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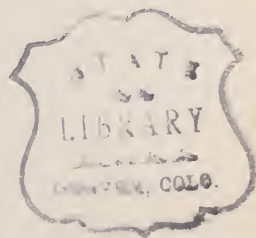
FIFTEENTH  
ANNUAL REPORT  
OF THE  
STATE INSPECTOR  
OF  
COAL MINES  
1927



BRADFORD-ROBINSON PRINTING CO.  
DENVER, COLORADO  
1928



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STATE INSPECTOR  
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COAL MINES  
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## PERSONNEL OF THE COAL MINE INSPECTION DEPARTMENT

---

JAMES DALRYMPLE, Chief Inspector.....	Denver, Colo.
W. M. LAURIE, Deputy Inspector.....	Trinidad, Colo.
FINLAY McCALLUM, Deputy Inspector.....	Aguilar, Colo.
GEORGE C. DALRYMPLE, Deputy Inspector.....	Walsenburg, Colo.
JAMES W. GRAHAM, Deputy Inspector.....	Lafayette, Colo.
HUGO H. MACHIN, Deputy Inspector.....	Denver, Colo.
THOMAS ALLEN, Deputy Inspector.....	Grand Junction, Colo.
ADA R. TIBBITS, Chief Clerk.....	Denver, Colo.
MAX M. GREENWALD, Assistant Clerk.....	Denver, Colo.

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## FIELD FORCE AND DISTRICTS

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W. M. LAURIE, 512 Ash St., Trinidad, Colo.....	District No. 1
All mines in Las Animas County, except those listed in District No. 2.	
FINLAY McCALLUM, Box 334, Aguilar, Colo.....	District No. 2
Includes the following mines in Huerfano County: Bunker Hill, Ideal, Leader No. 4, Leader No. 5, Lester, Cameron, Pryor, Ravenwood, Torrid, and the following mines in Las Animas County: Berwind, Brodhead, Cass, Delagua, Empire, Jewel, Creston, Ludlow, Mutual, Raps-son, Southwestern, Tabasco, Wellington, Royal, Faweett, and Kenneth.	
GEORGE C. DALRYMPLE, Box 645, Walsenburg, Colo.....	District No. 3
Includes the following mines in Huerfano County: Reli-ance, Oakdale, Gordon, Sunnyside, Black Hills, Vesta, Maitland, Pieton, Walsen-Robinson, Fern, Alamo, Calumet No. 1, Calumet No. 2, Toltec, Caddell, Kebler No. 2, Pacific and Barbour, and all mines in Fremont County.	
JAMES W. GRAHAM, Lafayette, Colo.....	District No. 4
Includes all mines in Boulder, Routt and Moffat counties.	
HUGO H. MACHIN, 3328 W. 32nd Ave., Denver, Colo.....	District No. 5
Includes all mines in Weld, El Paso, Jefferson, Jackson and Elbert counties.	
THOMAS ALLEN, 344 Teller Ave., Grand Junction, Colo. ....	District No. 6
Includes all mines in Archuleta, Delta, Garfield, Gunni-son, La Plata, Mesa, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco and San Miguel counties.	

## LETTER OF TRANSMITTAL

---

Denver, Colorado, April 1, 1928.

To His Excellency,

WILLIAM H. ADAMS,

Governor of Colorado.

Sir: Herewith I have the honor to submit to you, in accordance with Section 27 of an Act entitled "Coal Mining Laws," the Fifteenth Annual Report of this Department.

The period covered began January 1 and ended December 31, 1927.

Respectfully,

JAMES DALRYMPLE,

State Inspector of Coal Mines.



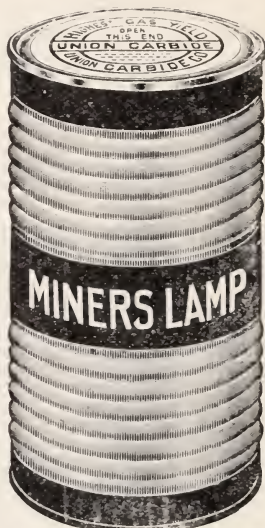
# UNION CARBIDE

## For Miners' Lamps

World's Best Quality—Highest Gas Yield

The product of the originators and developers of  
the Carbide and Acetylene industry

Uniform, sustained quality assured by more than a quarter of a century of experience in selecting raw materials, and in perfecting laboratory practice and works processes.



The constant, dependable quality compels recognition of the economies which go with it. Union Carbide will keep for years in the original package without deterioration.

### UNION CARBIDE

PACKED IN  
BLUE AND GRAY DRUMS  
CAPACITY 100 LBS.

Our remarkable nation-wide service and distributing system makes Union Carbide quickly available everywhere

Miners Lamp Union Carbide is specially prepared for miners' use.

Because of its high gas yield, lamps require less Carbide per charge.

Uniform in size, and carefully screened; this eliminates waste and produces uniform generation of gas.

Due to the great purity of Union Carbide and its gas, the flame is of maximum illuminating power, and constant in size.

Our excellent approved package—the Blue and Gray drum—is in keeping with our determination to faithfully protect the interests of the operator and the miner in the matter of Carbide quality, from the time the Carbide is packed at the works until it is consumed by the miner.

We have Union Carbide warehouses in 220 cities.



# UNION CARBIDE

## Maximum Quality and Exceptional Service

have been developed to maintain the many money-saving and efficiency-producing advantages realized by Operators and Miners through the use of Carbide Lamps.

### CARBIDE LAMP ADVANTAGES

Low cost of lamp.

Remarkably low cost of upkeep.

Long life of lamp.

Light in weight—does not handicap miner.

Lamp very compact—no burdensome entanglements. Because of the widely diffused light, miner can easily observe conditions relating to the personal safety of himself and fellow miners. A wonderful aid to mine foremen in getting efficient and economical results. The Carbide Lamp is easily understood and easily cared for by every miner.

Miner can always assume the posture—standing, bending or kneeling—which will enable him to work with greatest com-

fort, and light is always directed just where he needs it.

Greater volume of light than from any other type of mine lamp.

Minimizes number of accidents resulting from poor lights.

Working places can be more easily and thoroughly inspected, and dangerous roof, wall and floor conditions detected with greater certainty. No eye strain when Carbide Lamps are used. Eyestrain means loss of general efficiency.

Carbide Lamp can always be used as convenient hand lamp, or can be hung up.

Size of flame and volume of light easily regulated.

Carbide Lamps, used in and about mines, have accomplished more for the comfort and convenience of miners than any other development, invention or device of the twentieth century. Union Carbide Gas light is more nearly like the natural light of the sun than any other light known to man. The miner can accomplish more and better work, with greater ease, comfort and safety, than would otherwise be possible.

Our Blue and Gray Drum is, throughout the world, recognized as a symbol denoting:

Best Grade Carbide  
Highest Gas Value

Uniform Dependable Quality  
Purest Gas

## Union Carbide Sales Company

### Principal Offices:

Peoples Gas Bldg.  
Chicago, Ill.

Carbide and Carbon Bldg.  
New York, N. Y.

Adam Grant Bldg.  
San Francisco, Calif.

# TIPPLES

and Coal Preparation Equipment



## One of Our 1927 Tipples

Complete preparation plant erected by us for The Independent Coal & Coke Co., Kenilworth, Utah. Equipped with Track Scales, Power Rotary Dump, Shaker Screens, Vibrating Screens, Refuse and Bony Coal Conveyors, Crusher and three Picking Table-Loading Boom units. Loading five sizes of coal and various mixtures.

COMPLETE TIPPLES  
SHAKER SCREENS  
ROTARY DUMPS  
PICKING TABLES  
LOADING BOOMS

CONVEYORS  
ELECTRIC HOISTS  
VENTILATING FANS  
COAL CRUSHERS  
MINE CARS

Consultation, Plans and Estimates Without Obligation

**THE PITTSBURG BOILER & MACHINE CO.**  
**PITTSBURG, KANSAS**

Western Sales Office, 321 Railway Exchange, Kansas City, Missouri

## STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1, TO DECEMBER 31, 1927

### RECEIPTS

Tax collected on coal mined.....	\$32,670.56
From sales of copies of the coal mining laws.....	402.45
Sales of old instruments and refunds.....	41.51
Balance brought forward from 1926.....	15,003.08
	<hr/>
Total .....	\$48,117.60

### DISBURSEMENTS

Salaries of entire Department.....	\$23,853.00
Expenses, Chief and Deputy Inspectors.....	5,738.07
Fatal accident investigators, per diem and expenses.....	166.88
Mileage books (R. R. transportation).....	420.00
Printing .....	1,178.65
Automobiles, supplies and repairs.....	2,665.64
Postage .....	500.00
Stationery supplies .....	264.87
Telephone service .....	90.00
Telegraph service .....	27.30
Instruments .....	410.02
Express .....	1.76
Miscellaneous .....	697.66
	<hr/>
Total.....	\$36,013.85
	<hr/>
Surplus December 31, 1927.....	\$12,103.75

### FIELD EQUIPMENT

One Hupmobile Sedan	One Carbon Monoxide Gas Detector
One Star Coach	One Geophone
One Star Coupe	Five Speedometers
Four Star Coupsters	Six Koehler Safety Lamps
Four Psychrometers	Three Clineometers
Seven Anemometers	

# SUMMARY OF THE COAL PRODUCTION OF COLORADO, 1927

†Number of mines operated.....	271
Number of new and old mines opened—new mines, 6; old mines re-opened, 19; total.....	25
Number of mines closed, 12; abandoned, 1; total.....	13
Tons of sub-bituminous coal produced.....	2,465,989
Tons of semi-bituminous coal produced.....	644,321
Tons of bituminous coal produced.....	6,591,428
Tons of semi-anthracite coal produced.....	829
Tons of anthracite coal produced.....	79,013
Total number of tons of coal produced.....	9,781,580
Decrease, 1927.....	835,180
Tons of run of mine coal produced.....	2,808,131
Tons of lump coal produced.....	2,537,026
Tons of nut coal produced.....	1,012,448
Tons of pea coal produced.....	97,880
Tons of slack coal produced.....	3,326,095
Percentage of slack coal produced.....	40.4
Tons of coal mined by hand.....	4,815,672
Tons of coal mined by machine.....	4,965,908
Kind and number of machines used—compressed air, 119; electric, 347; total.....	466
Tons of coal mined for shipment.....	8,623,202
Tons of coal shipped out of the state.....	2,000,428
Tons of coal sold to local trade and used by employes.....	698,332
Tons of coal used at the mines for steam and heat.....	209,502
Tons of coal made into coke.....	1,332,038
Tons of coke made.....	790,573
Number of days coke ovens were operated.....	334
Number of coke ovens used.....	492 ½
Number of men employed at coke ovens.....	223
Number of miners employed—pick, 3,693; machine, 3,217; total.....	6,910
Number of men employed in and about mines (average).....	11,453
Number of employes foreign born.....	6,425
Number of employes speaking English.....	10,597
Average number of days worked (man-days).....	194.3
Daily production per miner.....	7.29
Annual production per miner.....	1,415.57
Number and type of safety lamps used—flame, 941; electric, 9,718; total.....	10,659
Number of carbide lamps used.....	4,162
*Number of pounds of carbide used (approximately).....	147,528
Number of pounds of black powder used.....	1,965,281
Number of pounds of permissible powder used.....	869,642
Number of pounds of dynamite powder used.....	79,723
Number of men killed—underground, 53; surface, 1; total.....	54
Number of men injured.....	1,916
Number of men killed per thousand employed.....	4.7
Number of men injured per thousand employed.....	167.3
Number of tons of coal produced for each life lost.....	181,140
Number of tons of coal produced for each non-fatal accident.....	5,105
Number of men killed per million tons of coal produced.....	5.52
Number of men injured per million tons of coal produced.....	195.88
Number of men employed per fatal accident.....	212.1
Number of men employed per non-fatal accident.....	6.0
Number of widows left.....	39
Number of children left fatherless.....	69
Cost of development work in mines during 1927: 121 mines reporting.....	\$ 820,390.00
Number of days lost account of car shortage: 23 mines reporting.....	268
Number of tons of coal lost through labor shortage: 57 mines reporting.....	733.880

†NOTE: The yearly reports of 5 of the above 271 were filed too late to embody their combined production of 1,632 tons in the tables of this Annual Report. However, they are included in the Mine Directory or Table No. 1.

\*NOTE: A number of mines did not report the carbide used as same was furnished by employes.



FIFTEENTH ANNUAL REPORT  
OF THE  
STATE INSPECTOR OF COAL MINES  
1927

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INTRODUCTION

The coal industry of Colorado in 1927 shows that 221 companies and individual operators worked 271 mines and produced 9,781,580 tons of coal, a decrease of 835,180 tons as compared with 1926. Number of men employed in and about mines averaged 11,453, being 315 men less than the average for the preceding year. Number of man-days worked, 194.3, representing a loss of 8.6 days over the number of man-days worked in 1926.

There were fifty-four men killed in and around the mines, a gain in fatalities of two men, or .2% per thousand employed. The number of men injured was 1,916, an increase of 53 more men injured than in the preceding year. Seven men were killed in the Delagua dust explosion. The other fatalities occurred at different mines. Thirty-nine wives were widowed and sixty-nine children left fatherless.

Of the 271 mines only 116 have railroad connections, the other mines depend on individual consumers hauling their supply of coal from the mines and few have truck service. In looking over the list of mines, it will be noted that many names of mines reported in preceding annual reports are missing and new ones appear, indicating the usual opening and closing of small properties operating for brief periods only.

Four new mines are in process of being opened up. Three of them being small operations, at least to date. The details furnished this department concerning them are very meager. The Hartman Exploration and Development Co. is being developed for a large tonnage.

This property is located in Boulder county, near Lafayette, and began March 1st, 1927, sinking a shaft 388 feet deep and spent \$115,000.00 in equipping it. A tibble has been erected and the mine is now producing. The coal seam is six feet one inch thick and sub-bituminous in character.

The Blackburn Fuel Co. is opening a small mine near Somerset, Delta county. A slope 891 feet in length has been driven at a cost of \$2,376.00 and a fan installed. The coal bed is bituminous in character and four feet six inches thick. Mr. C. H. Muhlstein is general manager of the company.

Angelo Bellodi is prospecting with a view of developing a mine near Glenwood Springs, Garfield county. A drift opening has been made on a seam having a pitch of 47 degrees and also an air

course connected with the surface. So far \$2,500.00 have been spent. The coal is bituminous and the coal bed is six feet thick.

Andrew Walker has opened a mine at Milner, Routt county. A slope 150 feet long has been driven at an expenditure of \$4,500.00. A tippie has been erected and hoist and boiler houses have been built. Also a boarding house. The operation is still in the prospecting stage and the thickness of the coal bed has not yet been determined. The character of the coal is bituminous.

The following is a brief description of an incline skip operation, the only one in operation in Colorado, which was furnished this department by the operators, the Pacific Coal Mining Co., at Walsenburg, Colo.:

As per your request, I will attempt to outline in a general way the work we have done at the Pacific mine in order to develop the coal seams for incline skip operation.

It has been necessary to drive two inclines, one for intake air and one for the main haulage and outlet, the depth of the latter is 1,786 feet, on an angle of 40 degrees, while the intake incline was driven 1,550 feet, on an angle of 45 degrees, the main haulage incline has an area of 65 square feet, the three-rail system of trackage being used with a by-pass in the slope midway between the dump on the tippie and the automatic loading chutes on the bottom, to enable the skips to pass at this point, the slope having an area of 84 square feet, for a distance of 100 feet; the latter distance allows us to pull the skips through without decreasing the speed, namely 1,000 feet per minute. Forty-five-pound steel with angle bars is used on this track. It is also anchored at intervals with turnbuckles, no switches being necessary from top to bottom.

The skips are built of 5/16 and 3/8 plate, with a capacity of 192 cubic feet and are hauled by a double drum hoist of 200 horsepower. One-inch flattened strand cable is used with Hyatt roller-bearing slope rollers on the incline.

A bin on the bottom, to which the automatic skip loading chutes are attached, has a capacity of approximately 100 tons. This bin is supplied with coal from automatic dump-bottom cars. Approximately five seconds is required to load a skip from this bin, as the coal runs by gravity to the skiploaders.

Coal from the Walsen seam is being developed at present, also an incline to the Lennox and Cameron seams below is in progress, the coal from the three seams will be dumped in the one bin, facilitating one skip landing.

Outside drainage has been provided, so that the skips can handle their capacity of water as well as coal if necessary. Water sumps are being developed at the present time to the raise of the skip landings.

Approximately three miles of railroad and yards have been completed from the Denver & Rio Grande, Loma branch, with a storage capacity of fifty cars, below the tippie.

JOHN C. CADDELL.

The improvements at mines were not as numerous as usual, showing that the coal industry was not at normal point. Probably the strike was foreseen and the expenditure of money was held down as much as possible. However, mine equipments were needed and bought. The following is a brief summary of improvements:

Five Sullivan machines, three shearing machines, one hundred sixty-one pit cars, four hundred ninety-five electric lamps, five pumps, three boxcar loaders, nine air compressors and rock drills, nineteen tipples, track and truck scales; nine fans, nine shaker screens, seventeen hoists and several electric motors were purchased for different mines.

A treating plant for water and a coal-preparation plant were installed, also thirty new dwelling houses; two new bath houses and many other buildings for various purposes were built. Also, a number of six and eight stall garages. A fifty-ton nut bin equipped with conveyor and motor was placed at one mine. A revolving dump at another. An aerial tram was erected and a locomotive generating system installed, also a rock disposal system.

There is no doubt that the decrease of 1927 can be attributed to the coal strike which was called October 18th, 1927. In September, just preceding the coal strike, the production showed an increase of 380,466 tons and by December 31st, 1927, the decrease 835,180 tons was shown for the state. Really a loss of 1,215,646 tons as compared with 1926. A great loss to the operators and business in general.

In compiling the data for the different tables, especially tables Nos. 3 and 4, the information furnished for them is so very incomplete that the department is hardly warranted in the labor of compiling and expense of printing these tables. It is urgently requested that in the future the operators give more attention to furnishing the data required.

The year 1927 is the first year that any effort has been made by the State Inspection Department to keep record of rock dusting in our coal mines. Rock dusting cards were furnished all the coal companies to be filled out by them and filed in the Chief Inspector's office. In going over said cards, thirty-three mines are reported as using rock dust. Eleven are reported as thoroughly rock dusted, through general application. Seventeen partially rock dusted, including rock dust barriers. Three partially rock dusted with no rock dust barriers and two using rock dust barriers only.

In the eleven mines given as thoroughly rock dusted, no mention is made of rock dust barriers. It has been found that the information asked for through the cards furnished coal companies is insufficient, therefore an intelligent report as to what has been done towards rock dusting at this time cannot be given.

New rock dusting cards asking for more specific and detailed



information will be sent to the coal companies in the very near future, so that in the Annual Report for 1928 a more complete report can be made as to the progress being made by the State as a whole, as well as by individual companies, in rock dusting.

In order that the Coal Mine Inspection Department may make a report of this kind, it must have the full co-operation of the coal companies by answering in full all information asked for by the rock dusting cards furnished them, and by taking samples of dust and having analyses of them made at such intervals as will assure that the inert content never gets below sixty per cent. Records of the above samples and analyses to be kept in the mine office, giving the dates of samples taken, analyses made and signed by person, or persons, having done the work. Such records shall be open to the State Coal Mine Inspectors.

In 1927 a few analyses of rock dust were received asking for my approval, and not knowing how the samples were taken, nor how the analyses were made, I could not approve them.

It is my opinion that no more protection can be expected from a partially rock-dusted coal mine than from a mine partially wetted. Consequently no more credit can be given to the one than the other and I hope that those now using rock dust and those intending to use it will do so in a systematic and thorough manner.

The Legislature in 1927 amended Section 34 of the Coal Mining Laws by exempting all mines employing less than six men underground from employing certified mine foremen. It further amended the law by amending Section 110 as follows: "Provided, that in mines where less than six men are employed underground, natural or artificial ventilation may be used." The above amendment does not exempt said mines from having to employ a certified fire boss to examine such mines, and while the State Inspection Department cannot shut down said mines because they have not certified mine foremen nor ventilating fans, it can shut them down if mines become dangerous through lack of supervision or because of inadequate ventilation.

At the 1927 meeting of the Rocky Mountain Coal Mining Institute the following recommendation of the Safety Committee was read and adopted by said Institute:

The Rocky Mountain Coal Mining Institute at its 1927 meeting approved the report of its Safety Committee, which had been in the making for three or four years, one of the most important recommendations in this report, is as follows:

"All machine runners shall be required to pass an examination showing his ability to assemble and use the Approved Flame Safety Lamp, so that all places may be examined by him for gas immediately before being cut and during the cutting if deemed necessary. The examinations will be given by the Deputy State Inspectors of Coal

Mines while they are inspecting the mines in their districts. A record of all applicants will be kept in the Chief Inspector's office."

Believing that this is a real safety measure, I hope to receive your continued co-operation and assistance until every machine runner holds a certificate of competency.

Since bringing the resolution to the attention of the operators and Deputy Inspectors, 358 took the examination, of which 274 passed and received a certificate of competency and 84 failed.

The inspection staff has finally been made complete in accordance with Section 3 of the Coal Mining Laws, and the State has been divided into six inspection districts. Mr. Thomas Allen has been appointed to act in the sixth district.

The following is a summary of the work done by the field force of this department during the year:

Total inspections made in 1927.....	823
Total number of mines inspected.....	271
Number of fatal accidents investigated by inspectors and special investigators.....	54
Number of inquests attended by inspectors and special investigators .....	39
Scale inspections .....	4
Complaints investigated and adjusted.....	35
Prosecutions .....	5
Miles traveled by auto.....	70,772
Railroad Scrip Used.....	\$420.00

In conclusion I wish to extend my thanks to the field staff for the loyal support rendered the department, also to the operators for their co-operation in carrying out the recommendations requested by the inspectors.

Respectfully submitted,

(Signed) JAMES DALRYMPLE,  
State Inspector of Coal Mines.



High Pressure Type



Standard Type



Small Type

## The Value of Rock Dusting Is Proven!

- ☐ The Mine Safety Appliances Company is prepared to offer every type of equipment in use for the proper practice of Rock Dusting. This includes the M-S-A Rock Dust Testing Kit, M-S-A Rock Dust Sampler, Griffin Mill for rock dust preparation and Five Different Types of Rock Dust Distributors.
- ☐ M-S-A pioneered in the design of Rock Dust Distributors and has placed nearly 150 machines in service. These machines are designed to operate under all mining conditions.
- ☐ Our experience is at your service. May we send you detailed information?

*A request from you will  
bring a file of the latest  
literature on this subject.*

*Mine Safety*



*Appliances Co.*

*Braddock Ave & Thomas Blvd. Pittsburgh, Pa.*

"EVERYTHING FOR MINE AND INDUSTRIAL SAFETY"







1. *Spiders of the 30° latitude zone.*





Date		Time		Place		Remarks	
1911	10/1	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/2	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/3	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/4	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/5	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/6	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/7	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/8	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/9	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/10	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/11	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/12	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/13	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/14	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/15	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/16	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/17	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/18	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/19	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/20	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/21	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/22	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/23	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/24	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/25	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/26	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/27	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/28	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/29	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/30	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul
1911	10/31	10:00	10:30	St. Paul	St. Paul	St. Paul	St. Paul

1911-1912. St. Paul, Minnesota. From 1911 to 1912. (Continued on p. 12)

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TABLE No. 4  
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Alamo Coal Co.	Alamo.	.....	5	47,349	59,361	106,710	.....	.....	39,053
Altitude Coal Co.	Altitude.	.....	1	3,571	7,143	10,714	180	.....	.....
American Smelting & Ref. Co.	San Juan.	.....	.....	39,453	.....	39,453	.....	.....	5,409
American Smelting & Ref. Co.	Boncarbo.	.....	8	76,298	179,411	255,709	.....	635	31,850
Amos Coal Co.	Amos.	.....	.....	769	.....	769	675	.....	.....
Anchor Coal Co.	Anchor No. 2	.....	.....	798	.....	798	.....	.....	.....
Anchor Fuel Co.	Baldy.	.....	.....	1,473	.....	1,473	.....	.....	1,000
Arlen, G. H.	Arlen.	.....	.....	60	.....	60	.....	.....	.....
Associated Fuel Co.	Sharon.	.....	.....	.....	1,544	1,544	.....	250	.....
Aztec Coal Mining Co.	Toltec.	.....	6	4,543	40,902	45,445	.....	700	5,100
Babson Coal Co.	Babson.	.....	.....	2,502	.....	2,502	.....	.....	.....
Baldwin Fuel Co.	Baldwin Star.	.....	.....	5,344	.....	5,344	.....	.....	.....
Barbour Coal Co.	Barbour.	.....	.....	.....	.....	.....	.....	.....	.....
Barker, Wright.	Wright.	.....	3	1,296	47,206	47,206	.....	450	15,149
Baudino & Co.	Morning Star.	.....	.....	4,429	.....	4,429	.....	.....	.....
Bear Canon Coal Co.	Bear Canon No. 6	.....	6	19,477	47,637	67,114	.....	400	7,700
Beaver Creek Coal Co.	Beaver Creek.	.....	.....	556	.....	556	.....	.....	.....
Bellodi, Angelo.	Paradise.	.....	.....	232	.....	232	.....	.....	.....
Bennett Coal Co.	Bennett.	.....	.....	131	.....	131	.....	.....	.....
Black Canon Coal & Fuel Co.	Caddell.	.....	2	.....	2,204	2,204	.....	15	250
Black Diamond Coal Co.	Black Diamond.	.....	.....	7,874	.....	7,874	.....	.....	.....
Black Diamond Fuel Co.	Black Diamond.	.....	3	.....	27,961	27,961	.....	500	.....

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible
Bluff Springs Coal Co.	Bluff Springs No. 2	...	...	18,477	...	18,477	5,800	750	...
Boaglio Coal Co.	Pickford	...	...	1,132	...	1,132	300	...	...
Bonner Coal Co.	Bonner	...	...	398	...	398	125	...	...
Boulder Valley Coal Co.	Centennial	10	1	1,970	60,000	61,970	19,625	60	1,531
Boulder Valley Coal Co.	Boulder Valley	6	8	...	188,243	188,243	57,575	...	2,000
Brant Coal Co.	Brant	...	...	272	...	272	650	...	...
Burntall Fuel Co.	Burntall	...	...	2,191	...	2,191	1,000	...	...
Butcher Knife Coal Co.	Butcher Knife	*	...	1,381	...	1,381	...	...	...
Caliente Coal Co.	Ravenwood	...	7	17,843	37,552	55,395	...	...	12,848
Caliente Coal Co.	Maitland	...	2	939	24,627	25,566	...	50	2,300
Calumet Fuel Co.	Somerset	...	5	182,184	68,282	250,466	...	...	31,300
Calumet Fuel Co.	Calumet No. 1	...	10	33,410	160,326	193,736	...	...	36,200
Calumet Fuel Co.	Calumet No. 2	...	6	2,137	86,639	88,836	...	...	10,700
Campbell, W. R.	Mascot	...	...	128	...	128	128	...	...
Canon Coal Mining Co.	Brewster	...	1	...	5,861	5,861	...	100	500
Canon District Coal Co.	Canon District No. 2	...	1	...	2,804	2,804	500	...	...
Canon Quality Coal Co.	South Magnet	...	1	...	1,572	1,572	925	100	...
Canon-Rellance Coal Co.	Canon	...	3	...	62,170	62,170	...	...	9,500
Canon-United Coal Co.	Jack O'Lantern	...	...	2,694	...	2,694	*	*	*
Carbon Coal Co.	Carbon	...	1	...	7,492	7,492	2,875	...	200
Carbon Creek Coal Co.	Carbon Creek	...	...	778	...	778	500	50	...
Cedar Hill Coal & Coke Co.	Greenville	...	...	8,540	...	8,540	...	...	1,500

Champion Coal Mining Co.	Peerless	6,057	22,465	6,057	2,000	700
Chargo, Tom	Chargo	190	1,867	190	325	5,833
Clayton Coal Co.	Clayton	6,200	186,099	192,299	60,500	4,667
Colorado Fuel & Iron Co.	Rockvale	29,826	36,949	66,775	6,185	175
Colorado Fuel & Iron Co.	Coal Creek	64,185		64,185	1,110	10,255
Colorado Fuel & Iron Co.	Nonac	5,981	22,465	28,446	7,075	28,806
Colorado Fuel & Iron Co.	Fremont	1,867		1,867		20,729
Colorado Fuel & Iron Co.	Crested Butte	103,708		103,708		15,424
Colorado Fuel & Iron Co.	Elk Mountain	829		829		18,915
Colorado Fuel & Iron Co.	Robinson No. 1	30,190	150,199	180,389		17,513
Colorado Fuel & Iron Co.	Robinson No. 2	79,091	77,193	156,284		22,810
Colorado Fuel & Iron Co.	Lester	177,220	36,838	214,058		11,264
Colorado Fuel & Iron Co.	Cameron	31,245	134,851	166,096		104,513
Colorado Fuel & Iron Co.	Pietou	34,237	102,784	137,021		2,810
Colorado Fuel & Iron Co.	Ideal	93,172		93,172		16,149
Colorado Fuel & Iron Co.	Kebler No. 2	7,578	50,815	58,393		17,392
Colorado Fuel & Iron Co.	Frederick	444,405	50,026	494,431		27,371
Colorado Fuel & Iron Co.	Morley	445,346	1,419	446,765		46,767
Colorado Fuel & Iron Co.	Berwind	163,780	59,654	223,434		530
Colorado Fuel & Iron Co.	Toller	142,402	48,319	190,721	663	6,462
Colorado Fuel & Iron Co.	Tabasco	90,702	97,086	187,788		
Colorado Fuel & Iron Co.	Sopris	163,963		163,963		
Colorado Fuel & Iron Co.	Primero	532		532		
Colorado Springs Co.	City Coal Mines	19,602	31,516	51,118	18,500	
Colorado & Utah Coal Co.	Harris	62,025	144,446	206,471	38,412	
Consolidated Coal & Coke Co.	Baum		108,438	108,438	41,725	
Converse, Frank	Converse	492		492		
Corley, W. D.	Corley	4,295	34,649	38,944	10,000	
Cortez Light, Power & Mill'g Co	Cortez	2,609		2,609	2,750	
Cottonwood Coal Co.	Cottonwood	804		804	1,875	
Crescent Coal Co.	Crescent	213		213		
Crested Butte Anthracite Mining Co.	South Anthracite	14,502	19,243	33,745	1,750	
Crested Butte Coal Co.	Bulkeley No. 2	41,408		41,408	24,175	
Crown Fuel Co.	Crown	4,764	12,822	17,586	5,450	
Crumpley Coal Co.	Crumpley	129		129	150	
Deboy, Frank	Ohkraut	205		205	300	

TABLE No. 4—Continued  
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
De Graffenried, J. R.	De Graffenried	.....	3	100	46,196	100	50	2,025	7,985
Dick Coal Co.	Dix	.....	.....	24,336	17,843	70,532	6,875	.....	.....
Domenico & Sons, Inc.	Paramount	6	.....	.....	2,100	17,843	6,000	50	.....
Domestic Coal Co.	Gorham	1	.....	2,184	3,110	4,284	1,525	700	.....
Donaldson & Perino	North Magnet	.....	1	.....	.....	3,110	.....	.....	.....
Double Dick Coal Co.	Double Dick	.....	1	.....	10,589	10,589	1,500	150	.....
Dreman Coal Co.	Dreman	.....	.....	1,200	.....	1,200	1,200	.....	.....
Duncan, W. H.	Cox	.....	.....	347	.....	347	125	.....	.....
Durango Coal Co.	Durango	.....	.....	12,006	.....	12,006	.....	.....	1,400
Edna Coal Co.	Arthur	.....	.....	591	.....	591	1,250	.....	.....
Edwards, Allison	Rainbow	.....	.....	90	.....	90	100	3	.....
Electric Coal Co.	Oldland	.....	.....	1,500	.....	1,500	525	.....	.....
Electric Coal Co.	Pollard	.....	.....	314	.....	314	250	.....	.....
Empire Coal Mining Co.	Empire	.....	.....	52,330	.....	52,330	.....	200	2,000
Eho, O. D.	Marr	.....	.....	3,175	.....	3,175	3,225	200	.....
Farmers-Mutual Coal Co.	Farmers-Mutual	.....	.....	3,316	.....	3,316	7,500	200	60
Fawcett Coal Co.	Fawcett	.....	.....	1,139	.....	1,139	.....	.....	.....
Foreman, Thos. D.	Nine Mile Hill	.....	.....	251	.....	251	275	.....	.....
Fraker Coal Co.	Bear River	.....	2	55,818	20,693	76,511	{ + 1,500 { 19,150	50	4,280
Franklin Coal Co.	Witherbee	2	.....	.....	2,896	2,896	1,800	.....	.....
Franz, G. H.	Franz	.....	.....	600	.....	600	750	.....	.....

Freeman & Co.	School Section Lease		2,843	2,843	1,550	50	600
Fruth & Micheletti	Premium	.....	1,115	1,115	2,300	.....	.....
Fruth & Stone	Leader No. 2	.....	916	916	.....	.....	.....
Fruth & Stone	Leader No. 4	.....	5,985	5,985	.....	.....	500
Fruth & Stone	Leader No. 5	.....	2,487	2,487	.....	.....	.....
Gadberry, R. V.	G. & G.	.....	603	603	225	.....	.....
Gearhart, B.	P. V.	.....	3,316	3,316	.....	1,000	1,000
Gilmore & Phillips	Garfield	.....	3,958	3,958	3,750	.....	.....
Gilson Asphaltum Co.	Carbonara	.....	11,612	11,612	.....	.....	1,500
Guiliano Coal Co.	Bluff Springs No. 1	1	.....	7,937	1,000	500	.....
Golden Dawn Coal Co.	Golden Dawn	† 1	1,892	1,892	† 800	.....	.....
Good Fuel Co.	Christensen	.....	881	2,575	.....	.....	.....
Gordon Coal Co.	Gordon	3	1,326	39,053	.....	100	5,635
Grand Junction M. & Fuel Co.	Cameo	5	23,465	45,282	.....	900	8,100
Grand Junction M. & Fuel Co.	Sterling	3	1,467	75,678	14,700	.....	.....
Grassi & Grasso	Grassi	.....	80	80	200	.....	.....
Gray, L. J.	Gray	.....	229	229	.....	.....	.....
Green Valley Coal Co.	Green Valley	.....	6,956	6,956	2,310	10	.....
Griffiths Coal Co.	Griffiths	1	.....	10,883	3,800	.....	.....
Grindol, Archie	Fairview	.....	785	785	.....	.....	500
Hardin, R. L.	Ben Male	.....	980	980	1,625	.....	.....
Hartman Exploration Development Co.	Hartman	.....	1,883	1,883	1,100	.....	.....
Hart & Nelson	Black Diamond	.....	1,548	1,548	175	.....	.....
Hauert, Karl	Valley View	.....	750	750	400	.....	50
Hayden Bros. Coal Corp.	Hayden No. 3	4	85,291	149,728	† 10,000	2,700	.....
Herzinger, Belle	Chaffee Gulch	*	61	61	68,100	.....	.....
Hidden Treasure Mining Co.	Hidden Treasure	*	498	498	.....	.....	.....
Hodges, R.	Getwick	.....	555	555	.....	10	.....
Home Fuel & Supply Co.	Banner	.....	4,573	4,573	.....	.....	500
Horse Gulch Coal Co.	Horse Gulch	.....	55	55	.....	.....	.....
Huerfano Coal Co.	Ludlow	5	44,923	32,732	.....	.....	6,000
Hughes, Wm.	Hughes	.....	1,474	1,474	.....	.....	200
Imperial Coal Co.	Imperial	3	.....	51,757	17,125	.....	.....
Independent Coal Co.	Independent	1	1,000	1,265	250	.....	.....
Jakino Coal Co.	Jakino	.....	32	32	25	.....	.....
Jeffries Fuel Co.	Jeffries	.....	4,452	4,452	.....	400	500



TABLE No. 4—Continued  
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible
Jenkins & Lewis.....	Burdick.....	.....	.....	1,527	.....	1,527	.....	.....	.....
Jewel Collieries Corp.....	Creston.....	.....	4	12,327	30,757	43,084	200	.....	2,616
Joergel Fuel Co.....	Beshoar.....	.....	.....	2,000	.....	2,000	.....	.....	.....
Jones, Geo. B.....	Excelsior.....	.....	.....	364	.....	364	625	50	.....
Jones & Trachta.....	Douglas Creek.....	.....	.....	165	.....	165	150	.....	.....
Juanita Coal & Coke Co.....	King.....	.....	1	.....	62,574	62,574	3,125	.....	3,000
Keck, Wm. R.....	Keck.....	.....	.....	1,006	.....	1,006	300	.....	.....
Keystone Coal Co.....	Keystone.....	.....	1	30,861	3,721	34,582	42,925	350	1,800
*Knez Coal Co.....	Knez.....	*	.....	304	.....	304	.....	.....	.....
Langley & Wolf.....	Hart.....	.....	.....	2,156	.....	2,156	1,125	.....	.....
Leyden Lignite Co.....	Leyden No. 3.....	12	.....	43,312	31,949	75,261	38,800	.....	.....
Liberty Coal & Merc. Co.....	Nearing.....	.....	.....	1,368	.....	1,368	500	.....	.....
Lilley Coal & Land Co.....	Lilley (Byans).....	5	1	.....	44,311	44,311	17,500	.....	.....
Lilley Coal & Land Co.....	Frederick.....	4	.....	.....	13,983	13,983	7,000	.....	.....
Lion Canon Coal Co.....	Lion Canon.....	.....	.....	992	.....	992	1,200	.....	.....
Marcketti, J. R.....	Marion.....	.....	.....	750	.....	750	.....	.....	250
Marriott, Wm.....	Marriott.....	.....	.....	90	.....	90	175	.....	.....
*Matchless Fuel Co.....	Matchless.....	.....	.....	270	.....	270	.....	.....	.....
Mativi, Steve & Sons.....	Bunker Hill.....	.....	.....	200	.....	200	.....	.....	.....
McGinley Mine Co.....	McGinley.....	.....	.....	688	.....	688	.....	.....	.....
McLendon, O. K.....	Stove Canyon.....	.....	.....	1,299	.....	1,299	750	.....	15
McMillin Bros.....	Rollins.....	.....	.....	252	.....	252	50	.....	.....

McNeill Coal Co.	MacGregor.	5	842	38,493	38,493	8,275	100	350
Mesa Verde Coal Co.	Mesa Verde.	1	842	4,983	4,983	25,212	100	9,869
Midwest Coal Co.	Midwest.	† 1	99,006	21,724	106,152	27,313	100	10,692
Moffat Coal Co.	Oak Hills No. 1	4	84,428					
Moffat Coal Co.	Oak Hills No. 2							
Montezuma Coal Co.	Montezuma.		310		310			
Morris, Geo. W.	Morris.		358		358	275		
Mt. Evans Fuel Co.	Eberle.		1,416		1,416	2,425		
Mutual Coal Co.	Mutual.		48,416		48,416			
Mutual Coal Co.	Dry Creek		240		240	750		
National Fuel Co.	Monarch No. 2	9	6,381	99,028	105,409	10,375		2,885
National Fuel Co.	Thor.	2	67,217	32,451	99,668			13,000
National Fuel Co.	Puritan.	5	1,520	240,265	241,785	80,000		2,500
New Castle Coal Co.	New Castle.		1,153		1,153			
New Grand Mesa Coal Co.	Winger.	1		3,260	3,260	750		
New Mexico Lumber Co.	North Star.		9,200		9,200	30,000	800	
North Park Coal Co.	Moore No. 1	2	50,476	16,148	66,624	40,000		1,500
Nossaman, W. J.	Nossaman.		67		67	100	50	
Oakdale Coal Co.	Oakdale.	† 1	53,119	2,751	55,870			9,953
Oberding, Wm. J.	Independence.	1		426	426	200		
Ohio Creek Coal Co.	Ohio Creek.	1	4,000	5,147	9,147	3,050		
O. K. Coal Co.	O. K.		5,497		5,497	2,000		
Oliver Coal Co.	Oliver.	1	6,254	3,998	10,252		500	3,500
Orecchio Coal Co.	Brookside.	3		8,649	8,649	1,550	150	
Owens, Rowland & Sons	Owens.		197		197	25		
Pacific Coal Mining Co.	Pacific.		200		200		40,000	
Palisade Coal & Supply Co.	Palisade.	2	5,324	17,297	17,297	975	115	3,000
Paonia Farmers Coal Co.	Paonia.		3,350		3,350	150		
Patton, Lloyd L.	Red Canon.		474		474	1,200		
Peacock Coal Co.	Peacock.							
Peerless Coal Co.	Peerless.	1		1,419	1,419	200		
Petry, Sam.	Willie.		1,387		1,387	500		
Phelan, C. G.	Shaver.		344		344	500		
Pikes Peak Fuel Co.	Pikeview.	7	119,317	125,052	244,369			
Pine River Coal Co.	Pine River.		832		832	1,250		
Pinnacle-Kemmerer Fuel Co.	Regal No. 1		2,729		2,729			
Pinnacle-Kemmerer Fuel Co.	Regal No. 2	1	144	19,283	19,427	5,525		
Pittsburgh Coal Co.	Pittsburgh.	1		983	983	750		



TABLE No. 4—Continued  
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Prairie Canon Coal Co.	Prairie Canon	.....	.....	23,816	.....	23,816	.....	.....	6,500
Prospect Coal Co.	Prospect	.....	.....	1,718	.....	1,718	.....	.....	600
Pryor Coal Mining Co.	Pryor	.....	4	11,957	15,708	27,665	.....	.....	2,385
Purity Coal Co.	Reliance	*	.....	11,343	.....	11,343	.....	.....	.....
Rapid Creek Mining, Tunnel and Power Co.	Genter	† 3	.....	1,824	.....	1,824	.....	150	500
Rapson Coal Mining Co.	Rapson	.....	2	1,020	680	1,700	.....	.....	.....
Rauman Coal Co.	Rauman	.....	† 1	3,208	.....	3,208	7,750	.....	100
Reinart, R. C.	Proctor	.....	.....	272	.....	272	175	.....	.....
Rice, Chas. & Sons	Pleasant Valley	.....	.....	57	.....	57	125	.....	600
Rifle Coal Co.	McLearn	.....	.....	2,226	.....	2,226	.....	.....	.....
Rifle Coal Mines, Inc.	North Canon	.....	.....	5,305	.....	5,305	.....	.....	1,500
Riverside Coal Co.	Riverside	.....	.....	2,850	.....	2,850	100	500	.....
Rochio Coal Co.	Rochio	.....	1	.....	1,674	1,674	250	.....	.....
Rocky Mountain Fuel Co.	Industrial	.....	9	22,646	51,703	74,349	19,767	.....	.....
Rocky Mountain Fuel Co.	Standard	7	.....	.....	42,813	42,813	10,116	.....	1,575
Rocky Mountain Fuel Co.	Vulcan	5	.....	7,775	33,261	41,036	17,241	.....	152
Rocky Mountain Fuel Co.	Acme	9	1	.....	34,506	34,506	9,300	.....	.....
Rocky Mountain Fuel Co.	Alpine	2	2	27,327	23,421	50,748	18,718	.....	.....
Rocky Mountain Fuel Co.	Forbes No. 9	.....	1	24,578	4,082	28,660	.....	.....	986
Rocky Mountain Fuel Co.	Southwestern	.....	.....	5,862	.....	5,862	.....	.....	.....
Rocky Mountain Fuel Co.	Columbine	.....	8	115,404	215,137	330,541	61,828	.....	31,990

Rocky Mountain Fuel Co.	Grant	5	3,272	107,666	110,938	30,626 + 22,285 9,950	21,837	18,336 265
Ross Coal Co.	Horace	.....	43,444	.....	43,444	.....	.....	.....
Royal Fuel Co.	Royal	.....	112,502	.....	112,502	.....	.....	.....
Royal Gorge Coal Co.	Royal Gorge	*	223	.....	223	.....	.....	.....
Royers, J. S.	Royers	.....	305	.....	305	375	.....	.....
Russell, W. E. Coal Co.	Russell	4	1,790	65,636	67,426	16,175	200	700
Santa Fe Coal Co.	Santa Fe	.....	3,053	.....	3,053	1,000	.....	40
Salvage, J. M.	Cambro	2	.....	772	772	550	.....	.....
Sevens Points Coal Co.	Seven Points	.....	335	.....	335	16,250	.....	.....
Shamrock Coal Co.	Shamrock	2	.....	80,152	80,152	.....	.....	.....
Stees, M. L.	Liberty Bell	.....	200	.....	200	75	.....	5,000
South Canon Mine Leasing Co.	South Canon	.....	6,713	.....	6,713	.....	.....	.....
Spencer, Geo. S.	Spencer	.....	566	.....	566	.....	.....	50
Sphinx Coal Co.	La Plante	1	.....	3,746	3,746	3,750	100	250
State Mine (Penitentiary)	Cuckoo	1	.....	776	776	300	.....	.....
States Hall Coal Co.	States	.....	2,618	.....	2,618	900	.....	.....
States Hall Coal Co.	Red Mountain	.....	921	.....	921	450	100	.....
Stein, Nicholas	Blue Spruce	.....	800	.....	800	1,500	.....	.....
Stokes, W. D.	Stokes	.....	3,218	.....	3,218	1,875	100	500
Sunlight Coal Co.	Morris	.....	78	.....	78	.....	.....	.....
Sunrise Coal Co.	Sunrise	.....	577	.....	577	125	.....	.....
Sunshine Coal Co.	Sunshine	.....	8,804	.....	8,804	1,500	.....	.....
Sunshine Fuel Co.	Bluff Springs No. 3	*	106	.....	106	.....	.....	.....
Sunnyside Coal M. Co.	Sunnyside	5	10,300	22,629	32,929	4,800	.....	4,800
Temple Fuel Co.	Broadhead No. 9	7	46,348	64,463	110,811	24,000	.....	24,000
Thomas Coal Co.	Franceville	.....	345	.....	345	.....	.....	.....
Thomas, C. F.	Thomas	.....	111	.....	111	.....	.....	.....
Three Pines Coal Co.	Three Pines	.....	23,563	.....	23,563	.....	.....	1,200
Tipotsch, Frank	Tipotsch	.....	1,443	.....	1,443	50	.....	.....
Torrid Coal Co.	Torrid	.....	9,807	.....	9,807	.....	.....	2,460
Triangle Coal Co.	Triangle	.....	3,370	.....	3,370	250	.....	.....
Ute Coal Co.	Collom	.....	690	.....	690	1,050	.....	.....
Vesta Mines, Inc.	Vesta	2	.....	7,921	7,921	.....	.....	1,000
Victors Coal Co.	Kenneth	3	.....	52,430	52,430	.....	.....	32,650
Victor-American Fuel Co.	Chandler	14	17,445	113,385	130,830	.....	.....	.....
Victor-American Fuel Co.	Kenwood	5	.....	11,262	11,262	5,775	.....	732
Victor-American Fuel Co.	Delagua	7	308,478	147,959	456,437	.....	.....	21,144

TABLE No. 4—Continued  
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1927

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Victor-American Fuel Co.	Pinnacle	.....	4	89,632	28,568	118,200	49,075	.....	2,424
Victor-American Fuel Co.	Wadge	.....	5	11,747	48,013	59,760	19,350	225	788
Wellington Mining Co.	Wellington	.....	.....	8,686	.....	8,686	.....	.....	1,500
Whitlock, E. E.	Whitlock	.....	.....	175	.....	175	375	.....	.....
Willden Coal Co.	Willden	.....	.....	400	.....	400	500	100	.....
Williams Coal Co.	Williams	.....	.....	2,021	.....	2,021	1,525	50	.....
Wilson, Jas.	Engle	.....	.....	3,841	.....	3,841	.....	.....	.....
Wilton Coal Co.	Pritchard	.....	.....	835	.....	835	.....	.....	.....
Winkler, Gus	Missouri	.....	.....	129	.....	129	100	.....	.....
Winton Coal Co.	Winton	.....	.....	421	.....	421	425	.....	.....
Zimmerman, E. H.	Block	.....	.....	1,052	.....	1,052	375	.....	.....
Totals	.....	119	347	4,815,672	4,965,908	9,781,580	1,965,281	79,723	869,642

\* No report.

† Not in use.

‡ Pellet Powder.

TABLE No. 6

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES  
IN THE STATE OF COLORADO FOR THE YEAR ENDING  
DECEMBER 31, 1927.

Total Production Distributed	Loaded at Mines for Shipment	Sold to Local Trade and Used by Employees	Used at Mines for Steam and Heat	Coal Made into Coke	Coke Made
9,781,580	8,623,202	698,332	209,502	*1,332,038	790,573

\*NOTE—250,544 tons of coal were made into coke at the mine and therefore not included in coal loaded at mines for shipment.

Table No. 5 omitted.

## Little Giant Electric Coal Drills

It will pay you to investigate this efficient means of shot-hole drilling.

Reports from all coal fields conclusively prove that through the installation of Little Giant Electric Coal Drills the following benefits are secured:

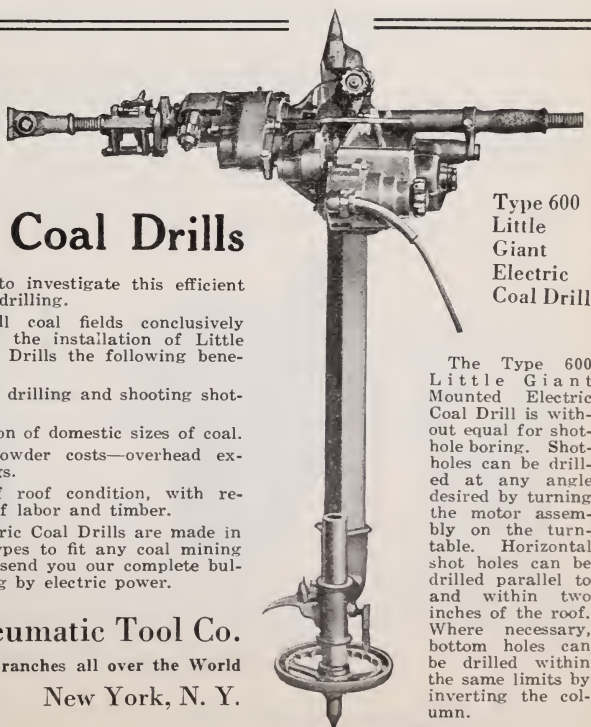
1. Better system of drilling and shooting shot-holes.
2. Better preparation of domestic sizes of coal.
3. Reduction of powder costs—overhead expense—screenings.
4. Improvement of roof condition, with resultant saving of labor and timber.

Little Giant Electric Coal Drills are made in various sizes and types to fit any coal mining conditions. Let us send you our complete bulletin on coal drilling by electric power.

### Chicago Pneumatic Tool Co.

Sales and Service Branches all over the World

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Type 600  
Little  
Giant  
Electric  
Coal Drill

The Type 600 Little Giant Mounted Electric Coal Drill is without equal for shot-hole boring. Shot-holes can be drilled at any angle desired by turning the motor assembly on the turntable. Horizontal shot holes can be drilled parallel to and within two inches of the roof. Where necessary, bottom holes can be drilled within the same limits by inverting the column.

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Manufacturers of

Mine cars, roller bearing, self oiling  
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## CARBIDE MINE LAMPS

*Safe—Durable—Strong*

For operators as well as miners Justrite lamps have been made of the best material and workmanship in order that the highest efficiency and best service could be maintained.

Justrite lamps throw a strong, penetrating light, which keeps the miner's efficiency to a high standard and increases his production—naturally the mine output. These are important facts for the operator.



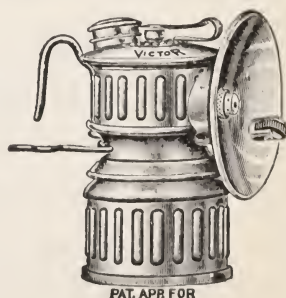
No. 407 Lamp

With wire feed and 2½" reflector. A sturdy lamp that will always give good results.



No. 747 Lamp

Polygon feed lamp with 4" nickel reflector. Gives penetrating light, excellent for inspectors and shift bosses.



No. 661 Lamp

The upright "Victor" lamp for miners who prefer the vertical construction. A strong, durable lamp.

*Ask for CATALOG showing all models*

**Justrite Manufacturing Co.**

2064-2081 Southport Ave.  
CHICAGO, U. S. A.



TABLE No. 7  
NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR ENDING DECEMBER 31, 1927

CAUSES	Permanent Total Disability	Permanent Partial Disability	Temporary Disability		Total Injuries
			Time Lost More Than 14 Days	Time Lost Less Than 14 Days	
<b>Underground—</b>					
1. Falls of roof (coal, rock, etc.)	2	3	231	168	404
2. Falls of face or pillar coal	—	1	130	86	217
3. Mine cars and locomotives	1	6	259	182	448
4. Gas explosions and burning gas	—	—	3	—	3
5. Coal-dust explosions (including gas and dust combined)	—	—	—	—	—
6. Explosives	—	—	9	1	10
7. Suffocation from mine gas	—	—	—	1	1
8. Electricity	—	—	6	7	13
9. Animals	—	—	28	32	60
10. Mining machines	—	3	62	35	100
11. Mine fires (burned, suffocated, etc.)	—	—	—	—	—
12. Other causes	1	6	222	298	527
<b>In Shaft—</b>					
13. Falling down shafts or slopes	—	—	—	—	—
14. Objects falling down shafts or slopes	—	—	4	1	5
15. Cages or skips	—	—	—	1	1
16. Other causes	—	—	1	—	1
Total number injured in mine	4	19	955	812	1,790
<b>On Surface—</b>					
17. Mine cars and mine locomotives	—	—	12	11	23
18. Electricity	—	—	1	1	2
19. Machinery	—	—	6	3	9
20. Boiler explosions or bursting steam pipes	—	—	3	—	3
21. Railway cars and locomotives	—	1	3	—	4
22. Other causes	—	2	30	53	85
Total number injured on the surface	—	3	55	68	126
<b>GRAND TOTAL</b>	4	22	1,010	880	1,916

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

TABLE No. 8

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED  
DECEMBER 31, 1927.

CAUSES	UNDERGROUND AND SHAFT															Surface Fatalities	Total Fatalities
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Run-ners and Scrapers	Shot Friers	Drivers & Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Bratticemen	Timbermen and Rockmen	Pump & Pipemen	Electricians and Helpers	All Others		
<b>Underground—</b>																	
1. Falls of roof (coal, rock, etc.).....	—	—	—	5	5	2	—	2	—	—	—	1	—	—	—	—	15
2. Falls of face or pillar coal.....	—	—	—	11	4	—	—	1	—	—	—	—	—	—	—	—	16
3. Mine cars and locomotives.....	—	—	—	2	—	—	—	2	—	1	—	—	—	—	2	—	8
4. Gas explosions and burning gas.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Coal-dust explosions (including gas and dust combined) .....	—	—	—	—	—	2	—	—	2	—	1	—	1	—	—	—	6
6. Explosives .....	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	3
7. Suffocation from mine gases.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Electricity (shock or burns).....	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	2	2
9. Animals .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10. Mining machines .....	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	1	1
11. Mine fires (burned, suffocated, etc.).....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12. Other causes .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>Shaft—</b>																	
13. Falling down shafts or slopes.....	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	1	1
14. Objects falling down shafts or slopes.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
15. Cages or skips.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16. Other causes .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total underground.....	1	1	—	18	9	8	—	5	2	1	1	1	1	—	5	53	53





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General Supplies of every nature  
Electrical Apparatus and Supplies  
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Manufacturers of

*Safety Fuse* for all kinds  
of blasting

Let us help you with  
your fuse problems

The National Fuse &  
Powder Company

DENVER, COLORADO

TABLE No. 10

COAL MINE EMPLOYEES CLASSIFIED BY OCCUPATION IN THE STATE  
OF COLORADO DURING YEAR ENDED DECEMBER 31, 1927.

UNDERGROUND		Employed in and around the mines of Colorado
1. Foremen.....		202
2. Assistant foremen.....		75
3. Fire bosses.....		171
4. Pick miners.....		3,693
5. Machine miners.....		3,217
6. Machine runners and scrapers.....		470
7. Shot firers.....		146
8. Drivers and runners.....		799
9. Motormen and assistants.....		252
10. Doorboys and helpers.....		44
11. Trackmen and batticemen.....		281
12. Timbermen and rockmen.....		324
13. Pumpmen and pipemen.....		113
14. Electricians and helpers.....		81
15. All others.....		479
Total underground.....		10,347
SURFACE		
1. Superintendents.....		122
2. Foremen.....		69
3. Blacksmiths and carpenters.....		208
4. Engineers and firemen.....		252
5. Machinists and helpers.....		118
6. Trackmen and helpers.....		43
7. All others at mine.....		1,147
8. Coke-oven employees.....		223
9. Office employees.....		125
Total surface.....		2,307
Total employees.....		12,654
Number of days men worked during year.....		194.3

Table No. 9, omitted is covered by Table No. 8. Applies to Metal Mining.  
Above poll taken in December, 1927.

TABLE A—1927

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.

COMPANY	Total Production	Number of Men Employed	Number 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 Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Alamo Coal Co.	106,710	178	.....	.....	.....	.....	7.1	4,268	.....	140.4
Altitude Coal Co.	10,714	17	.....	.....	.....	.....	17.0	10,714	.....	58.8
American Smelting & Ref. Co.	295,162	263	1	.....	263.0	.....	3.7	4,099	3.8	273.8
Amos Coal Co.	769	1	.....	.....	.....	.....	.....	.....	.....	.....
Anchor Coal Co.	798	2	.....	.....	.....	.....	.....	.....	.....	.....
Anchor Fuel Co.	1,473	2	.....	.....	.....	.....	.....	.....	.....	.....
Arlen, G. H.	1,60	1	.....	.....	.....	.....	.....	.....	.....	.....
Associated Fuel Co.	1,544	7	.....	.....	.....	.....	.....	.....	.....	.....
Aztec Coal Mining Co.	45,445	88	.....	.....	.....	.....	3.5	772	.....	285.7
Babson Coal Co.	2,502	3	.....	.....	.....	.....	14.7	7,574	.....	68.2
Baldwin Fuel Co.	5,344	7	.....	.....	.....	.....	.....	.....	.....	.....
Barbour Coal Co.	47,206	82	.....	.....	.....	.....	6.8	3,934	.....	146.3
Barker, Wright	1,296	3	.....	.....	.....	.....	.....	.....	.....	.....
Baudino & Co.	4,429	6	.....	.....	.....	.....	.....	.....	.....	.....
Bear Canon Coal Co.	67,114	72	.....	.....	.....	.....	36.0	33,557	.....	277.8
Beaver Creek Coal Co.	556	3	.....	.....	.....	.....	.....	.....	.....	.....
Bellodi, Angelo.	232	1	.....	.....	.....	.....	.....	.....	.....	.....
Bennett Coal Co.	131	1	.....	.....	.....	.....	.....	.....	.....	.....
Black Canon Coal & Fuel Co.	2,204	16	.....	.....	.....	.....	2.7	367	.....	375.0
Black Diamond Coal Co.	7,874	10	.....	.....	.....	.....	3.3	2,625	.....	300.0
Black Diamond Fuel Co.	27,961	24	.....	.....	.....	.....	4.0	4,660	.....	250.0
Bluff Springs Coal Co.	18,477	29	.....	.....	.....	.....	2.4	1,540	.....	413.8





TABLE A—Continued

COMPANY	Total Production	Number of Men Employed	Number 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 Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Donaldson & Perino.....	3,110	7	.....	.....	.....	5	1.4	622	.....	714.3
Double Dick Coal Co.....	10,589	20	.....	.....	.....	10	2.0	1,059	.....	500.0
Drennan Coal Co.....	1,200	6	.....	.....	.....	.....	.....	.....	.....	.....
Duncan, W. H.....	347	2	.....	.....	.....	.....	.....	.....	.....	.....
Durango Coal Co.....	12,006	19	.....	.....	.....	1	19.0	12,006	.....	52.6
Edna Coal Co.....	591	4	.....	.....	.....	.....	.....	.....	.....	.....
Edwards, Allison.....	90	1	.....	.....	.....	.....	.....	.....	.....	.....
Electric Coal Co.....	1,814	5	.....	.....	.....	.....	.....	.....	.....	.....
Empire Coal Mining Co.....	52,330	75	1	75.0	52,330	5	15.0	10,466	13.3	66.7
Eno Coal Co.....	3,175	5	.....	.....	.....	.....	.....	.....	.....	.....
Farmer-Mutual Coal Co.....	3,316	6	.....	.....	.....	.....	.....	.....	.....	.....
Fawcett Coal Co.....	1,139	1	.....	.....	.....	.....	.....	.....	.....	.....
Foreman, Thos. D.....	251	1	.....	.....	.....	.....	.....	.....	.....	.....
Fraker Coal Co.....	76,511	79	.....	.....	.....	30	2.6	2,550	.....	379.7
Franklin Coal Co.....	2,896	8	.....	.....	.....	.....	.....	.....	.....	.....
Franz Coal Co.....	600	4	.....	.....	.....	.....	.....	.....	.....	.....
Freeman & Co.....	2,843	4	.....	.....	.....	.....	.....	.....	.....	.....
Fruth & Micheletti.....	1,115	5	.....	.....	.....	.....	.....	.....	.....	.....
Fruth & Stone.....	3,388	46	.....	.....	.....	2	23.0	4,694	.....	43.5
Gadberry, R. V.....	603	1	.....	.....	.....	.....	.....	.....	.....	.....
Gearhart, B.....	3,316	3	.....	.....	.....	.....	.....	.....	.....	.....
Gilmore & Phillips.....	3,958	6	.....	.....	.....	.....	.....	.....	.....	.....
Gilson Asphaltum Co.....	11,612	10	.....	.....	.....	2	5.0	5,806	.....	200.0
Guiliano Coal Co.....	7,937	13	.....	.....	.....	3	4.3	2,646	.....	230.8
Golden Dawn Coal Co.....	1,892	3	.....	.....	.....	.....	.....	.....	.....	.....
Good Fuel Co.....	2,575	5	.....	.....	.....	.....	.....	.....	.....	.....
Gordon Coal Co.....	40,379	81	1	81.0	40,379	7	11.5	5,768	12.3	86.4

Gray, L. J.....	229	1				10	13.4	14,589		74.6
Grand Junction Mining & Fuel Co.....	145,892	134								
Grassi & Grasso.....	80	2								
Green Valley Coal Co.....	6,956	7								
Griffiths Coal Co.....	10,883	13				1	13.0	10,883		76.9
Grindal, Archie.....	785	1								
Hardin, R. L.....	980	3								
Hartman Exploration & Development Co.....	1,883	30	1			1,883		33.3		
Hart & Nelson.....	1,548	3								
Hauert, Karl.....	750	2								
Hayden Bros. Coal Corp.....	149,728	169	1			149,728	4.6	4,047	5.9	219.0
Herzinger, Belle.....	61	3								
Hidden Treasure Mining Co.....	498	1								
Hodges, Richard.....	555	1								
Home Fuel & Supply Co.....	4,573	6					6.0	4,573		166.7
Horse Gulch Coal Co.....	51	1								
Huerfano Coal Co.....	77,655	103					12.9	9,707		77.7
Hughes, Wm.....	1,474	4								
Imperial Coal Co.....	51,757	39					9.8	12,439		102.6
Independent Coal Co.....	2,265	3								
Jakino Coal Co.....	32	4								
Jeffrey's Fuel Co.....	4,452	12								
Jenkins & Lewis.....	1,527	2								
Jewel Collieries Corporation.....	43,084	61	1			43,084	20.3	14,361	16.4	49.2
Joerger Fuel Co.....	2,000	2								
Jones, Geo. B.....	364	1								
Jones & Trachta.....	165	1								
Juanita Coal & Coke Co.....	62,574	62					8.9	8,939		112.9
Keck, W. R.....	1,006	2								
Keystone Coal Co.....	34,582	27					4.5	5,764		222.2
Knez Coal Co.....	304	1								
Langley & Wolf.....	2,156	2								
Leyden Lignite Co.....	75,261	84	1			75,261	28.0	25,087	11.9	35.7
Liberty Coal & Mercantile Co.....	1,368	2								
Liley Coal & Land Co.....	58,294	80					4.0	2,315		250.0
Lion Canon Coal Co.....	992	2								
Marchetti, J. R.....	750	1								
Marriott, Wm.....	90	1								

TABLE A—Continued

COMPANY	Total Production	Number of Men Employed	Number 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 Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Matchless Fuel Co.....	270	6	.....	.....	.....	.....	.....	.....	.....	.....
Mattivi, Steve & Sons.....	200	8	.....	.....	.....	.....	.....	.....	.....	.....
McGinley, Wm.....	688	2	.....	.....	.....	.....	.....	.....	.....	.....
McIntosh, O. K.....	1,299	2	.....	.....	.....	.....	.....	.....	.....	.....
McMillin Bros.....	252	2	.....	.....	.....	.....	.....	.....	.....	.....
McNeil Coal Co.....	38,493	44	.....	.....	.....	1	44.0	38,493	.....	22.7
Mesa Verde Coal Co.....	842	9	.....	.....	.....	.....	.....	.....	.....	.....
Midwest Coal Co.....	4,983	12	.....	.....	.....	3	4.0	1,661	.....	250.0
Moffat Coal Co.....	205,158	198	.....	.....	.....	35	5.7	5,862	.....	176.8
Montezuma Coal Co.....	310	7	.....	.....	.....	.....	.....	.....	.....	.....
Morris, Geo. W.....	358	1	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Evans Fuel Co.....	1,416	3	.....	.....	.....	.....	.....	.....	.....	.....
Mutual Coal Co. (Huerfano County)	48,416	72	.....	.....	.....	2	36.0	24,208	.....	27.8
Mutual Coal Co. (Routt County)	240	4	.....	.....	.....	.....	.....	.....	.....	.....
National Fuel Co.....	446,862	446	2	223.0	223,431	104	4.3	4,297	4.5	233.2
New Castle Coal Co.....	1,153	5	.....	.....	.....	5	1.0	231	.....	1,000.0
New Grand Mesa Coal Co.....	3,260	4	.....	.....	.....	.....	.....	.....	.....	.....
New Mexico Lumber Co.....	9,200	11	.....	.....	.....	1	11.0	9,200	.....	90.9
North Park Coal Co.....	66,624	63	1	63.0	66,624	15	4.2	4,442	15.9	238.1
Nossaman, W. J.....	67	1	.....	.....	.....	.....	.....	.....	.....	.....
Oakdale Coal Co.....	55,870	73	.....	.....	.....	13	5.6	4,298	.....	178.1
Oberding, W. J.....	426	1	.....	.....	.....	.....	.....	.....	.....	.....
Ohio Creek Coal Co.....	9,147	13	.....	.....	.....	3	4.3	3,049	.....	230.8
O. K. Coal Co.....	5,497	8	.....	.....	.....	1	8.0	5,497	.....	125.0
Oliver Coal Co.....	10,252	46	.....	.....	.....	2	23.0	5,126	.....	43.5
Orecchio Coal Co.....	8,649	11	.....	.....	.....	2	5.5	4,325	.....	181.8
Owens, Rowland & Sons.....	197	1	.....	.....	.....	.....	.....	.....	.....	.....
Pacific Coal Mining Co.....	200	11	3	3.7	67	6	1.8	33	272.7	545.4
Palisade Coal & Supply Co.....	17,297	33	.....	.....	.....	4	8.3	4,324	.....	121.2

[illegible]

TABLE A—Continued

COMPANY	Total Production	Number of Men Employed	Number 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 Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Stein, Nicholas.....	800	1	.....	.....	.....	.....	8.0	3,218	.....	125.0
Stokes, W. D.....	3,218	8	.....	.....	.....	1	.....	.....	.....	.....
Sunlight Coal Co.....	78	1	.....	.....	.....	.....	.....	.....	.....	.....
Sunrise Coal Co.....	577	4	.....	.....	.....	.....	.....	.....	.....	.....
Sunshine Coal Co.....	8,804	11	.....	.....	.....	.....	.....	.....	.....	.....
Sunshine Fuel Co.....	106	2	.....	.....	.....	.....	.....	.....	.....	.....
Sunnyside Coal Mining Co.....	32,929	56	.....	.....	.....	17	3.3	1,937	.....	303.6
Temple Fuel Co.....	110,811	178	1	178.0	110,811	14	12.7	7,915	5.6	78.7
Thomas Coal Co.....	345	5	.....	.....	.....	.....	.....	.....	.....	.....
Thomas, F. C.....	111	2	.....	.....	.....	.....	.....	.....	.....	.....
Three Pines Coal Co.....	23,563	39	.....	.....	.....	.....	.....	.....	.....	.....
Tipotsch, Frank.....	1,443	2	.....	.....	.....	.....	.....	.....	.....	.....
Torrid Coal Co.....	9,807	17	.....	.....	.....	2	8.5	4,904	.....	117.6
Triangle Coal Co.....	3,370	4	.....	.....	.....	.....	.....	.....	.....	.....
Ute Coal Co.....	690	1	.....	.....	.....	.....	.....	.....	.....	.....
Vesta Mines, Inc.....	7,921	15	.....	.....	.....	10	7.8	5,943	.....	128.2
Vickers Coal Co.....	52,430	78	12	80.5	64,707	375	2.6	2,071	12.4	388.2
Victor American Fuel Co.....	776,489	966	1	14.0	8,686	6	2.3	1,448	71.4	428.6
Wellington Mining Co.....	8,686	14	.....	.....	.....	.....	.....	.....	.....	.....
Whitlock, E. E.....	175	1	.....	.....	.....	.....	.....	.....	.....	.....
Willden, Elliott.....	400	3	.....	.....	.....	.....	.....	.....	.....	.....
Williams Coal Co.....	2,021	4	.....	.....	.....	.....	.....	.....	.....	.....
Wilson, James.....	3,841	6	.....	.....	.....	.....	.....	.....	.....	.....
Wilton Coal Co.....	835	2	.....	.....	.....	.....	.....	.....	.....	.....
Winkler, Gus.....	129	1	.....	.....	.....	.....	.....	.....	.....	.....
Winton Coal Co.....	421	2	.....	.....	.....	.....	.....	.....	.....	.....
Zimmerman, E. H.....	1,052	5	.....	.....	.....	.....	.....	.....	.....	.....
Total of the State of Colorado.....	9,781,580	11,453	54	212.1	181,140	1,916	6.0	5,105	4.7	167.3





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TABLE B

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1927 AND CAPACITY OF MINE PER DAY IN TONS.

## ARCHULETA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine Per Day, Tons
Cox.....	W. H. Duncan.....	Pagosa Springs.....	Sub-bituminous.....	86	2	347	6
Nossaman.....	W. J. Nossaman.....	Pagosa Springs.....	Sub-bituminous.....	120	1	67	1
Total Number	of Mines Operated: 2	.....	.....	97.3	3	414	.....

## BOULDER COUNTY

Industrial Standard.....	Rocky Mountain Fuel Co.....	Superior.....	Sub-bituminous.....	130.4	101	74,349	1,000
Vulcan.....	Rocky Mountain Fuel Co.....	Lafayette.....	Sub-bituminous.....	133	37	42,813	350
Acme.....	Rocky Mountain Fuel Co.....	Lafayette.....	Sub-bituminous.....	154	49	41,036	500
Monarch No. 2.....	Rocky Mountain Fuel Co.....	Louisville.....	Sub-bituminous.....	116	51	34,506	500
Centennial.....	National Fuel Co.....	Broomfield.....	Sub-bituminous.....	209	144	105,409	725
Black Diamond.....	Boulder Valley Coal Co.....	Louisville.....	Sub-bituminous.....	113	100	61,970	.....
Paramount.....	Black Diamond Fuel Co.....	Boulder.....	Sub-bituminous.....	339	24	27,961	200
Crown.....	Domenico & Sons.....	Louisville.....	Sub-bituminous.....	172	27	17,843	.....
Gorham.....	Crown Fuel Co.....	Gorham.....	Sub-bituminous.....	132.5	30	17,586	175
Hartman.....	Domestic Coal Co.....	Gorham.....	Sub-bituminous.....	174	6	4,284	100
Peerless.....	Hartman Exploration & Development Co.....	Lafayette.....	Sub-bituminous.....	27	30	1,883	.....
Pittsburgh.....	Peerless Coal Co.....	Gorham.....	Sub-bituminous.....	218	3	1,419	15
Cambro.....	Pittsburgh Coal Co.....	Gorham.....	Sub-bituminous.....	168	2	983	.....
Sunrise.....	J. M. Salvage.....	Louisville.....	Sub-bituminous.....	263	4	772	7
Matchless.....	Sunrise Coal Co.....	Boulder.....	Sub-bituminous.....	68	4	577	25
Matchless.....	Matchless Fuel Co.....	Gorham.....	Sub-bituminous.....	8	6	270	.....
Total Number	of Mines Operated: 16	.....	.....	152.0	618	433,661	.....

## DELTA COUNTY

King.....	Juanita Coal & Coke Co.	Bowie.....	Bituminous.....	140	62	62,574	.....
Green Valley.....	Green Valley Coal Co.	Cedaredge.....	Semi-bituminous.....	200	7	6,956	60
Paonia.....	Paonia-Farmers Coal Co.	Paonia.....	Semi-bituminous.....	186	4	5,524	45
Red Canon.....	Lloyd L. Patten	Cedaredge.....	Semi-bituminous.....	233.8	4	3,330	.....
States.....	States Hall Coal Co.	Cedaredge.....	Semi-bituminous.....	263	4	2,618	.....
Red Mountain.....	States Hall Coal Co.	Cedaredge.....	Semi-bituminous.....	43	6	921	30
Independent.....	Independent Coal Co.	Cedaredge.....	Semi-bituminous.....	223	3	2,265	40
Burdick.....	Jenkins & Lewis	Hotchkiss.....	Semi-bituminous.....	220	2	1,527	10
Gelwick.....	R. Hodges.....	Paonia.....	Semi-bituminous.....	177.5	1	555	.....
Converse.....	Frank Converse.....	Paonia.....	Semi-bituminous.....	119	1	492	30
Winton.....	Winton Coal Co.	Austin.....	Semi-bituminous.....	84	2	421	.....
Rollins.....	McMillin Bros.	Delta.....	Semi-bituminous.....	75	2	252	.....
Owens.....	Rowland Owens & Sons	Hotchkiss.....	Semi-bituminous.....	160	1	197	.....
Bennett.....	Bennett Coal Co.	Hotchkiss.....	Semi-bituminous.....	110	1	131	10
De Graffenried.....	J. R. De Graffenried.....	Hotchkiss.....	Semi-bituminous.....	90	1	100	4
Total Number	of Mines Operated: 15	.....	.....	157.2	101	87,883	.....

## DOLORES COUNTY

North Star.....	New Lumber Co.	McPhee.....	Sub-bituminous.....	250	11	9,200	50
Total Number	of Mines Operated: 1	.....	.....	250.0	11	9,200	.....

## ELBERT COUNTY

Burntall.....	Burntall Fuel Co.	Matheson.....	Sub-bituminous.....	181	5	2,191	.....
Wright.....	Wright Barker.....	Matheson.....	Sub-bituminous.....	165	3	1,296	25
Mascot.....	R. C. Campbell.....	Matheson.....	Sub-bituminous.....	120	2	128	.....
Total Number	of Mines Operated: 3	.....	.....	164.0	10	3,615	.....

TABLE B—Continued  
EL PASO COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Pikeview.....	Pikes Peak Fuel Co.....	Colorado Springs.....	Sub-bituminous.....	255	188	244,369	1,500
City Coal Mines.....	Colorado Springs Co.....	Colorado Springs.....	Sub-bituminous.....	222	66	51,118	500
Corley.....	W. D. Corley.....	Colorado Springs.....	Sub-bituminous.....	280	29	38,944	300
Altitude No. 2.....	Altitude Coal Co.....	Colorado Springs.....	Sub-bituminous.....	203	17	10,714	150
Golden Dawn.....	Golden Dawn Coal Co.....	Yoder.....	Sub-bituminous.....	250	3	1,892	100
Drennan.....	Drennan Coal Co.....	Stone City.....	Sub-bituminous.....	30	6	1,200	.....
Cottonwood.....	Cottonwood Coal Co.....	Colorado Springs.....	Sub-bituminous.....	260	1	804	4
Franceville.....	Thomas Coal Co.....	Colorado Springs.....	Sub-bituminous.....	42	5	345	.....
Total Number	of Mines Operated: 8.....			239.9	315	349,386	.....
FREMONT COUNTY							
Rockvale.....	Colorado Fuel & Iron Co.....	Rockvale.....	Semi-bituminous.....	163.4	141	66,775	600
Coal Creek.....	Colorado Fuel & Iron Co.....	Rockvale.....	Semi-bituminous.....	99.5	204	64,185	800
Nonac.....	Colorado Fuel & Iron Co.....	Canon City.....	Semi-bituminous.....	190	30	28,446	150
Fremont.....	Colorado Fuel & Iron Co.....	Florence.....	Semi-bituminous.....	4	89	1,867	.....
Chandler.....	Victor American Fuel Co.....	Chandler.....	Semi-bituminous.....	235.1	242	130,830	1,000
Kenwood.....	Victor American Fuel Co.....	Kenwood.....	Semi-bituminous.....	98.1	62	11,262	400
Canon.....	Canon Reliance Coal Co.....	Canon City.....	Semi-bituminous.....	184	75	62,170	450
Bluff Springs No. 1.....	Guiliano Coal Co.....	Coal Creek.....	Semi-bituminous.....	234	13	7,937	25
Bluff Springs No. 2.....	Bluff Springs Coal Co.....	Florence.....	Semi-bituminous.....	236	29	18,477	75
Bluff Springs No. 3.....	Sunshine Fuel Co.....	Rockvale.....	Semi-bituminous.....	90	2	106	.....
Griffiths.....	Griffiths Coal Co.....	Canon City.....	Semi-bituminous.....	203	13	10,883	60
Double Dick.....	Double Dick Coal Co.....	Coal Creek.....	Semi-bituminous.....	253.5	20	10,589	50
Brookside.....	Orechio Coal Co.....	Florence.....	Semi-bituminous.....	261	11	8,649	25
Carbon.....	Carbon Coal Co.....	Florence.....	Semi-bituminous.....	290.3	12	7,492	20
Brewster.....	Canon Coal Mining Co.....	Florence.....	Semi-bituminous.....	250.5	15	5,861	25



## FREMONT COUNTY—Continued

North Magnet.....	Donaldson & Pertho.....	Florence.....	Semi-bituminous.....	188	7	3,110	20
South Magnet.....	Canon Quality Coal Co.....	Rockvale.....	Semi-bituminous.....	192	5	1,572	25
Canon District No. 2.....	Canon District Coal Co.....	Canon City.....	Semi-bituminous.....	214	6	2,804	25
Jack O'Lantern.....	Canon United Coal Co.....	Canon City.....	Semi-bituminous.....	234	5	2,694	20
Rocchio.....	Rocchio Coal Co.....	Coal Creek.....	Semi-bituminous.....	73	6	1,674	50
Willie.....	Sam Petry.....	Florence.....	Semi-bituminous.....	228	2	1,387	5
Cuckoo.....	State Coal Mine.....	Canon City.....	Semi-bituminous.....	60	31	776	30
Royal Gorge.....	Royal Gorge Coal Co.....	Canon City.....	Semi-bituminous.....	33	4	223	.....
Total Number	of Mines Operated: 23	.....	.....	157.9	1,024	449,769	.....

## GARFIELD COUNTY

Carbonera.....	Gilson Asphaltum Co.....	Mack.....	Bituminous.....	229	10	11,612	60
South Canon.....	South Canon Mine Leasing Co.....	Glenwood Springs.....	Bituminous.....	248	9	6,713	40
North Canon.....	Rifle Coal Mines, Inc.....	Rifle.....	Bituminous.....	278	4	5,305	40
Rauman.....	Rauman Coal Co.....	Rifle.....	Bituminous.....	282.5	5	3,208	.....
McLearn.....	Rifle Coal Co.....	Rifle.....	Bituminous.....	240	3	2,226	.....
New Castle.....	New Castle Coal Co.....	Glenwood Springs.....	Bituminous.....	110	5	1,153	.....
Paradise.....	Angelo Bellodi.....	Glenwood Springs.....	Bituminous.....	46	1	232	.....
Ohkraut.....	Frank Deboy.....	Glenwood Springs.....	Bituminous.....	100	1	205	.....
Total Number	of Mines Operated: 8	.....	.....	222.7	38	30,654	.....

## GUNNISON COUNTY

Somerset.....	Calumet Fuel Co.....	Somerset.....	Bituminous.....	201.6	165	250,466	1,500
Crested Butte.....	Colorado Fuel & Iron Co.....	Crested Butte.....	Bituminous.....	183.9	141	103,708	600
Elk Mountain.....	Colorado Fuel & Iron Co.....	Crested Butte.....	Semi-Anthracite.....	3	38	829	350
Horace.....	Ross Coal Co.....	Crested Butte.....	Anthracite.....	188	83	43,444	300
Smith-Anthracite.....	Crested Butte Anthracite Mining Co.....	Crested Butte.....	Anthracite.....	197	48	33,745	300
Bulkeley No. 2.....	Crested Butte Coal Co.....	Crested Butte.....	Bituminous.....	166	50	41,408	400
Alpine.....	Rocky Mountain Fuel Co.....	Baldwin.....	Semi-bituminous.....	221	49	50,748	350
Oliver.....	Oliver Coal Co.....	Somerset.....	Bituminous.....	116	46	10,252	.....
Ohio Creek.....	Ohio Creek Coal Co.....	Gunnison.....	Bituminous.....	166	13	9,147	100



TABLE B—Continued  
GUNNISON COUNTY—Continued

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Baldwin-Star	Baldwin Fuel Co.	Baldwin	Bituminous	131	7	5,344	.....
La Plante	Sphinx Coal Co.	Gunnison	Bituminous	84	9	3,746	50
Genter	Rapid Creek Mining, Power & Tunnel Co.	Camp Genter	Anthracite	102	14	1,824	25
Carbon Creek	Carbon Creek Coal Co.	Baldwin	Bituminous	79	2	778	.....
Bonner	Bonner Coal Co.	Gunnison	Bituminous	43	2	398	.....
Total Number	of Mines Operated: 14			171.4	667	555,837	.....

### HUERFANO COUNTY

Robinson No. 1	Colorado Fuel & Iron Co.	Walsen	Bituminous	198.7	198	180,389	900
Robinson No. 2	Colorado Fuel & Iron Co.	Walsen	Bituminous	210.8	184	156,281	900
Lester	Colorado Fuel & Iron Co.	Lester	Bituminous	289.2	201	214,038	800
Cameron	Colorado Fuel & Iron Co.	Farr	Bituminous	219.9	155	166,096	1,000
Pictou	Colorado Fuel & Iron Co.	Pictou	Bituminous	215.7	187	137,021	800
Ideal	Colorado Fuel & Iron Co.	Ideal	Bituminous	190	169	93,172	650
Kebler No. 2	Colorado Fuel & Iron Co.	Tioga	Bituminous	169.9	78	58,393	600
Calumet No. 1	Calumet Fuel Co.	Delcarbon	Bituminous	259	157	193,736	845
Calumet No. 2	Calumet Fuel Co.	Delcarbon	Bituminous	237	70	88,836	600
Alamo	Alamo Coal Co.	Alamo	Bituminous	293	178	106,710	1,000
Oakdale	Oakdale Coal Co.	Oakview	Bituminous	229	73	55,870	250
Barbour	Barbour Coal Co.	Alamo	Bituminous	225	82	47,206	800
Ravenwood	Caliente Coal Co.	Ravenwood	Bituminous	221	112	55,395	200
Maitland	Caliente Coal Co.	Maitland	Bituminous	126	57	25,566	300
Mutual	Mutual Coal Co.	Walsenburg	Bituminous	175.5	72	48,416	400

## HUERFANO COUNTY—Continued

Toltec.....	Aztec Coal Mining Co.....	Toltec.....	Bituminous.....	147.5	88	45,445	500
Gordon.....	Gordon Coal Co.....	Gordon.....	Bituminous.....	156	81	40,379	300
Sunnyside.....	Sunnyside Coal Mining Co.....	Strong.....	Bituminous.....	194	56	32,929	400
*Pryor.....	Pryor Coal Mining Co.....	Pryor.....	Bituminous.....	145.3	52	27,665	400
Reliance.....	Purity Coal Co.....	Ojo.....	Bituminous.....	228	27	11,343	.....
Torrid.....	Torrid Coal Co.....	Rugby.....	Bituminous.....	240	17	9,807	100
Vesta.....	Vesta Mines, Inc.....	Gordon.....	Bituminous.....	103	15	7,921	100
Leader No. 2.....	Fruth & Stone.....	Rouse.....	Bituminous.....	29	10	916	.....
Leader No. 4.....	Fruth & Stone.....	Rouse.....	Bituminous.....	184	18	5,985	75
Leader No. 5.....	Fruth & Stone.....	Rouse.....	Bituminous.....	65	18	2,487	50
Caddell.....	Black Canon Coal & Fuel Co.....	Walsenburg.....	Bituminous.....	71	16	2,204	50
Pacific.....	Pacific Coal Mining Co.....	Walsenburg.....	Bituminous.....	30	11	200	.....
Bunker Hill.....	Steve Mattivi & Sons.....	Rapson.....	Bituminous.....	2	8	200	50
Total Number	of Mines Operated: 28	.....	.....	205.5	2,390	1,814,629	.....

\* Formerly Union Coal &amp; Coke Co.

## JACKSON COUNTY

Moore No. 1.....	North Park Coal Co.....	Coalmont.....	Sub-bituminous.....	273	63	66,624	600
Mart.....	O. D. Eno.....	Walden.....	Sub-bituminous.....	200	5	3,175	50
Total Number	of Mines Operated: 2	.....	.....	267.6	68	69,799	.....

## JEFFERSON COUNTY

Leyden No. 3.....	Leyden Lignite Co.....	Denver.....	Sub-bituminous.....	151.3	84	75,261	500
Christensen.....	Good Fuel Co.....	Littleton.....	Sub-bituminous.....	125	5	2,575	30
Sharon.....	Associated Fuel Co.....	Denver.....	Sub-bituminous.....	178	7	1,544	30
Total Number	of Mines Operated: 3	.....	.....	151.9	96	79,380	.....

TABLE B—Continued  
LA PLATA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
San Juan.....	American Smelting & Ref. Co.	Durango.....	Bituminous.....	271	48	39,453	150
Durango.....	Durango Coal Co.	Durango.....	Bituminous.....	272	19	12,006	75
Sunshine.....	Sunshine Coal Co.	Durango.....	Bituminous.....	264	11	8,804	80
Black Diamond.....	Black Diamond Coal Co.	Durango.....	Bituminous.....	193	10	7,874	70
Peerless.....	Champion Coal Mining Co.	Durango.....	Bituminous.....	132	11	6,057	75
O. K.....	O. K. Coal Co.	Durango.....	Bituminous.....	206	8	5,437	40
Morning Star.....	Baudino & Co.	Durango.....	Bituminous.....	203	6	4,429	21
Triangle.....	Triangle Coal Co.	Durango.....	Bituminous.....	205	4	3,370	50
Tipotsch.....	Frank Tipotsch.	Hesperus.....	Bituminous.....	213	2	1,443	.....
Pine River.....	Pine River Coal Co.	Bayfield.....	Bituminous.....	153	2	1,832	15
Valley View.....	Karl Hauert.....	Mancos.....	Bituminous.....	246	2	750	3
G. & G.....	R. V. Gadberry.....	Hesperus.....	Bituminous.....	183	1	603	3
Beaver Creek.....	Beaver Creek Coal Co.	Bayfield.....	Bituminous.....	160	3	556	.....
Excelsior.....	Geo. B. Jones.....	Bayfield.....	Bituminous.....	130	1	364	10
Rainbow.....	Allison Edwards.....	Falfa.....	Bituminous.....	100	1	90	3
Horse Gulch.....	Horse Gulch Coal Co.	Durango.....	Bituminous.....	15	1	55	.....
Jakine.....	Jakine Coal Co.	Durango.....	Bituminous.....	25	4	32	.....
Total Number	of Mines Operated: 17			226.7	134	92,215	

LAS ANIMAS COUNTY

Frederick.....	Colorado Fuel & Iron Co.	Valdez.....	Bituminous.....	286	386	494,431	2,000
Morley.....	Colorado Fuel & Iron Co.	Morley.....	Bituminous.....	265	439	446,765	1,800
Berwind.....	Colorado Fuel & Iron Co.	Berwind.....	Bituminous.....	262.8	221	223,434	1,000
Toller.....	Colorado Fuel & Iron Co.	Tollerburg.....	Bituminous.....	203.9	257	190,721	1,000
Tabasco.....	Colorado Fuel & Iron Co.	Berwind.....	Bituminous.....	215.7	142	187,788	1,000
Sopris.....	Colorado Fuel & Iron Co.	Sopris.....	Bituminous.....	233.5	167	163,963	1,000
Primero.....	Colorado Fuel & Iron Co.	Primero.....	Bituminous.....	Clean	up	532	.....

## LAS ANIMAS COUNTY—Continued

Delagua.....	Victor-American Fuel Co.....	Delagua.....	Bituminous.....	261	420	456,437	2,500
Boncarbo.....	American Smelting & Ref. Co.....	Cokedale.....	Bituminous.....	283	215	255,709	1,500
Royal.....	Royal Fuel Co.....	Agular.....	Bituminous.....	297 9	129	112,502	1,100
Thor.....	National Fuel Co.....	Bowen.....	Bituminous.....	235.2	108	99,668	500
Brodhead No. 9.....	Temple Fuel Co.....	Brodhead.....	Bituminous.....	231	178	110,811	700
Kenneth.....	Vickers Coal Co.....	Rugby.....	Bituminous.....	232	78	52,430	300
Ludlow.....	Huerfano Coal Co.....	Ludlow.....	Bituminous.....	207	103	77,655	600
Dix.....	Dick Coal Co.....	Dicks.....	Bituminous.....	230	68	70,532	300
Creston.....	Jewel Collieries Corp.....	Agular.....	Bituminous.....	218	61	43,084	350
Bear Canon No. 6.....	Bear Canon Coal Co.....	Vallorso.....	Bituminous.....	250.5	72	67,114	1,000
Empire.....	Empire Coal Mining Co.....	Agular.....	Bituminous.....	124	75	52,330	600
Forbes No. 9.....	Rocky Mountain Fuel Co.....	Forbes.....	Bituminous.....	143.7	50	28,660	350
Southwestern.....	Rocky Mountain Fuel Co.....	Agular.....	Bituminous.....	61.3	38	5,862	.....
Prairie Canon.....	Prairie Canon Coal Co.....	Vallorso.....	Bituminous.....	224.5	35	23,816	200
Three Pines.....	Three Pines Coal Co.....	Vallorso.....	Bituminous.....	265	39	23,563	200
Wellington.....	Wellington Mining Co.....	Rapson.....	Bituminous.....	253	14	8,686	35
Greenville.....	Cedar Hill Coal & Coke Co.....	Ludlow.....	Bituminous.....	122.5	15	8,540	.....
Banner.....	Home Fuel & Supply Co.....	Trinidad.....	Bituminous.....	190	6	4,573	50
Jeffrey.....	Jeffrey Fuel Co.....	Trinidad.....	Bituminous.....	246	12	4,452	100
Engle.....	James Wilson.....	Trinidad.....	Bituminous.....	155	6	3,841	30
Santa Fe.....	Santa Fe Coal Co.....	Trinidad.....	Bituminous.....	115	8	3,053	50
Beshoar.....	Joerger Fuel Co.....	Trinidad.....	Bituminous.....	180	2	2,000	8
Prospect.....	Prospect Coal Co.....	Trinidad.....	Bituminous.....	190	4	1,718	10
Rapson.....	Rapson Coal Mining Co.....	Rapson.....	Bituminous.....	21.8	18	1,700	300
Baldy.....	Anchor Fuel Co.....	Trinidad.....	Bituminous.....	175	2	1,473	10
Pickford.....	Boaglio Coal Co.....	Trinidad.....	Bituminous.....	208	2	1,192	.....
Faycett.....	Faycett Coal Co.....	Agular.....	Bituminous.....	218	1	1,139	25
Pritchard.....	Wilton Coal Co.....	Trinidad.....	Bituminous.....	215	2	835	10
Fairview.....	Archie Grindal.....	Trinidad.....	Bituminous.....	154	1	785	5
Morris.....	Sunlight Coal Co.....	Trinidad.....	Bituminous.....	29	1	78	15
Total Number	of Mines Operated: 37			239.5	3,375	3,231,872	



TABLE B—Continued  
MESA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Cameo.....	Grand Junction M. & F. Co.	Cameo.....	Semi-bituminous	260.5	58	68,747	600
Palisade.....	Palisade Coal & Supply Co.	Palisade.....	Semi-bituminous	220	33	17,297	450
Midwest.....	Midwest Coal Co.	Palisade.....	Semi-bituminous	156	12	4,983	200
Garfield.....	Gilmore & Phillips	Palisade.....	Semi-bituminous	163	6	3,958	50
P. V.....	B. Gearhart.....	Palisade.....	Semi-bituminous	183	3	3,316	.....
Farmers-Mutual.....	Farmers-Mutual Coal Co.	Grand Junction.....	Semi-bituminous	169	6	3,316	.....
Winger.....	New Grand Mesa Coal Co.	Palisade.....	Semi-bituminous	173	4	3,260	50
Stokes.....	W. D. Stokes.....	Palisade.....	Semi-bituminous	136	8	3,218	80
Riverside.....	Riverside Coal Co.	Palisade.....	Semi-bituminous	193	6	2,850	50
Williams.....	Williams Coal Co.	Grand Junction.....	Semi-bituminous	182	4	2,021	30
Nearing.....	Liberty Coal & Mercantile Co.	Fruita.....	Semi-bituminous	195	2	1,368	25
Stove Canyon.....	O. K. McLendon.....	Fruita.....	Semi-bituminous	171	2	1,293	15
Anchor No. 2.....	Anchor Coal Co.	Fruita.....	Semi-bituminous	119	2	798	.....
McGinley.....	McGinley Mine Co.	Grand Junction.....	Semi-bituminous	69	2	688	10
Hidden Treasure.....	Hidden Treasure Mining Co.	Grand Junction.....	Semi-bituminous	132	1	498	.....
Peacock.....	Peacock Coal Co.	Grand Junction.....	Semi-bituminous	190	4	474	4
Cerscent.....	Crescent Coal Co.	Grand Junction.....	Semi-bituminous	90	2	213	.....
Thomas.....	C. F. Thomas.....	Grand Junction.....	Semi-bituminous	160	2	111	.....
Grassi.....	Grassi & Grasso.....	Grand Junction.....	Semi-bituminous	32	2	80	3
Total Number	of Mines Operated: 19			207.6	159	118,495	.....

## MOFFAT COUNTY

Hart.....	Langley & Wolf.....	Craig.....	Bituminous	213	2	2,156	10
Eberle.....	Mt. Evans Fuel Co.	Craig.....	Bituminous	178	3	1,416	50
Collon.....	Ute Coal Co.	Axial.....	Bituminous	210	1	690	.....
Shaver.....	C. G. Phelan.....	Axial.....	Bituminous	120	3	344	20
Knez.....	Knez Coal Co.	Craig.....	Bituminous	98	1	304	.....
Brant.....	Brant Coal Co.	Craig.....	Bituminous	120	1	272	.....
Whitlock.....	E. E. Whitlock.....	Hamilton.....	Bituminous	95	1	175	2
Total Number	of Mines Operated: 7			153.6	12	5,357	.....

## MONTEZUMA COUNTY

School Section Lease.....	Freeman & Co.....	Mancos.....	Sub-bituminous.....	214	4	2,843
Cortez.....	Cortez Light, Power & Mill. Co.....	Cortez.....	Sub-bituminous.....	244	3	2,609
Mesa Verde.....	Mesa Verde Coal Co.....	Cortez.....	Sub-bituminous.....	77	9	842
Spencer.....	Geo. H. Spencer.....	Mancos.....	Sub-bituminous.....	120	1	566
Willden.....	J. C. Willden.....	Mancos.....	Sub-bituminous.....	95	3	400
Morris.....	Geo. H. Morris.....	Dolores.....	Sub-bituminous.....	190	1	358
Montezuma.....	Montezuma Coal Co.....	Cortez.....	Sub-bituminous.....	26	7	310
Total Number.....	of Mines Operated: 7.....			109.2	28	7,928

## MONTROSE COUNTY

Independent.....	Wm. J. Oberding.....	Nucla.....	Sub-bituminous.....	160	1	426
Royer.....	J. S. Royers.....	Montrose.....	Sub-bituminous.....	120	2	305
Gray.....	L. J. Gray.....	Norwood.....	Sub-bituminous.....	120	1	229
Liberty Bell.....	M. L. Skees.....	Nucla.....	Sub-bituminous.....	95	1	200
Missouri.....	Gus Winkler.....	Nucla.....	Sub-bituminous.....	39	1	129
Pleasant Valley.....	Chas. A. Rice & Sons.....	Nucla.....	Sub-bituminous.....	50	1	57
Total Number.....	of Mines Operated: 6.....			100.6	7	1,346

## OURAY COUNTY

Crumpley.....	Crumpley Coal Co.....	Colona.....	Sub-bituminous.....	90	1	129
Chaffee Gulch.....	Belle Herzinger.....	Ouray.....	Sub-bituminous.....	35	3	61
Arien.....	G. H. Arien.....	Ridgway.....	Sub-bituminous.....	60	1	60
Total Number.....	of Mines Operated: 3.....			51.0	5	250

## PITKIN COUNTY

Hughes.....	Wm. Hughes.....	Carbondale.....	Bituminous.....	172	4	1,474
Marion.....	J. R. Marketti.....	Carbondale.....	Bituminous.....	93.7	1	750
Total Number.....	of Mines Operated: 2.....			155.3	5	2,224

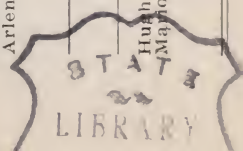


TABLE B—Continued  
RIO BLANCO COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Black Diamond	Hart & Nelson	Meeker	Bituminous	176.8	3	1,548	30
Oldland	Electric Coal Co.	Meeker	Bituminous	225.5	3	1,500	.....
Pollard	Electric Coal Co.	Meeker	Bituminous	124	2	314	.....
Lion Canon	Lion Canon Coal Co.	Meeker	Bituminous	264	2	992	.....
Proctor	R. C. Reinau	Meeker	Bituminous	130	1	272	.....
Nine Mill Hill	Thos. D. Foreman	Meeker	Bituminous	149	1	251	.....
Douglas Creek	Jones & Tracht	Meeker	Bituminous	175	1	165	10
Total Number	of Mines Operated: 7			187.5	13	5,042	.....

## ROUTT COUNTY

Oak Hills No. 1	Moffat Coal Co.	Oak Creek	Bituminous	43.8	95	99,006	.....
Oak Hills No. 2	Moffat Coal Co.	Oak Creek	Bituminous	38.5	103	106,152	3,000
Harris	Colorado & Utah Coal Co.	Mt. Harris	Bituminous	89.6	184	206,471	2,000
Pinnacle	Victor-American Fuel Co.	Oak Creek	Bituminous	71	161	118,200	1,200
Wadge	Victor-American Fuel Co.	Mt. Harris	Bituminous	51.9	81	59,760	.....
Hayden No. 3	Hayden Bros. Coal Corp.	Haybro	Bituminous	102.8	169	149,728	1,200
Bear River	Fraker Coal Co.	Bear River	Bituminous	194	79	76,511	1,000
MacGregor	McNeill Coal Co.	MacGregor	Bituminous	40.7	44	38,433	1,200
Keystone	Keystone Coal Co.	Oak Creek	Bituminous	219.1	27	34,582	.....
Regal No. 1	Pinnacle-Kemmerer Fuel Co.	Mt. Harris	Bituminous	11	39	2,729	.....
Regal No. 2	Pinnacle-Kemmerer Fuel Co.	Mt. Harris	Bituminous	250	47	19,437	150
Babson	Babson Coal Co.	Hayden	Bituminous	182	3	2,502	.....
Butcher Knife	Butcher Knife Coal Co.	Bear River	Bituminous	52	10	1,382	.....
Premium	Fruth & Micheletti	Milner	Bituminous	183	5	1,115	15
Block	E. H. Zimmerman	Steamboat Springs	Bituminous	130	5	1,052	30

## ROUTT COUNTY—Continued

Ben Male.....	L. R. Hardin.....	Oak Creek.....	Bituminous.....	190	3	980
Blue Spruce.....	Nicholas Stein.....	Oak Creek.....	Bituminous.....	175	1	800
Amos (MacCroskey)	Amos Coal Co.....	MacGregor.....	Bituminous.....	174	1	769
Franz.....	G. H. Franz.....	Clark.....	Bituminous.....	120	4	600
Arthur.....	Edna Coal Co.....	Oak Creek.....	Bituminous.....	120	4	591
Seven Points.....	Seven Points Coal Co.....	Oak Creek.....	Bituminous.....	55	1	335
Dry Creek.....	Mutual Coal Co.....	Hayden.....	Bituminous.....	120	4	240
Chergo.....	Thos. Chergo.....	Oak Creek.....	Bituminous.....	68	1	190
Total Number	of Mines Operated: 23			91.5	1,071	921,614

## SAN MIGUEL COUNTY

Keck.....	Keck Coal Co.....	Norwood.....	Sub-bituminous.....	299	2	1,006
Marriot.....	Wm. Marriot.....	Norwood.....	Sub-bituminous.....	85	1	90
Total Number	of Mines Operated: 2			227.7	3	1,096

## WELD COUNTY

Columbine.....	Rocky Mountain Fuel Co.....	Serene.....	Sub-bituminous.....	258.5	290	330,541
Grant.....	Rocky Mountain Fuel Co.....	Frederick.....	Sub-bituminous.....	151.4	98	110,938
Puritan.....	National Fuel Co.....	Dacono.....	Sub-bituminous.....	228.7	194	241,785
Clayton.....	Clayton Coal Co.....	Erie.....	Sub-bituminous.....	155	173	192,299
Boulder Valley.....	Boulder Valley Coal Co.....	Erie.....	Sub-bituminous.....	129.5	137	188,243
Baum.....	Consolidated Coal & Coke Co.....	Dacono.....	Sub-bituminous.....	154.6	86	108,438
Shamrock.....	Shamrock Coal Co.....	Erie.....	Sub-bituminous.....	164	63	80,152
Sterling.....	Grand Junction M. & F. Co.....	Dacono.....	Sub-bituminous.....	151	76	77,145
Russell.....	W. E. Russell Coal Co.....	Frederick.....	Sub-bituminous.....	177.2	56	67,426
Liley (Evans).....	Liley Coal & Land Co.....	Frederick.....	Sub-bituminous.....	179.9	46	44,311
Frederick.....	Liley Coal & Land Co.....	Frederick.....	Sub-bituminous.....	96	34	13,983
Imperial.....	Imperial Coal Co.....	Erie.....	Sub-bituminous.....	253	39	51,757
Witherbee.....	Franklin Coal Co.....	Fort Lupton.....	Sub-bituminous.....	224	8	2,896
Total Number	of Mines Operated: 13			190.0	1,300	1,509,914
Total Number	of Mines Operated in Colorado:					
Total Number	of Days Worked:	266		194.3		
Total Number	of Men Employed:				11,453	
Total Number	of Tons Produced:					9,781,580



TABLE C  
PRODUCTION OF COUNTIES BY MONTHS—1927

Month	Archuleta	Boulder	Delta	Dolores	Elbert	El Paso
January.....	.....	75,953	9,997	.....	461	40,894
February.....	.....	55,810	4,848	.....	350	34,420
March.....	.....	60,594	4,592	.....	372	38,953
April.....	.....	26,716	4,255	.....	58	24,827
May.....	.....	13,625	3,107	.....	31	16,593
June.....	.....	14,952	2,253	.....	178	15,820
July.....	.....	15,760	2,973	.....	27	14,118
August.....	.....	37,037	5,053	.....	33	18,432
September.....	.....	64,470	8,349	.....	168	24,195
October.....	.....	49,603	12,190	.....	362	43,123
November.....	.....	4,689	15,619	.....	628	38,737
December.....	414	14,452	14,647	9,200	947	39,274
Totals.....	414	433,661	87,883	9,200	3,615	349,386

Month	Fremont	Garfield	Gunnison	Huerfano	Jackson	Jefferson
January.....	59,081	3,370	48,080	199,304	7,150	10,517
February.....	41,307	2,802	39,207	153,416	5,973	8,568
March.....	44,617	2,241	38,170	170,824	5,752	11,937
April.....	31,642	2,366	33,301	94,529	2,967	5,317
May.....	33,088	1,707	36,091	117,889	2,558	4,184
June.....	30,577	1,463	42,954	105,636	3,080	4,435
July.....	29,976	1,535	40,639	119,054	1,942	5,517
August.....	51,453	1,778	54,999	183,409	3,128	5,911
September.....	60,003	2,460	64,972	209,029	4,072	7,324
October.....	54,958	3,146	56,278	155,415	9,036	6,787
November.....	4,127	3,137	55,121	123,191	10,862	1,395
December.....	8,940	4,649	46,025	182,933	13,279	7,488
Totals.....	449,769	30,654	555,837	1,814,629	69,799	79,380

Month	La Plata	Las Animas	Mesa	Moffat	Monte-zuma	Mont-rose	Ourray
January.....	8,998	337,792	11,574	745	1,129	.....	.....
February.....	6,475	318,965	10,485	605	294	.....	.....
March.....	6,394	327,520	9,816	360	246	.....	.....
April.....	7,944	207,968	6,244	191	282	.....	.....
May.....	6,757	229,240	4,922	189	279	.....	.....
June.....	6,886	238,987	4,579	29	214	.....	.....
July.....	5,298	234,284	5,603	50	187	.....	.....
August.....	4,711	300,762	9,938	115	235	.....	.....
September.....	5,888	327,474	10,065	215	326	.....	.....
October.....	8,646	246,123	12,930	453	995	.....	.....
November.....	10,558	195,754	14,071	546	1,344	.....	.....
December.....	13,660	267,003	18,268	1,859	2,397	1,346	250
Totals.....	92,215	3,231,872	118,495	5,357	7,928	1,346	250

Month	Pitkin	Rio Blanco	Routt	San Miguel	Weld	Grand Totals
January.....	547	692	87,187	.....	266,859	1,170,330
February.....	237	398	63,958	.....	194,132	942,250
March.....	73	325	69,891	.....	222,983	1,015,660
April.....	55	266	58,131	.....	109,360	616,419
May.....	12	158	61,437	.....	49,637	581,504
June.....	99	137	51,840	.....	68,779	592,898
July.....	.....	137	51,096	.....	58,487	586,683
August.....	.....	118	81,621	.....	100,924	862,657
September.....	233	341	98,041	.....	171,911	1,059,536
October.....	296	504	98,783	.....	158,537	918,165
November.....	229	646	73,969	.....	10,065	564,688
December.....	443	1,320	122,660	1,096	98,240	870,790
Totals.....	2,224	5,042	921,614	1,096	1,509,914	9,781,580

TABLE D

SHOWING INCREASE AND DECREASE BY COUNTIES, 1926-1927

Counties	Tons Produced 1926	Tons Produced 1927	Increase	Decrease
Archuleta.....	1,106	414	.....	692
Boulder.....	600,849	433,661	.....	167,188
Delta.....	69,838	87,883	18,045	.....
Dolores.....	5,220	9,200	3,980	.....
Elbert.....	3,254	3,615	361	.....
El Paso.....	352,300	349,386	.....	2,914
Fremont.....	572,631	449,769	.....	122,862
Garfield.....	31,292	30,654	.....	638
Gunnison.....	566,315	555,837	.....	10,478
Huerfano.....	1,967,437	1,814,629	.....	152,808
Jackson.....	59,192	69,799	10,607	.....
Jefferson.....	102,416	79,380	.....	23,036
La Plata.....	102,998	92,215	.....	10,783
Las Animas.....	3,299,803	3,231,872	.....	67,931
Mesa.....	127,096	118,495	.....	8,601
Moffat.....	6,196	5,357	.....	839
Montezuma.....	6,156	7,928	1,772	.....
Montrose.....	1,091	1,346	255	.....
Ouray.....	.....	250	250	.....
Pitkin.....	3,002	2,224	.....	778
Rio Blanco.....	6,175	5,042	.....	1,133
Routt.....	917,717	921,614	3,897	.....
San Miguel.....	1,047	1,096	49	.....
Weld.....	1,813,629	1,509,914	.....	303,715
Totals.....	10,616,760	9,781,580	.....	835,180
Decrease.....	.....	.....	.....	835,180

TABLE E

COKE PRODUCED IN 1927 BY COMPANIES AND COUNTIES

Companies	Total No. of Ovens Used	Total Tonnage	Counties	Total No. of Ovens Used	Total Ton- nage
American Smelting and Refining Co.....	256 ½	133,067	La Plata.....	27 ½	13,056
Colorado Fuel and Iron Co.....	236	659,506	Las Animas.....	345	183,115
Totals.....	492 ½	790,573	Pueblo.....	120	594,402
				492 ½	790,573

## REMARKS:

Average number of days worked at the coke ovens.....	334
Average number of men employed at the coke ovens.....	223
Number of tons of coal made into coke.....	1,332,038

TABLE F  
SHOWING BY COUNTIES COAL PRODUCTION OF 1927 IN PREPARED SIZES

Counties	Mine Run	Lump	Nut	Pea	Slack	Total Tons
Archuleta .....	414	.....	.....	.....	.....	414
Boulder .....	29,161	168,297	53,814	6,076	176,313	433,661
Delta .....	7,802	45,279	17,431	636	16,665	87,883
Dolores .....	9,200	.....	.....	.....	.....	9,200
Elbert .....	414	2,345	561	45	250	3,615
El Paso .....	100,374	93,926	33,804	266	121,016	349,386
Fremont .....	64,779	196,795	69,421	92	118,682	449,769
Garnfield .....	15,718	3,170	5,293	897	3,576	30,654
Gunnison .....	372,232	114,117	37,314	.....	31,374	555,837
Huerfano .....	493,813	570,046	255,058	15,608	480,104	1,814,629
Jackson .....	8,714	21,811	17,633	.....	21,641	69,799
Jefferson .....	41,375	11,837	1,988	135	24,045	79,380
La Plata .....	73,296	6,952	3,450	1,098	7,419	92,215
Las Animas .....	1,237,983	256,394	208,374	7,638	1,521,483	3,231,872
Mesa .....	61,476	25,191	5,308	37	26,483	118,495
Moffat .....	4,107	864	339	37	10	5,357
Montezuma .....	4,756	2,465	.....	.....	707	7,928
Montrose .....	1,346	.....	.....	.....	.....	1,346
Ouray .....	250	.....	.....	.....	.....	250
Pitkin .....	2,224	.....	.....	.....	.....	2,224
Rio Blanco .....	1,404	2,387	585	.....	666	5,042
Routt .....	135,579	418,568	152,477	385	214,605	921,614
San Miguel .....	142	.....	2	.....	80	1,096
Weld .....	141,572	593,711	149,335	64,920	560,376	1,509,914
Totals .....	2,808,131	2,537,026	1,012,448	97,880	3,326,095	9,781,580

NOTE—In the Slack, some mines include Pea and others Nut and Pea coal. The Egg and Grate coal is included in the Nut coal. (The Egg and Grate coal reported is from Boulder, Las Animas, Routt and Weld Counties.)

## TABLE G

TABULATION SHOWING THE NUMBER OF MEN OF DIFFERENT NATIONALITIES EMPLOYED IN AND ABOUT THE COAL MINES OF COLORADO. (POLL TAKEN JANUARY, 1928.)

Americans .....	4,808	Mexicans .....	2,804
Austrians .....	477	Montenegrins .....	12
Belgians .....	11	Negroes .....	356
Bohemians .....	30	Norwegians .....	2
Bulgarians .....	143	Poles .....	113
Canadians .....	7	Portuguese .....	1
Croatians .....	12	Rumanians .....	14
Danes .....	4	Russians .....	52
English .....	194	Scotch .....	158
Finlanders .....	28	Servians .....	23
French .....	54	Slavonians .....	203
Germans .....	145	Spanish .....	129
Greeks .....	188	Swedes .....	72
Hollanders .....	3	Swiss .....	2
Hungarians .....	53	Syrians .....	3
Indian .....	1	Turks .....	1
Irish .....	58	Welsh .....	123
Italians .....	1,242		
Japanese .....	44		
Lithuanians .....	18	Total .....	11,590

Number of above who can speak English (including Americans and English) ..... 10,597

## COAL PRODUCTION OF COLORADO FROM 1873 TO 1927, INCLUSIVE

Year	Tons	Year	Tons
1873.....	69,977	1901.....	6,021,405
1874.....	87,372	1902.....	7,522,923
1875.....	98,838	1903.....	7,775,302
1876.....	117,666	1904.....	6,776,551
1877.....	160,000	1905.....	8,989,631
1878.....	200,630	1906.....	10,308,421
1879.....	322,732	1907.....	10,965,640
1880.....	375,000	1908.....	9,773,007
1881.....	706,744	1909.....	10,722,490
1882.....	1,161,479	1910.....	12,104,887
1883.....	1,220,593	1911.....	10,197,595
1884.....	1,130,024	1912.....	11,016,948
1885.....	1,398,796	1913.....	9,268,939
1886.....	1,436,211	1914.....	8,201,423
1887.....	1,791,735	1915.....	8,715,397
1888.....	2,185,477	1916.....	10,522,185
1889.....	2,400,629	1917.....	12,515,305
1890.....	3,075,781	1918.....	12,658,055
1891.....	3,512,632	1919.....	10,406,543
1892.....	3,771,234	1920.....	12,514,693
1893.....	3,947,056	1921.....	9,141,947
1894.....	3,021,028	1922.....	10,003,610
1895.....	3,339,495	1923.....	10,336,735
1896.....	3,371,633	1924.....	10,501,088
1897.....	3,565,660	1925.....	10,440,387
1898.....	4,174,037	1926.....	10,616,760
1899.....	4,826,939	1927.....	9,781,580
1900.....	5,495,734		



## MINE DISASTERS AND MISCELLANEOUS FATAL ACCIDENTS, 1927

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### REPORT OF THE EXPLOSION AT THE DELAGUA MINE, MAY 27, 1927

James Dalrymple, State Inspector of Coal Mines,  
414 State Office Bldg.,  
Denver, Colo.

Dear Sir:

The following is my report on the dust explosion at Delagua No. 3 mine, which occurred at 12:35 p. m., May 27, 1927.

This mine is situated in District No. 2, at Delagua, Las Animas county, Colo., eighteen miles northwest of Trinidad, Colo. The property is operated by the Victor American Fuel Co. of Denver, Colo.

The mine is opened by two slopes in the Raton formation. Character of coal, bituminous; height of coal, five feet.

The mine is ventilated by exhaust fan, double port of entry, delivering approximately 65,000 cubic feet of air per minute, and is ventilated by four separate splits, two of the splits are by over-casts and two by openings to the surface on the inby side of the workings. The mine is worked by open lights and classified as non-gaseous.

There were 132 men in the mine at the time of the explosion. Two were killed instantly, four died from after-damp and one died seven days later from injuries received from the violence of the explosion. See page 66.

I was inspecting this property and was in the office at the time the explosion occurred. I immediately went to the fan house and found that the fan was out of commission, owing to the power lines being destroyed by the blast. Mr. James Struthers, superintendent, arrived, and we had a crew of electricians start repairing the power lines. While the power lines were being repaired we sent six men under the direction of F. Callister, assistant superintendent, to the two openings on the other side of the mine. These openings give access to the 5th and 6th north and Rock Island sections of the mine, where 84 men were working. Mr. Callister was instructed that as soon as ventilation was established to advance with the air current and explore this part of the mine with a view of rescuing the men in there. On arriving at the above mentioned openings, Mr. Callister found conditions normal, with the exception of power and telephone lines, which were cut off. The men were all successfully removed to the surface without casualty.

On the slope side of the mine, while the power lines were being repaired, we had the opening roped off. The following were immediately notified: U. S. Bureau of Mines Rescue car No. 2, Colo-

rado Fuel & Iron Co. rescue car, James Dalrymple, Chief Inspector, and Deputy Inspector Wm. Laurie and George Dalrymple of districts Nos. 1 and 3.

The fan was started twenty minutes after the explosion. Heavy black smoke was rolling from both openings on this side of the mine. The main slope, which is normally the intake, looked like it was caved tight, but as soon as the fan was started the smoke receded down the slope. Fifteen minutes later the smoke from the fan exhaust began to clear off.

Pending the arrival of rescue crews, Mr. H. Dalrymple, foreman of the Cass mine, and I, decided to enter the mine following the fresh air, with a view of estimating the destruction to stoppings, etc. We found all stoppings intact and fresh air all the way to the third North entry. One hundred feet out by third North entry we met two men, Tom Struthers, mine foreman, and Dan Woods, assistant mine foreman. We learned from them that the men in the third right were safe. We advanced farther down the slope to the third North overcast and found it destroyed and the air current short circuiting at this point. We also found four loaded cars on the slope rope at this point and as we could not advance farther on account of bad air, we returned to the surface.

As the rescue cars had not yet arrived, it was decided to try to rescue the men from the third North. After being equipped with Burrell gas masks, accompanied by Henry Dalrymple and Clyde Winters and two brattice men, we went to the third North parting. Mr. Henry Dalrymple and Clyde Winters advanced into the third North and brought the 24 men out. In the meantime, the brattice men were repairing the blown-out stoppings at the third North overcast so that we could advance farther down the slope.

Rescue crews having arrived at this time, we were met by them at the third North parting. U. S. Bureau of Mines crews in charge of Engineer Marshall, C. F. & I. crews in charge of Geo. B. Parker. We proceeded down the slope about 300 feet, where we found a number of loaded cars blocking the slope. We crawled over these cars, which were sixteen in number, the last three being derailed.

We also found the body of the rope rider at this point in a cross-cut. Advancing down the slope to the fourth North, we heard some one calling at the fourth North parting. We encountered the dead bodies of four men—two motor men and two nippers and John Walker, pumper, who was alive. Walker informed us that he was knocked down by the force of the explosion 800 feet inby on the fourth North entry and that these four men who were dead had carried him to this point. The rescue crew advanced into the fourth North and brought all the men from this section out alive. We were informed at this time that all the men had been removed from fifth and sixth North and Rock Island sections of the mine with no loss of life. All the men were accounted for in

the third North and fourth North, and in the total check one man was missing, whom we understand was the tracklayer. Continuing our advance down the slope we discovered that the fourth North overcast was also destroyed. We went through the cross-cut to test return air and found the body of the tracklayer in back entry. Total number of men being accounted for, we withdrew to surface.

On May 28th, the day following the explosion, an investigation was made with a view of ascertaining cause of the disaster. Following being present: Chief Inspector Dalrymple, Deputy Inspector Geo. Dalrymple and the writer, B. F. Snodgrass and other officials of the Victor American Fuel Co., Mr. Marshall of the Bureau of Mines and his assistants, Mr. Murray and Mr. Smith, and George B. Parker of the C. F. & I.

It was found that the initial cause of the explosion was a runaway loaded trip wrecking on the slope, and coming in contact with electric wires, formed an arc, which ignited the coal dust thrown in suspension by the wreck. From the initial point of the explosion it was found that the wave of violence traveled about 1200 feet to the portal of the mine, about 2400 feet in the third North, about 2200 feet in the fourth North and 2000 feet in the fifth North. This mine was rock dusted and analysis of dust taken by the Bureau of Mines shows that the percentage of inert matter is slightly below the percentage recommended by the Bureau of Mines, which prevents exploding of coal dust and also propagation of an explosion. It was the consensus of opinion that the rock dust present slowed down the explosion to a considerable extent.

The State Inspection Department believes that the principal reason the explosion did not become general was that the outward force, upon reaching the surface, released the pressure on the inward force, thus causing it to recede.

This explosion brings out the fact that it is useless to rock dust without making tests at regular intervals to find the percentage of inert matter. Also, in my opinion, to prevent repetition of these disasters, all mines should be classified the same, and the same preventive measures taken in non-gaseous mines as are taken in gaseous mines.

I wish sincerely to thank Mr. Marshall and his crew from the Bureau of Mines, Mr. Parker and all the C. F. & I. employes and others who assisted us at this time.

Respectfully submitted,

FINDLAY McCALLUM,  
Deputy Inspector, Dist. No. 2.

THE FOLLOWING ARE THE RESULTS OF ANALYSIS BY THE U. S. BUREAU OF MINES ON THE DUST TAKEN FROM THE DELAGUA MINE FOLLOWING EXPLOSION IN MAY, 1927, INCLUDING MOISTURE.

LOCATION	Road		Roof & Rib		Roof, Rib & Timber	
	% Moisture	% Ash	% Moisture	% Ash	% Moisture	% Ash
<b>Explosion Zone—</b>						
5th North parting.....	8.9	50.8	.....	.....	9.0	63.2
Main slope 400 ft. below 4th North.....	5.8	41.9	.....	.....	3.1	62.2
Main slope 500 ft. above 5th North.....	13.2	44.6	14.7	51.0	.....	.....
Just Inby 5th E.—Inby limit of flame 200 ft.....	3.9	52.0	4.3	50.6	.....	.....
About old 9th E., 3rd North.....	4.0	37.5	13.9	53.4	.....	.....
4th North 200 ft. Inby main slope parting.....	5.5	47.7	6.8	56.8	.....	.....
Back entry, main slope, opposite 4th N., main return.....	5.1	47.8	.....	.....	.....	.....
4th North overcast cross cut.....	.....	.....	2.9	54.0	.....	.....
Average.....	7.38	45.91	8.52	53.18	6.05	62.70
Average, including moisture.....	53.29	.....	61.70	.....	68.75	.....
<b>Outside of Explosion Zone—</b>						
16 parting 4th North.....	4.3	48.4	.....	.....	7.4	60.6
First work inside 21 West off 5th North.....	4.2	18.6	.....	.....	9.0	27.6
Rock Island parting, 5th North.....	5.8	43.9	.....	.....	4.3	39.5
Between 14 East and 15 West, off 5th North.....	5.7	66.6	7.4	52.2	.....	.....
8th West (top slant to 6th North).....	8.4	68.4	8.8	45.9	.....	.....
Midway between 14 W. and 8 W., 6 North motor road.....	8.3	43.8	.....	.....	7.0	61.9
15 East parting 6 North.....	7.2	46.8	4.8	10.5	.....	.....
500 ft. Inby 14 West, parting, 5th North.....	3.5	84.3	8.3	69.4	.....	.....
12 room, 15 West, off 6th North.....	4.4	30.1	.....	.....	4.5	22.6
6 North at junction with left entries to surface.....	3.7	38.7	.....	.....	4.5	31.9
Average.....	5.55	48.96	7.32	44.50	6.11	40.69
Average, including moisture.....	54.51	.....	51.82	.....	46.80	.....

Average of Road; Roof & Rib; and Roof, Rib & Timber in the Explosion Zone, including moisture 60.91%.

Average of Road; Roof & Rib; and Roof, Rib & Timber outside Explosion Zone, including moisture 51.04%.

In averaging the inert matter of the above analysis, it is found that the analysis taken in the explosion zone contains 16.2% more inert matter than those taken outside of explosion zone. This means one of two things. First, that that part of mine included in explosion zone was more thoroughly rock dusted than the other parts of mine, or that the inert matter in the analyses from the explosions zone were materially increased by the explosion. If the latter be true, then those analyses are no criterion on dust conditions immediately prior to the explosion.

\* See list of killed on page 66.



LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE  
COAL MINES OF COLORADO DURING  
THE YEAR 1927

January 7—LOUIS M. SANDOVAL, American, machine runner, experience 21 years, age 46 years, single, employed by the Temple Fuel Co. at the Brodhead No. 9 mine, Las Animas county, was killed by a fall of rock. Deceased and his helper had just finished cutting the place and began drilling holes in the face of the coal. When starting to drill the third hole a large rock fell down between the road timbers and struck deceased, killing him instantly. The place was well timbered and the roof had been thoroughly examined and found solid before the cutting began, but they had failed to test the roof again after the cutting and before starting the drilling. It is possible had they done so the accident would have been avoided, because they might have discovered some loose rock and timbered it. However, the accident is classed as unforeseen and unavoidable.

January 7—N. W. HARTMAN, American, night watchman, no experience in coal mining, age 54 years, married, no children, employed by the Crested Butte Anthracite Mining Co., at the Smith Anthracite mine, Gunnison county, was killed by a breaking down of the breaker, trestle and conveyor. A high wind was blowing and as the deceased was ascending the four steps of the boiler room to the engine and generator room to shut down the engine, the wind blew in bull wheel, timbers and sheeting from the wreck outside into the boiler room and covered him and injuring him so severely that he died about three hours later. No one can be blamed for this accident.

January 11—MIKE DI PAOLO, Italian, pick miner, experience 15 years, age 30 years, married, one child, employed by the Colorado Fuel & Iron Co. at the Toller mine, Las Animas county, was killed by a fall of rock. Deceased was mining a barrier pillar where an invisible slip paralleled the face of coal. While undermining this coal the slip was relieved of its support and gave way and, falling on him, killed him instantly. The place was well timbered. The accident is classed as unforeseen and unavoidable.

January 14—THOMAS A. COOK, American, pick miner, experience 22 years, age 47 years, married, one child, employed by The Colorado Springs Company at the City Coal Mines, El Paso county, was killed by a fall of rock. Deceased and his partner were extracting pillars in an entry. The roof had been examined and found safe, but it appears there was an invisible slip running in a circular direction which formed a pot. This rock gave way without warning and fell on deceased. The place was well timbered and deceased and his partner were both practical men for pillar work. The accident was due to the hazard of that kind of work.

January 14—FRED C. DYER, American, machine runner, experience 17 years, age 39 years, married, one child, employed by the Colorado Fuel & Iron Co., at the Rockvale mine, Fremont county, came to his death by electrocution. He had stopped his cutting machine to jerk it out of the dirt, and in doing so he pinched the cable at a bare spot; as it was carrying 440 volts he received a severe shock, causing unconsciousness, from which he could not be resuscitated, although a doctor worked over him for an hour. The cable was in good condition, except at the point where it was inadvertently pinched. The accident is charged to the hazard of the work.

January 20—ANDY FERRARO, Italian, pick miner, experience 26 years, age 46 years, married, one child, employed by The Colorado Fuel & Iron Co., at the Cameron mine, Huerfano county, was killed by a fall of rock. Deceased was drawing a room pillar when a pot rock gave way from an invisible slip, the roof breaking off flush with the face of the coal between the road timbers. The accident was unforeseen and is classed as unavoidable.

January 27—LEE SCHENKIER, American, machine runner, experience 17 years, age 37 years, married, three children, employed by The Colorado Fuel & Iron Co., at the Toller mine, Las Animas county, was killed by falling down the intake air shaft. This intake airway was enclosed and the entrance to the building was through two doors to the cage, where several electric lights are installed and the shaft is protected by a railing and gate. According to the evidence, deceased and his partner entered the building for the purpose of descending the shaft, the electric power was off and there were no lights except their head-lights. Whether the gate to the portal was open or not is not known; at any rate, he fell down and was instantly killed. The accident seems a misadventure and no one can be charged with its responsibility.

January 31—FRED VIOLA, Italian, rope rider, experience 32 years, age 46 years, married, three children, employed by the Victor-American Fuel Co., at the Kenwood mine, Fremont county, was killed by a fall of rock. Deceased was riding an eight-car trip. A small piece of rock fell on the rail, knocking out a prop, which was supporting a rock. The fall derailed a car, and deceased went to see what the trouble was, and as he came alongside of the derailed trip the rock gave way and fell on him, killing him instantly. The entry was wide enough and had deceased stepped to the left of the car, he would have escaped the fall. The accident was unforeseen and is classed as unavoidable.

February 19—ABUNDIO FERNANDEZ, Mexican, machine miner, experience 3 years, married, one child, employed by The Colorado Fuel & Iron Co., at the Lester mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were loading a car when, without warning, a rock fell from an invisible slip running parallel with the coal face. It knocked out two sets of

timber at the face and fell on deceased, killing him instantly. The place was well timbered. The accident is classed as unforeseen and unavoidable.

February 26—JOSEPH OLGUIN, Mexican, pick miner, experience 15 years, age 49 years, married, four children, employed by the Prairie Canon Coal Co., at the Prairie Canon mine, Las Animas county, was killed by a fall of rock. Deceased was extracting a room stump. The sand rock top at this mine is seamed considerably and about two feet of brushing is done on the entries, leaving considerable overhanging rock in places on the entry ribs. Deceased had mined to one of these seams, or slips, releasing the overhanging rock, which fell on him, killing him instantly. The accident was unavoidable, due to the hazard of the work.

February 27—ALEJANDRO ARCHULETA, Spanish-American, mucker, some experience in coal mines, age 26 years, married, one child, and

FRANK RIVERA, Spanish, mucker, experience 16 years, age 40 years, married, four children, and

CHARLES K. SHEPHERD, American, foreman, experience 23 years, age 40 years, married, two children, were employed at the Pacific Coal Mining Co., at the Pacific mine, Huerfano county, came to their death by a missed shot. The practice at this mine in regard to unexploded shots has been to clean up the face, withdraw the men, place a new primer in unexploded hole and shoot it before any drilling was done. In this instance they drilled into a missed shot, which had been standing about twenty-four hours. The accident was due to the poor judgment or carelessness of Shepherd, the foreman, in charge of the shift.

March 5—JOE ANSTER, American, assistant mine foreman, experience 42 years, age 62 years, married, one child, employed by the Colorado Fuel & Iron Co., at the Lester mine, Huerfano county, was injured February 19 by a runaway pit car. It appears that the rope rider blocked an empty car in a room at the top of the slope to take a loaded car on, which he had dropped down to the empty car to couple onto. Instead, however, the loaded car bumped the empty one so hard that it knocked it over the block, causing it to run wild just as deceased was coming out of a room and it caught him, injuring him so severely that he died on the above date. Had the rope rider used a better block, or switched the empty car into the room below, the accident, in all probability, would have been avoided.

March 7—WALTER M. OWENS, American (colored), pick miner, experience 12 years, age 39 years, married, three children, employed by The Colorado Fuel & Iron Co., at the Robinson No. 2 mine, Huerfano county, was killed by a fall of drawslate. The room in which deceased was working had about 18 inches of drawslate over the coal. The coal was mined from under this draw-



slate about two and one-half feet deep and no sprags, or props, were set to support it after the coal was mined from it. Had this been done the rock that fell on deceased would have been held in place and the accident avoided. It is charged to the negligence of the mine officials and deceased in not seeing that the place was properly spragged.

March 8—JOHN SHINTLER, German, pick miner, experience 35 years, age 61 years, married, three children, employed by the Leyden Coal Co., at the Leyden No. 3 mine, Jefferson county, was injured February 26, by a fall of face coal and died on the above date. Deceased and his partner were mining coal off a room pillar, where a cutting or sheering had been made. While thus employed a large piece of coal came down before deceased, who was standing directly in front of it, could get away. His partner was a short distance away and escaped. The accident was unforeseen and no one is charged with its responsibility.

March 12—JAMES A. HAMILTON, American, pick miner, experience not given, age 52, married, three children, employed by the North Park Coal Co., at the Moore No. 1 mine, Jackson county, was killed by being struck by a car. The driver was taking an empty car to the face of a room when his mule turned sharply to the left and jerked the car off the track and knocked down deceased, who was behind the car carrying a block to sprag it. He was caught between the hubs of the car and dragged some distance and was injured so severely that he died shortly after. The accident was a misadventure, for which no one could be blamed.

March 12—WILLIAM WALTERS, English, trapper, experience 40 years, age 63 years, married, three children, employed by the Boulder Valley Coal Co., at the Centennial mine, Boulder county, was killed between car and rib. At the time of the accident deceased had opened the door to let a trip of 14 cars pass. In some manner the first car jumped the track, catching deceased and injuring him so severely that he died shortly after. It was the custom of the trapper, when he heard a trip coming, to open the door and fasten it with a latch and then step back about three feet from the side of a car, to a retreat cut into the rib, where the trapper sat on a bench between trips. Evidently the clearance was not sufficient to give protection. There were no eye witnesses to the accident; however it is apparent that deceased came to his death through no fault of his, but rather through the negligence of the company in not providing a place of shelter that would be out of the way of trips.

March 16—ALLEN HARTT, Mexican, pick miner, experience one year, age 23 years, single, employed by the Victor-American Fuel Co., at the Pinnacle mine, Routt county, was killed by a fall of rock. The room where the accident occurred was well timbered and deceased and his partner had started to work, when,



without warning, a slab six feet long by three feet wide and six inches thick, fell on him. The slab was released by a damp roof and there was no visible slip to indicate any danger. The accident was unforeseen and is classed as unavoidable.

March 26—ALEX THORP, American, pick miner, experience not given, age 60 years, married, no children, employed by The Colorado Fuel & Iron Co., at the Lester mine, Huerfano county, was killed by a fall of pot rock. Deceased was digging coal off the face when an invisible slip was cut, releasing a large pot rock, which fell on him, killing him instantly. The place was well timbered. The accident was unforeseen and is classed as unavoidable.

April 20—ALFONSO MOSCHETTI, Italian, machine miner, experience 20 years, age 48 years, married, eight children, employed by The Victor-American Fuel Co., at the Chandler mine, Fremont county, was killed by a fall of roof. Deceased was caught on the roadway by the giving away of an invisible slip between two cross bars and the road props. His injuries were so severe that he died a short time after. The accident is classed as unavoidable, due to the hazard of the industry.

April 27—GABRIEL LUCERO, Mexican, driver, experience six years, age 23 years, married, two children, employed by the Wellington Mines Co., at the Wellington mine No. 1, Las Animas county, was killed by being caught between a loaded car and roof. Number 1 mine closing about 10 a. m., deceased went to the No. 3 mine to see his brother to get a key from him to unlock his automobile. Returning to the surface, he boarded a loaded trip of four cars on the slope going to the surface. No rope rider was employed and it was the custom for the driver to send the trip to the surface when ready. No one knew he had boarded the trip until it derailed about 160 feet from the face at a low place on the slope. The accident can be charged to lack of proper supervision and discipline. If Lucero had no right to enter this mine, then it is clear that there were no rules posted prohibiting him from entering.

May 1—GUSTAF CARLSON, Swede, pick miner, experience 30 years, age 52 years, single, employed by The American Smelting & Refining Co., at the Boncarbo mine, Las Animas county, was injured April 27 by a fall of rock and died on the above date. Deceased and his partner were drawing a chain pillar on entry when a rock from an invisible slip broke over the face of the coal and struck the former, resulting in his death a few days later. The place was well timbered and the accident is classed as unavoidable.

May 27—GEORGE CASE, Italian, rope rider, experience 15 years, age 29 years, single;

AUGUST CASTAGNA, Italian, motorman, experience 4 years, age 23 years, single;

WILLIAM COWSILL, English, trackman, experience 24 years, age 45 years, married, one child;

CHARLES DELUCA, Mexican, nipper, experience 2 years, age 18 years, single;

JOHN DELORA, Italian, nipper, experience 6 years, age 22 years, married, no children;

LLOYD MARTINEZ, Mexican, motorman; experience 3 years, age 19 years, single; and

JOHN WALKER, English, pumper, experience 23 years, age 58 years, married, one child, all employed by The Victor-American Fuel Co., at the Delagua mine, Las Animas county, came to their death by a coal-dust explosion.

See full report on page 58.

June 7—SEVERIANO MADRID, American, pick miner, experience 35 years, age 64 years, married, six children, employed by The Victor-American Fuel Co., at the Delagua mine, Las Animas county, was killed by a fall of rock. Deceased and three other miners were extracting a small pillar. He had just finished digging some coal off the face and was bending over to pick some impurities from it, when a pot rock fell on his head, killing him instantly. The place was well timbered and the accident was due to the hazard of this kind of work.

June 16—JAMES B. HYDE, American, sinker, experience 5 years, age 37 years, married, one child, employed by the Hartman Exploration & Development Co., at the Hartman mine, Boulder county. Deceased was engaged sinking a shaft. Two buckets were in use. While one was being dumped on the surface the other was being loaded in the bottom of the shaft. In lowering the bucket, it was customary to stop it about 20 feet from the bottom and upon a given signal the bucket was lowered to the bottom of the shaft. In this instance the engineer had a lapse of memory and forgot to stop the bucket at the 20-foot mark, with the result that the bucket dropped on deceased's head, killing him almost instantly. The responsibility of the accident rests on the engineer in charge of the hoisting.

June 26—LAWRENCE PAGAN, Slav, machine miner, experience 29 years, age 48 years, single, employed by the Gordon Coal Co., at the Gordon mine, Huerfano county, was killed by a fall of rock. The mine foreman visited the place of accident at 9:15 a. m. and discovered a slip running across the face from the roadway and ordered deceased to secure it properly before commencing to load. He set two props under the slip next to the roadway but left the slip without support for a distance of 6x12 feet. At 3:30 p. m. deceased was mining at the face to get enough coal to finish loading a car. While in the act he released the inner edge of the slip, which fell on him, killing him instantly. The acci-

dent was due to the negligence of deceased in not properly timbering the place.

July 27—DOMINICK DI ANGELES, Italian, pick miner, experience 7 years, age 30 years, married, one child, employed by The Jewel Collieries Corp., at the Creston mine, Las Animas county, was killed by a runaway trip. Deceased had four empty cars off the track at room No. 2 on the slope and two loaded cars on the rope. He dropped the loads down to couple them to the empties, but was unable to do so on account of the cars having a one-link hitching, so he used a short chain. On pulling the cars up the slope, the chain broke and the empty cars ran wild down the slope. Deceased and his partner were waiting for cars at No. 7 room, when they heard the runaway trip coming. The switch points for this room were closed and instead of running back in the room, as his partner had done, deceased ran down the slope, and the trip, jumping the switch, overtook him and ran over him, injuring him so severely that he died an hour later. Had the rope rider used a drag on these cars, the accident would have been avoided.

August 2—THOMAS FILER, American, machine miner, experience 30 years, age 50 years, married, no children, employed by The National Fuel Co., at the Thor mine, Las Animas county, was instantly killed by a fall of rock. Deceased was loading a car when a rock gave way from an invisible slip running from road-head to right rib of room and breaking across face of room for a distance of six feet. The place was well timbered, and roof had been sounded and found safe. The accident is classed as unavoidable.

August 4—SAMUEL GUTIERREZ, American, driver, experience 15 years, age 26 years, married, one child, employed by The Colorado Fuel & Iron Co., at the Toller mine, Las Animas county, was killed by a fall of rock. Deceased had taken empty car to face of room and returning by the right side of car when a rock fell on him from a slip on the right rib. The place was well timbered, average distance between props two feet five inches. Accident was unforeseen and is classed as unavoidable.

August—14—JOE ALLISETTE, Italian, machine miner, experience 5 years, age 24 years, single, employed by The National Fuel Co., at the Monarch No. 2 mine, Boulder county, was injured by a fall of rock on the 13th of August and died on the above date. Deceased was picking down some coal, which was sticking to the roof to make place for a cross bar, when a rock from an invisible slip fell on him, causing injuries from which he died. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

August 20—WILLIAM ASMUSSEN, JR., American, machine helper, experience 3 years, age 22 years, single, employed by the Colorado & Utah Coal Co., at the Harris mine, Routt



county, was killed by falling in front of a machine. Evidently deceased was riding on front end of cutting machine as it was being pulled up the slope. In some way he lost his balance and fell and his body was dragged some thirty feet, killing him. There was no eye witness to the accident. It appears to have been a misadventure for which no one can be held responsible.

September 8—PETER KAMINSKY, Russian, machine miner, experience 15 years, age 47 years, married, two children, employed by The Rocky Mountain Fuel Co., at the Industrial mine, Boulder county, was killed by a fall of rock. Deceased and his partner were loading a car with coal when a rock fell from the roof, causing instant death. It seems that the mine foreman had visited the place shortly before the accident and instructed the men to set up props. However, he did not wait to see that his orders were carried out. Also the timbers that were supplied by the company were not of suitable length, as an eight-foot prop cannot be set in a six-foot place. Consequently the responsibility of the accident rests with the men, who were negligent of their own safety, the mine foreman and the company, who failed to comply with the requirements of the law.

September 14—CORTIS F. HICKS, American, surveyor, experience 20 years in coal mines, age 38 years, married, no children, employed by The Victor-American Fuel Co., at the Chandler mine, Fremont county, was injured by being struck by a haulage trip on August 17 and died from the effects of same on the above date. Deceased was working in an entry and stepped aside to allow a trip of loaded cars to pass. A driver with a loaded car followed the same road as the rope trip for about fifty feet and then turned into a parting. The rope is arranged to run on the side of the track; at the point of turning, the rope swung and caught the loaded car and it was pulled to the opposite side of the entry from its natural course of travel and struck deceased, who was sitting on the side of the entry. There was sufficient width at this point and deceased was in the clear of the rope, so also was the driver. Had the rope not caught the car coming in on the parting and pulled it taut to the opposite side of the road, the accident would not have happened. The accident was a misadventure, for which no one could be held responsible.

September 19—FRANCISCO ABALOS, Mexican, pick miner, experience 4 months, age 19 years, single, employed by The Colorado Fuel & Iron Co., at the Toller mine, Las Animas county, was killed by a fall of rock. Deceased and his brother were working night shift drawing pillars, and were loading the last car of the shift, when the pillar caved, burying the deceased and trapping the brother and a mule on the right side of the place, holding them there for two hours before being released. The rock gave way from an invisible slip. The place was well timbered, according to the statement of the brother, and they heard no warning of the place working before the cave. Accident is classed as unavoidable.



September 24—ALEX DELAURENTE, Italian, machine helper, experience 15 years, age 27 years, married, two children, employed by The Calumet Fuel Co., at the Calumet No. 1 mine, Huerfano county, came to his death by being electrocuted. The cutting machine had just been run into an entry. Deceased was in the act of throwing the cable from the track to the rib, where it would be in the clear, and in doing so he came into contact with the cable at a point where it had been spliced and taped. Apparently one of the small wires was protruding through the tape and touching it, he received an electric shock, killing him instantly. The cable was almost new and did not show indications of wear. The accident is classed as unavoidable.

October 7—ANTHONY KOS, Austrian, pick miner, experience 5 years, age 26 years, widower, one child, employed by The Colorado Fuel & Iron Co., at the Robinson No. 2 mine, Huerfano county, was injured by a fall of rock on the 4th of October and died on the above date. Deceased was pulling pillars and was within three feet of breaking through, when he struck a small slip at the face extending across the coal to the roof above, and loosening a rock which fell on him, injuring him so severely that he died from its effects. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

October 7—ROBERT STEWART, Scotch, hoistman, experience 31 years, age 58 years, married, no children, employed by The Caliente Coal Co., at the Ravenwood mine, Huerfano county, was killed by a runaway trip. Deceased was cleaning track on the main haulageway parting, when a trip of empty cars broke loose from the haulage locomotive and ran down a 3% grade for about 300 feet to the parting and running so fast that the fourth car from the front jumped the track at the parting frog and caught deceased, pinning him down and injuring him so severely that he died almost instantly. The cause of the cars breaking loose was due to a defective draw bar not noticeable until the break disclosed it. The accident was unforeseen and is classed as unavoidable.

November 8—LOUIS YEDYNAK, American, pick miner, experience 7 years, age 22 years, married, no children, employed by The Colorado Fuel & Iron Co., at the Morley Slope mine, Las Animas county, was killed by a fall of rock. Deceased and his partner were working nights, the place being double shifted. They were pulling pillar stumps. They had loaded three cars and had started on the fourth, when a rock on the left side of the stump gave way from the rib, knocking two props from under the cross bar next the face, and fell on deceased, killing him instantly. The place was well timbered and the accident was unforeseen, and is, therefore, classed as unavoidable.

November 11—TRINIDAD ALVAREZ, Mexican, pick miner, experience 12 years, age 30 years, married and one child, employed

by The Colorado & Utah Coal Co., at the Harris mine, Routt county, was killed by a fall of rock. Deceased was in the act of prying loose some coal when a large rock gave way and struck him. The mine foreman had been at his working place a short time prior to the accident and ordered deceased to set up two more props, which was not complied with. It was the duty of the mine foreman to see that his order was carried out, and had he done so, no doubt the accident would have been avoided. Consequently this official was negligent and is held responsible for the death of this man.

November 28—JOSEPH ESPINOZA, Mexican, machine miner, experience 7 years, age 29 years, married, one child; and

CARMIN JIMENEZ, Mexican, machine miner, experience 8 days, age 26 years, married, no children, both employed by The Caliente Coal Co., at the Ravenwood mine, Huerfano county, were killed by a fall of rock. The men were loading out coal from one-half of a cut, when a rock gave way from an invisible slip at the face, knocking out three props, and the men working under the rock were caught and killed. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

November 30—JOE SALAS, rope rider, experience 3 years, age 24 years, married, one child, employed by The Hayden Bros. Coal Corp., at the Hayden No. 3 mine, Routt county, was killed by falling under a trip of loaded cars. In rounding one of the curves of the haulage road, the bumper of the front car broke loose on one side, the jolt to the car threw deceased under the car and he was dragged several hundred feet and so badly mangled that he died. There was no eyewitness to the accident, but it was caused by a defective bumper, which had not been observed. It was a misadventure, for which no one could be held responsible.

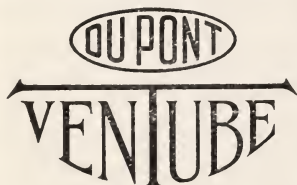
December 4—DAVID NORD, American, pick miner, experience 20 years in metal mining, age 35 years, married, two children, employed by The Rapid Creek M. T. & P. Co., at the Genter mine, Gunnison county, was killed by a fall of rock. Nord and his partner were taking down loose rock from the face. He had loosened about a ton of rock, which, when it fell, caught him before he could step aside. The accident was unforeseen and is classed as unavoidable.

December 27—JULES TILSCH, German, pick miner, experience 28 years, age 50 years, married, one child, employed by the Empire Coal Mining Co., at the Empire mine, Las Animas county, was killed by a fall of rock. A loaded car was being pulled out of a room where the grade is about 15% in favor of the load. The mule turned off at right angles to the track and was thrown and dragged, knocking out three cross bars. Deceased was eating his lunch and got up to answer the driver's call for help to raise the mule. As he approached the point where the cross bars were down, a piece of draw slate fell on him, killing him almost in-

stantly. The accident was unavoidable and no one is charged with its responsibility.

December 27—ANDREW CONDOR, American, machine miner, experience 11 years, age 26 years, married, one child, employed by the Purity Coal Co., at the Reliance mine, Huerfano county, was killed by a fall of roof. Deceased and his partner had just started to work in this mine. The foreman took them to their working place and examined it and found that all the loose rock had been taken down. The men started cleaning the roadway preparatory to laying the track, when a rock from an invisible slip, five feet from the working face, gave way and catching deceased, killed him almost instantly. The accident was due to the hazard of the work, for which no one could be held responsible.

December 27—OSCAR DONAGHE, Irish, loader, experience 13 years, age 27 years, married, one child, employed by The Caliente Coal Co., at the Ravenwood mine, Huerfano county, was injured by a fall of rock, June 7, 1927, and died from the effects of the injuries sustained on the above date. Deceased was pulling down the coal undercut by the machine when he uncovered an invisible slip, allowing a large pot rock to fall on him, injuring him so severely that he died six months later. The accident is classed as unavoidable, for which no one is blamed.



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December 30—FRANK ROSCOE, Polish, timberman, experience 20 years, age 58 years, single, employed by The Rocky Mountain Fuel Co., at the Grant mine, Weld county, was killed by a fall of rock. At the time of the accident two co-workers were putting up timbers and deceased was loading mine rock when a slab gave way from an invisible slip and fell on him, injuring him so severely that he died shortly after. The mine foreman had examined the roof forty-five minutes prior to the accident and found it solid. The accident was unforeseen, for which no one is held responsible.















