requirements of the law relating to the compiling of statistics.

It is urged upon all operators, who have hitherto neglected this matter, to make such effort in the future as will obviate the necessity of this office taking legal action.

During the year forty-four lives have been lost in and around the mines, as follows:

Underground men 39, and surface men 5, compared with 64 in 1915.

The number killed per 1,000 was reduced from 5.1 to 3.35.

The tonnage produced per life lost increased from 136,178 to 239,140.

This is a very creditable record, and has been obtained by the coal companies having their properties more carefully managed, and by more complete co-operation on the part of the employees.

The responsibility for the above enumerated fatalities, reported by our inspectors, is as follows:

Fault of deceased.....	12
Neglect of owner.....	5
Deceased and owner.....	4
To co-worker	1
Unavoidable	17
Unable to place.....	5
	—
Total fatalities	44

The non-fatal accidents number 819, compared with 712 in 1916. The tonnage produced per non-fatal accident amounted to 11,836, compared with 12,241 in 1915, and the number injured per 1,000 employed increased from 56.70 to 70.57.

On the face of these figures, it would appear that such accidents have increased; but it should be remembered that operation of the Compensation Act has resulted in establishing much more complete record of such accidents. This Act went into effect August 1, 1915, so affecting only the last five months of the year.

Kenneth H. Chisholm, of the Bureau of Mines, during the year gave instructions in first aid and helmet work to the men in different parts of the state. Mr. Chisholm seems to be the right man in the right place, as he never fails to obtain a good class wherever he goes, and has, by his ability and earnestness in the work, obtained the confidence of the miners, which has resulted in excellent work being done.

The State University of Boulder has commenced its extension work by opening three schools in Boulder County, one at Louisville, one at Marshall, and one at Superior. The principal subjects taught are English, citizenship, and arithmetic, and cannot help but improve the general conditions of the industry, and we earnestly hope that it will be extended until it reaches every camp in the state.

We appreciate the response of the operators to the recommendations made by the inspectors; also to the workers for their greater caution and care in performing their duties, and sincerely hope it will continue, as it is only by co-operation and intelligent service that we can hope to better protect life and property.

In conclusion, I wish to tender to all employees of this department my thanks and appreciation of their loyal and able assistance.

Respectfully submitted,

JAMES DALRYMPLE,
Chief Inspector of Coal Mines.

SAMPLE TABLES

SHOWING FORMS OF STANDARDIZED COAL STATISTICS ADOPTED
BY THE UNITED STATES BUREAU OF MINES, AND WHICH WILL
BE THE FORMS USED IN THE FIFTH ANNUAL REPORT
OF THIS DEPARTMENT

FORM 1—Form for reporting coal mine equipment, production and employees.

COAL MINE REPORT FOR YEAR ENDING DECEMBER 31,
(To be filled in by operator, a separate report for each mine.)

1 Directory.	1. Name of company..... 2. Name of mine..... 3. County 4. Mgr. or Genl. Supt..... 5. Post office..... 6. Superintendent 7. Mine post office..... 8. Railroad to mine..... 9. Geological name of coal bed worked..... Thickness—feet.....inches.....
2 Power, Pump and Haulage Equipment.	A. POWER PLANT: 1. Cylindrical boilers.....No.....Total H. P..... 2. Tubular boilers.....No.....Total H. P..... 3. Steam engines.....No.....Total H. P..... 4. Internal comb. eng. (gas) No.....Total H. P..... 5. Dynamos.....No.....Total K. W..... B. PUMPS: 1. Number..... 2. Total capacity in gallons per minute..... 3. Number of pumps delivering water to surface..... 4. Approximate number of gallons per minute delivered to surface..... C. HAULAGE: 1. Number of horses and mules..... 2. Number of locomotives—gasoline..... steam.....compressed air.....electric..... 3. Air compressors—number..... total capacity (cu. ft. per minute).....
3 Ventilating Equipment.	1. Name of operator and mine..... 2. Kind of opening: Shaft (depth).....ft.; Slope (length).....ft. Average pitch.....deg.; Drift (length).....ft. 3. Gaseous or non-gaseous mine*..... 4. Number and type of safety lamp used: flame.....; electric..... 5. Method of ventilation..... 6. Name of fan..... 7. Diameter.....ft. 8. Revolutions per minute..... 9. Water gauge developed.....inches 10. Power used..... 11. Number of splits of air currents..... 12. Cubic feet air per minute entering mine..... 13. Cubic feet air per minute } circulating in each split: } No. 1.....cu. ft. } No. 2.....cu. ft. } No. 3.....cu. ft. } No. 4.....cu. ft. } No. 5.....cu. ft. 14. Cubic feet air per minute passing out outlet.....

*A gaseous mine is one generating explosive gas in quantities sufficient to be detected by an approved safety lamp.

SAMPLE TABLES—Continued

SHOWING FORMS OF STANDARDIZED COAL STATISTICS ADOPTED
BY THE UNITED STATES BUREAU OF MINES, AND WHICH WILL
BE THE FORMS USED IN THE FIFTH ANNUAL REPORT
OF THIS DEPARTMENT

<p>4</p> <p>Machine, Pro- duction and Explosives</p>	<p>A. MACHINES:</p> <p>1. Compressed air, number of.....</p> <p>2. Electric, number of.....</p> <p>B. PRODUCTION:</p> <p>1. Loaded at mines for shipment.....</p> <p>2. Sold to local trade and used by employees.....</p> <p>3. Used at mine for steam and heat.....</p> <p>4. Made into coke.....</p> <p>5. Total production</p> <p>6. Coal mined by machines, short tons.....</p> <p>7. Coal mined by hand, short tons.....</p> <p>8. Coke produced (short tons).....</p> <p>C. EXPLOSIVES:</p> <p>1. Black powder user.....kegs (or.....lbs.)</p> <p>2. Dynamite used.....lbs.</p> <p>3. Permissibles used.....lbs.</p>		
	<p>5</p> <p>Men Employed at Coal Mines.</p>	<p>A. UNDERGROUND EMPLOYEES (Average): Number.</p> <p>1. Foremen</p> <p>2. Assistant foremen</p> <p>3. Firebosses</p> <p>4. Pick miners</p> <p>5. Machine miners</p> <p>6. Machine runners and scrapers.....</p> <p>7. Shot firers</p> <p>8. Drivers and runners.....</p> <p>9. Motormen and assistants.....</p> <p>10. Doorboys and helpers.....</p> <p>11. Trackmen and brattice men.....</p> <p>12. Timbermen and rockmen.....</p> <p>13. Pump and pipemen.....</p> <p>14. Electricians and helpers.....</p> <p>15. All others</p> <p>Total underground</p> <p>B. SURFACE EMPLOYEES (Average): Number</p> <p>1. Superintendents</p> <p>2. Foremen</p> <p>3. Blacksmiths and carpenters.....</p> <p>4. Engineers and firemen.....</p> <p>5. Machinists and helpers.....</p> <p>6. Trackmen and helpers.....</p> <p>7. All others at mine.....</p> <p>8. Coke employees</p> <p>9. Office employees</p> <p>Total surface</p> <p>Total at mines.....</p>	
		<p>6</p> <p>Days Worked.</p>	<p>C. Number of days mine was operated each month during year:</p> <p>Jan..... Feb..... March..... April.....</p> <p>May..... June..... July..... Aug.....</p> <p>Sept..... Oct..... Nov..... Dec.....</p> <p>D. Number of days coke ovens were operated during year</p>

Additional questions, such as may be required by state laws and not in-
cluded in above, may be added here if desired.

(Signed).....

Superintendent or Manager.

Date.....

1	Employer, Place and Time.	(a) Employer's name (b) Office address—street and number..... City or villoge..... (c) Business (minerals or metals produced)..... (d) Name of mine (quarry, mill, smelter or plant)..... Post office..... County..... (e) Date on which accident occurred..... (f) Hour of day..... (g) Hour injured person began work that day..... (h) Name of foreman, or person in immediate charge.....
2	Injured Person.	(a) Name..... (b) Address..... (c) Age..... (d) Single, married, widower or divorced..... (e) Number of children under 16 years..... (f) Nationality..... Color..... Speak English..... (g) Regular occupation..... (h) Occupation when injured..... (i) Length of experience in occupation when injured..... (j) Contract or time worker..... (k) Wages, or average earnings per day..... (l) Working hours per day..... (m) Working days per week..... (n) Did injured person have any physical defect of eye, ear or otherwise.....
3	Cause.	(a) Where did accident occur..... (b) If at mine, state whether in mine or on surface..... (c) If at mine, state mining method..... (d) Name of machine, tool, or appliance in connection with which accident occurred..... (e) Was machine, or appliance, properly guarded? (Yes or no); if "yes" describe character of guard..... (f) Give immediate cause of accident..... (g) Describe fully how accident happened..... (h) Were there any eye witnesses..... Give names.....
4	Nature and Extent of Injury.	(a) Was accident fatal? If so, give date of death..... (b) State exactly part of person injured and nature of injury (c) Did injury cause loss of any member or part of a mem- ber? If so, describe exactly..... (d) Attending physician or hospital where sent: Name and address (e) Has injured person returned to work..... If so give date and hour..... If not, give estimate of length of disability..... (f) Name of insurance carrier..... Date of report..... Made out by..... (Signed)..... Superintendent or Manager.

SAMPLE TABLES—Continued

SHOWING FORMS OF STANDARDIZED COAL STATISTICS ADOPTED
BY THE UNITED STATES BUREAU OF MINES, AND WHICH WILL
BE THE FORMS USED IN THE FIFTH ANNUAL REPORT
OF THIS DEPARTMENT

<p>5 Supplemental Report.</p>	<p>If employee is disabled detach here, sending in supplemental report upon return to work, in any event, at the end of 30 days. If employee is not disabled, or if death resulted, fill in but do not detach.</p>
	<p>1. Date of previous report.....</p>
	<p>2. Name of employer.....</p>
	<p>3. Office address:</p>
	<p>Street and No.....City or town.....</p>
	<p>4. Name of injured employee.....</p>
	<p>5. Present address of employee:</p>
	<p>Street and No.....City or town.....</p>
	<p>6. Has injured person returned to work?.....</p>
	<p>Date of return.....</p>
<p>7. At what occupation.....</p>	
<p>8. Present rate of wages per week.....</p>	
<p>9. Number of days lost.....</p>	
<p>10. If injured person has not yet returned, state estimate</p>	
<p>of further disability.....</p>	
<p>Date of report.....Made out by.....</p>	
<p>(Signed).....</p>	
<p>Superintendent or Manager.</p>	

MINING PRICES PAID AT THE VARIOUS COAL MINES IN COLORADO, JANUARY 1, 1917

BOULDER COUNTY—

	Hand Mining	Loading After Machines
Simpson	\$0.52 to \$0.65	\$0.45
Standard .....	.69 to .73	.51 to .69
Vulcan .....	.65 to .72	.45
Mitchell .....	.52 to .65	.45
Rex No. 1.....	.65 to .72	.45 to .58½
Hecla .....	.65 to .72	.63
Gorham .....	.62	.41 to .63
Industrial .....	.65	.45
Monarch No. 1.....	.62	.58
Monarch No. 2.....	.63 to .65	.43 to .48
Centennial .....	.71½	.48½
Fox—(over 6 feet).....	.62	.40
(under 6 feet).....	.68¾	.46
Matchless .....	.72	.48½
Sunnyside .....		.45½
Nonpareil .....	.40 hr.	.50
Black Diamond .....		.38½

DELTA COUNTY—

Winton	\$3.00 day	
Green Valley .....	.70 ton	
Red Mountain .....	.80	
Farmers Mine .....	.45	
King .....	.45	
State .....	.60	
Black Diamond .....	.45	
Bennett .....	.75	
Converse	3.00 day	
Rollins		3.50 day
Farmers (Leroux Creek).....	1.25 ton	

EL PASO COUNTY—

El Paso .....	.63	
Rapson No. 2.....	.59	.37
Danville .....	.59	
Williamville .....	.60	
Franceville .....	.75	

FREMONT COUNTY—

Smith Larner .....	.80	
Williamsburg Slope .....	.80	
Double Dick .....	.90	
Willie	1.00	
Brookside	day	
Royal Gorge .....	.65	
	.75	
	.78	
	.85	
Chandler No. 2.....	.90	.50
Chandler .....	.90	.50
Nonac .....	.75	
Fremont—under 4 ft.....	.83	\$1.35 lump
4 ft. to 4 ft. 8 in.....	.78	or
4 ft. 8 in. over .....	.73	10c screenings
Coal Creek	Same as Fremont	
Rockvale	Same as Fremont	
Emerald .....	.83	.58
Wolf Park .....	.75	

GARFIELD COUNTY—

Harvey Gap	3.25 to 3.50 day	
South Canon	Paid by yard	
Carbonera .....	.54 ton	
Garfield (pitching vein).....	9.00 per yard	
Midland (pitching vein).....	5.50 and 7.00 yard	

MINING PRICES—Continued

GUNNISON COUNTY—

	Hand Mining	Loading After Machines
Baldwin Star .....	.60 ton	
Smith Anthracite .....	.90 forked coal	
Bulkley .....	.62	
Horace	1.00	
Porter .....	.52 ½	
Alpine .....	.60	
Floresta .....	.81	
Crested Butte .....	.58	
Somerset .....	.45	.45

HUERFANO COUNTY—

Reliance .....	.60 and .65	.45	
Tioga .....	.58	.48	
Cameron .....	.63	.42 ½	R. .10 ½
Pryor .....	.65 to .75	.38	to .45
Maitland .....		.50	
Walsen .....	.63	.42 ½	R. .10 ½
Robinson .....	.63	.42 ½	R. .10 ½
Pictou .....	.63	.42 ½	R. .10 ½
Pinon .....	.65		
Sunnyside .....	.55	.43	
Ideal .....	.63		
Lester .....	.63		
Rouse .....	.63		
Ravenwood .....	.95	.98	
Breen .....	.62 ½	.40	
Larimore .....	.75	.60	
Mutual .....		.40	
Caddell .....	.74	.53	
Loma .....	.65	.40	to .45
Big Four .....	.58 and .60	.43	
Oakdale .....	.58	.42 ½	Arcwall Puncher
Gordon .....	.65	.50	
Turner .....	.63	.40	to .42 ½
Solar .....	.60	.63	
Black Canon .....	.70	.45	to .50
Rugby No. 3 .....	.60		
Toltec .....	.70	.46	

JACKSON COUNTY—

Coalmont .....	.45	
Moore .....	.45	.50

JEFFERSON COUNTY—

Leyden .....	.60	.39
Justrite	3.00 day	

LAS ANIMAS COUNTY—

McLaughlin .....	.58	
Superior .....	.75	
Jewel .....	.60 and .70	.40-.45-.50
Tobasco .....	.58	
Frederick .....	.58	
Primero .....	.58	
Sopris—4 ft. 3 in. and over.....	.58	
3 ft. 9 in. and over.....	.63	
under 3 ft. 9 in.....	.68	
Starkville .....	.58	
Morley .....	.58	
Piedmont .....	.58	
Forbes .....	.58	
Toller .....	.55	.58
Ludlow .....	.53	.38
Primrose .....	.60 to 1.00	.45
Bowen .....	.55	.58
Hastings .....	.55	.58
Gray Creek .....	.55	.58
Black Diamond .....	.70	

MINING PRICES—Continued

LAS ANIMAS COUNTY—Continued.

	Hand Mining	Loading After Machines
Cokedale .....	.58	.44
Berwind .....	.58	.42½ R. .10½
Royal .....	.58	
Delagua .....	.55	.34½
Keystone No. 2 .....	.80	
Rapson No. 1 .....	.63 and .66	.45
Jeffrey .....	.40	
Wooten-Turner .....	.55 and .58	
Fisher Peak .....	.65	
Keystone .....	.55	
Baldy Mountain .....	.55	
Prospect .....		.50
W. G. Hines	3.00 day	
Kenneth .....	.58	.38
Brodhead .....	.58	.38

LA PLATA COUNTY—

Perrins Peak .....	.60-.65-.70-.75	.40-.42½-.45
Sunshine .....	.65	
San Juan .....	.65 to .70	
O. K. ....	.65 to .70	
Hesperus .....	.65	.70
Morning Star .....	.70	

MESA COUNTY—

Lynch	1.25	
Grandview .....	.80	
Farmers	1.00	
Riverside	1.15	
P. V. ....	.65-.70	
Cameo .....	.55	.35 Ldr. .08 R.
Book Cliff .....	.55	
Winger .....	.85	
Thomas .....	.75	
Fidel	1.00	
Stokes .....	.85	
Anchor No. 2	1.00	
Palisade .....	.80	

MONTROSE COUNTY—

Knauss	2.50 and board
Missouri	1.25
Cloverdale	1.25

MONTEZUMA COUNTY—

Beal	1.75
Todd	2.00
Mitchell Springs	2.00
Mancos	1.00 M. R. \$1.25 Lump.
Spencer	1.00

PITKIN COUNTY—

Gulch .....	.68
Placita .....	.63

RIO BLANCO COUNTY—

Lion Canon	3.00 day
Fairfield	1.00 ton
Sulphur	1.00

ROUTT COUNTY—

Diamond .....	.70	
Twenty-Mile	3.20 day	
Allen .....	.55 ton	
Harris .....	.55	.40
Curtiss Routt .....	.55 and .60	
Hayden .....	.55	
McGregor .....		.40
Bear River .....	.55	
Moffat No. 2 .....	.55	.40
Moffat No. 1 .....	.55	.40
Pinnacle .....	.55	.40
Yampa Valley 1-2-3 .....		.60

MINING PRICES—Continued

WELD COUNTY—

	Hand Mining	Loading After Machines
Ideal .....	.65	.41
Eureka Coal .....	.65	.43
Eureka .....	.65	.41
Grant		Mach. work by shift
Frederick .....		.52 to .66 1/2
Russell .....	.65	.41 to .55
Shamrock .....	.65	.41
Evans .....	.65	.41
Puritan .....	.63 to .65	.41
Baum .....	.63 .65	.41
State	Machine Runner, \$3.80 eight hr. All other inside, \$3.30.	

TABLE No. 1

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.

1916.

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.	220	2	---	---	---	---	---	---	---	---
Alliance Coal Co.	54,186	88	---	---	---	15	5.2	3,612	---	68.18
Anchor Coal Co.	1,592	4	---	---	---	---	---	---	---	---
Aztec Coal Mining Co.	50,719	99	---	---	---	5	20	10,144	---	50.55
Baldy Coal Co.	3,441	3	---	---	---	---	---	---	---	---
Baldwin Fuel Co.	4,043	5	---	---	---	---	---	---	---	---
Bardino Bros.	350	2	---	---	---	---	---	---	---	---
Bear River Coal Co.	45,971	50	---	---	---	2	25	22,986	---	40.00
Bedlien, C. W.	2,096	3	---	---	---	---	---	---	---	---
Big Four Coal & Coke Co.	95,799	165	---	---	---	12	14	7,142	100.00	72.00
Big Lake Coal Co.	3,449	10	1	---	10	3	10	7,708	---	96.77
Big Six Coal Co.	23,123	31	---	---	---	1	2	1,271	---	50.00
Billstrom, C. O.	1,271	2	---	---	---	---	---	---	---	---
Billstrom, Gus	435	2	---	---	---	---	---	---	---	---
Black Canon Fuel Co.	22,255	45	---	---	---	1	45	22,255	---	22.22
Black Diamond Coal Co.	329	1	---	---	---	---	---	---	---	---
Black Diamond H. N. C. M. Co.	200	8	---	---	---	---	---	---	---	---
Book-Cliff R. R. Co.	13,787	14	---	---	---	---	---	---	---	---
Breen Coal Mining Co.	19,759	25	---	---	---	---	---	---	---	---
Brimble, David	551	1	---	---	---	---	---	---	---	---
Brooks Fuel Co.	12,697	18	---	---	---	---	---	---	---	---
Brookside Coal Co.	8,455	10	---	---	---	---	---	---	---	---
Brown, Mark	150	2	---	---	---	---	---	---	---	---
Calumet Fuel Co.	47,697	63	---	---	---	---	---	---	---	---
Carbon Coal & Coke Co.	244,718	221	1	---	221	6	11	7,949	---	95.24
Carbon Fuel & Iron Co.	24,233	20	---	---	---	43	5.1	5,691	4.50	194.62
Cedar Hill Coal & Coke Co.	165,348	205	3	---	55,116	---	68	55,116	14.63	14.63

[illegible]

[illegible]

TABLE No. 1—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
Valley Commercial Coal Co.	430	2								
Vesta Coal Mining Co.	22,223	21				1	21	22,223		47.62
Victor-American Fuel Co.	1,393,380	1,317	3	439.3	464,460	61	21.4	22,816	2.28	46.30
Wagner & Austin	142	4								
Walsenburg Coal Mining Co.	16,337	116				4	29	4,084		34.48
Weed, C. J.	112	1								
Williamsburg Slope Coal Co.	17,199	51				2	26	8,600		39.21
Winkler, Gus	472	1								
Wolf Park Leasing Co.	1,511	41								
Wooten Land & Fuel Co.	7,865	13				1	13	7,865		77.00
Yampa Valley Coal Co.	65,670	67	2	34	32,835	2	34	32,835	29.85	29.85
Total of state	10,522,185	13,315	44	302.50	239,095	889	15.00	11,836	3.35	67.00

NOTE: All fatal accidents in and around the coal mines are charged to the coal industry. In the above table a fatal accident at a coking plant is listed, consequently, the employees at the coke ovens are included in the above number of men employed. There are three companies operating coke ovens, viz.: The Colorado Fuel & Iron Co., employed in 1916, 628 men at the coke ovens; The Victor-American Fuel Co., 50 men, and The Carbon Coal & Coke Co., 39 men, making a total of 717 men.

TABLE No. 2

NUMBER OF FATAL ACCIDENTS IN 1916.

Underground	39
Surface	5
Total	44

TABLE No. 3

NUMBER OF FATAL ACCIDENTS—CAUSES AND PERCENTAGES.

Causes	Number of Accidents	Per Cent
Falls of rock and coal.....	25	51.00
Mine cars and motors.....	8	18.20
Electricity	5	11.30
Miscellaneous	6	13.50
Total	44	100.00

RESPONSIBILITY PLACED BY INSPECTORS.

	Number
Owner	5
Deceased	12
Owner and deceased.....	4
Unavoidable	17
Co-worker	1
Unable to place.....	5
Total	44
Number of widows.....	28
Children	56
Single men	16

TABLE No. 4

NUMBER KILLED PER 1,000 EMPLOYED IN 1913, 1914, 1915, 1916.

1913	8.60
1914 *.....	7.00
1915	5.10
1916	3.35

TABLE No. 5

NUMBER OF NON-FATAL ACCIDENTS.*

Causes	Number of Accidents	Per Cent
Falls of rock and coal.....	359	40.40
Mine cars and motors.....	238	26.80
Electricity	5	.50
Mine gases	11	1.30
Miscellaneous	276	31.00
Total	889	100.00
Classified:		
Serious	183	
Minor	202	
Trivial	504	
Total	889	

*NOTE—All accidents classed as "Trivial," include from five days to three weeks' disability; "Minor," from three to five weeks; "Serious," five weeks or more, and are classified in Table 5.

BOULDER COUNTY, 1916

SHOWING BY COUNTIES MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, THICKNESS OF COAL BED UNDER OPERATION, KIND OF OPENING, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1916, AND CAPACITY OF MINE PER DAY IN TONS.

TABLE NO. 6.

Name of Mine	Name of Company	Mine Postoffice
Simpson	Rocky Mountain Fuel Co.	Lafayette
Standard	Rocky Mountain Fuel Co.	Lafayette
Vulcan	Rocky Mountain Fuel Co.	Lafayette
Mitchell	Rocky Mountain Fuel Co.	Lafayette
Rex No. 1	Rocky Mountain Fuel Co.	Louisville
Hecla	Rocky Mountain Fuel Co.	Louisville
Gorham	Rocky Mountain Fuel Co.	Gorham
Industrial	Rocky Mountain Fuel Co.	Superior
Monarch No. 1	National Fuel Co.	Downer
Monarch No. 2	National Fuel Co.	Broomfield
Fox	Fox Coal Mining Co.	Gorham
Matchless	Great Matchless Fuel Co.	Louisville
Centennial	Big Four Coal & Coke Co.	Louisville
Sunnyside	Big Six Coal Co.	Louisville
Nonpareil	Brooks Fuel Co.	Louisville
Black Diamond	Mitchell & Graham	Boulder
Gorham No. 2	Morgan & Williams	Gorham
Big Lake	Big Lake Coal Co.	Lafayette
Mile High	New Mile High Coal Co.	Lafayette
Lewis	J. T. Lewis	Boulder
Electric	Crown Coal Co.	Lafayette
Strathmore	Strathmore Mine Co.	Lafayette
Red Ash	Red Ash Coal Co.	Gorham
Totals—Number of mines operated.....		23

DELTA COUNTY, 1916

TABLE NO. 7.

King	Juanita Coal & Coke Co.	Bowie
Farmers	Paonia Coal Co.	Paonia
Red Mountain	Hall & Motto	Cedaredge
Green Valley	Rinehart & Patton	Cedaredge
Winton	C. O. Billstrom	Austin
States	States Coal Co.	Cedaredge
Black Diamond	Farmers Progressive Coal Co.	Paonia
Bennett	Hotchkiss Fuel & Supply Co.	Hotchkiss
Converse	Frank Converse	Paonia
Coalby	Gus Billstrom	Cedaredge
Rollins	Dugger Coal Co.	Delta
Leroux Creek	J. R. Degraffenried	Hotchkiss
Independent	E. J. Weld	Cedaredge
Fairview	Wm. Proutt	Delta
Totals—Number of mines operated.....		14

EL PASO COUNTY, 1916

TABLE NO. 8.

Pike's Peak	Pike's Peak Fuel Co.	Colorado Springs
Patterson	Pikes Peak Fuel Co.	Colorado Springs
El Paso	El Paso County Land & Fuel Co.	Colorado Springs
Rapson No. 2	Rapson Coal Mining Co.	Colorado Springs
Danville	Tudor Coal Co.	Colorado Springs
Williamsville	Thomas Coal Co.	Colorado Springs
Franceville	Dan E. Davis	Colorado Springs
Totals—Number of mines operated.....		7

BOULDER COUNTY, 1916

SHOWING BY COUNTIES MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, THICKNESS OF COAL BED UNDER OPERATION, KIND OF OPENING, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1916, AND CAPACITY OF MINE PER DAY IN TONS.

TABLE NO. 6.

Thickness of Coal Bed	Character of Coal	Kind of Opening	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
6 to 12 ft.	Lignite	Shaft	217.1	126	187,913	1,000
4 to 8 ft. 6 in.	Lignite	Shaft	174.5	71	73,059	700
7 ft. 6 in.	Lignite	Shaft	135	47	53,422	350
6 to 10 ft.	Lignite	Shaft	263.7	71	88,068	450
8 to 4 ft.	Lignite	Shaft	243.7	48	62,700	350
5 to 8 ft. 6 in.	Lignite	Shaft	204.4	19	22,546	300
6 ft.	Lignite	Slope	249.4	152	162,841	800
5 to 8 ft. 6 in.	Lignite	Shaft	193	81	70,871	750
6 ft.	Lignite	Shaft	303	25	23,674	80
4 to 9 ft.	Lignite	Shaft	213	120	106,749	700
5 to 8 ft.	Lignite	Shaft	240	56	52,235	500
5 ft.	Lignite	Shaft	204	79	48,768	500
7 to 5 ft. 6 in.	Lignite	Shaft	188.6	68	48,013	400
4 to 4 ft. 11 in.	Lignite	Shaft	232	31	23,123	250
9 ft. average	Lignite	Shaft	200.5	18	12,697	150
7 ft.	Lignite	Slope	270.5	8	5,913	50
8 ft.	Lignite	Shaft	103	6	3,982	35
.....	Lignite	Shaft	150	10	3,449	.....
5 ft. 6 in.	Lignite	Shaft	297	6	3,197	.....
6 ft.	Lignite	Drift	263	3	2,658	15
5 ft.	Lignite	Shaft	159	14	2,583	.....
8 ft.	Lignite	Shaft	157	6	2,370	30
7 ft.	Lignite	Drift	90	4	419	100
			206.6	1,069	1,061,250	

DELTA COUNTY, 1916

TABLE NO. 7.

9 ft.	Bituminous	Slope	157	60	60,668	600
8 ft. 5 in.	Bituminous	Drift	162	5	5,567	40
7 ft. 8 in.	Bituminous	Slope	230	3	2,472	30
5 ft. 5 in.	Bituminous	Drift	200	2	1,639	14
11 ft.	Bituminous	Drift	196	2	1,271	10
12 to 13 ft.	Semi-bituminous	Slope	326	1	1,154	40
7 ft. 6 in.	Bituminous	Drift	114	3	1,104	.....
6 ft.	Semi-bituminous	Drift	196	1	1,037	30
7 ft.	Bituminous	Drift	196	2	970	15
4 ft.	Bituminous	Tunnel	119	2	435	.....
11 ft.	Semi-bituminous	Shaft	60	2	392	50
6 ft.	Bituminous	Drift	25	1	129	.....
4 ft.	Semi-bituminous	.....	60	1	112	.....
7 ft.	Semi-bituminous	Drift	6	1	36	.....
			146.2	86	76,986	

EL PASO COUNTY, 1916

TABLE NO. 8.

12 ft.	Lignite	Shaft	254	160	197,182	1,000
12 ft.	Lignite	Slope	29	34	2,161	.....
10 to 6 ft. 6 in.	Lignite	Slope	300	76	85,011	600
5 to 8 ft.	Lignite	Shaft	115	40	12,152	300
8 ft.	Lignite	Slope	292	13	9,992	100
6 ft.	Lignite	Slope	207	11	5,373	50
5 ft.	Lignite	Slope	108.5	2	1,313	10
			186.5	336	313,184	

FREMONT COUNTY, 1916

TABLE NO. 9.

Name of Mine	Name of Company	Mine Postoffice
Rockvale	Colorado Fuel & Iron Co.	Rockvale
Coal Creek	Colorado Fuel & Iron Co.	Coal Creek
Fremont	Colorado Fuel & Iron Co.	Florence
Nonac	Colorado Fuel & Iron Co.	Canon City
Chandler	Victor-American Fuel Co.	Chandler
Radiant	Victor-American Fuel Co.	Pyrolite
Royal Gorge	Gibson Lumber & Fuel Co.	Canon City
Emerald	Williamsburg Slope Coal Co.	Williamsburg
Brookside	Brookside Coal Mining Co.	Canon City
Willie	Petry Coal Co.	Florence
Double Dick	McLean & Gilbert	Florence
Orecchio No. 1	Orecchio & Rocchio	Florence
Wolf Park	Wolf Park Leasing Co.	Canon City
Williamsburg Slope	Donnelly Coal Co.	Florence
Smith Tanner	E. R. Harris	Coal Creek
Totals—Number of mines operated.....		15

GARFIELD COUNTY, 1916

TABLE NO. 10.

Midland	Rocky Mountain Fuel Co.	Sunlight
Vulcan	Garfield Mine Leasing Co.	Newcastle
Carbonera	Gilson Asphaltum Co.	Mack
South Canon	South Canon Coal Co.	South Canon
Harvey Gap	Harvey Gap Coal Co.	Newcastle
Totals—Number of mines operated.....		5

GUNNISON COUNTY, 1916

TABLE NO. 11.

Somerset	Utah Fuel Co.	Somerset
Crested Butte	Colorado Fuel & Iron Co.	Crested Butte
Floresta	Colorado Fuel & Iron Co.	Floresta
Alpine	Rocky Mountain Fuel Co.	Baldwin
Porter	Littell Coal & Mining Co.	Crested Butte
Horace	Pueblo Fuel & Mining Co.	Crested Butte
Bulkley	Crested Butte Coal Co.	Crested Butte
Smith	Crested Butte Anthracite Mining Co.	Crested Butte
Baldwin-Star	Baldwin Fuel Co.	Baldwin
Great Western	Joseph David	Gunnison
Totals—Number of mines operated.....		10

HUERFANO COUNTY, 1916

TABLE NO. 12.

Walsen	Colorado Fuel & Iron Co.	Walsen
Robinson	Colorado Fuel & Iron Co.	Walsen
Rouse	Colorado Fuel & Iron Co.	Rouse
Cameron	Colorado Fuel & Iron Co.	Farr
Ideal	Colorado Fuel & Iron Co.	Ideal
Lester	Colorado Fuel & Iron Co.	Lester
Pictou	Colorado Fuel & Iron Co.	Pictou
Oakdale	Oakdale Coal Co.	Oakview
Mutual	Mutual Coal Co.	Walsenburg
Ravenwood	Victor-American Fuel Co.	Ravenwood
Pryor	Union Coal and Coke Co.	Pryor
Reliance	Alliance Coal Co.	Ojo
Toltec	Aztec Coal Mining Co.	Toltec

FREMONT COUNTY, 1916

TABLE NO. 9.

Thickness of Coal Bed	Character of Coal	Kind of Opening	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
4 ft.	Semi-bituminous	Shaft	208.5	367	193,323	1,000
3 ft. 10 in.	Semi-bituminous	Shaft	120	217	77,310	800
4 ft.	Semi-bituminous	Shaft	112	129	58,001	800
6 ft.	Semi-bituminous	Slope	210	18	8,519	200
4 to 4 ft. 10 in.	Semi-bituminous	Shaft	215	156	142,986	1,000
3 ft. 7 in. to 3 ft. 10 in.	Semi-bituminous	Slope	179	68	41,591	500
3, 4 and 6 ft.	Semi-bituminous	Slope	288	50	33,825	150
3 ft. 2 in. to 3 ft. 6 in.	Semi-bituminous	Slope	211	51	17,199	75
6 ft.	Semi-bituminous	Slope	230.5	10	8,455	100
3 ft.	Semi-bituminous	Slope	198	7	4,318	40
1½ ft. to 2 ft. 6 in.	Semi-bituminous	Slope	195	7	2,564	15
4 ft.	Semi-bituminous	Slope	138	3	1,800	20
5 ft.	Semi-bituminous	Shaft	90	41	1,511	30
3 ft.	Semi-bituminous	Slope	43	7	564	25
3 ft. 6 in.	Semi-bituminous	Slope	20	3	125	5
			163.8	1,134	592,091	

GARFIELD COUNTY, 1916

TABLE NO. 10.

8 ft. 7 in. to 9 ft.	Bituminous	Slope	227.5	56	74,664	350
6 in.	Bituminous	Drift	242	48	40,973	350
7 to 14 ft.	Bituminous	Drift	298	7	11,547	60
7 ft. 11 in.	Bituminous	Drift	49	61	4,036	400
20 ft.	Bituminous	Drift	232	4	1,320	15
7 ft.	Bituminous	Drift				
			209.7	176	132,540	

GUNNISON COUNTY, 1916

TABLE NO. 11.

24 ft.	Bituminous	Slope	222.7	203	282,599	1,800
6 ft. 8 in.	Bituminous	Drift	258	141	102,960	600
3 ft. 6 in.	Anthracite	Slope	172	87	28,291	600
7 ft.	Semi-bituminous	Shaft	159.1	46	36,334	500
6 ft.	Bituminous	Drift	203	38	20,956	150
3 ft.	Anthracite	Shaft	193	34	9,296	200
6 ft.	Bituminous	Drift	233	21	17,111	200
4 ft.	Anthracite	Drift	249	25	9,496	300
7 ft.	Bituminous	Drift	168	5	4,043	250
5 ft.	Semi-bituminous	Drift	20	2	669	10
			187.7	602	511,755	

HUERFANO COUNTY, 1916

TABLE NO. 12.

6 ft.	Bituminous	Slope	304	298	254,981	1,200
5 ft. 8 in.	Bituminous	Slope	297.5	271	161,211	800
6 ft. 6 in.	Bituminous	Slope	276.3	269	231,608	1,200
4 ft. 9 in.	Bituminous	Slope	244	169	137,193	800
3 ft. 10 in.	Bituminous	Slope	263.5	171	125,525	600
5 ft. 2 in.	Bituminous	Slope	101.5	179	40,294	500
9 ft.	Bituminous	Slope	24	107	1,879	600
5 to 12 ft.	Bituminous	Slope	263.5	214	196,491	1,000
7 ft.	Bituminous	Shaft	245.5	67	71,051	600
2 ft. 4 in. to 2 ft. 8 in.	Bituminous	Slope	251	117	70,428	600
4½ & 6 ft.	Bituminous	Slope	213	58	59,455	500
4 to 6 ft.	Bituminous	Slope	192.5	88	54,186	500
3 to 4 ft.	Bituminous	Slope	269	99	50,719	400

HUERFANO COUNTY, 1916

TABLE NO. 12—(Continued)

Name of Mine	Name of Company	Mine Postoffice
Big Four.....	Big Four Coal & Coke Co.....	Tioga
Sunnyside	Sunnyside Coal Mining Co.....	Strong
Rugby	Rugby Fuel Co.....	Rugby
Turner	Turner Coal Co.....	Walsenburg
Caddell	Black Canon Fuel Co.....	Walsenburg
Vesta	Vesta Coal Mining Co.....	Walsenburg
Tioga	Tioga Coal Co.....	Tioga
Maitland	McNally & Co.....	Maitland
Breen	Breen Coal Mining Co.....	Walsenburg
Loma	Loma Fuel Co.....	Walsenburg
Larimore	Monument Valley Coal Co.....	Strong
Solar	Walsenburg Coal Mining Co.....	Walsenburg
Gordon	Gordon Coal Co.....	Walsenburg
Pinon	Rocky Mountain Fuel Co.....	Camp Shumway
Black Canon	New Maitland Coal Co.....	Walsenburg
Ojo	Ojo Canon Coal Co.....	Ojo
Totals—Number of mines operated.....		29

JACKSON COUNTY, 1916

TABLE NO. 13.

Coalmont	Northern Colorado Coal Co.....	Coalmont
Moore	North Park Coal Co.....	Coalmont
Totals—Number of mines operated.....		2

JEFFERSON COUNTY, 1916

TABLE NO. 14.

Leyden No. 2.....	Leyden Coal Co.....	Leyden
Justrite	Thos. Shepherd	Golden
Totals—Number of mines operated.....		2

LA PLATA COUNTY, 1916

TABLE NO. 15.

Perin's Peak	Calumet Fuel Co.....	Perins
Hesperus	Porter Fuel Co.....	Durango
San Juan	Carbon Coal & Coke Co.....	Durango
O. K.	O. K. Coal Co.....	Durango
Sunshine	Sunshine Coal Co.....	Durango
Morning Star.....	Bandino & Co.....	Durango
Totals—Number of mines operated.....		6

LAS ANIMAS COUNTY, 1916

TABLE NO. 16.

Primero	Colorado Fuel & Iron Co.....	Primero
Frederick	Colorado Fuel & Iron Co.....	Valdez
Sopris	Colorado Fuel & Iron Co.....	Sopris
Morley	Colorado Fuel & Iron Co.....	Morley
Berwind	Colorado Fuel & Iron Co.....	Berwind
Tabasco	Colorado Fuel & Iron Co.....	Berwind
Starkville	Colorado Fuel & Iron Co.....	Starkville
Delagua	Victor-American Fuel Co.....	Delagua
Hastings	Victor-American Fuel Co.....	Hastings
Bowen	Victor-American Fuel Co.....	Bowen
Gray Creek	Victor-American Fuel Co.....	Gray Creek
Cokedale	Carbon Coal & Coke Co.....	Cokedale

HUERFANO COUNTY, 1916

TABLE NO. 12—(Continued)

Thickness of Coal Bed	Character of Coal	Kind of Opening	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Average 7 ft.	Bituminous	Slope	126.5	97	47,786	600
6½ to 7 ft. 6 in.	Bituminous	Slope	145	53	42,102	500
3 ft. 10 in.	Bituminous	Slope	166.4	54	39,732	250
3 to 9 ft.	Bituminous	Slope	225	54	39,603	500
3 to 2 ft. 6 in.	Bituminous	Slope	124.3	45	22,255	200
4 ft.	Bituminous	Shaft	248	21	22,223	200
7 to 6 ft. 6 in.	Bituminous	Slope	220	48	21,615	300
3 to 5 ft.	Bituminous	Slope	202	30	21,595	70
6 ft.	Bituminous	Slope	174	25	19,759	150
7 ft.	Bituminous	Slope	284	14	18,427	200
3 ft.	Bituminous	Slope	246	40	17,945	200
4 ft. 6 in.	Bituminous	Shaft	56	116	16,337	600
3 ft. 3 in.	Bituminous	Slope	251.5	34	12,362	500
5 ft.	Bituminous	Slope	197.2	13	7,507	150
3 to 3 ft. 6 in.	Bituminous	Slope	155	18	7,177	90
3 ft.	Bituminous	Slope	58	2	139	.....
			207.7	2,771	1,811,585	

JACKSON COUNTY, 1916

TABLE NO. 13.

65 ft.	Lignite	Slope	98	29	26,265	500
48 ft.	Lignite	Slope	239	13	17,391	200
			168.5	42	43,656	

JEFFERSON COUNTY, 1916

TABLE NO. 14.

9 ft.	Lignite	Shaft	235	163	148,699	2,000
4 to 5 ft.	Lignite	Slope	274	1	823	7
			254.5	164	149,522	

LA PLATA COUNTY, 1916

TABLE NO. 15.

5 ft.	Bituminous	Drift	199.9	63	47,697	350
5 ft. 6 in.	Semi-bituminous	Drift	136.6	43	29,592	300
4 to 2 ft. 6 in.	Bituminous	Drift & Slope	311	33	24,233	450
6 ft.	Bituminous	Drift	204	6	5,136	60
6 ft.	Bituminous	Drift	199	5	4,398	10
6 to 5 ft. 6 in.	Semi-bituminous	.....	150	2	350	10
			200	152	111,406	

LAS ANIMAS COUNTY, 1916

TABLE NO. 16.

6 ft. 6 in.	Bituminous	Drift	302.5	492	457,336	2,000
5 ft. 6 in.	Bituminous	Drift	302	384	410,682	1,800
4 ft. 3 in.	Bituminous	Drift	305	371	299,463	1,500
6 ft. 1 in.	Bituminous	Drift	299	346	252,552	1,000
4 ft. 8 in.	Bituminous	Slope & Drift	301	327	231,341	800
6 ft. 1 in.	Bituminous	Drift	301.1	223	214,149	1,000
5 ft. 8 in.	Bituminous	Drift	252	254	165,801	1,200
5 to 7 ft. 3 in.	Bituminous	Slope	303	450	601,055	2,500
5 ft. 8 in. to 7 ft. 8 in.	Bituminous	Slope	313	167	217,627	1,200
6 ft.	Bituminous	Drift	266	88	81,244	1,000
2 to 4 ft. 2 in.	Bituminous	Drift	316	76	62,995	500
3 to 6 ft.	Bituminous	Slope & Drift	295	149	220,485	1,000

LAS ANIMAS COUNTY, 1916

TABLE NO. 16.—Continued.

Name of Mine	Name of Company	Mine Postoffice
Piedmont	Rocky Mountain Fuel Co.....	Sopris
Forbes No. 9.....	Chicosa Fuel Co.....	Forbes
Forbes No. 6.....	Chicosa Fuel Co.....	Forbes
Toller	Cedar Hill Coal & Coke Co.....	Tollerburg
Greenville	Cedar Hill Coal & Coke Co.....	Ludlow
Black Diamond	Cedar Hill Coal & Coke Co.....	Rapson
Brodhead No. 9.....	Temple Fuel Co.....	Brodhead
Kenneth	Temple Fuel Co.....	Trinidad
Royal	Royal Fuel Co.....	Aguilar
Ludlow	Huerfano Coal Co.....	Ludlow
Primrose	Primrose Coal Co.....	Rugby
Jeffryes	Jeffryes Fuel Co.....	Trinidad
Rapson No. 1.....	Rapson Coal Mining Co.....	Rapson
Jewel	Ideal Fuel Co.....	Aguilar
Wootton-Turner	Wootton Land & Fuel Co.....	Wootton
Prospect	Prospect Coal Co.....	Trinidad
Baldy	Baldy Coal Co.....	Trinidad
Keystone No. 2.....	Bartolo Parivecchio	Trinidad
McLaughlin	Jas. E. McLaughlin.....	Trinidad
Hines	Hines Coal Co.....	Trinidad
Fisher's Peak	Fisher's Peak Fuel Co.....	Trinidad
Keystone No. 1.....	Trinidad Coal Co.....	Trinidad
Baldy Mountain	Trinidad Coal Co.....	Trinidad
Three Pines.....	Black Diamond Niggerhead C. M. Co.....	Trinidad
Superior	Brown & Bartolomeo.....	Trinidad
Totals—Number of mines operated.....		37

MESA COUNTY, 1916

TABLE NO. 17.

Cameo	Grand Junction Mining & Fuel Co.....	Cameo
Book Cliff	Book Cliff R. R. Co.....	Grand Junction
Garfield	Garfield Coal Mining Co.....	Palisade
Palisade	Palisade Coal & Supply Co.....	Palisade
Grandview	Grandview Coal Co.....	Palisade
P. V.	M. Sixbey	Cameo
Fidel	Anthony Fidel	Fruita
Stokes	W. D. Stokes.....	Palisade
Anchor No. 2.....	Anchor Coal Co.....	Fruita
Anchor No. 1.....	Anchor Coal Co.....	Fruita
Thomas	C. F. Thomas.....	Grand Junction
Farmers	Farmers' Mutual Coal Co.....	Grand Junction
Riverside	Riverside Coal Co.....	Palisade
Lynch	Valley Commercial Co.....	Fruita
Black Diamond	Black Diamond Coal Co.....	Grand Junction
Winger	A. C. Richmond.....	Palisade
Totals of mines operated.....		16

MOFFAT COUNTY, 1916

TABLE NO. 18.

Collom	Joseph Collom	Axial
Totals—Number of mines operated.....		1

LAS ANIMAS COUNTY, 1916

TABLE NO. 16.—Continued.

Thickness of Coal Bed	Character of Coal	Kind of Opening	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
4 to 6 ft.	Bituminous	Slope	195.9	173	144,872	800
3 ft. 6 in. to 7 ft. 6 in.	Bituminous	Drift	271	123	110,031	800
3 ft. 6 in. to 7 ft. 6 in.	Bituminous	Drift	271	17	26,510	800
6 ft.	Bituminous	Shaft	239	134	120,374	800
6 ft.	Bituminous	Slope	194	46	41,166	300
3 ft. 6 in.	Bituminous	Slope	44	25	3,808	150
4 ft.	Bituminous	Slope	297	118	124,200	450
5 ft.	Bituminous	Drift	299	30	42,000	150
6 ft. 2 in.	Bituminous	Shaft	230	98	95,083	500
4 to 6 ft.	Bituminous	Drift	224.5	90	80,131	600
4 to 6 ft.	Bituminous	Slope	279	50	44,542	250
6 to 4 ft. 6 in.	Bituminous	Drift	302	46	38,730	200
3 to 4 ft.	Bituminous	Slope	173	55	34,041	400
3 ft. 6 in.	Bituminous	Drift	172.8	30	12,321	150
4 ft. 6 in.	Bituminous	Drift	258	13	7,865	150
2 ft. 2 in. to 2 ft. 8 in.	Bituminous	Slope	283	7	4,142	25
5 to 6 ft.	Bituminous	Slope	211	3	3,441	.....
2 ft. 6 in.	Bituminous	.....	150	2	1,878	.....
9 ft.	Bituminous	.....	150	3	1,374	12
6 ft. 8 in.	Bituminous	.....	200	3	1,300	8
3 ft. 10 in.	Bituminous	Slope	182	2	833	20
4 ft. 8 in.	Bituminous	Slope	240	3	558	15
7 ft.	Bituminous	.....	30	3	54	25
4 ft.	Bituminous	.....	90	8	200	35
3 ft. 8 in.	Bituminous	.....	90	2	150	2
			233.3	4,411	4,154,334	

MESA COUNTY, 1916

TABLE NO. 17.

7 ft.	Semi-bituminous	Drift	238	71	89,811	800
7 ft.	Semi-bituminous	Drift	137.9	14	13,787	100
8 ft.	Semi-bituminous	Drift	181	15	8,045	150
3 ft. 10 in.	Semi-bituminous	Drift	105	15	7,252	100
4 and 5 ft.	Semi-bituminous	Drift	143.5	10	3,063	30
6 ft.	Semi-bituminous	Drift	171	3	2,280	.....
5 ft.	Semi-bituminous	Drift	184	2	1,849	50
4 ft.	Semi-bituminous	Drift	102	4	1,640	50
7 ft.	Semi-bituminous	Drift	154	2	1,090	.....
6 ft.	Semi-bituminous	.....	70	2	502	.....
4 ft. 10 in.	Semi-bituminous	Drift	229	2	871	.....
3 ft.	Semi-bituminous	Slope	123	2	644	20
2 ft. 6 in.	Semi-bituminous	Drift	71	2	527	.....
5 ft.	Semi-bituminous	Drift	68	2	430	7
5 ft.	Semi-bituminous	.....	90	1	329	.....
6 ft.	Semi-bituminous	Drift	63	1	322	10
			133.1	148	132,442	

MOFFAT COUNTY, 1916

TABLE NO. 18.

25 ft.	Bituminous	Drift	150	1	200	.....
			150	1	200	

MONTEZUMA COUNTY, 1916

TABLE NO. 19.

Name of Mine	Name of Company	Mine Postoffice
Spencer	W. H. French.....	Mancos
Mancos	Mancos Fuel Co.	Mancos
Todd	G. S. Todd.....	Cortez
Mitchell Springs	J. F. Mowry.....	Cortez
Totals—Number of mines operated		4

MONTROSE COUNTY, 1916

TABLE NO. 20.

Missouri	Gus Winkler	Nucla
Knauss	William J. Oberding.....	Nucla
Cloverdale	Marcus Peterson	Nucla
Specht	George T. Specht.....	Nucla
Totals—Number of mines operated.....		4

PITKIN COUNTY, 1916

TABLE NO. 21.

Spring Gulch	Colorado Fuel & Iron Co.....	Gulch
Placita	Rapini Bros.	Redstone
Totals—Number of mines operated.....		2

RIO BLANCO COUNTY, 1916

TABLE NO. 22.

Black Diamond	Reynolds & Babcock	Meeker
Lion Canon	T. E. Linderman	Meeker
Fairfield	F. W. Fairfield	Meeker
Sulphur	R. H. Crawford	Meeker
Pollard	J. D. Moog	Meeker
Totals—Numbers of mines operated.....		5

ROUTT COUNTY, 1916

TABLE NO. 23.

Moffat No. 1.....	Moffat Coal Co.	Oak Creek
Moffat No. 2.....	Moffat Coal Co.	Oak Creek
Harris	Colorado & Utah Coal Co.....	Mt. Harris
Pinnacle	Victor-American Fuel Co.....	Oak Creek
Yampa Valley No. 1.....	Yampa Valley Coal Co.....	Pallas
Yampa Valley, Nos. 2 and 3.....	Yampa Valley Coal Co.....	Pallas
Bear River	Bear River Coal Co.....	Bear River
McGregor	McNeill Coal Co.....	McGregor
Hayden	Hayden Bros.' Coal Corporation.....	Oak Creek
Wolf Creek	International Fuel Co.....	Mt. Harris
Federal	Federal Coal Mining Co.....	Oak Creek
Curtis Routt	Curtis Coal Co.....	Pool
Grayland	Indian Creek Coal Co.....	Junction City
Jones.....	D. W. Jones	Oak Creek
Routt Pinnacle	Routt Pinnacle Coal Co.....	Coalview
Electric	Routt Electric Coal Co.....	Oak Creek
Twenty Mile	Thomas Chargo	Steamboat Springs
Diamond	Tony Tordoroff	Pool
Golden Oak	Northwestern Coal & Coke Co.....	Steamboat Springs
Allen	Allen Coal Co.....	Coalview
Hitchen	Comer & Riley	Pool
Totals—Number of mines operated.....		21

MONTEZUMA COUNTY, 1916

TABLE NO. 19.

Thickness of Coal Bed	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
3 ft.	Bituminous	200	3	1,600	12
2 ft. 10 in.	Bituminous	150	2	536	40
3 ft. 6 in.	Lignite	150	2	515	8
2 ft. 10 in.	Lignite	150	1	204	1½
		162.5	8	2,855	

MONTROSE COUNTY, 1916

TABLE NO. 20.

6 ft.	Lignite	Drift	117	1	472	.....
5 ft.	Lignite	Drift	190	1	258	.....
3 ft. 6 in.	Lignite	Drift	65	1	112	3
5 ft. 6 in.	Lignite	Tunnel	30	1	80	10
			100.5	4	922	

PITKIN COUNTY, 1916

TABLE NO. 21.

9 ft.	Bituminous	Slope	183.5	66	33,983	.....
3 ft. 6 in.	Bituminous	Drift	233	9	7,530	50
			208	75	41,513	

RIO BLANCO COUNTY, 1916

TABLE NO. 22.

14 ft.	Bituminous	Slope	132.7	3	2,646	30
7 ft.	Bituminous	Slope	200	2	1,147	.....
12 ft.	Bituminous	Slope	133	2	737	4
6 ft.	Bituminous	.....	45	2	150	6
5 ft.	Bituminous	.....	25	1	95	3
			107.1	10	4,775	

ROUTT COUNTY, 1916

TABLE NO. 23.

8 ft.	Bituminous	Slope	283	42	56,993	2,000
10 ft.	Bituminous	Drift	261	195	227,710	2,000
9 ft.	Bituminous	Slope	213	167	235,141	1,500
9 to 13 ft.	Bituminous	Drift	231	145	175,454	1,000
5 ft. 6 in.	Bituminous	Drift	184.2	40	40,264	500
5 ft. 6 in.	Bituminous	Drift	141.2	27	25,406	500
8 to 12 ft.	Bituminous	Slope	194	50	45,971	400
13 ft.	Bituminous	Slope	194.1	57	39,536	350
7 ft.	Bituminous	Drift	220	61	25,946	500
14 ft.	Bituminous	Drift	243	26	20,554	250
4 to 10 ft.	Bituminous	Slope	54	48	10,092	.....
5 ft.	Bituminous	Slope	170	19	9,589	100
	Bituminous	Drift	109	11	2,423	.....
4 ft. 10 in.	Bituminous	Slope	224	1	1,591	.....
7 ft.	Bituminous	Slope	224	1	1,591	.....
5 ft.	Bituminous	Drift	4.2	24	547	.....
9 ft.	Bituminous	.....	165	1	500	10
8 ft.	Bituminous	Drift	47	2	411	10
3 ft. 9 in.	Bituminous	Slope	32	11	285	.....
7 ft.	Bituminous	Drift	40	2	220	25
7 ft.	Bituminous	.....	60	2	100	.....
			146.7	959	919,895	

WELD COUNTY, 1916

TABLE NO. 24.

Name of Mine	Name of Company	Mine Postoffice
Puritan	National Fuel Co.....	Erie
Parkdale	National Fuel Co.....	Lafayette
Baum	Consolidated Coal & Coke Co.....	Dacona
Russell	W. E. Russell Coal Co.....	Firestone
Evans	Evans Fuel Co.....	Frederick
Frederick	Frederick Fuel Co.....	Frederick
Firestone	Louisville Coal & Land Co.....	Firestone
Shamrock	Shamrock Coal Co.....	Erie
Grant	Carbon Fuel & Iron Co.....	Frederick
Ideal	United Collieries Co.....	Erie
Eureka	United Collieries Co.....	Erie
White Ash	W. C. Bedlien.....	La Salle
Peerless	Peerless Coal Co.....	Frederick
State	State Coal Co.....	Erie
New Washington.....	David Brimble.....	St. Vrain
Farmers	Wagner & Austin.....	La Salle
Totals—Number of mines operated.....		16
Totals of State of Colorado.....		219

WELD COUNTY, 1916

TABLE NO. 24.

Thickness of Coal Bed	Character of Coal	Kind of Opening	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
9 ft.	Lignite	Shaft	140.1	98	132,291	1,200
10 ft.	Lignite	Slope	65	16	6,946	.....
7 to 7 ft. 6 in.	Lignite	Shaft	259	57	65,711	1,000
6 ft. 6 in.	Lignite	Shaft	225	51	55,658	350
8 to 7 ft. 6 in.	Lignite	Slope	187	51	49,020	550
6 ft. 6 in.	Lignite	Shaft	131.3	58	45,457	750
5 to 6 ft.	Lignite	Shaft	159	41	35,602	250
11 ft.	Lignite	Shaft	196	21	27,970	400
11 ft.	Lignite	Shaft	292.1	20	24,233	350
6 to 8 ft.	Lignite	Slope	291	13	10,448	140
6 to 8 ft.	Lignite	Shaft	118	9	2,532	100
2 ft. 8 in.	Lignite	Shaft	199	3	2,096	20
4 ft.	Lignite	Shaft	188	2	1,749	.....
7 ft. 6 in.	Lignite	Shaft	154	5	868	9
5 ft.	Lignite	Shaft	160	1	551	10
.....	Lignite	Shaft	21	4	142	.....
			174.1	450	461,274	
			175.8	12,598	10,522,185	

TABLE NO. 25

PRODUCTION OF COUNTIES BY MONTHS, 1916

Months	Boulder	Delta	El Paso	Fremont	Garfield
January	132,967	7,759	34,965	77,447	13,037
February	83,642	6,858	28,241	54,754	14,144
March	68,364	5,734	26,071	25,125	8,638
April	65,715	4,284	23,808	20,333	8,526
May	57,143	4,293	22,650	30,709	8,921
June	42,809	3,172	17,049	33,780	7,683
July	42,471	3,201	16,692	34,502	7,104
August	65,804	5,055	21,228	48,740	10,812
September	96,726	6,275	22,318	56,341	10,789
October	123,963	6,851	29,247	59,589	12,665
November	141,191	10,137	33,018	72,227	15,884
December	140,455	13,367	37,897	78,544	14,337
Total	1,061,250	76,986	313,184	592,091	132,540

Months	Gunnison	Huerfano	Jackson	Jefferson	La Plata
January	37,725	178,797	4,232	20,538	9,401
February	38,167	163,958	3,256	15,048	11,332
March	34,448	88,981	1,756	12,085	7,382
April	33,431	89,910	1,900	11,150	8,210
May	32,743	120,646	1,280	9,650	8,931
June	37,141	133,355	1,703	8,323	7,945
July	33,910	126,932	1,280	7,085	7,287
August	44,816	155,124	1,695	9,668	8,834
September	50,623	164,607	3,229	12,924	9,261
October	53,102	192,639	7,513	14,721	10,130
November	58,327	192,773	10,182	13,691	10,452
December	57,322	203,863	5,630	14,639	12,241
Totals	511,755	1,811,585	43,656	149,522	111,406

Months	Las Animas	Mesa	Moffat	Montezuma	Montrose
January	320,828	13,241	.....	.....	77
February	312,961	9,802	.....	.....	52
March	316,490	7,312	.....	.....	30
April	313,930	6,966	.....	.....	34
May	348,330	7,422	.....	.....	13
June	335,557	6,633	.....	.....	12
July	336,295	5,581	.....	.....	7
August	360,376	6,961	.....	.....	8
September	364,671	11,170	.....	.....	32
October	379,038	15,300	.....	.....	57
November	389,992	21,232	.....	.....	144
December	375,866	20,822	200	2,855	456
Totals	4,154,334	132,442	200	2,855	922

Months	Pitkin	Rio Blanco	Routt	Weld	Total
January	5,280	430	93,073	65,473	1,015,270
February	5,078	354	86,192	37,346	871,185
March	3,608	197	42,743	30,039	679,003
April	3,877	219	34,285	27,646	654,224
May	3,975	190	62,173	21,089	740,158
June	3,792	112	79,880	11,761	730,707
July	3,636	103	76,540	12,182	714,808
August	3,929	60	85,229	20,397	848,736
September	3,863	307	81,399	37,255	931,790
October	1,792	355	84,246	50,184	1,041,392
November	1,243	596	95,131	66,906	1,133,126
December	1,440	1,852	99,004	80,996	1,161,786
Totals	41,513	4,775	919,895	461,274	10,522,185

TABLE No. 26

SHOWING BY COUNTIES INCREASE OR DECREASE OF PRODUCTION,
1915-1916.

Counties	1915	1916	Increase	Decrease
Archuleta	1,255			1,255
Boulder	971,360	1,061,250	89,890	
Delta	77,840	76,986		854
El Paso	297,881	313,184	15,303	
Fremont	493,024	592,091	99,067	
Garfield	142,959	132,540		10,419
Gunnison	440,964	511,755	70,791	
Huerfano	1,597,828	1,811,585	213,757	
Jackson	26,981	43,656	16,675	
Jefferson	126,953	149,522	22,569	
La Plata	117,392	111,406		5,986
Las Animas	2,985,661	4,154,334	1,168,673	
Mesa	95,803	132,442	36,639	
Moffat	200	200		
Montezuma	842	2,855	2,013	
Montrose	846	922	76	
Pitkin	51,289	41,513		9,776
Rio Blanco		4,775	4,775	
Routt	846,459	919,895	73,436	
Weld	439,860	461,274	21,414	
Totals	8,715,397	10,522,185		
Increase, 1916				1,806,788

TABLE No. 27

COKE PRODUCTION IN 1916 BY COMPANIES AND COUNTIES.

Companies	Total No. of Ovens	Total Tonnage	Counties	Total No. of Ovens	Total Tonnage
Colorado Fuel & Iron Co.....	1,564	786,424	Las Animas	1,962	974,419
Carbon Coal & Coke Co.....	298	150,167	La Plata	28	13,558
Victor-American Fuel Co....	128	51,386			
Totals	1,990	987,977		1,990	987,977

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE
COAL MINES OF COLORADO DURING THE YEAR
NINETEEN HUNDRED SIXTEEN (1916)

- (1) January 6—FRED CADDELL: American; electrician; age, 22 years; married; no children; employed by the Turner Coal Company, at the Turner Mine, Huerfano County; was injured on the 2nd by coming in contact with an electric coal cutter while the same was in motion, and was so severely injured that he died on the 6th inst. Deceased had spliced the cable of the coal cutter and after finishing it, the machine men loaded the machine and were oiling the cutter chain while it was in motion. Deceased had gone to another part of the room for a part of the chain and, returning, passed the live machine and came in contact with it, severing the left leg below the knee, causing his death four days after.
- (2) January 18—PHILIP CARDELLA: Italian; miner; age, 22 years; single; employed by the Rocky Mountain Fuel Company, at the Gorham Mine, Boulder County; was killed by a fall of coal. Deceased and his partner, Sam Perriconi, were shoveling coal into a car on the east side of room 3, off entry No. 75. The place had been visited just prior by the Mine Foreman, and he found that shots had been fired which had shattered the coal and knocked some of it down, and it had also loosened the coal next the roof. Had the men taken the time to ascertain this fact, and either taken it down, or secured it by setting props, the accident, no doubt, would have been avoided.
- (3) January 20—LUIS J. GALLEGOS; Mexican; mule driver; age, 24 years; married; one child; employed by the Colorado Fuel & Iron Company, at the Sopris Mine, Las Animas County; was killed by being crushed between two loaded cars. Deceased was taking three loaded cars from 24th east entry, and the miners on the 2nd south had pushed out a loaded car close to the 24th entry. At the point where this car was standing, the grade is equal to 3%, and instructions were that two sprags be put in the wheels of the car to lower it down to the other cars of the trip. In this instance, the driver neglected to do this, but got in front of it to lead it down to the other cars. Deceased slipped, and was not able to extricate himself in time from between the cars which rushed together, crushing him to death. Consequently, it is apparent that had deceased heeded the instructions to always sprag the car that was lowered to the trip, the accident could have been avoided.
- (4) January 24—JOE CIPPOLENI; Italian; age, 21 years; single; employed by the Victor American Fuel Company, at the

Chandler Mine, Fremont County; was killed by being electrocuted. Deceased was working night shift, driving mule. He and John Dereto, who was working with him the night of the accident, had finished their work and were on their way to the bottom of the shaft to ascend. The mule stables are lighted by electricity. He endeavored to turn off the switch. In this act he came in contact with one of the switch phases, receiving a shock causing his death. The entry in which the accident occurred had been cleaned up just prior to the accident, and a water pipe had been exposed and was allowed to stand up about eight inches above the surface. In reaching for the switch, Cippoloni evidently stepped on the pipe and lost his balance, falling against the switch. Probably, if the water pipe had been level with the surface of the track, the accident would not have happened.

- (5) January 25—DAN LONEFF: Bulgarian: miner; age, 36 years; married; two children; employed by the Colorado Fuel & Iron Company, at the Berwind Mine, Las Animas County; was killed by an electric shock caused by coming in contact with a trolley wire. Deceased had come to the pass-by or double track parting near the 16th east entry off the 2nd south, in order to get a ride in the man trip out of the mouth of the drift, about 4 p. m. In boarding an empty car he, in some way, made a contact with the trolley, which held him two or three minutes. At the point where the accident occurred there were no guard rails along the wire, which was five and a half feet above the rails on the roadway, and six inches sidewise from the car. Deceased got on the car from the opposite side of the wire. Had he been more careful in getting on, and had guard rails been placed along the trolley wire at this point, the accident would not have occurred.
- (6) January 29—J. C. UPDIKE: American: miner; age, 34 years; single; employed by the Yampa Valley Coal Company, Routt County; was killed by a fall of rock. At the point where the accident occurred, the roof conditions are more or less roly and damp, with a draw rock running from a fine edge to the thickness of fifteen inches. The Mine Foreman visited the place twice on the day of the accident, but not that particular point. Deceased had set timbers under the roof and was shoveling coal when the fall occurred. He was a very careful miner, and owing to this fact, and the uncertain condition of the roof, the accident can be properly classed as "Unavoidable."
- (7) February 5—MANUEL CIMINO: Italian: miner; age, 53 years; married; three children; employed by the Rapson Coal Mining Company, at the Rapson Mine, El Paso County. Deceased was working on pillar in the 5th N. mining coal along the face of the pillar, when a piece of coal broke off the pillar, thereby liberating a piece of roof coal and rock which fell on

deceased, causing a broken neck, fracture of skull at base, ribs crushed, and face and upper portion of body bruised. He died instantly. Mine Foreman told Cimino not to work in that part of the pillar, as he did not consider it safe and to stay away from it, but Cimino's partner said that he did not hear the boss say that, and he was there all the time the boss was in the place. Accident was termed unavoidable.

- (8) February 12—JOHN FREIHOLTC; Swede; miner; age, 27 years; single; employed by McNally & Mathews, at the Maitland Mine, Huerfano County; was killed by a fall of rock while at work in room 1 off 1st cross-off off 1st north entry. Deceased was in act of pulling down the rock. The mass of rock was greater than he anticipated, and, in trying to get from under it, was caught against a side prop and the gob. He sustained a fracture of the leg, fracture of jaw and fracture of one rib, which caused laceration of artery and internal hemorrhage. Accident was termed unavoidable.
- (9) March 2—JAMES TONORIS; Mexican; trip-rider; age, 21 years; married; no children; employed by the Oakdale Coal Company, at the Oakdale Mine, Huerfano County; was killed by being crushed by the first car of a slope trip of eleven cars on the trestle work near the tippie. Deceased had detached the rope from the trip after trip had passed over knuckle of the slope; he was in the act of taking the clevis of the draw-bars off the car, when he stumbled, falling in front of the trip. He was pushed by the trip about ten feet from where he fell.
- (10) March 15—JOHN SCHRAUDNER; German; miner; age, 35 years; single; leased and operated the Pollard Mine, Rio Blanco County. Deceased was alone in the mine, and had seemingly discovered that the roof was full of pots and slips. He had set a center prop in the road head, and was working off a shot on the foot wall side preparatory to setting a road prop, which was also lying under the roof-fall with him. There was another slip running the opposite direction, and barely caught with the center prop he had set, and in taking out the coal for the road prop, he had released the rock, which broke off of its own weight and crushed the life out of the deceased instantly. The accident was due to the neglect of the deceased in not properly securing the roof before taking out the coal.
- (11) March 5—PABLO TRUJILLO; Mexico-Indian; laborer; age, 45 years; married; five children; employed by the Colorado Fuel & Iron Company, at the Secundo Coke Ovens, Las Animas County; was blown by wind from top of railroad car loaded with coke, breaking his neck. Deceased was leveling coke on top of C. & S. stock railroad car. The coke had been leveled and he was closing the doors on top of the said car, which caused him to strike the ground on his head. He was taken to the Minnequa Hospital, where he died on the 8th day of March, 1916.

- (12) April 28—NICK MAZACO; Italian; miner; age, 49 years; married; two children; employed by the Louisville Coal & Land Company, at the Firestone Mine, Weld County, and was killed by a fall of coal. Deceased was loading coal in room No. 3 off the 6th west entry. He was working in front of the car and close to the face. His son, who was working with him, was on the gob side of the room. The lower part of the coal had been broken down by the shot, leaving the top part shattered and hanging. While he was either shoveling the coal into the car, or was endeavoring to pick down the loose coal, a fall of about 1,000 pounds of coal fell on him, causing almost instant death. The place was well timbered.
- (13) April 29—DOMENCIO NOCOTERI; Italian; miner; age, 23 years; single; employed by the Colorado Fuel & Iron Company, at the Primero Mine, Las Animas County; was killed by a concrete wall of an overcast at B-7 entry. They had finished the task except pulling down one of the side walls above the floor of the overcast. This wall was held in place by a track rail forty pounds to the yard. They first tried to take down this wall by starting to work from the top. Failing to get quick results, deceased began to mine under the wall, hoping to loosen it; but the rail bracing the wall tilted, and the wall gave way, falling upon deceased, causing such injuries that he died in a few hours later. The deceased made a mistake trying to take down the wall by undermining it. He should have confined his efforts to breaking it down from the top.
- (14) May 20—ALEXANDER CUNNINGHAM; Scotch; Assistant Mine Foreman; age, 41 years; married; four children; employed by the Cedar Hill Coal & Coke Company, at the Toller Mine, Las Animas County; was killed by a runaway of fourteen cars. Deceased, on the day of the accident, was acting as director of slope trips. He had gone down the slope to the 7th south entry and telephoned the engineer that he would ring bell for the trip to go into the 7th south. It was the custom of the engineer to lower the trip to a point about 300 feet above the 7th south entry. The engineer had lowered the trip to the said point, and was about to stop it, when it stopped suddenly of its own accord. He stated that after the rope stopped running off the drum of the engine, that the bell was rung, once near the point where the engineer stops the trip. The grade of the incline of the slope is increased, and it seems that after the trip had passed over a flat part of the slope and reached the greater incline, that the center hitching became detached, and the side hitchings broke and released fourteen cars from the trip, which descended the slope, striking against deceased so that the front cars passed over his body and crushed him to death. It seems that the hitchings were defective.

- (15) June 12—CROCE PETRICONE; Italian; miner; age, 31 years; married; two children; employed by the Colorado Fuel & Iron Company, at the Primrose Mine, Las Animas County; was killed by a fall of top coal. Deceased was working in room No. 21, off the 1st north entry in the 1st west Primero Mine. The coal here was taken from the center of the seam. He and his partner, John Fereno, were mining the left side of the room, which was nine feet wide. Fereno was mining close to the rib or pillar and deceased was mining where there was a prop; also a leg or upright of a set of timbers. A small block of wood was set from the lower part to the upper part of the coal seam, to prevent the upper part from falling. This block was between deceased and his partner. According to Fereno, the deceased had mined the coal on the corner about three feet when it became loose, and while taking down a part of the top coal, it gave way from the roof, crushing his head against a prop, causing instant death.
- (16) June 12—GREGORY ANASTASSOPOULAS; Greek; miner; age, 38 years; married; two children; employed by the Colorado Fuel & Iron Company, at the Starkville Mine, Las Animas County; was killed by a fall of bony coal and rock. Deceased and his partner, Tom Vlahos, were working in room 62, off C-2 entry. The coal and rock, 4 by 3 feet dimension and 14 inches thick, suddenly fell from the roof on deceased, causing instant death. Had another crossbar been set up, as provided for in the timber agreement adopted at this mine, the accident might have been avoided.
- (17) July 3—JUAN CORDOVA; Mexican; miner; age, 37 years; married; five children; employed by the Colorado Fuel & Iron Company; was killed by a fall of rock in room 10, 1st cross, off east 11th entry. Cordova came to the mine on the above date to take his tools in and see his working place. The machine man, John Bottelero, took him in and told him he would have to take down some rock and set timbers before it would be safe to work in the room. Cordova replied that he would not work that day, that he had no ax and no oil. About 10:30 the Mine Foreman visited the place, but did not see Cordova. About 11:30 he returned and when near to room 10, Cordova called to him for a light and told him he was hurt. I consider the Mine Foreman largely responsible for this accident, because he apparently delegated the machine man, Bottelero, to show the deceased his place of work, and also because there was a shortage of timber in the place. The Mine Foreman, or his assistant, should have taken the deceased to his working place and seen that the same was in a safe condition.
- (18) July 7—E. W. BRUNER; American; stationary engineer; age, 29 years; married; one child; employed by the Utah Fuel Company, at the Somerset Mine; Gunnison County; was killed

by the bursting of a 10-inch steam line, caused by a defective ell. This defect was not visible until after the accident happened, and, therefore, the accident was unavoidable.

- (19) July 13—Y. MIYAGI; Japanese; miner; age, 35 years; married; no children; employed by the Oakdale Coal Company, at the Oakdale Mine, Huerfano County; was killed by coming in contact with a moving car. The car was held in place by a rope attached to a snubbing post. The top coal fell, discharging the post and allowing the car to run away. The Mine Foreman visited the place about twenty minutes before the accident happened and considered it in a safe condition. From the evidence obtainable, and from personal observation, we are of the opinion that the accident was unavoidable.
- (20) July 20—FRANK MORELLI; Italian; boss driver; age, 38 years; married; five children; employed by the Colorado Fuel & Iron Company, at the Berwind No. 3 Mine, Las Animas County; was killed by a fall of rock and coal. The accident occurred in the 5th dip off the slope. The roof at this point was considered good, and close timbering was not required; therefore there was a wide space without any props to support the roof. From some cause it gave way and fell, slightly injuring G. Di Moreco, who was working with Morrelli but the latter was injured to such an extent by the fall that he died eight and one-half hours later. The accident was unavoidable, because there was no evidence that the rock was loose before it fell.
- (21) July 25—G. W. STEPHENS; Colored; miner; age, 43 years; married; no children; employed by the Colorado Fuel & Iron Company, at the Primero Mine, Las Animas County; was killed by a fall of rock while working on a pillar in room No. 19. Deceased and his partner, Robert Lincoln, were loading a car when the roof under which they were working began to break. They tried to push the car from under it, when a piece of the roof fell, crushing the deceased. The place was well timbered, and the accident was unavoidable.
- (22) July 29—JOHN BORELLA; Italian; miner; age, not given; married; two children; employed by the Colorado Fuel & Iron Company, at the Morley Mine, Las Animas County; was killed by a delayed shot which caused a fall of rock. Deceased was acting as temporary shot-firer, and Fred David had three shots to fire the night of the accident. They had charged and tamped three holes; deceased had ignited the fuse of shot on the left side, and David tried to ignite the shot on the right side, but it did not take effect. Borelli came over and tried his hand at it and apparently failed, and instead of getting away and waiting results as David asked him to do, he persisted, and the result was that the shots took effect and blew out the charge with great force, so that he was injured by the fall of rock to such

an extent that he died a short time after. The responsibility of the accident can be charged to the carelessness of the deceased himself.

- (23) August 2—TONY RIZZO; Italian; miner; age, 38 years; single; employed by the Temple Fuel Company, at the Kenneth Mine, Las Animas County, with his brother, John, in the 1st entry off the slope cutting through a chain pillar. The roof at the point where they were working was good, but there occurred a draw rock over the bony coal, and John Rizzo asked deceased to take it down. He tried to take it down, but failed, and he started to work again under it without putting up props to secure it. The result was that in a few minutes the rock fell on deceased, causing such injuries that he died a short time after. The accident may be charged to the carelessness of deceased.
- (24) August 8—TONY MAMOS; Russian; motorman; age, 31 years; married; four children; employed by the Colorado Fuel & Iron Company, at the East Morley Mine, Las Animas County; was killed by a fall of rock. The evidence showed that deceased and Tony Vigil were each driving a six-ton electric motor and were pulling a trip of eight cars up the 3rd south entry, and had reached a point twenty-five feet distant from where the accident occurred, and here they were stopped by Assistant Mine Foreman W. M. Farris, who warned them that the roof ahead was breaking, and that it was dangerous for them to proceed. They disregarded the warning and proceeded another ten feet, when Vigil told deceased to put the power onto his motor and get off. Instead of doing this, deceased put the power onto his own motor, and continued. The result was that before the first motor had passed out of the part where the roof was breaking, the fall of rock came, covering the second motor, which Mamos was driving, and killed him. The fall of rock broke three sets of timbers which were in a decayed condition. There was a slip on each of the roads, making a junction four feet up. The Assistant Mine Foreman should have seen that the men turned back, and the men are to blame for not heeding the warning.
- (25) August 11—WILLIAM LA SALLE; American; driver; age, 23 years; single; employed by the Big Lake Coal Company, at the Big Lake Mine, Boulder County; was killed by an electric shock. A defective rail threw a loaded car off the track at a switch going into the back north main entry. Deceased tried to lift the car back on the track, using a prop as a fulcrum, and a piece of bent rail as a lever. He apparently raised the car some distance, when the lever turned or slipped, allowing the car to drop back and the lever to fly up, striking him over the head, throwing him against electric wires and giving him a shock which caused his death. The deceased showed poor judgment when he used a bent rail for a lever, and his death can

be charged to his own carelessness. The company also was at fault in not keeping the rail track in good condition.

- (26) August 26—GUERINO VILOTTI; Austrian (sister Marie in Leganizano, Teago); miner; age, 26 years; single; employed by the Cedar Hill Coal & Coke Company, at the Toller Mine, Las Animas County; was killed by a fall of rock in room No. 3, off the 3rd cross, off the 7th south entry. The roof is soft slate, and is dangerous and requires careful propping. Had the deceased timbered his working place according to method of timbering agreed upon at this mine, and in addition had the roadway been timbered with cross-bars every four feet, it would probably have held the rock in place. There were plenty of timbers close at hand. The responsibility of the accident rests with the dead man.
- (27) August 31—JOHN YOUHOUSE; American; rope-rider; age, 18 years; single; employed by the Mutual Coal Company, at the Mutual Mine, Huerfano County; was killed by being struck by a trip of empty cars. Deceased was taking his trip into 2-E entry, when he felt the jerk of a car derailing. He jumped off to see what caused the derailment. The trip was not moving fast and there was ample clearance between cars and rib. The front car was derailed on the long side of the curve, while it was the natural tendency to derail with the pull of the rope on the short side of the curve. He was struck by a car and crushed to such an extent that he died an hour afterwards. No responsibility for his death can be charged to any one.
- (28) September 23—MARTIN KINK; German; timberman; age, 46 years; married; six children; employed by the Rocky Mountain Fuel Company, at the Gorham Mine, Boulder County; was killed by a fall of rock and dirt. Deceased and his partner, Eugene Faux, were pulling timbers in room stump No. 1, off 5th east entry. Deceased was knocking out timbers with an ax instead of using a prop puller, which is the proper tool for this kind of work. A fall of rock and dirt came down unexpectedly, covering deceased completely, and smothered him to death before he could be extricated. This accident could have been avoided had deceased used a prop puller instead of trying to hasten his work by the use of an ax.
- (29) September 25—ALEX MARTINEZ; Mexican; age, 35 years; married; no children; employed by the Rocky Mountain Fuel Company, at the Piedmont Mine, Las Animas County; was killed by a fall of rock. The accident took place in pillar room No. 11, off the 1st blind entry, off the 9th west entry. Here two cleats occurred, running about six feet apart. At this point, eleven feet from the roadway where the roof is brushed or taken down two feet, to make height for the car, a smooth slip started at about 45 degrees and ran towards the roadways into the above mentioned cleats, and to a smooth in the roof rock

about two feet up. The rock that fell on deceased came from between the two cleats and the slip. When the rock began to break loose from the slip, it discharged two props near the road. Had the deceased set up four props under the rock as required by timbering agreement adopted at this time, instead of two props, the accident might have been avoided.

- (30) September 30—JOHN WURZER; Austrian; miner; age, not given; married; no children; employed by the Palisade Coal & Supply Company, at Palisade Mine, Mesa County; was injured by a fall of rock on the 8th of September, and died on the above date. Deceased was working in room No. 37 off 1st cross entry when a piece of draw slate about two and one-half feet wide and six feet long fell, striking him, inflicting such injuries that he died twenty-two days later. He evidently tried to take down this rock and failed. In under-mining, he dislodged its support, causing it to fall. There is about four inches of draw slate which has to be taken down when the coal is removed. The working place was timbered according to agreement, and there was plenty of material on hand to keep the working place in safe condition. The deceased was responsible for the accident, as he did not set a prop to secure the rock when he found he was unable to take it down.
- (31) October 1—CONSTANTE WEBBER; Tyrolese; machine helper; age, not given; married; three children; employed by the Carbon Coal & Coke Company, at the Cokedale Mine, Las Animas County; was injured by a fall of rock on September 29th, and died October 1st. Deceased was working in the chain pillar along the 1st south entry. According to evidence obtained from Eugene Martin, the machine runner, he (Martin) had examined the roof and found it in good condition, and he had set up four props. While the machine was running, the coal that was being cut gave a sudden burst, and he called the deceased to look out, but the slab of rock fell between the props and on the deceased, causing such injuries that he died two days later. Responsibility for this accident cannot be placed on any one.
- (32) October 14—NICK DELDUCA; Italian; miner; age 56 years; married; four children; employed by the Victor American Fuel Company, at the Chandler Mine, Fremont County; was killed by a fall of rock. Deceased had taken down some coal on the face directly in front of the roadway. While in the act of loading a car, a rock fell, knocking him down and a chunk of coal struck him on the forehead, causing instant death. It seems evident deceased had not examined his working place before starting to work. Had he done so, the accident might have been avoided.

- (33) October 28—FILO ZURICH; Hungarian; driver; age, 24 years; married; one child; wife living in Louisville; employed by the National Fuel Company, at Monarch Mine No. 2, Boulder County; was injured on October 14th, being squeezed between door and loaded pit car, and died from the effects on October 28th. Deceased had landed three loaded cars on the parting at the entrance of the 5th south-west entry from where they are taken to the hoisting shaft by the main south driver. The 5th southwest parting has a grade of 3% in favor of the loads, the cars are held on the parting by sprags, and in order to get the cars on the main south entry a trap door has to be opened. The main south driver had taken two of the three cars from the 5th southwest parting through the door. The deceased closed the door before getting away from it. The third car which had been left on the parting, apparently without being spragged, caught him between it and the door, causing such injuries that he died fourteen days later. The accident might have been prevented had sufficient sprags been put on the third car to hold it on the parting. The deceased apparently was responsible for this car not being spragged.
- (34) November 7—WALTER RYMES, (also Ryenkevz); Pole; miner; age, 49 years; single; employed by the Loma Fuel Company, at the Loma Mine, Huerfano County; was injured by a fall of rock on the above date, and died at the Minnequa Hospital, Pueblo, November 13th. The accident occurred on the cross cuts of room 34, off the main back entry. The parties that were near him when he was injured, had left the mine when the investigation was made, and consequently, no witnesses were present to give testimony. The mine foreman stated that the place was in fair condition when he was in the place prior to the accident. The evidence was so insufficient that the responsibility for the accident could not be placed.
- (35) November 14—JAMES PAPPAS; Greek; miner; age, 37 years; married; two children; employed by the Tioga Coal Company, Tioga Mine, Huerfano County; was injured by a fall of rock and died on the 18th of November. The accident occurred in the first west angle pillar. The mine foreman had examined the place three hours previous to the fall of rock and found it in good shape. When Pappas started to work, he first sounded the roof and found it safe according to a statement of his partner, Chas. Jafas. He proceeded to extract coal from the pillar when suddenly a pot of rock from the roof fell, striking him and causing such injuries that he died four days later. This might be classed an unavoidable accident.
- (36) November 20—THOMAS CORDOVA; Mexican; assistant fireman; age, 45 years; married; two children; employed by the Colorado Fuel & Iron Company, at the Starkville Mine,

Las Animas County; was injured (back broken) by falling off the trestle and died December 11th, 1916. Deceased and Stephen Ortega were dumping a car of coal into the chute. The front end of the car was caught on the rail on one side. He endeavored to free the car with an iron bar which slipped and caused him to lose his balance, and he fell off the trestle to the ground, a distance of 16 feet, breaking his back, from the effect of which he died December 11th. Had there been a guard rail on the sides of the trestle work this accident might have been avoided.

- (37) November 23—TONY SKOLL; Austrian; timberman; age, 32 years; widower; one child (father in Kastel Nova, Austria); employed by the Victor American Fuel Company, at the Pinnacle Mine, Routt County; was injured by a fall of rock and died the following day. Men working in C back-slope had informed the mine foreman that it was not safe to work there, as there was much loose rock hanging from the roof. Deceased was ordered to secure the roof and he proceeded with his partner to take down the loose rock, but did not complete the task, believing that the balance of the rock was safe when secured by a set of timbers. While preparing to set up cross-bars, a piece of rock 1 foot long and $3\frac{1}{2}$ feet wide, and running from eight inches thickness to a feather edge, fell on deceased, causing such injuries that he died the following morning. The accident might have been avoided, had deceased exercised more care, but as he worked as a timberman only ten months, it is possible that the lack of experience might be charged.
- (38) November 29—MATT TURKOVICH; Austrian; miner; age, 20 years; single (brother Turkovich at Rockvale, Colo.); employed by the Colorado Fuel & Iron Company, at the Fremont Mine, Fremont County; was injured by a fall of coal on the above date and died December 2nd. The accident occurred in room No. 1, 3rd right off 3rd dip-entry. He had fired a shot in the road head, and it failed to pull all the coal down. He then tried to take it down with a pick, and not being able to do so, began to undermine it when it came down on him, injuring him to such an extent that he died three days later. His partner was not with him when the accident occurred, and could not state whether he had spragged the coal before undermining it. There were two short props lying near the coal which had been used as sprags before the shots were fired.
- (39) December 3—GEORGE BELOS; Greek; miner; age, 27 years; single; employed by the Yampa Valley Coal Company, at the Yampa Valley No. 6 Mine, Routt County; was killed by being crushed under a hoist. A trip of seven cars was being dropped down the main plane, when in some manner the hoist was raised about three and one-half feet from the ground and fell back on deceased, smothering him to death. The accident

could have been avoided had the engine been properly placed, braced and anchored.

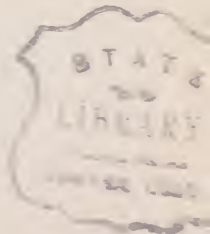
- (40) December 6—JOHN LEWIS; Greek; mule driver; age, 28 years; married; no children; employed by the Cedar Hill Coal & Coke Company, at the Toller Mine, Las Animas County; was injured by being crushed between a mule and an empty car and died from his injuries on December 9th. Jose Vantetes was loading a car at the face of room No. 8 off the fourth cross entry off the 7th south entry. In adjusting the coal in the car, it started to move towards the entry, having a grade of two per cent. Vantetes tried to stop the car, but it got away and ran down the entry 400 feet, meeting the mule pulling an empty car with the driver. The collision killed the mule and injured the driver so seriously that he died three days later. The mine foreman had been asked three times during the year by this department to place safety blocks in all rooms having a grade. Had this recommendation been complied with, the accident would have been avoided.
- (41) December 9—FARICINO CESEROLI; Italian; miner; age, 26 years; single; employed by the Colorado Fuel & Iron Company, at the Walsen Mine, Huerfano County; was killed by a fall of rock. This accident occurred in a room and deceased was working alone. He was found under a rock by C. Davis, the driver. It was evident he was killed instantly. There were no eye-witnesses to the accident. The mine foreman and fire-boss reported the place in good condition and well timbered. From evidence and observation, the conclusion is that the accident was unavoidable.
- (42) December 12—F. B. SHOTT; American; miner; age, 53 years; married; no children; employed by W. D. Stokes, at the Stokes Mine, Mesa County; was killed by a fall of rock. Deceased had worked off part of the lower seam, leaving about 14 inches of top coal, which he was taking down with a pick. While bending over to move a chunk of coal, the top fell, striking him on the back of his head, killing him instantly. The mine foreman had visited the place just five minutes prior to the accident. The place was well timbered. No blame for this accident can be charged to any one.
- (43) December 14—VIRGIL SWAN; American; driver; age, 28 years; single; employed by the Oakdale Coal Company, at the Oakdale Mine, Huerfano County; was injured by being crushed between cars, and died on the 16th. Deceased was driver for the night shift. He was bringing an empty car into the slant cross-cut switch with such speed, that it created a momentum so great that when it came in contact with a loaded car, it derailed the latter and threw the deceased between the cars and crushed him so seriously that he died two days later. The accident may be charged to the negligence of

the entry man in bringing the loaded car too far out on the switch and not leaving the proper clearance.

- (44) December 20—EMIL CALMETTE: American; miner; age, 24 years; single; employed by the Colorado Fuel & Iron Company, at the Coal Creek Mine, Fremont County; was electrocuted by coming into contact with electric light wires. The deceased was found dead, lying partly under the bell wires on the 9th south parting. There had been a derailment on the 11th south parting a few minutes before Calmette was found dead, which had knocked out a set of timbers and the fall of rock caused thereby had thrown the electric light wires down on the bell wires charging the signal line heavily. The men in charge of the trip that had been derailed received shocks from the cars and they immediately cut the wires, which were contracting with signal wires. The deceased was helping the track layer, and he had just brought some tools out to this parting, and either touched the bell wires accidentally or otherwise, not thinking they were dangerous. It is not definite that deceased met his death from an electric shock, but the surgeons who held the autopsy were of the opinion that electricity was the cause. Responsibility can be placed on no one as the electric wires were insulated and put up in approved manner.

LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR GASEOUS MINES ISSUED DURING THE YEAR 1916

Name and Address	Certifi- cate No.	Name and Address	Certifi- cate No.
Anderson, Stewart M., Lafayette.....	488	Lattuce, Frank, Hastings.....	594
Aldratte, Frank, Toltec.....	604	Liddla, William, Starkville.....	620
Arthur, John, Oak Creek.....	534	Lorenzi, August, Lester.....	619
Balson, Antonio, Ojo.....	570	Luh, Frank, Tioga.....	603
Barcelona, Jim, Valdez.....	516	Martin, Louis C., Bowen.....	637
Bertram, Thos., Mt. Harris.....	654	Martinez, Candido, Sopris.....	626
Bianchi, Mass, Sopris.....	583	Mastraino, Dominick, Lafayette.....	615
Biella, John, Louisville.....	614	McCormick, Sam, Delcarbon.....	587
Binks, Jack, Shumway.....	657	McCune, Robert, Delagua.....	484
Bokan, Mike, Brodhead.....	561	McNeil, Neil, Walsenburg.....	648
Bond, V. D., Mt. Harris.....	605	McGuinn, John, Primero.....	575
Brown, A. C., New Castle.....	579	Merchant, Jas. E., Oak Creek.....	602
Boyle, I. W., Longmont.....	502	Morgan, Jas., Lafayette.....	468
Boyle, Orville, Longmont.....	503	Morgan, Wm. Thos., Oakview.....	600
Burris, C. W., Rouse, Colo.....	537	Noon, James, Dacona.....	639
Carriek, William, Lafayette.....	616	Nortuck, Frank, Louisville.....	632
Chubuhar, Jos., Shumway P. O.....	652	Pernich, Jno., Primero.....	567
Coppozzo, Fortunato, Rugby.....	643	Pickford, Edwin, Lafayette.....	580
Corfield, James, Lafayette.....	617	Powell, Charles A., Farr.....	629
Cerne, Fritz, Lafayette.....	531	Porta, Henry, Louisville.....	631
Cook, Robert, Ravenwood.....	628	Romero, Eulogio, Valdez.....	572
Cornali, John, Tollerburg.....	533	Roberts, David G., Oakview.....	640
Cristoff, Anton, Ideal.....	538	Saulsbury, C. E., Firestone.....	656
Davis, E. F., Forbes.....	563	Schewkier, Leo W., Ravenwood.....	598
Doumiller, Geo., Toltec.....	586	Schweiger, Jas., Lafayette.....	524
Di Pietra, Frank, Sopris.....	625	Scott, George, Sopris.....	582
Dominic, Stephen, Ideal.....	591	Shubert, James, Maitland.....	694
Dowds, Hugh, Delcarbon.....	588	Snyder, Joseph, Lafayette.....	465
Engleby, John, Morley.....	517	Spoors, William, Tioga.....	636
Follett, Eli, Louisville.....	646	Sweeney, Andrew E., Primero.....	566
Gardner, Thomas, Toltec.....	596	Titsworth, Geo., Valdez.....	574
Gillis, William, Lafayette.....	494	Tofflin, W. R., Walsenburg.....	528
Glanville, W. T., Bromfield.....	612	Todd, Andrew, Toltec.....	589
Glavach, John, Lafayette.....	593	Tomatuck, Egan, Forbes.....	565
Gregory, Thos., Berwind.....	520	Topping, Robert, Jr., Ravenwood.....	627
Hinkle, P. K., Valdez.....	573	Toth, Joe, Primero.....	508
Hughes, John, Bear River.....	586	Trew, N. H., Farr.....	621
Hutchison, Jas., Lafayette.....	463	Tuna, Ernest, Sopris.....	584
Kelley, Pat, Frederick.....	658	Vecchio, Fiore D., Morley.....	518
Kerr, Newton, Lafayette.....	496	Visich, Pete, Walsenburg.....	459
Koebbler, Joe, Lafayette.....	464	Vornica, Joe, Berwind.....	522
Irons, David, Walsenburg.....	483	Walton, Arthur, Lafayette.....	618
Johnson, Fritz, Frederick.....	630	Watson, John, Forbes.....	564
Johnson, William, Farr.....	622	Weinberg, Gus, Lafayette.....	457
Jones, John E., Lafayette.....	500	Williams, Morgan, Mt. Harris.....	655
Jones, Robert, Berwind.....	521	Williams, John T., Sopris.....	560
Jumper, Ed., Rouse.....	595	Zamko, John, Primero.....	571
Landis, M. L., Lafayette.....	492	Zorich, John, Strong.....	599
La Salle, T. W., Louisville.....	611		



LIST OF SHOT-FIRERS HOLDING CERTIFICATES FOR NON-GASEOUS MINES ISSUED DURING THE YEAR 1916

Name and Address	Certificate No.	Name and Address	Certificate No.
Allan, D. M., Lafayette.....	489	Hilton, William, Louisville.....	449
Anderson, David, Baldwin.....	608	Hortuagle, Mike, Gorham Mine.....	455
Anderson, Sam, Gorham, care mine	529	Johnson, Ross, Louisville.....	635
Barclay, James, Frederick.....	568	Kariavalys, Nick, Lafayette.....	486
Debevec, Anton, Colorado Springs.....	475	Katch, John, Strong.....	562
Becker, Paul, Oak Creek.....	477	Kerr, Thomas P., Superior.....	462
Beveridge, Thos., Louisville.....	472	Kruger, Richard, Palisade.....	642
Biella, John, Louisville.....	507	Krustich, Andrew, Crested Butte.....	607
Bold, Richard, Colorado Springs.....	473	Lamb, Geo., 1509 N. Corona St., Colorado Springs.....	474
Boussman, Herman, Louisville.....	470	Lemberg, Joe, Lafayette.....	493
Brown, Richard, Gorham.....	452	Malone, Frank, Gorham Mine.....	448
Bruce, J. A., Oak Creek.....	479	Manning, Frank, Superior.....	460
Butler, Oliver, Dacona.....	506	Marco, S., Frederick.....	641
Chakaras, Nick, Pallas.....	601	McNeill, Thos., Crested Butte.....	578
Chamberlain, Bert.....	569	Miller, John, Oak Creek.....	480
Coliff, Coli, Louisville.....	471	Moore, Frank, Superior.....	461
Cox, George, Oak Creek.....	650	Morgan, John, Louisville.....	467
Cregger, S. J., Glenwood Springs.....	577	Morgan, Thos. P., Erie.....	501
Davis, Isaac, Downer.....	458	Nosack, Frank, Fruita.....	645
Davis, Richard R., Frederick.....	624	Paulek, Victor, Hesperus.....	613
Davis, Thos., Lafayette.....	487	Pena, J. N., Lafayette.....	466
Davis, W. F., Pallas.....	649	Peters, Gustave, Lafayette.....	497
Defler, Joe, Louisville.....	633	Peter, Paul, Gorham Mine.....	451
Degardain, Edward D., Gorham.....	530	Peterson, Chas., Oak Creek.....	476
Dero, Charles, Louisville.....	519	Reese, David, Lafayette.....	523
Dimetroff, Mike, Lafayette.....	526	Rees, Jas., Erie.....	659
Di Paola, Antonio, Frederick.....	512	Rees, John, Lafayette.....	527
Dohlman, Andrew, Baldwin.....	610	Rule, Ed., Frederick.....	513
Dohlman, David, Baldwin.....	609	Scalabrin, E., Ideal, Colo.....	592
Dole, J. R., Oak Creek.....	481	Seal, Fred C., Mt. Harris.....	653
Domenico, Vincent, Firestone.....	510	Sims, Sam, Lafayette.....	525
Dospot, Steve, Oak Creek.....	651	Sirokman, Geo., Louisville.....	647
Eller, Clem, Oak Creek.....	535	Stewart, James, Cameo.....	531
Epperson, Jas., Lafayette.....	485	Steffen, Jake, Cameo.....	532
Farmer, J. H., Gorham.....	453	Stoiauooff, Steve, Gorham Mine.....	454
Ferguson, Robt., Louisville.....	539	Tantrum, Thos., Canon City.....	482
Fidel, A., Fruita.....	597	Tesone, Felix, Frederick.....	511
Fillas, Jas., Gorham Mine.....	450	Tezak, Anton, Crested Butte.....	504
Fishlin, Martin, Firestone.....	515	Tiller, Fred G., Arvada.....	499
Forish, William, Lafayette.....	495	Thomas, Clyde, Dacona.....	638
Fulton, Nick, Oak Creek.....	478	Thompson, Henry B., Toltec.....	585
Garzia, D., Ideal, Colo.....	509	Tzik, Martin, Crested Butte.....	606
Graham, Harry, Boulder.....	447	Vislick, Steve, Ideal.....	590
Green, Billy, Lafayette.....	490	Volk, Jno., Crested Butte.....	505
Gutfelder, Lewis, Louisville.....	469	Wallace, Louis, Firestone.....	514
Hamilton, F. B., Gorham Mine.....	456	Woodberry, E. D., Erie.....	634
Hart, Herman, Lafayette.....	498	Zancanella, Laurence, Glenwood.....	576
Helart, Henry, Gorham Mine.....	623		

DIRECTORY OF COAL MINES OPERATED IN COLORADO FOR YEAR ENDED DEC. 31, 116.

(Shown by Counties.)

BOULDER COUNTY.

Name of Mine	Name of Company.	Name of Manager or General Supt.	Postoffice
Simpson	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Standard	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Vulcan	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Mitchell	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Rex No. 1	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Hecla	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Gorham	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Industrial	Rocky Mountain Fuel Co.	Geo. T. Peart	Denver
Monarch No. 1	National Fuel Co.	S. Tescher	Denver
Monarch No. 2	National Fuel Co.	S. Tescher	Denver
Fox	Fox Coal Mining Co.	S. A. Snyder	Denver
Matchless	Great Matchless Fuel Co.	S. A. Snyder	Denver
Centennial	Big Four Coal & Coke Co.	L. B. Cannon	Denver
Sunnyside	Big Six Coal Co.	F. W. Carveth	Louisville
Nonpareil	Brooks Fuel Co.		Louisville
Black Diamond	Mitchell & Graham		Boulder
Gorham No. 2	Morgan & Williams		Boulder
*Big Lake	Big Lake Coal Co.		Denver
Mile High	New Mile High Coal Co.		Lafayette
Lewis	J. T. Lewis		Boulder
†Electric	Crown Coal Co.		Lafayette
Strathmore	Strathmore Mine Co.		Lafayette
†Red Ash	Red Ash Coal Co.		Gorham

*Mine closed down.

†Mine closed down.

‡Formerly New Fox Mine.

DELTA COUNTY.

King	Juanita Coal & Coke Co.		Pueblo
Farmers	Paonia Coal Co.		Paonia
Red Mountain	Hall & Motto (Red Mountain F. Co.)		Cedaredge
Green Valley	Rinehart & Patton		Cedaredge
Winton	C. O. Billstrom		Austin
States	Chas. G. States		Cedaredge
Black Diamond	Farmers Progressive Coal Co.		Paonia
Bennett	Hotchkiss Fuel & Supply Co.		Hotchkiss
Converse	Frank Converse		Paonia
*Coalby	Gus Billstrom		Cedaredge
†Rollins	Dugger Coal Co.		Delta
Leroux Creek	J. R. Degraffenried		Hotchkiss
Independent	E. J. Weed		Cedaredge
†Fairview	Wm. Proutt		Delta

*Mine closed down.

†In hands of Receiver J. E. Becky.

‡Mine closed down.

EL PASO COUNTY.

Pikes Peak	Pikes Peak Fuel Co.	H. McGarry	Colorado Springs
*Patterson	Pikes Peak Fuel Co.	H. McGarry	Colorado Springs
El Paso	El Paso County Land & Fuel Co.		Colorado Springs
†Rapson No. 2	Rapson Coal Mining Co.		Colorado Springs
Danville	Tudor Coal Co.		Colorado Springs
Williamsville	Thomas Coal Co.		Colorado Springs
Franceville	Dan E. Davis		Colorado Springs

*Mine closed down.

†Mine abandoned.

FREMONT COUNTY.

Rockvale	Colorado Fuel & Iron Co.	E. H. Weitzel	Pueblo
Coal Creek	Colorado Fuel & Iron Co.	E. H. Weitzel	Pueblo
Fremont	Colorado Fuel & Iron Co.	E. H. Weitzel	Pueblo
Nonac	Colorado Fuel & Iron Co.	E. H. Weitzel	Pueblo
Chandler	Victor-American Fuel Co.	W. J. Murray	Denver
Chandler No. 2			
(Radiant)	Victor-American Fuel Co.	W. J. Murray	Denver
Royal Gorge	Gibson Lumber & Fuel Co.		Canon City
Emerald	Williamsburg Slope Coal Co.		Williamsburg

DIRECTORY OF COAL MINES OPERATED IN COLORADO FOR YEAR ENDED DEC. 31, 116.

(Shown by Counties.)

BOULDER COUNTY.

Name of Superintendent	Mine Postoffice	Method of Ventilation	Volume of air current in cubic ft. per mine	Water gauge developed in inches	Railroad connections
J. W. Griffith	Lafayette	Fan	90,000	1.	C. & S. & C. B. & Q.
Geo. Swearingen	Lafayette	Fan	47,000	2.	C. B. & Q.
Chas. Billington	Lafayette	Fan	35,000	$\frac{3}{4}$	C. & S.
J. J. Thomas	Lafayette	Fan	32,000	0.6	C. & S. & C. B. & Q.
J. C. Williams	Louisville	Fan	14,000	.6	C. & S.
J. C. Williams	Louisville	Fan	12,000	$\frac{1}{2}$	C. & S.
Ed Taylor	Gorham	Fan	48,000	1.	C. & S.
F. J. L. MacCormac	Superior	Fan	31,000	0.6	C. & S.
Jas. Etchells	Downer	Fan	.....	.....	C. & S.
O. E. Oliver	Broomfield	Fan	48,000	1.3	C. & S.
J. W. Schultz	Gorham	Fan	29,500	.....	C. & S.
R. S. Husband	Louisville	Fan	18,000	.....	C. & S.
H. B. McFadden	Louisville	Fan	34,020	$\frac{3}{4}$	C. & S.
Chas. Liley	Louisville	Fan	10,500	.....	C. & S.
W. E. Brooks	Louisville	Fan	22,500	.....	C. & S.
Frank Koenig	Boulder	Blower	1,500	.....	None
.....	Gorham	Fan	8,400	.....	C. & C.
.....	Lafayette	Steam Jet	.....	.....	.....
.....	Lafayette	Natural	.....	.....	None
.....	Gorham	Natural	700	.....	None
.....	Lafayette	Blower	.....	.....	C. & S.
.....	Lafayette	Fan	14,700	.....	C. & C.
.....	Gorham	.....	2,800	.....	None

DELTA COUNTY.

W. D. Bowie	Bowie	Fan	87,660	0.3	D. & R. G.
P. B. Jenkins	Paonia	Natural	6,360	None	None
A. W. Hall	Cedaredge	Natural	1,800	None	None
C. W. Rinehart	Cedaredge	Natural	3,000	None	None
C. O. Billstrom	Austin	Natural	3,200	None	None
Chas. G. States	Cedaredge	Natural	5,000	None	None
P. B. Jenkins	Paonia	Natural	3,700	None	None
M. W. Bennett	Hotchkiss	Natural	1,800	None	None
Frank Converse	Paonia	Natural	3,000	None	None
Gus Billstrom	Cedaredge	Natural	.....	None	None
S. A. Dugger	Delta	Natural	.....	None	None
J. R. Degraffenried	Hotchkiss	Natural	.....	None	None
E. J. Weed	Cedaredge	Natural	.....	None	None
Wm. Proutt	Delta	Natural	.....	None	None

EL PASO COUNTY.

Robt. O'Neil	Colorado Springs	Fan	50,031	1.5%	D. & R. G.
W. K. Anderson	Colorado Springs	Fan	.....	.....	.....
F. W. Price	Colorado Springs	Fan	47,000	1.1/4	C. R. I. & P. & A. T. & S. F.
Pete Mortenson	Colorado Springs	Fan	22,000	.....	C. R. I. & P.
W. D. Tudor	Colorado Springs	Fan	6,930	.....	A. T. & S. F.
T. E. Thomas	Colorado Springs	Fan	.....	.....	None
Dan E. Davis	Colorado Springs	Furnace	.....	.....	None

FREMONT COUNTY.

Henry Johns	Rockvale	Fan	102,000	2.3	A. T. & S. F.
Ben Beach	Coal Creek	Fan	60,000	.....	A. T. & S. F.
J. D. Davis	Florence	Fan	40,000	0.9	D. & R. G.
Chas. O'Neil	Canon City	Fan	14,000	0.4	A. T. & S. F.
M. E. Summerville	Chandler	Fan	33,600	1.	A. T. & S. F. & D. & R. G.
James Struthers	Pyrolite	Fan	26,000	0.3	A. T. & S. F.
C. W. Jones	Canon City	Fan	10,020	.....	A. T. & S. F.
H. J. Smith	Williamsburg	Fan	11,000	.....	A. T. & S. F.

FREMONT COUNTY—Continued)

Name of Mine	Name of Company	Name of Manager or General Supt.	Postoffice
Brookside	Brookside Coal Co.		Canon City
Willie	Petry Coal Co.		Florence
Double Dick	McLean & Gilbert.....		Florence
Orecchio No. 1	Orecchio & Rocchio.....		Florence
Wolf Park	Wolf Park Leasing Co.		Canon City
Williamsb'g Slope.....	Donnelly Coal Co.		Florence
*Smith-Tanner	E. R. Harris.....		Coal Creek

*Mine closed down.

GARFIELD COUNTY.

Midland	Rocky Mountain Fuel Co.	Geo. T. Peart.....	Denver
Vulcan	Garfield Mine Leasing Co.	Geo. T. Peart.....	Denver
Carbonera	Gilson Asphaltum Co.		Watson, Utah
*South Canon	South Canon Coal Co.		Denver
Harvey Gap	Harvey Gap Coal Co.		Glenwood Springs

*Mine closed down.

GUNNISON COUNTY.

Somerset	Utah Fuel Co.	W. C. Ferguson.....	Denver
Crested Butte	Colorado Fuel & Iron Co.	E. H. Weitzel.....	Denver
Floresta	Colorado Fuel & Iron Co.	E. H. Weitzel.....	Denver
Alpine	Rocky Mountain Fuel Co.	Geo. T. Peart.....	Denver
Porter	Littell Coal & Mining Co.	J. A. Littell.....	Denver
Horace	Pueblo Fuel & Mining Co.	J. A. Littell.....	Denver
Bulkley	Crested Butte Coal Co.		Denver
Smith	Crested Butte Anthracite Min. Co.....		Denver
Baldwin-Star	Baldwin Fuel Co.		Denver
Great Western.....	Joseph David		Gunnison

HUERFANO COUNTY.

Walsen	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Robinson	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Rouse	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Cameron	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Ideal	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Lester	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Pictou	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Oakdale	Oakdale Coal Co.....	J. D. Jones.....	Denver
Mutual	Mutual Coal Co.....		Denver
Ravenwood	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Pryor	Union Coal & Coke Co.....		Denver
Reliance	Alliance Coal Co.....		Denver
Toltec	Aztec Coal Mining Co.....		Denver
Big Four	Big Four Coal & Coke Co.....		Denver
Sunnyside	Sunnyside Coal Mining Co.....		Denver
Rugby	Rugby Fuel Co.....	G. C. Davis.....	Denver
Turner	Turner Coal Co.....		Walsenburg
Caddell	Black Canon Fuel Co.....		Denver
Vesta	Vesta Coal Mining Co.....		Denver
Tioga	Tioga Coal Co.....		Denver
Maitland	McNally & Co.....		Walsenburg
Breen	Breen Coal Mining Co.....		Walsenburg
Loma	Loma Fuel Co.....		Walsenburg
Larimore	Monument Valley Coal Co.....		Colorado Springs
Solar (Rockland).....	Walsenburg Coal Mining Co.....		Walsenburg
Gordon	Gordon Coal Co.....		Walsenburg
Pinon	Rocky Mountain Fuel Co.....	Geo. T. Peart.....	Denver
Black Canon	New Maitland Coal Co.....		Walsenburg
*Ojo	Ojo Canon Coal Co.....		Ojo

*Mine closed down.

JACKSON COUNTY.

Coalmont	Northern Colorado Coal Co.....		Coalmont
Moore	North Park Coal Co.....	J. M. Purdick.....	Ft. Collins

FREMONT COUNTY—Continued)

Name of Superintendent	Mine Postoffice	Method of Ventilation	Volume of air current in cubic ft. per mine	Water gauge developed in inches	Railroad connections
John Lippis	Canon City	Natural	18,000	.....	None
Sam Petry	Florence	Tunnel	80	.....	None
Geo. McLean	Florence	Natural	6,020	.....	None
Thos. Orecchio	Florence	Natural	3,000	.....	A. T. & S. F.
Thos. Hilton	Canon City	Natural	.....	.....	None
Henry Donnelly	Florence	Natural	4,000	.....	None
E. R. Harris	Coal Creek	Natural	1,800	.....	None

GARFIELD COUNTY.

J. E. Smith	Sunlight	Fan	24,000	0.7	C. M.
Thomas Gibby	Newcastle	Fan	30,000	¼	C. M.
Homer D. Ford	Mack	Natural	10,000	.....	Unitah R. R.
Evan Thomas	South Canan	Fan	.....	.....	C. M.
L. D. Merschman	Glenwood Sprgs.	Natural	.....	.....	None

GUNNISON COUNTY.

Robt. Williams, Jr.	Somerset	Fan	200,000	3.	D. & R. G.
W. Manly	Crested Butte	Fan	49,000	0.7	D. & R. G.
W. Manly	Floresta	Fan	23,000	0.5	D. & R. G.
J. G. Featherstone	Baldwin	Fan	35,000	0.2	D. & R. G.
W. R. Kerr	Crested Butte	Fan	15,000	.....	D. & R. G.
John Buchanan	Crested Butte	Fan	15,000	.....	D. & R. G.
Fred Gulliford	Crested Butte	Fan	11,520	.....	D. & R. G.
O. V. Roberts	Crested Butte	Fan	30,550	.....	D. & R. G.
James Hare	Baldwin	Natural	5,040	.....	D. & R. G.
Joseph David	Gunnison	Natural	.....	.....	None

HUERFANO COUNTY.

W. S. Getchell	Walsen	Fan	120,000	0.7	C. & S. & D. & R. G.
W. S. Getchell	Walsen	Fan	82,000	1.5	C. & S. & D. & R. G.
W. G. Deck	Rouse	Fan	100,000	2.7	D. & R. G.
C. C. Kaiser	Fair	Fan	40,000	2.6	C. & S.
W. J. Tyson	Ideal	Fan	28,000	0.8	C. & S.
W. G. Deck	Lester	Fan	46,000	1.6	D. & R. G.
W. S. Getchell	Pictou	Fan	16,000	1.3	D. & R. G.
W. L. Morgan	Oakview	Fan	41,780	.....	D. & R. G.
R. F. Poli	Walsenburg	Fan	50,000	.....	D. & R. G.
D. E. Davis	Ravenwood	Fan	35,000	1.	C. & S.
Chas. Benchat	Pryor	Fan	27,000	.....	D. & R. G. & C. & S.
C. D. Lehew	Ojo	Fan	30,000	.....	D. & R. G.
S. B. Smith	Toltec	Fan	30,000	.....	D. & R. G. & C. & S.
Robert Hood	Tioga	Fan	30,000	.....	D. & R. G. & C. & S.
H. M. Graves	Strong	Fan	10,500	.....	D. & R. G.
Thos. McLaughlin	Rugby	Fan	10,350	.....	D. & R. G. & C. & S.
Ira D. Zook	Walsenburg	Fan	61,000	.....	D. & R. G. & C. & S.
Hugh McGinn	Walsenburg	Fan	33,000	.....	C. & S. & D. & R. G.
Robert Turner	Camp Shumway	Fan	12,400	.....	C. & S. & D. & R. G.
Joe Humphrey	Tioga	Fan	28,000	.....	D. & R. G.
Geo. McNally	Maitland	Fan	50,000	2.5	D. & R. G.
M. T. Brennan	Walsenburg	Fan	15,000	.....	C. & S. & D. & R. G.
Joe Ball	Walsenburg	Fan	34,900	0.7	C. & S. & D. & R. G.
Leo McCormac	Strong	Fan	30,000	.....	D. & R. G.
T. J. Stone	Walsenburg	Fan	20,000	.....	D. & R. G.
R. T. Bell	Walsenburg	Fan	14,700	.....	D. & R. G. & C. & S.
John Simpson	Camp Shumway	Fan	7,000	.....	D. & R. G. & C. & S.
J. T. Thompson	Walsenburg	Fan	8,400	.....	D. & R. G.
Peter Fern	Ojo	Natural	.....	.....	D. & R. G.

JACKSON COUNTY.

R. J. Van					
Volkenburg	Coalmont	Fan	21,600	.....	C. W. & E.
Wm. Peachey	Coalmont	Natural	22,000	0.2	C. W. & E.

JEFFERSON COUNTY.

Name of Mine	Name of Company	Name of Manager or General Supt.	Postoffice
Leyden No. 2.....	Leyden Coal Co.....	F. A. Perry.....	Denver
Justrite	Thos. Shepherd.....		Golden

LA PLATA COUNTY.

Perins Peak	Calumet Fuel Co.....	W. C. Ferguson.....	Denver
Hesperus	Porter Fuel Co.....		Durango
San Juan	Carbon Coal & Coke Co.....	L. G. Eakin.....	Denver
O. K.	O. K. Coal Co.....		Durango
Sunshine	Sunshine Coal Co.....		Durango
Morning Star	Bandino & Co.....		Durango

LAS ANIMAS COUNTY.

Primero	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Frederick	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Sopris	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Morley	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Berwind	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Tabasco	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Starkville	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Delagua	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Hastings	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Bowen	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Gray Creek	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Cokedale Nos. 1 and 2	Carbon Coal & Coke Co.....	L. G. Eakin.....	Denver
Piedmont	Rocky Mountain Fuel Co.....	George T. Peart.....	Denver
Forbes No. 9	Chicosa Fuel Co.....	George T. Peart.....	Denver
Forbes No. 6	Chicosa Fuel Co.....	George T. Peart.....	Denver
Toller	Cedar Hill Coal & Coke Co.....	D. M. Harrington.....	Denver
Greenville	Cedar Hill Coal & Coke Co.....	D. M. Harrington.....	Denver
Black Diamond	Cedar Hill Coal & Coke Co.....	D. M. Harrington.....	Denver
Brodhead No. 9	Temple Fuel Co.....		Trinidad
Kenneth	Temple Fuel Co.....		Trinidad
Royal	Royal Fuel Co.....	S. Tescher.....	Denver
Ludlow	Huerfano Coal Co.....		Denver
Primrose	Primrose Coal Co.....		Pueblo
Jeffryes	Jeffryes Fuel Co.....		Trinidad
Rapson No. 1	Rapson Coal Mining Co.....		Colorado Springs
Jewel	Ideal Coal Co.....		Aguilar
Wootton Turner	Wootton Land & Fuel Co.....		Wootton
Prospect	Prospect Coal Co.....		Trinidad
Baldy	Baldy Coal Co.....		Trinidad
Keystone No. 2	Bartolo Parivecchio.....		Trinidad
McLaughlin	James E. McLaughlin.....		Trinidad
Hines	Hines Coal Co.....		Trinidad
Fisher's Peak	Fisher's Peak Coal Co.....		Trinidad
Keystone No. 1	Trinidad Coal Co.....		Trinidad
Baldy Mountain	Trinidad Coal Co.....		Trinidad
Three Pines	Black Diamond Niggerhead Coal Mining Co.....		Trinidad
Superior	Brown & Bartolomeo.....		Trinidad

MESA COUNTY.

Cameo	Grand Junction Mining & Fuel Co.....		Denver
Book Cliff	Book Cliff R. R. Co.....		Grand Junction
Garfield	Garfield Coal Mining Co.....		Palisade
Palisade	Palisade Coal & Supply Co.....		Palisade
Grandview	Grandview Coal Co.....		Palisade
P. V.	M. Sixbey.....		Cameo
Fidel	Anthony Fidel.....		Fruita
Stokes	W. D. Stokes.....		Palisade
Anchor No. 1	Anchor Coal Co.....		Fruita
Anchor No. 2	Anchor Coal Co.....		Fruita
Thomas	C. F. Thomas.....		Grand Junction
Riverside	Riverside Coal Co.....		Palisade
Lynch	Valley Commercial Co.....		Fruita
Black Diamond	Black Diamond Coal Co.....		Grand Junction
Winger	A. C. Richmond.....		Palisade
Farmer	Farmers Mutual Coal Co.....		Grand Junction

JEFFERSON COUNTY.

Name of Superintendent	Mine Postoffice	Method of Ventilation	Volume of air current in cubic ft. per mine	Water gauge developed in inches	Railroad connections
Geo. C. McFarland	Leyden	Fan	40,000	1.1	D. & I. M.
Thos. Shepherd	Golden	Natural	.....	.....	D. & I. M.

LA PLATA COUNTY.

M. T. Lommasson	Perins	Fan	16,500	0.15	R. G. S.
W. I. Gifford	Durango	Fan	25,255	0.44	R. G. S.
F. C. Gilbert	Durango	Fan	18,700	3/16	D. & R. G. & R. G. S.
W. W. Bay	Durango	Natural	800	.....	None
F. C. Pierce	Durango	Natural	.....	.....	D. & R. G. & R. G. S.
Antonio Bandino	Durango	Natural	.....	.....	None

LAS ANIMAS COUNTY.

Joe Haske	Primero	3 Fans	25,000	0.7	C. & W.
			56,000	0.8	
			45,000	2.1	
James O'Neil	Valdez	Fan	55,000	1.4	C. & W.
John Deldesso	Sopris	2 Fans	44,000	3.4	C. & S. and C. & W.
			55,000	3.6	
Charles Chambers	Morley	2 Fans	53,000	1.9	A. T. & S. F.
			59,000	2.	
James Wilson	Berwind	Fan	42,000	2.2	C. & C.
James Wilson	Tabasco	Fan	61,000	1.7	C. & S.
John Shaw	Starkville	Fan	49,000	1.2	A. T. & S. F.
B. W. Snodgrass	Delagua	2 Fans	31,000	1.	A. T. & S. F., D. & R. G.
			35,000	2.	and C. & S.
James Cameron	Hastings	Fan	98,000	2.9	D. & R. G., C. & S., A. T.
					& S. F.
W. A. Adamson	Bowen	Fan	25,000	.....	C. & S.
Thomas Jolly	Gray Creek	2 Fans	29,250	0.5	C. & S.
D. D. Dodge	Cokedale	2 Fans	32,000	0.5	D. & R. G. and C. & S.
William Morgan	Sopris	Fan	22,000	1.6	C. & W.
J. H. Dalby	Forbes	Fan	50,000	0.7	C. & S.
J. H. Dalby	Forbes	Natural	50,000	0.7	C. & S.
H. F. Tennant	Tollerburg	Fan	54,000	2.8	C. & S.
H. F. Tennant	Ludlow	Fan	8,400	.....	C. & S.
H. F. Tennant	Rapson	Fan	4,700	.....	C. & S.
O. C. Cook	Brodhead	Fan	23,100	.....	C. & S.
Alex Shields	Trinidad	Fan	17,000	.....	C. & S.
Charles H. Peet	Aguilar	Fan	35,000	2.	C. & S.
F. McDermott	Ludlow	Fan	65,000	.....	C. & S. and D. & R. G.
H. A. Mallot	Rugby	2 Fans	6,202	.....	C. & S. and D. & R. G.
A. G. Jeffries	Trinidad	Fan	24,000	.....	A. T. & S. F. and C. & S.
Peter Mortenson	Rapson	Fan	25,000	.....	D. & R. G. and C. & S.
Harry Smith	Aguilar	Furnace	25,000	.....	C. & S.
Andrew Boldini	Wootton	Furnace	4,000	.....	A. T. & S. F.
Joe Smith	Trinidad	Furnace	9,000	.....	None
W. O. Sherman	Trinidad	Natural	.....	.....	None
B. Parievecchio	Trinidad	Natural	.....	.....	None
J. E. McLaughlin	Trinidad	Natural	.....	.....	None
W. G. Hines	Trinidad	Natural	.....	.....	None
R. Marsh	Trinidad	Fan	6,400	.....	None
G. W. Haigh	Trinidad	Natural	.....	.....	None
G. W. Haigh	Trinidad	Natural	.....	.....	None
J. E. McLaughlin	Trinidad	Natural	.....	.....	None
Mark Brown	Trinidad	Natural	.....	.....	None

MESA COUNTY.

Geo. W. McNeil	Cameo	Fan	27,000	.....	C. M. & D. & R. G.
D. B. Wright	Grand Junction	Natural	19,800	.....	Book Cliff
Geo. Smith	Palisade	Natural	10,000	.....	D. & R. G. & C. M.
Henry Denman	Palisade	Natural	16,000	.....	D. & R. G. & C. M.
T. E. Llewellyn	Palisade	Natural	8,000	.....	D. & R. G. & C. M.
M. Sixbey	Cameo	Natural	10,000	.....	D. & R. G. & C. M.
Anthony Fidel	Fruita	Natural	3,600	.....	None
W. D. Stokes	Palisade	Natural	6,000	.....	D. & R. G. & C. M.
C. W. Smith	Fruita	Natural	3,240	.....	None
J. B. Moore	Fruita	Natural	3,600	.....	None
C. F. Thomas	Grand Junction	Natural	.....	.....	None
E. R. Davis	Palisade	Natural	1,000	.....	None
David Bearce	Fruita	Natural	3,600	.....	None
A. M. Morrison	Grand Junction	Natural	7,500	.....	None
A. C. Richmond	Palisade	Natural	13,600	.....	D. & R. G. & C. M.
John French	Grand Junction	Natural	3,000	.....	None

MOFFAT COUNTY.

Name of Mine	Name of Company	Name of Manager or General Supt.	Postoffice
Collom	Joseph Collom .....	.....	Axial

MONTEZUMA COUNTY.

Spencer	W. H. French.....	Mancos
Mancos	Mancos Fuel Co.....	Mancos
Todd	G. S. Todd.....	Cortez
Mitchell Springs.....	J. F. Mowry.....	Cortez

MONTROSE COUNTY.

Missouri	Gus Winkler	Nucla
Knauss	Wm. J. Oberding.....	Nucla
Cloverdale	Marcus Peterson.....	Nucla
Specht	Geo. T. Specht.....	Nucla

PITKIN COUNTY.

*Spring Gulch.....	Colorado Fuel & Iron Co.....	E. H. Weitzel.....	Pueblo
Placita	Rapini Bros. ....	.....	Redstone

*Mine abandoned.

RIO BLANCO COUNTY

Black Diamond	Reynolds & Babcock.....	Meeker
Lion Canon	T. E. Linderman.....	Meeker
Fairfield	F. W. Fairfield.....	Meeker
Sulphur	W. R. Crawford.....	Meeker
Pollard	J. D. Moog.....	Meeker

ROUTT COUNTY.

*Moffat No. 1.....	Moffat Coal Co.....	R. M. Perry.....	Denver
†Moffat No. 2.....	Moffat Coal Co.....	R. M. Perry.....	Denver
Harris	Colorado & Utah Coal Co.....	.....	Denver
Pinnacle	Victor-American Fuel Co.....	W. J. Murray.....	Denver
Yampa Valley No. 1	Yampa Valley Coal Co.....	John Connell.....	Denver
Yampa Valley Nos. 2 and 3.....	Yampa Valley Coal Co.....	John Connell.....	Denver
Bear River	Bear River Coal Co.....	Geo. M. Sparling.....	Denver
McGregor	McNeil Coal Co.....	John McNeil, Jr.....	Denver
Hayden	Hayden Bros. Coal Corporation.....	.....	Denver
Wolf Creek	International Fuel Co.....	.....	Denver
‡Federal	Federal Coal Mining Co.....	.....	Denver
Curtis Routt	Curtis Coal Co.....	.....	Colorado Springs
Grayland	Indian Creek Coal Co.....	.....	Junction City
Jones	D. W. Jones.....	.....	Oak Creek
Routt Pinnacle	Routt Pinnacle Coal Co.....	G. H. Miller.....	Denver
¶Electric	Routt Electric Coal Co.....	G. H. Miller.....	Denver
Twenty Mile	Thomas Chargo.....	.....	Steamboat Spgs.
Diamond	Tony Todoroff.....	.....	Pool
Golden Oak	Northwestern Coal & Coke Co.....	.....	Steamboat Spgs.
Allen	Allen Coal Co.....	Albert Allen.....	Denver
Hitchen	Comer & Riley.....	.....	Pool

*Known as Oak Hills. †Known as Oak Hills. ¶Mine abandoned. ‡Mine abandoned.

WELD COUNTY.

Puritan	National Fuel Co.....	S. Tescher.....	Denver
*Parkdale	National Fuel Co.....	S. Tescher.....	Denver
Baum	Consolidated Coal & Coke Co.....	.....	Denver
Russell	W. E. Russell Coal Co.....	.....	Denver
Evans	Evans Fuel Co.....	.....	Denver
Frederick	Frederick Fuel Co.....	Geo. T. Peart.....	Denver
Firestone	Louisville Coal & Land Co.....	.....	Firestone
Shamrock	Shamrock Coal Co.....	.....	Erie
Grant	Carbon Fuel & Iron Co.....	Geo. T. Peart.....	Denver
Ideal	United Collieries Co.....	Andrew Walker.....	Erie
Eureka	United Collieries Co.....	Andrew Walker.....	Erie
White Ash	W. C. Bedlien.....	.....	La Salle
Peerless	Peerless Coal Co.....	.....	Frederick
State	State Coal Co.....	.....	Erie
New Washington.....	David Brimble.....	.....	St. Vrain
Farmer	Wagner & Austin.....	.....	La Salle

*Mine closed down.

MOFFAT COUNTY.

Name of Superintendent	Mine Postoffice	Method of Ventilation	Volume of air current in cubic ft. per mine	Water gauge developed in inches	Railroad connections
Joseph Collom	Axial	Natural	.....	.....	None

MONTEZUMA COUNTY.

W. H. French	Mancos	Natural	2,800	.....	None
J. R. Freeman	Mancos	Natural	.....	.....	R. G. S.
G. S. Todd	Cortez	Natural	.....	.....	None
J. F. Mowry	Cortez	Natural	.....	.....	None

MONTROSE COUNTY.

Gus Winkler	Nucla	Natural	6,000	.....	None
Wm. J. Oberling	Nucla	Natural	.....	.....	None
Marcus Peterson	Nucla	Natural	.....	.....	None
Geo. T. Specht	Nucla	Natural	.....	.....	None

PITKIN COUNTY.

H. J. Elliott	Gulch	Fan	12,630	.....	C. M.
Joe Rapini	Redstone	Natural	17,000	.....	D. & R. G.

RIO BLANCO COUNTY

E. C. Babcock	Meeker	Natural	7,500	.....	None
T. E. Linderman	Meeker	Natural	.....	.....	None
F. W. Fairfield	Meeker	Natural	.....	.....	None
W. R. Crawford	Meeker	Natural	.....	.....	None
J. D. Moog	Meeker	Natural	.....	.....	None

ROUTT COUNTY.

John Alexander	Oak Creek	Fan	50,000	$\frac{1}{2}$	D. & S. L.
John Alexander	Oak Creek	Fan	60,000	$\frac{1}{2}$	D. & S. L.
B. A. Harris	Mt. Harris	Fan	50,000	1.	D. & S. L.
Wm. Burt	Oak Creek	Fan	45,000	0.25	D. & S. L.
M. Padfield	Pallas	Fan	10,800	.....	D. & S. L.
M. Padfield	Pallas	Fan	10,800	.....	D. & S. L.
W. S. Clark	Bear River	Fan	21,600	.....	D. & S. L.
D. P. McNeil	McGregor	Fan	30,800	.....	D. & S. L.
C. P. O'Neil	Oak Creek	Fan	14,400	.....	D. & S. L.
S. D. Domenico	Mt. Harris	Fan	2,400	.....	D. & S. L.
Joseph Mathews	Oak Creek	Fan	.....	.....	D. & S. L.
Ralph Wooden	Pool	Fan	14,190	.....	D. & S. L.
John McDowell	Junction City	Natural	.....	.....	D. & S. L.
D. W. Jones	Oak Creek	Furnace	.....	.....	D. & S. L.
C. C. White	Coalview	Natural	.....	.....	D. & S. L.
C. C. White	Oak Creek	Natural	.....	.....	D. & S. L.
Thomas Chargo	Steamboat Spgs.	Natural	.....	.....	D. & S. L.
Tony Todoroff	Pool	Natural	.....	.....	D. & S. L.
H. Laverty	Steamboat Spgs.	Natural	.....	.....	D. & S. L.
.....	Coalview	Natural	.....	.....	D. & S. L.
.....	Pool	Natural	.....	.....	None

WELD COUNTY.

Henry Thomas	Erie	Fan	70,000	0.9	U. P.
Jas. Etchell	Lafayette	Fan	.....	.....	C. B. & Q.
C. W. Smith	Dacona	Fan	50,000	.....	U. P.
F. E. Smith	Firestone	Fan	8,820	.....	U. P.
John E. Daily	Frederick	Fan	14,700	.....	U. P.
J. C. Williams	Frederick	Fan	45,000	0.9	U. P.
John Douglas	Firestone	Fan	2,800	.....	U. P.
Thos Morgan	Erie	Fan	16,500	.....	U. P.
J. C. Williams	Frederick	Fan	26,500	0.5	U. P.
Edward Walker	Erie	Fan	20,300	.....	None
Edward Walker	Erie	Fan	8,400	.....	None
W. C. Bedlien	La Salle	Furnace	8,520	.....	None
Emil Debouter	Frederick	Steam Jet	.....	.....	None
Dave Lewis	Erie	Natural	3,800	.....	None
David Brimble	St. Vrain	Fan	.....	.....	U. P.
John Wagner	La Salle	Natural	.....	.....	None

INDEX

	Page
Personnel of the State Coal Mine Inspection Department.....	2
Letter of Transmittal.....	3
Financial Statement—Receipts and Disbursements.....	4
Summary of the Coal Production of Colorado for 1916.....	5
Introduction	7
Sample Tables Showing Forms of Standardized Coal Statistics Adopted by the United States Bureau of Mines.....	11
List of Mining Prices Paid at the Different Coal Mines in Colorado, Janu- ary 1st, 1917.....	14
Table 1—Showing by Companies: Total Number of Tons Produced and Number of Men Employed; Fatal and Non-Fatal Accidents; Number of Men Employed and Number of Tons Produced per Fatal and Non- Fatal Accident; Number Killed and Injured per 1,000 Employed.....	23
Table 2—Number of Fatal Accidents, Underground and Surface.....	23
Table 3—Causes and Percentages of Fatal Accidents.....	23
Table 4—Number Killed per 1,000 employed in 1913, 1914, 1915, 1916.....	23
Table 5—Number of Non-Fatal Accidents in 1916.....	23
Table 6—Production of Boulder County	24-25
Table 7—Production of Delta County	24-25
Table 8—Production of El Paso County.....	24-25
Table 9—Production of Fremont County	26-27
Table 10—Production of Garfield County	26-27
Table 11—Production of Gunnison County	26-27
Table 12—Production of Huerfano County	26-27-28-29
Table 13—Production of Jackson County	28-29
Table 14—Production of Jefferson County	28-29
Table 15—Production of La Plata County.....	28-29
Table 16—Production of Las Animas County.....	28-29-30-31
Table 17—Production of Mesa County	30-31
Table 18—Production of Moffat County	30-31
Table 19—Production of Montezuma County	32-33
Table 20—Production of Montrose County	32-33
Table 21—Production of Pitkin County	32-33
Table 22—Production of Rio Blanco County.....	32-33
Table 23—Production of Routt County	32-33
Table 24—Production of Weld County	34-35
Table 25—Production of Counties by Months.....	36
Table 26—Showing Increase and Decrease by Counties, 1915-1916.....	37
Table 27—Coke Production by Companies and Counties.....	37
Reports on Fatal Accidents Which Occurred During the Year 1916.....	38
List of Shotfirers Who Received Certificates for Gaseous Mines in 1916....	50
List of Shotfirers Who Received Certificates for Non-Gaseous Mines in 1916	51
Directory of Coal Mines.....	54-61

