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NINTH ANNUAL REPORT
OF THE
STATE INSPECTOR OF
COAL MINES
COLORADO
1921



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NINTH ANNUAL REPORT
OF THE
STATE INSPECTOR
OF COAL MINES

1921



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PERSONNEL OF COAL MINE INSPECTION DEPARTMENT

| | |
|---|-------------------|
| JAMES DALRYMPLE, Chief Inspector..... | Denver, Colo. |
| W. M. LAURIE, Deputy Inspector..... | Trinidad, Colo. |
| HUGO H. MACHIN, Deputy Inspector..... | Aguilar, Colo. |
| WILLIAM H. JAMES, Deputy Inspector..... | Walsenburg, Colo. |
| JAMES W. GRAHAM, Deputy Inspector..... | Lafayette, Colo. |
| HENRY P. KING, Deputy Inspector..... | Denver, Colo. |
| ADA R. TIBBITS, Chief Clerk..... | Denver, Colo. |
| MAX M. GREENWALD, Assistant Clerk..... | Denver, Colo. |

FIELD FORCE AND DISTRICTS

W. M. LAURIE, 512 Ash St., Trinidad, Colo.....District No. 1

Includes the following mines: Primero, Frederick, Sopris, Starkville, Morley, Engleville, Gray Creek, Boncarbo, Piedmont, La Belle, Jeffries, Santa Fe, Bear Canon, Three Pine, Thor, Macoye, Baldy Mountain, Hines, Keystone, Leone, Henderson, Deep Vein, Liberty, Fisher's Peak, Pickford, Beshoar, Brown, Phillips, Star, Prospect, Toller, Forbes.

HUGO H. MACHIN, Box 334, Aguilar, Colo.....District No. 2

Includes the following mines: Lester, Ludlow, Rouse, Black Diamond, Rugby, Primrose, Star, Rapson, Southwestern, Jewel, Empire, Royal, Pryor, Cameron, Ravenwood, Ideal, Caprock, Hezron, Bunker Hill, Delagua, Cass, Tabasco, Greenville, Black Diamond, Berwind, Mutual, Brodhead.

WM. H. JAMES, 216 E. Indiana Ave., Walsenburg, Colo.District No. 3

Includes the following mines: Oakdale, Reliance, Caddell, Cuchara Canon, Toltec, Pietou, Jobal, Maitland, New Maitland, Vesta, Gordon, Turner, Sunnyside, Kebler Nos. 1 and 2, Walsen, Robinson 1 and 2, and all mines in Fremont county.

JAMES W. GRAHAM, Lafayette, Colo.....District No. 4

Includes mines in the following counties: Adams, Boulder, El Paso, Jackson, Garfield, Gunnison, Mesa, Montrose, Ouray, Pitkin, and Rio Blanco.

HENRY P. KING, 1255 Lafayette St., Denver, Colo.....District No. 5

Includes mines in the following counties: Archuleta, Elbert, Jefferson, La Plata, Moffat, Montezuma, Routt, and Weld.

LETTER OF TRANSMITTAL

Denver, Colorado, March 8, 1922.

To His Excellency,

OLIVER H. SHOUP,

Governor of Colorado.

Sir: Herewith I have the honor to submit to you, in accordance with Section 37 of an Act entitled "Coal Mining Laws," the Ninth Annual Report of this department.

The period covered began January 1 and ended December 31, 1921.

Respectfully,

JAMES DALRYMPLE.

State Inspector of Coal Mines.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 TO DECEMBER 31, 1921

RECEIPTS

| | | |
|---|-------------|-------------|
| Tax collected on coal mines..... | \$32,330.27 | |
| From sales of copies of the Coal Mining Laws..... | 373.65 | |
| From sales of old anemometer and safety lamp..... | 16.00 | |
| From refund on mileage book and telegram..... | 22.75 | |
| Balance brought forward from 1920..... | 8,007.31 | |
| Total | | \$40,749.98 |

DISBURSEMENTS

| | | |
|--|-------------|-------------|
| Salary of chief inspector..... | \$ 4,400.00 | |
| Salaries of five deputy inspectors..... | 14,129.43 | |
| Salaries of chief clerk and assistant clerk..... | 3,300.00 | |
| Expenses, Chief and Deputy Inspectors..... | 4,675.68 | |
| Fatal Accident Investigators, per diem and expenses..... | 169.03 | |
| Mileage books (R. R. Transportation)..... | 1,140.00 | |
| Automobiles, supplies, and repairs..... | 767.20 | |
| Board of Examiners, per diem and expenses..... | 95.52 | |
| Printing | 1,688.40 | |
| Postage | 373.70 | |
| Stationery supplies | 216.79 | |
| Telephone service | 53.00 | |
| Telegraph service | 26.39 | |
| Instruments | 187.00 | |
| Electrical supplies | 140.92 | |
| Express | 6.20 | |
| Miscellaneous | 104.65 | |
| Total | | \$31,473.91 |

Surplus\$ 9,276.07

FIELD EQUIPMENT

| | |
|---------------------------|-----------------------------------|
| Three Dodge Touring Cars. | One Carbon Monoxide Gas Detector. |
| One Ford Touring Car. | Five Marseant Safety Lamps. |
| Seven Anemometers. | Ten Koehler Safety Lamps. |
| One Psychrometer. | One Aneroid Barometer. |
| One Geophone. | One Burrell Gas Detector. |
| Five Speedometers. | One Gas Testing Box. |

SUMMARY OF THE COAL PRODUCTION OF COLORADO, 1921

| | |
|--|-------------|
| Number of mines operated..... | 249 |
| Number of new and old mines opened..... | 40 |
| Number of mines closed, 11; abandoned, 5; total..... | 16 |
| Tons of sub-bituminous coal produced..... | 1,452,264 |
| Tons of semi-bituminous coal produced..... | 781,345 |
| Tons of bituminous coal produced..... | 6,844,352 |
| Tons of anthracite coal produced..... | 63,986 |
| Total number of tons of coal produced..... | 9,141,947 |
| Decrease, 1921..... | 3,372,746 |
| Tons of run of mine coal produced..... | 3,405,538 |
| Tons of lump coal produced..... | 2,674,772 |
| Tons of nut coal produced..... | 650,472 |
| Tons of egg coal produced..... | 36,659 |
| Tons of pea coal produced..... | 58,876 |
| Tons of slack coal produced..... | 2,315,630 |
| Percentage of slack produced..... | 40.4- |
| Tons of coal mined by hand..... | 4,846,446 |
| Tons of coal mined by machine..... | 4,295,501 |
| Kind and number of machines used: Compressed air, 162; electric, 270; total..... | 432 |
| Tons of coal mined for shipment..... | 8,350,388 |
| Tons of coal shipped out of the state..... | 1,995,571 |
| Tons of coal sold to local trade and used by employees..... | 520,240 |
| Tons of coal used at the mines for steam and heat..... | 194,085 |
| Tons of coal made into coke..... | 695,170 |
| Tons of coke made..... | 369,267 |
| Number of coke ovens used..... | 340 |
| Number of days coke ovens were operated..... | 344.5 |
| Number of men employed at coke ovens..... | 134 |
| Number of mines employed: Pick, 4,769; Machine, 3,356; total..... | 8,125 |
| Total number of men employed in and about mines (average)..... | 14,164 |
| Number of employees foreign born..... | 6,256 |
| Number of employees speaking English..... | 10,455 |
| Average number of days worked (man-days)..... | 164.4 |
| Daily production per miner..... | 6.8 |
| Annual production per miner..... | 1,125.2- |
| Number and type of safety lamps used: Flame, 542; electric, 5,471; total..... | 6,013 |
| Number of carbide lamps used..... | 7,497 |
| Number of pounds of carbide used (incomplete, only 99 mines reporting)..... | 194,085 |
| Number of pounds of permissible powder used..... | 760,117 |
| Number of pounds of black powder used..... | 1,260,955 |
| Number of pounds of dynamite powder used..... | 22,220 |
| Number of men killed: Underground, 48; surface, 1; total..... | 52 |
| Number of men injured..... | 1,520 |
| Number of men killed per thousand employed..... | 3.6 |
| Number of men injured per thousand employed..... | 107.3 |
| Number of tons of coal produced for each life lost..... | 175,807 |
| Number of tons of coal produced for each non-fatal accident..... | 6,014 |
| Number of men employed per fatal accident..... | 272.4 |
| Number of men employed per non-fatal accident..... | 9.3 |
| Number of widows left..... | 31 |
| Number of children left fatherless..... | 68 |
| Cost of development work in mines during 1921; 139 mines reporting..... | \$1,015,478 |
| Number of days lost account of car shortage, 44 mines reporting..... | 2,187 |
| Number of tons of coal lost through shortage of labor, 10 mines reporting..... | 84,000 |

Ninth Annual Report OF THE State Inspector of Coal Mines 1921

INTRODUCTION

The coal production of Colorado in 1921 was 9,141,947 tons, a decrease of 3,372,746 tons as compared with the output of 1920. This loss of tonnage is largely attributable to the general depression of all industries throughout the country and further intensified by wage disputes, causing numerous local strikes, also a car shortage, which prevailed chiefly in Routt county, caused much loss of business. The average number of men employed was 14,164, or 499 more men than in the preceding year. The number of (man) days worked was 164.4, a loss of 91.8 days compared with the year before. Two hundred and forty-nine mines were operated, which was eighteen more mines than in 1920. Of these mines 108 have no railroad connections and supply local trade only. A few new mines were opened up, but apparently on a small scale as no data was furnished to this office to give the probable extent of contemplated capacity or equipment. Despite the slump in business the operators did not lose their spirit of enterprise as shown by the annual reports filed with this office, many of them reported material additions in the housing and modern conveniences of employes at the coal camps.

RESUSCITATING APPARATUS

Being, that the pulmotor and lungmotor are no longer used and the inhaler having been approved by the U. S. Bureau of Mines, the following may be of benefit to those having pulmotors.

“The pulmotor may be converted into an inhalator, as follows: ‘Take the oxygen cylinder, reducing valve, recording gauge, oxygen feed tube, and face mask, which are parts of the pulmotor and fasten them in a tight box, such as the original pulmotor case, and you have an inhalator, to be used to furnish oxygen or air enriched with oxygen when giving artificial respiration my manual methods.’ ”

DANGER OF UNDERGROUND TELEPHONE IN GASEOUS MINES

(From a letter sent out by the U. S. Bureau of Mines)

“Washington, D. C.—That the ordinary, innocent-appearing telephones used in the underground depths of coal mines are capable of igniting gas and thus bringing about disastrous mine explosions is the novel finding of an investigation just conducted by the United States Bureau of Mines at its experiment station at Pittsburgh, Pa. The danger of gas ignition and explosion does not exist in the employment of such current as is necessary for talking over telephones, but results from the ringing of the magneto.

Actual tests on an ordinary mine telephone were made in a large testing gallery of approximately 400 cubic feet capacity, used by the Bureau of Mines for investigation of all types of electrical equipment in gaseous atmospheres. The gallery is so arranged that it can be filled with an explosive mixture of natural gas and air, the gas being taken from the city mains. The inner and outer doors of the telephones were left open so that the gas could easily enter the interior of the instrument. Another telephone was placed at a point some distance from the gallery and connected to the first telephone through a metallic circuit. The telephone inside the gallery was fitted with an attachment that permitted the ringer to operated from outside the gallery. By another attachment, the receiver circuit could be opened and closed in like manner. The outside telephone could be operated in the usual way.

Tests were made by ringing the telephone inside the gallery when filled with gas, but not connected to the external circuit, and by ringing the inside telephone when connected by the external circuit, and by ringing the outside telephone while the receiver circuit of the inside telephone was being opened and closed.

As the results of several series of trials made under varying conditions, numerous ignitions and explosions of the gas in the gallery were obtained.

The results of the investigation indicate that the ordinary type of mine telephone, while designed to have a certain measure of dust and moisture tightness, it is not explosion-proof device, and is, therefore, not safe in gaseous atmospheres. The Bureau of Mines stresses the need of establishment of safety standards for mine telephones that may be required to operate in gaseous atmospheres.”

EMPLOYMENT OF SHOT FIRERS AND THEIR DUTIES

A few words to some of the coal companies concerning the employment of shot firers, their duties, etc. Many of our coal companies employ shot firers because the law requires them to do so, and not because he is considered necessary or that he may be an asset to his employer. Under such conditions he is told that he has an average of so many shots to fire each shift without any regulations or understanding as to how he must proceed, further than that, as soon as the shots are fired, his day's work is done, and being

a human being, he proceeds to fire the shots in the shortest possible time, holes are not inspected to see if they are properly placed, or properly cleaned, or to give any consideration to the charges left by the miner, or even have an understanding with his superiors that he must not commence firing shots until he has been advised by the mine foreman, or his representatives, that all other employes are out of the mine, that he must visit all places where shots have been fired as soon as practicable after firing to see the results of his work, and that fire has not originated from the blasting. Under such conditions very little, if any benefit can be expected, and in my opinion the employer is responsible for such careless procedure.

The object of employing shot firers is to minimize loss of life and destruction of property, to improve sanitary conditions during working hours, and in domestic mines to increase the percentage of lump coal, all of which can be accomplished, provided, the law governing the duties of shot firer is fully complied with. Where this is not done, the employer is working against his own interests and that of his employes. In mines producing domestic coal to the extent of 200 tons per day, the shot firer, by being compelled to do his work, properly as required by law, should be an asset to his employer, to the extent of many times his wages, by increasing the percentage of lump coal. I hope this will reach the attention of those for whom it is intended and that they will give it the consideration it is entitled to, and take it in the spirit it is given.

At a hearing held in Colorado Springs, January, 1922, before the Industrial Commission of Colorado, concerning a reduction in wages of the Pikes Peak Coal Company's employees, the miners' representatives complained of having to work in powder smoke caused by firing of shots during the day. There is no doubt as to the truth of the complaint and it applies to all lignite mines where shots are fired during the day. The State Mine Inspection Department has for a number of years tried to remedy the condition complained of, but because of lack of co-operation from both the companies and their employes, very little, if any results have been obtained, and just as long as the employer and employe are so indifferent to their own welfare, just so long will the miners have to work in smoke and the percentage of slack remain at fifty per cent or more.

A few days ago I was advised by Deputy Inspector J. W. Graham, that the Pikes Peak Fuel Co., had put on a shot firer at its Keystone mine and that all shots were being fired by him after all other employes are out of the mine. This was very gratifying news to this department and it is hoped that other mines will follow.

TO STATE DEPUTY COAL MINE INSPECTORS

No doubt you have read in the press the controversy over the recovery of the bodies of the six men, who lost their lives in the Satanic mine disaster, on December 13, 1921.

The Denver Fire Department was called upon for assistance and went to the mine, taking with them two Draeger helmets, both of them defective, several gas masks that give no protection against carbon monoxide gas, a life line, and flashlights.

Upon entering the mine they could not see with the flashlights, so Chief Healy telephoned Denver and had mazda lamps and necessary wiring brought to the mine. Attaching the mazda lamps to the wire, they lowered them down the forty-five degree slope, and when nearing the bottom, one of the lamps burst. Fortunately the atmosphere was not explosive, had it been, some members of the Fire Department and several others might have lost their lives as they were standing in and around the entrance to the slope. A compressed air hose was used to drive the fumes back in an effort to reach the bodies. Imagine the danger of such action with the intake and return airways sealed. It meant sending the fumes back over the men at the hose.

The following statement is taken from a letter of Mr. F. M. Downer in answer to a letter from me protesting against a repetition of a similar procedure in case of being called out again to a mine fire, to which he says: "That under similar conditions the same action as taken in this case will be taken again."

Now gentlemen, as state officials, sworn to do our duty and render all possible assistance in the protection of life and limb of those employed in and around coal mines in Colorado, I say that the State Coal Mine Inspection Department must take such action as may be necessary to prevent a recurrence of such action by any inexperienced man or men not under the direction of a competent leader, holding a certificate as such, issued by the Board of Examiners for Mine Inspectors and Mine Officials for the State of Colorado.

The field work of the Inspector and Deputy State Inspectors for 1920 was as follows:

| | |
|---|-----|
| Total Inspections | 803 |
| Total Producing Mines..... | 249 |
| Total Mines Inspected..... | 296 |
| Number of Fatal Accidents Investigated..... | 43 |
| Inquests Attended | 29 |
| Scale Inspections | 9 |
| Complaints Investigated | 25 |
| Prosecutions | 19 |

In conclusion, I wish to tender thanks to the Deputy Inspectors and office force for their faithful services.

Respectfully submitted,

JAMES DALRYMPLE,
State Inspector of Coal Mines,

| | | | | | | | | | | |
|-----------------------------|--------------------|------------|---------------------|----------------------------|----------------------------|----------------------------|-----------------------|----------------------|--------------|----|
| Colorado Fuel & Iron Co. | Starkville | Las Animas | D. A. Stout | Pueblo | James Wilson | Starkville | A. T. & S. F. | Laramie Formation | 6 | |
| Colorado Fuel & Iron Co. | Engle | Las Animas | D. A. Stout | Pueblo | T. P. Davis | Engleburg | D. & R. G. W. | Engle | 5 | |
| Colorado Fuel & Iron Co. | Delagua | Las Animas | R. W. Snodgrass | Pueblo | James Struthers | Delagua | C. & S. E. | Raton Formation | 6 | 8 |
| Victor-American Fuel Co. | Delagua | Las Animas | R. W. Snodgrass | Pueblo | Geo. Shields, Asst. | Hastings | C. & S. E. | Raton Formation | 1 | 6 |
| Victor-American Fuel Co. | Hastings | Las Animas | R. W. Snodgrass | Pueblo | A. J. Brooks | Hastings | C. & S. E. | Raton Formation | 5 | |
| Victor-American Fuel Co. | Gray Creek | Las Animas | B. W. Snodgrass | Pueblo | James O. Nell | Gray Creek | C. & S. | Vermejo Formation | 5 | |
| Rocky Mountain Fuel Co. | Forbes | Las Animas | Geo. T. Peart | Pueblo | W. L. Morgan | Forbes | C. & S. | Forbes | 4 to 8 | |
| Rocky Mountain Fuel Co. | La Belle | Las Animas | Geo. T. Peart | Pueblo | Wm. Morgan | Sopris | C. & W. | La Belle | 3 1/2 to 5 | |
| Rocky Mountain Fuel Co. | Southwestern | Las Animas | Geo. T. Peart | Pueblo | Geo. T. Fortune | Agullar | C. & S. | Up. and Lower Hob'n | 3 to 5 | |
| Rocky Mountain Fuel Co. | Piedmont | Las Animas | Geo. T. Peart | Pueblo | Wm. Morgan | Sopris | C. & W. | Piedmont | 3 1/2 to 7 | |
| Royal Fuel Co. | Royal | Las Animas | Samuel Tescher | Pueblo | Richard Backerton | Agullar | C. & S. | Laramie-Walton | 6 | 6 |
| American Smelt. & Ref. Co. | Boncarbo | Las Animas | H. H. Bubb | Cokedale | C. H. Garrett | Cokedale | D. & H. G. W. | Primer | 6 | 6 |
| Temple Fuel Co. | Broadhead No. 9 | Las Animas | F. R. Wood | Trinidad | O. C. Cook | Broadhead | C. & S. | Laramie, Mid. Series | 4 | |
| Temple Fuel Co. | Broadhead No. 10 | Las Animas | F. R. Wood | Trinidad | O. C. Cook | Broadhead | C. & S. | Laramie, Mid. Series | 4 | |
| Empire Coal Co. | Empire | Las Animas | J. W. Siple | Denver | W. W. Moss | Agullar | C. & S. | Peerless | 6 | |
| Huerfano Coal Co. | Ludlow | Las Animas | S. S. Murphy | Denver | P. McDevitt | Ludlow | C. & S. | Hastings & Berwind | 4 to 6 | |
| Bear Canon Coal Co. | Bear Canon | Las Animas | P. D. Miller | Trinidad | P. D. Miller | Vallorso | C. & S. | Laramie, Upper | 4 | |
| National Fuel Co. | Thor | Las Animas | Samuel Tescher | Denver | Eph. Wagstaff | Bowen | C. & S. | Laramie Cretaceous | 6 | |
| Sureka Coal M. Co. | Macoya | Las Animas | James P. Hoyer | Trinidad | Thos. F. Hoyer | Boncarbo | D. & R. G. W. | | 5 | 6 |
| Rapson Coal M. Co. | Rapson | Las Animas | W. W. Curtis | Colorado Spgs | Robert C. Curtis | Rapson | FAS and D. & R. G. W. | Robinson | 3 to 4 | |
| Black Hawk Coal Co. | Primrose | Las Animas | J. J. Wolfersheiger | Denver | David Lewis | Rugby | FAS and D. & R. G. W. | Primrose No. 2 | 3 to 4 | 10 |
| Jewel Coal Co. | Jewel | Las Animas | Ach. Bean | Denver | W. E. Powell | Agullar | C. & S. | | 3 1/2 to 5 | 6 |
| Prairie Canon Coal Co. | Prairie Canon | Las Animas | John Allan | Ludlow | John Allan | Vallorso | C. & S. | Bear Canon | 3 | 6 |
| Cedar Hill Coal & Coke Co. | Greenville | Las Animas | John Allan | Denver | Robt. Donaldson | Ludlow | C. & S. | | 6 | |
| Cedar Hill Coal & Coke Co. | Black Diamond | Las Animas | Albert G. Jeffries | Denver | Robt. Donaldson | Hapson | C. & S. | | 3 | |
| Jeffries Fuel Co. | Jeffries | Las Animas | Albert G. Jeffries | Trinidad | Albert G. Jeffries | Trinidad | Trinidad Elec. | Starkville | 1 to 7 | |
| Santa Fe Coal Co. | Santa Fe | Las Animas | F. A. Williams | Denver | Geo. Guiley | Trinidad | A. T. & S. F. | Laramie No. 1 | 5 to 7 | |
| *Kinley-Wilton Coal Co. | Fritchard | Las Animas | Frank E. Kinley | Trinidad | J. H. Wilton | Trinidad | None | | 3 | |
| Trinidad Coal Co. | Baldy Mountain | Las Animas | Geo. W. Haigh | Trinidad | M. C. Broyles | Trinidad | None | Trinidad | 7 | |
| Trinidad Coal Co. | Perrell | Las Animas | Geo. W. Haigh | Trinidad | J. C. Riser | Trinidad | None | Trinidad | 4 | 3 |
| Miners Coal & Coke Co. | Williams | Las Animas | | Trinidad | C. O. Burress | Trinidad | None | | 3 | 6 |
| Jorgner Fuel Co. | Bushoar | Las Animas | | Trinidad | J. P. Shaw | Trinidad | None | | 8 | |
| L. Leone | Leone | Las Animas | | Trinidad | L. Leone | Trinidad | None | | 2 | 6 |
| Liberty Coal Co. | Liberty | Las Animas | | Forbes | W. E. Riggs | Forbes | C. & S. | Berwind, Lower | 4 | |
| Three Blues Coal Co. | Three Blues | Las Animas | Earl Cobb | Amarillo, Tex. | E. L. Pendleton | Vallorso | D. & S. | Laramie, Upper | 3 | 10 |
| McKford Coal Co. | McKford | Las Animas | Is. Roaglio | Trinidad | E. L. Pendleton | Trinidad | None | Laramie, Lower | 3 | |
| Caminetti & Co. | Huxby | Las Animas | | Rugby | Wm. Lamberti | Rugby | C. & S. | | 3 | 6 |
| R. Marsh | Wilder's Peak | Las Animas | | Trinidad | R. Marsh | Trinidad | None | | 3 | 10 |
| C. O. Stanley | Stanley | Las Animas | | Trinidad | Pete Cameron | Boncarbo | D. & R. G. W. | Primero | 1 | 6 |
| Fairview Coal Co. | Thompson | Las Animas | | Trinidad | W. H. Owen | Trinidad | Trinidad Elec. | Viola | 2 | 6 |
| Dick Coal Co. | Dix | Las Animas | | Walsenburg | R. K. Graham | Boncarbo | D. & R. G. W. | | 1 | |
| Hines Coal Co. | Hines | Las Animas | (Mine closed) | (No report sub- mitted) | John Corrie | | | | | |
| John Corrie | Corrie | Las Animas | | Sopris | John Corrie | Sopris | None | | 1 | 8 |
| James E. McLaughlin | Henderson | Las Animas | | Trinidad | James E. McLaughlin | Trinidad | None | El Moro | 6 | |
| Grand Junction M. & F. Co. | Cameo | Mesa | Geo. McNell | Denver | J. J. Nelsh | Cameo | D. & R. G. W. | Book Cliff | 9 | 6 |
| Pallade Coal & Sup. Co. | Pallade | Mesa | H. G. Koch | Aspen | David T. Lloyd | Pallade | D. & H. G. W. | | 3 | 6 |
| Garfield Coal M. & T. Co. | Garfield | Mesa | C. W. Rowerman | Pallade | Geo. Smith | Pallade | D. & H. G. W. | Pallade | 7 | 6 |
| Book Cliff Coal Co. | Book Cliff | Mesa | Lon Luther | Grand Junction | Lon Luther | Grand Junction | Book Cliff R. | | 6 | |
| W. D. Sothes | Stokes | Mesa | | Pallade | W. D. Stokes | Pallade | None | | 4 | |
| Liberty Coal & Merc. Co. | Nearling | Mesa | | Frulla | Carl Hicks | Frulla | None | Book Cliff | 8 | |
| Anchor Coal Co. | Anchor No. 1 | Mesa | | Frulla | L. L. Travis | Frulla | None | | 6 | |
| Anchor Coal Co. | Anchor No. 2 | Mesa | | Frulla | L. L. Travis | Frulla | None | | 6 to 8 | |
| C. W. Holland | Riverdale | Mesa | | Pallade | C. W. Holland | Pallade | None | | 2 to 3 | |
| C. W. Holland | Holland | Mesa | | (Mine closed) | (No report sub- mitted) | (No report sub- mitted) | None | | | |
| Thomas Coal Co. | Thomas | Mesa | C. F. Thomas | Grand Junction | C. F. Thomas, Jr. | Grand Junction | None | | 6 | |
| *Felix Palmetto | Farmer-Mutual | Mesa | | Grand Junction | Felix Palmetto | Grand Junction | None | | 3 | 6 |
| Black Diamond Coal Co. | Black Diamond | Mesa | D. A. Highberger | Grand Junction | W. M. Stotts | Grand Junction | None | | 4 | 6 |
| J. B. Hunter | Hunter | Mesa | | Frulla | J. B. Hunter | Frulla | None | | 5 | |
| Wm. McGinley | McGinley | Mesa | | Grand Junction | Wm. McGinley | Loma | None | | 5 | |
| Axial Basin Development Co. | Colum. | Moffat | | Denver | C. G. Phelan | Axial | None | Mesa Verde | 25 | |
| Walter Mining Co. | Baker | Moffat | | Craig | Wm. Liddle | Craig | None | Mesa Verde | 14 | |
| Walter Mining Co. | Walter No. 1 | Moffat | | Craig | Wm. Liddle | Craig | None | Mesa Verde | 9 | |
| Walker Land & C. Co. | Walker | Moffat | | Craig | Matt Sadver | Craig | None | Dakota | 7 | 6 |
| J. M. Hart | Hart | Moffat | (Mine closed) | (No report sub- mitted) | (No report sub- mitted) | (No report sub- mitted) | | | | |
| French & Fielding | School Sec. Leaser | Montezuma | J. C. Fielding | Mancoz | W. H. French | Mancoz | None | Menefer Formation | 3 | 2 |
| *Kelly-Sheddy Coal Co. | Kelly-Sheddy | Montezuma | H. A. Kelly | Cortez | P. J. Shaddy | Cortez | None | | 4 | |
| *Pinon Alto Coal Co. | Freeman | Montezuma | | Mancoz | Frank Matzek | Mancoz | None | Mesa Verde | 3 | |
| Mancoz Mesa Coal Co. | Spencer | Montezuma | H. J. Crandall | Mancoz | H. J. Crandall | Mancoz | None | | 2 | 8 |
| Black Cat Coal Co. | Black Cat | Montezuma | (Mine closed) | (No report sub- mitted) | (No report sub- mitted) | (No report sub- mitted) | | | | |
| Naturita Stores Co. | Cloverdale | Montrose | John C. Blake | Naturita | Charles Rice | Naturita | None | | 6 | |
| J. S. Chew | Missouri | Montrose | | Natura | J. S. Chew | Natura | None | | 5 | |
| John Drott | Liberty Itell | Montrose | | Naturita | John H. Drott | Naturita | None | | 5 | 6 |
| Swan Blint | Blint | Montrose | | Olafhe | Swan Blint | Olafhe | None | | 4 | 6 |
| W. J. Oberding | Knauss | Montrose | | Natura | W. J. Oberding | Natura | None | | 6 | |
| John Bell & Co. | Economy | Ouray | | Montrose | P. E. Swyhart | Ridgway | None | | 18 | |
| J. R. Marchetti | Marion | Ouray | | Carbondale | J. R. Marchetti | Carbondale | None | | 6 | |
| Reynolds & Babcock | Black Diamond | Ouray | | Meeker | Fay M. Babcock | Meeker | None | | 14 | |
| White River Lumber Co. | Lion Canon | Rio Blanco | | Meeker | Chas. M. Thompson | Meeker | None | | 8 | |
| Rio Blanco Coal Co. | Fairfield | Rio Blanco | | Meeker | E. F. Fairfield | Meeker | None | | 12 | |
| Templeton & Long | Pollard | Rio Blanco | | Meeker | John C. Templeton | Meeker | None | | 4 | |
| J. H. Clark | McKee | Rio Blanco | | Meeker | J. H. Clark | Meeker | None | | 4 | |
| James & Trachita | Douglas Creek | Rio Blanco | | Rangeley | L. E. Jones | Rangeley | None | Mesa Verde Group | 5 to 8 | |
| Moffat Coal Co. | Oak Hills No. 1-2 | Routt | R. M. Perry | Denver | F. J. Garrett | Oak Creek | D. & S. L. | Pinnacle | 10 | |
| Colorado & Utah Coal Co. | Harris | Routt | B. A. Harris | Denver | H. A. Mallot | Mt. Harris | D. & S. L. | Wadge | 8 | |
| Victor-American Fuel Co. | Pinnacle | Routt | B. W. Snodgrass | Denver | D. E. Davis | Oak Creek | D. & S. L. | Pinnacle | 9 to 11 | |
| Victor-American Fuel Co. | Wadge | Routt | B. W. Snodgrass | Denver | J. A. Halbert | Mt. Harris | D. & S. L. | Wadge | 8 | |
| Hayden Bros. Coal Corp. | Hayden | Routt | Lewis A. Hayden | Denver | Joseph Mathews | Haybro | D. & S. L. | | 8 | 6 |
| McNeill Coal Co. | McGregor | Routt | Geo. W. McNeill | Denver | Lee Fife | HayGregor | D. & S. L. | | 8 | |
| *International Fuel Corp. | Wolf Creek | Routt | Geo. Zarlingo | Denver | S. D. Domenico | Mt. Harris | D. & S. L. | Wolf Creek | 18 | |
| Bear River Coal Co. | Bear River | Routt | John Connell | Denver | R. R. Smith | Bear River | D. & S. L. | Pinnacle | 10 to 14 | |
| *Blue Seal Coal Co. | Elk Creek | Routt | B. B. Magee | Denver | A. E. Oliver | Miner | D. & S. L. | Wolf Creek | 12 | |
| Routt-Pinnacle Coal Co. | Routt-Pinnacle | Routt | | Denver | J. A. Hanna | Bear River | D. & S. L. | Pinnacle | 7 | |
| Roman Coal Co. | Crown Point | Routt | | Miner | (Mine closed) | (No report sub- mitted) | | | | |
| *Big Five Coal Co. | Yampa | Routt | Geo. N. Sparling | Denver | Joseph Simpson | Miner | D. & S. L. | Wadge | 9 | |
| Hawkeye Coal Co. | McDowell | Routt | | Bear River | John McDowell | Bear River | D. & S. L. | | 6 | |
| Hayden Valley Mut'l C. Co. | Dry Creek | Routt | | Hayden | Lon Workman | Hayden | None | | 10 | |
| M. O. Dickerson | Lorella | Routt | | Hayden | M. O. Dickerson | Hayden | None | | 10 | |
| Thomas Chargo | Chargo | Routt | | Oak Creek | Thomas Chargo | Oak Creek | None | | 8 | |
| National Fuel Co. | Puritan | Weld | Samuel Tescher | Denver | Geo. Mathews | Dacono | U. P. | Laramie Cretaceous | 11 | |
| Rocky Mountain Fuel Co. | Columbine | Weld | Geo. T. Peart | Denver | F. L. Peart | Erle | C. B. & Q. | Lower Columbine | 11 1/2 to 16 | 6 |
| Rocky Mountain Fuel Co. | Grant | Weld | Geo. T. Peart | Denver | J. J. Thomas | Frederick | U. P. | Lower Frederick | 10 | 6 |
| Rocky Mountain Fuel Co. | Frederick | Weld | Geo. T. Peart | Denver | Evan Jones | Frederick | U. P. | Lower Frederick | 5 to 7 | |
| Consolidated C. & C. Co. | Baum | Weld | | Denver | Stanley Blase | Dacono | U. P. | | 6 | 10 |
| Clayton | Clayton | Weld | Geo. H. Morrison | Denver | Wm. Burt | Erle | U. P. | | 9 | 6 |
| Grand Junction M. & F. Co. | Sterling | Weld | Geo. McNell | Denver | John Alexander | Dacono | U. P. | | 10 | |
| *International Fuel Corp. | Evans | Weld | Geo. Zarlingo | Denver | S. B. Domenico | Frederick | U. P. | | 8 | |
| United Collieries Co. | Monroe | Weld | Andrew Walker | Denver | Edward Walker | Erle | U. P. | Laramie Formation | 8 | |
| W. E. Russell Coal Co. | Russell | Weld | W. E. Russell | Denver | Fred E. Smith | Piesione | U. P. | Laramie Formation | 6 | |
| Boulder Valley Coal Co. | Boulder Valley | Weld | P. M. Peltier | Denver | J. Weller | Erle | U. P. | | 8 | |
| Shamrock Coal Co. | Shamrock | Weld | | Denver | Thos. Morgan | Erle | U. P. | Laramie Formation | 10 | |
| Dillon Coal Co. | Eureka | Weld | | Frederick | C. F. Dillon | Frederick | U. P. | | 7 | 6 |
| W. C. Bedden | White Ash | Weld | | La Salle | W. C. Bedden | La Salle | None | | 2 | 8 |
| Ft. Lupton Coal Co. | Witherbee | Weld | | Ft. Lupton | John Peterson | Ft. Lupton | None | | 6 | |

Remarks The Nonparell Mine operated by the Louisville M. Co., was taken over by the Boulder County Mining Co., Denver, Colo., Jan. 1, 1922.

*NOTE: Red Ash Mine was formerly operated by the Marshall Coal Co.
Champion Mine was formerly operated by the Champion Fuel
Double Dick Mine was formerly operated by E. R. Harris & Co.
Altitude Mine was formerly operated by the Thomas Coal Co.
Smith-Tanner Mine was formerly operated by the Rail Coal Co.
Williamsburg Slope was formerly operated by the Verlengo Coal Co.
Hexron Mine was formerly operated by Caddell Bros.
Cuchara Canon Mine was formerly operated by Caddell Bros.

Satanic Mine was formerly operated by the Western Collieries Co.
Fritchard Mine was formerly operated by the Fritchard Fuel Co.
Farmer Mutual was formerly operated by Ed. Reeser.
Kelly-Sheddy Mine was formerly operated by E. M. Flant.
Freeman Mine was formerly operated by the Peacock Coal Co.
Wolf Creek was formerly operated by the International Fuel Co.
Elk Creek was formerly operated by the Amalgamated Development Corp.
Yampa was formerly operated by the Amalgamated Development Corp.
Evans was formerly operated by the Evans Fuel Co.

POWER EQUIPMENT OF COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1921

| Name of Operator | Name of Mine | Power Plant | | | | | | | | | | Pumps | | Haulage | | | | Air Compressors | |
|------------------------------------|----------------|-------------|---------|-----------------------------|-----------------------------------|--------------------------------|--------------------------------|---------|-----------------------------------|---------|-----------------------------------|----------------------------|----------|---------|----------------|-----------------|--------|--------------------------------------|--|
| | | Boilers | | Engines | | Engines | | Engines | | Engines | | Pumps | | Haulage | | Air Compressors | | | |
| | | Cylindrical | Tubular | Steam Engines (All Classes) | Internal Combustion Engines (Gas) | Electric Dynamos (All Classes) | Electric Dynamos (All Classes) | Number | Total Capacity Gallons per Minute | Number | Total Capacity Gallons per Minute | Number of Horses and Mules | Gasoline | Steam | Compressed Air | Electric | Number | Total Capacity Cubic Feet per Minute | |
| Ajax Coal Co. | Altitude | 3 | 300 | 1 | 25 | 6 | 350 | 1 | 75 | 5 | 25 | 1 | 150 | 1 | 1 | 1 | 1 | 750 | |
| Altitude Coal Co. | San Juan | | | | | | | | | | | | | | | | | | |
| American Smelting and Refining Co. | Bonanza | | | | | | | | | | | | | | | | | | |
| American Smelting and Refining Co. | Anchor No. 1 | | | | | | | | | | | | | | | | | | |
| Anchor Coal Co. | Anchor No. 2 | | | | | | | | | | | | | | | | | | |
| Axial Basin Development Co. | Collins | 2 | 120 | 4 | 300 | | | 1 | 66 | 2 | 16 | | | | | | | | |
| Azie Coal Mining Co. | Toltec | | | 1 | 30 | | | 6 | 2310 | 2 | 500 | | | | | | | | |
| Baldwin Fuel Co. | Dahlwin-Star | | | | | | | | | | | | | | | | | | |
| Baudino & Co. | Morning Star | | | | | | | | | | | | | | | | | | |
| Barker, Wright | Wright | | | | | | | 1 | 60 | | | | | | | | | | |
| Bear Canon Coal Co. | Bear Canon | | | 5 | 550 | | | 12 | 225 | 10 | 600 | 1 | 65 | | | | | | |
| Bear River Coal Co. | Bear River | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Bedden, W. C. | White Ash | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Bell, John & Co. | Keonony | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Berglund, Clara | Berglund | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Berry, Chas. T. | Berry | | | | | | | | | | | | | | | | | | |
| Big Five Coal Co. | Yampa | | | 2 | 300 | | | | | | | | | | | | | | |
| Big Four Coal and Coke Co. | Centennial | | | 4 | 300 | | | | | | | | | | | | | | |
| Big Six Coal Co. | Sunnyvale | Ab | and | an | ed | | | | | | | | | | | | | | |
| Black Canon Coal and Fuel Co. | Caddell | | | | | | | | | | | | | | | | | | |
| Black Cat Coal Co. | Black Cat | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Black Diamond Coal Co. | Black Diamond | | | | | | | | | | | | | | | | | | |
| Black Hawk Coal Co. | Priarose | | | | | | | 1 | 100 | | | | | | | | | | |
| Black Hills Coal Co. | Black Hills | | | 1 | 75 | | | | | 1 | 25 | 1 | 25 | | | | | | |
| Blair, John | City | | | | | | | | | | | | | | | | | | |
| Bliss, Swan | Bliss | | | | | | | | | | | | | | | | | | |
| Blue Goose Coal Co. | Blue Goose | | | 1 | 25 | | | | | 1 | 160 | | | | | | | | |
| Blue Seal Coal Co. | Elk Creek | | | 2 | 300 | 1 | 600 | | | 1 | 75 | 2 | 100 | | | | | | |
| Book Cliff Coal Co. | Book Cliff | | | | | | | | | | | | | | | | | | |
| Boulder Black Diamond Coal Co. | Black Diamond | | | 2 | 180 | 3 | 65 | | | 6 | 400 | 2 | 40 | | | | | | |
| Boulder Valley Coal Co. | Boulder Valley | | | 3 | 350 | 4 | 400 | | | 1 | 40 | | | | | | | | |
| Bracken & Cozza | Harvey Gap | | | | | | | | | | | | | | | | | | |
| Brown Coal Mining Co. | Brown | | | | | | | | | | | | | | | | | | |
| Brewster Independent Coal Co. | Brewster | | | | | | | | | 1 | 100 | 1 | 100 | | | | | | |
| Caddell & Son | Herron | | | | | | | | | | | | | | | | | | |
| Caddell & Taggart | Cochara Canon | | | 1 | 60 | 1 | 30 | | | | | | | | | | | | |
| Calumet Fuel Co. | Certina Peak | | | | | | | | | | | | | | | | | | |
| Cambell & Co. | Premont Star | | | | | | | | | | | | | | | | | | |
| Canon-Crystal Coal Co. | Hassick | | | 1 | 40 | 1 | | | | 2 | 26 | 1 | 26 | | | | | | |
| Canon-Hellance Coal Co. | Canon | 1 | wer | Pu | rchas | ed | 1 | 250 | | | | 1 | 250 | 1 | 18 | | | | |
| Canon-Hellance Coal Co. | Hellance | | | 4 | 320 | 1 | 250 | | | 3 | 350 | 1 | 204 | 10 | | | | | |
| Castle Coal Co. | Greenock | | | | | | | | | 1 | 6 | | | | | | | | |
| Cedar Hill Coal and Coke Co. | Greenville | | | 1 | 60 | | | | | 1 | 50 | | | | | | | | |
| Cedar Hill Coal and Coke Co. | Black Diamond | | | 2 | 121 | 1 | 75 | | | | | | | | | | | | |
| Cherco, Thomas | Cherco | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| Chew, J. L. | Missouri | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Clark, J. H. | McKee | No | Equi | pm | ent | | | | | | | | | | | | | | |
| Clayton Coal Co. | Clayton | | | 3 | 400 | 5 | 525 | | | 1 | 160 | 3 | 75 | 1 | 5000 | 6 | | | |
| Colorado Collieries Co. | Satanic | | | | | | | | | | | 2 | 100 | 2 | 60 | | | | |
| Colorado Fuel and Iron Co. | Rockvale | | | | | | | | | | | 4 | 275 | 1 | 50 | 32 | | | |
| Colorado Fuel and Iron Co. | Coal Creek | | | | | | | | | | | 2 | 50 | 2 | 100 | 16 | | | |
| Colorado Fuel and Iron Co. | Nona | | | 2 | 200 | 1 | 100 | | | | | 3 | 300 | 1 | 100 | 4 | | | |
| Colorado Fuel and Iron Co. | Emerald | | | | | | | | | | | 1 | 120 | 1 | 60 | 6 | | | |
| Colorado Fuel and Iron Co. | Fremont | | | 2 | 130 | | | | | | | 5 | 1410 | 3 | 720 | 26 | | | |
| Colorado Fuel and Iron Co. | Crested Butte | | | 6 | 510 | 7 | 550 | | | 1 | 25 | 2 | 325 | | | 30 | | | |
| Colorado Fuel and Iron Co. | Elk Mountain | | | 4 | 450 | 13 | 800 | | | 3 | 226 | 2 | 350 | 1 | 50 | | | | |
| Colorado Fuel and Iron Co. | Walsen-Rob'n | | | 4 | 400 | 2 | 200 | | | 2 | 300 | 3 | 1150 | 2 | 1100 | 45 | | | |
| Colorado Fuel and Iron Co. | Ideal | | | | | | | | | | | 1 | 50 | | | 42 | | | |
| Colorado Fuel and Iron Co. | Cameron | | | | | | | | | 1 | 100 | 3 | 500 | 1 | 400 | 19 | | | |
| Colorado Fuel and Iron Co. | Lester | | | | | | | | | 1 | 120 | 7 | 2350 | 2 | 650 | 22 | | | |
| Colorado Fuel and Iron Co. | Pleasant | | | | | | | | | 5 | 1850 | 3 | 1150 | 39 | 35 | 18 | | | |
| Colorado Fuel and Iron Co. | Kelder No. 1 | 1 | | 1 | | 1 | | | | | | 2 | 50 | 1 | 35 | 18 | | | |
| Colorado Fuel and Iron Co. | Kelder No. 2 | | | Flre | Tube | 1 | 250 | | | | | 10 | 85 | 1 | 65 | | | | |
| Colorado Fuel and Iron Co. | John | | | 4 | 600 | 1 | | | | | | | | | | | | | |
| Colorado Fuel and Iron Co. | Sopris | | | 3 | 860 | 8 | 1608 | | | 2 | 300 | 18 | 2469 | 3 | 400 | 90 | | | |
| Colorado Fuel and Iron Co. | Morley | | | 2 | 1000 | 13 | 1350 | | | 2 | 300 | 10 | 1600 | 2 | 550 | 56 | | | |
| Colorado Fuel and Iron Co. | Frederick | | | 3 | 250 | | | | | 3 | 300 | 7 | 100 | | 150 | 68 | | | |
| Colorado Fuel and Iron Co. | Tubasco | | | 7 | 725 | 8 | 2 | | | | | | | | | | | | |

TABLE No. 3
VENTILATING EQUIPMENT OF COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1921

| Name of Operator | Name of Mine | Kind of Opening | | | | Gasous or Non-Gasous | Number and Type of Safety Lamp Used | | Method of Ventilation | Name of Fan | Diameter Feet | Revolutions Per Minute | Water Gauge Developed (Inches) | Kind of Power Used | Number Splits of Air Current | Number of Cubic Feet of Air per Minute Entering the Mine at Inlet | Total Number of Cu Ft of Air per Minute Circulating in All Splits | Number of Cubic Feet of Air per Minute Passing Out at Outlet | Number Persons Employed (Include) |
|------------------------------------|----------------|-----------------|--------------|--------------|--------------|----------------------|-------------------------------------|----------|-----------------------|----------------------|---------------|------------------------|--------------------------------|--------------------|------------------------------|---|---|--|-----------------------------------|
| | | Shaft Depth | Slope Length | Pitch Degree | Drift Length | | Flame | Electric | | | | | | | | | | | |
| Ajrex Coal Co. | Capitol | 219 | | | | Gasous | 1 | | Fan | Buffalo | 10 | 55 | | Steam | | | | | |
| Altitude Coal Co. | Altitude | | 1,000 | 5.6% | | Non-Gasous | 1 | | Natural | | | | | | | 11,875 | | 14,850 | 2 |
| American Smelting and Refining Co. | San Juan | | | | 2,976 | Non-Gasous | 24 | | Fan | | 10 | 140 | | Electric | | 5,000 | | | 6 |
| American Smelting and Refining Co. | Bonanza | | 700 | 10° | 3,500 | Non-Gasous | 300 | | Fan | Jeffrey | 5 | 313 | 1.6 | Electric | 5 | 15,480 | 34,925 | 18,300 | 28 |
| Anchor Coal Co. | Anchor No. 1 | | | | | Non-Gasous | 1 | | Natural | | | | | | | 45,151 | | 56,000 | 170 |
| Anchor Coal Co. | Anchor No. 2 | | 700 | 12° | | Non-Gasous | 1 | | Natural | | | | | | | | | | 4 |
| Asal Bros. Dev. Co. | Collum | | | | 1,100 | Non-Gasous | 1 | | Natural | | | | | | | | | | 4 |
| Asal Bros. Dev. Co. | Teller | | 2,500 | 10% | | Non-Gasous | 1 | | Natural | | | | | | | | | | 4 |
| Asal Bros. Dev. Co. | Baldwin-Star | | 1,500 | | 1,200 | Non-Gasous | 1 | | Natural | Sirocco | 15x3 | 220 | 2 | Electric and Steam | 2 | 26,540 | 26,510 | 29,240 | 14 |
| Baldwin Fuel Co. | Morning Star | | | | 800 | Non-Gasous | 1 | | Natural | | | | | | | 7,200 | | 7,200 | 8 |
| Barker, Welch | Wright | Strip | 14 | | | Non-Gasous | 1 | | Fan | | | | | | | | | | 6 |
| Bear Canon Coal Co. | Bear Canon | | | | 1,800 | Non-Gasous | 1 | | Fan | Jeffrey | 4 | 125 | | Electric | | 17,940 | 17,940 | 18,360 | 83 |
| Bear River Coal Co. | Bear River | | | 25% | 1,000 | Non-Gasous | 1 | | Fan | Stine | 6 | 150 | 1 | Steam | | 18,000 | 18,000 | 24,000 | 34 |
| Bedden, W. C. | White Ash | 80 | | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 8 |
| Beil, John & Co. | Economy | | 187 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Berglund, Clara | Berglund | | 500 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 4 |
| Berry, Chas. T. | Berry | | 550 | 12% | 700 | Non-Gasous | 1 | | Natural | | | | | | | | | | 4 |
| Big Five Coal Co. | Yampa | 256 | | | | Non-Gasous | 8 | | Fan | Ottumwa | 12 | 50 | 1 | Steam | | 1,000 | 1,500 | 20 | 20 |
| Big Four Coal and Coke Co. | Centennial | Aband | oned. | No report | submi | Non-Gasous | 1 | | Fan | Crawford & McCrimmon | 12 | 120 | | Steam and Electric | 2 | 41,520 | 17,240 | 12,500 | 100 |
| Big Six Coal Co. | Sunnyside | | | | | Non-Gasous | 1 | | Fan | | | | | | | | | | 12 |
| Black Canon Coal & Fuel Co. | Caddell | | 900 | | | Non-Gasous | 2 | | Fan | | 40 | 110 | | Electric | 4 | 26,000 | | 28,000 | 30 |
| Black Cal Coal Co. | Black Cat | No re | port sub | mitted | | Non-Gasous | 1 | | Natural | | | | | | | | | | 30 |
| Black Diamond Coal Co. | Black Diamond | | 1,100 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 30 |
| Black Hawk Coal Co. | Primrose | | 1,700 | | | Non-Gasous | 1 | | Natural | Stine | 5 | 270 | | Electric | 1 | 10,200 | | 10,600 | 32 |
| Black Hills Coal Co. | Black Hills | | 130 | 37° | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Blainick, John | City | | 2,000 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 2 |
| Blair, Stan | Blair | 261 | | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Blue Goose Coal Co. | Blue Goose | | 100 | | | Non-Gasous | 1 | | Fan | Sturtevant | 1x12 | 250 | 2.5 | | | 15,000 | 17,000 | 52 | |
| Book Cliff Coal Co. | Book Cliff | | | 14° | 26° | Non-Gasous | 1 | | Natural | | | | | | | 3,000 | | 3,000 | 12 |
| Boulder Black Diamond Coal Co. | Black Diamond | | 300 | 20° | | Non-Gasous | 1 | | Fan | American | 2 | 300 | | Steam | | 12,000 | | 11,000 | 24 |
| Boulder Valley Coal Co. | Boulder Valley | 317 | | | | Gasous | 2 | | Fan | Ajax | 6 | 260 | | Electric and Steam | 3 | 18,000 | 36,170 | 50,000 | 80 |
| Bracken & Coza | Harvey Gap | | | 56° | 1,100 | Non-Gasous | 1 | | Natural | | | | | | | | | | 70 |
| Brownian Coal Mining Co. | Brennan | | 1,500 | 5% | | Non-Gasous | 1 | | Natural | Home-made | 11 | 65 | | Electric | 2 | 29,500 | 29,500 | 10,800 | 3 |
| Browner Independent Coal Co. | Brewster | | 435 | 7° | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Caddell & Son | Hezron | | 4,100 | | | Gasous | 1 | 3 | Fan | | 16 | 60 | | Electric | | 4,620 | | 4,620 | 8 |
| Caddell & Torgar | Cuchara Canon | | 500 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Calumet Fuel Co. | Perkins Peak | | | 4 1/2° | 5,000 | Non-Gasous | 2 | | Fan | Home-made | 10 | 128 | .75 | Electric | 3 | 27,000 | | 28,000 | 60 |
| Camblott & Co. | Stars | | | | 500 | Non-Gasous | 1 | | Natural | | | | | | | 4,000 | | 1,100 | 10 |
| Canon-Crystal Coal Co. | Basick | | 375 | 20° | | Non-Gasous | 1 | | Natural | | | | | | | | | | 12 |
| Canon-Relliance Coal Co. | Canon | 1,081 | | | | Non-Gasous | 2 | | Fan | Jeffrey | 6 | 400 | 2.5 | Electric | 1 | 21,350 | | 20,050 | 50 |
| Canon-Relliance Coal Co. | Reliance | | 2,500 | | 36° | Gasous | 2 | 116 | Fan | Gulbal | 12x4 | 116 | 1.8 | Electric | 1 | 34,560 | | 39,920 | 54 |
| Caprock Coal Co. | Caprock | | | | 500 | Non-Gasous | 1 | | Natural | | | | | | | 20,000 | | 22,000 | 15 |
| Cedar Hill Coal and Coke Co. | Greenville | Report | incompl | etc | 1,500 | Non-Gasous | 1 | | Natural | | | | | | | | | | 30 |
| Cedar Hill Coal and Coke Co. | Black Diamond | | | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 28 |
| Chargo, Thomas | Chargo | | 200 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 2 |
| Chow, J. S. | Misquot | | 175 | | | Non-Gasous | 1 | | Natural | | | | | | | | | | 2 |
| Clark, J. H. | McKee | | 180 | 4° | 150 | Non-Gasous | 1 | | Natural | Jeffrey | 11 | 3 | | Steam | 2 | 60,000 | 60,000 | 50,000 | 78 |
| Clayton Coal Co. | Clayton | 325 | | | | Non-Gasous | 1 | | Fan | Buffalo | 11 | 300 | .5 | Electric | 1 | 12,000 | | 12,000 | 42 |
| Colorado Collieries Co. | Satanie | 300 | | | 85° | Non-Gasous | 1 | | See | | | | | | | | | | 42 |
| Colorado Fuel and Iron Co. | Rockvale | 316 | | | | Gasous | 100 | 250 | Fan | C. F. & I. Co. | 12 | 200 | 2 | Electric | 2 | 96,760 | 93,100 | 96,120 | 228 |
| Colorado Fuel and Iron Co. | Coal Creek | 326 | | | | Gasous | 100 | 179 | Fan | C. F. & I. Co. | 6x12 | 124 | | Electric | 2 | 57,200 | 33,926 | 61,680 | 179 |
| Colorado Fuel and Iron Co. | Fremont | 402 | | | | Gasous | 100 | 179 | Fan | C. F. & I. Co. | 24 | 72 | 1.2 | Electric | 3 | 52,100 | | 49,050</ | |

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| Hesperus Fuel Co. Hines Coal Co. Holland, W. C. Hutchins Fuel and Supply Co. | Hesperus Hines Hutchins Bennett | No re No re | port sub port sub | mitted mitted | 700 600 | Non-Gaseous Non-Gaseous | 1 1 | Fan Natural | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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A A gaseous mine is one generating explosive gas in quantities sufficient to be detected by an approved safety lamp.

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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, 1921.

| 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 |
| Ajax Coal Co. | Capitol | 3 | ..... | ..... | 16,196 | 16,196 | 7,250 | ..... | ..... |
| Altitude Coal Co. | Altitude | ..... | ..... | 292 | ..... | 292 | 250 | 25 | ..... |
| American Smelt. and Ref. Co. | San Juan | ..... | ..... | 16,570 | ..... | 16,570 | 1,265 | ..... | ..... |
| American Smelt. and Ref. Co. | Boncarbo | ..... | 12 | 32,361 | 97,130 | 129,491 | ..... | ..... | 26,871 |
| Anchor Coal Co. | Anchor No. 1 | ..... | ..... | 156 | ..... | 156 | 175 | 425 | ..... |
| Anchor Coal Co. | Anchor No. 2 | ..... | ..... | 1,914 | ..... | 1,914 | 2,000 | ..... | ..... |
| Axial Basin Development Co. | Collom | ..... | ..... | 1,161 | ..... | 1,161 | 50 | ..... | ..... |
| Azttec Coal Mining Co. | Toltec | 4 | 4 | 1,350 | 27,799 | 29,189 | 2,250 | 1,615 | 3,890 |
| Baldwin Fuel Co. | Baldwin-Star | ..... | ..... | 6,038 | ..... | 6,038 | 2,230 | 500 | ..... |
| Baudino & Co. | Morning-Star | ..... | ..... | 4,001 | ..... | 4,001 | 500 | ..... | ..... |
| Barker, Wright | Wright | ..... | ..... | 2,313 | ..... | 2,313 | 3,000 | 50 | ..... |
| Bear Canon Coal Co. | Bear Canon | 2 | 2 | 28,332 | 18,540 | 46,872 | ..... | 250 | 20,000 |
| Bear River Coal Co. | Bear River | ..... | ..... | 25,139 | 3,952 | 29,081 | 14,925 | 775 | ..... |
| Bedlien, W. C. | White Ash | 1 | 1 | 1,801 | ..... | 1,801 | 500 | ..... | ..... |
| Bell, John & Co. | Economy | ..... | ..... | 578 | ..... | 578 | ..... | 120 | ..... |
| Berglund, Clara | Berglund | ..... | ..... | 600 | ..... | 600 | 500 | ..... | ..... |
| Berry, Chas. T. | Berry | ..... | ..... | 590 | ..... | 590 | 100 | ..... | ..... |
| Big Five Coal Co. | Yampa | ..... | ..... | 4,829 | ..... | 4,829 | ..... | ..... | ..... |
| Big Four Coal Co. | Centennial | 10 | ..... | 3,841 | 52,929 | 56,770 | 27,725 | 147 | 460 |
| Big Six Coal Co. | Sunnyside | No rep | ..... | ort 5,148 | ..... | 5,148 | ..... | ..... | ..... |
| Black Canon Coal and Fuel Co. | Caddell | 2 | 2 | 5,741 | 7,794 | 13,535 | 6,350 | 10 | 140 |
| Black Cat Coal Co. | Black Cat | No rep | ..... | 47 | ..... | 47 | ..... | ..... | ..... |
| Black Diamond Coal Co. | Black Diamond | ..... | ..... | 519 | ..... | 519 | 500 | ..... | ..... |

TABLE No. 4—Continued
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1921.

| 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 |
| Black Hawk Coal Co. | Primrose | ..... | ..... | 21,479 | ..... | 21,479 | ..... | ..... | 100 |
| Black Hills Coal Co. | Black Hills | ..... | ..... | 309 | ..... | 309 | 250 | ..... | 200 |
| Blatnick, John | City | ..... | ..... | 516 | ..... | 516 | ..... | ..... | ..... |
| Blixt, Swan | Blixt | ..... | ..... | 200 | ..... | 200 | ..... | 2,000 | ..... |
| Blue Goose Coal Co. | Blue Goose | ..... | ..... | 671 | ..... | 671 | 250 | ..... | ..... |
| Blue Seal Coal Co. | Elk Creek | ..... | 1 | 15,297 | 200 | 15,497 | No record | ..... | ..... |
| Book Cliff Coal Co. | Book Cliff | ..... | ..... | 8,144 | ..... | 8,144 | 25 | ..... | 10 |
| Boulder Black Diamond Coal Co. | Black Diamond | 3 | ..... | ..... | 20,555 | 20,555 | 8,725 | ..... | ..... |
| Boulder Valley Coal Co. | Boulder Valley | 8 | 2 | ..... | 52,880 | 52,880 | 18,250 | ..... | ..... |
| Bracken & Cozza | Harvey Gap | ..... | ..... | 1,123 | ..... | 1,123 | ..... | ..... | 1,100 |
| Brennan Coal Mining Co. | Brennan | ..... | 4 | ..... | 27,092 | 27,092 | 4,000 | ..... | ..... |
| Brewster Independent Coal Co. | Brewster | ..... | ..... | 144 | ..... | 144 | 25 | ..... | ..... |
| Caddell & Son | Hezron | 1 | ..... | 8,281 | 8,282 | 16,563 | ..... | 50 | 5,000 |
| Caddell & Taggart | Cuchara Canon | ..... | ..... | 469 | ..... | 469 | 600 | ..... | 5,926 |
| Calumet Fuel Co. | Perins Peak | ..... | 3 | 21,466 | 33,000 | 54,466 | ..... | ..... | ..... |
| Caminotti & Co. | Star | ..... | ..... | 1,022 | ..... | 1,022 | ..... | ..... | 100 |
| Canon-Crystal Coal Co. | Bassick | ..... | 1 | 294 | 1,205 | 1,499 | 750 | 200 | 400 |
| Canon-Reliance Coal Co. | Canon | ..... | 2 | 41,485 | 9,357 | 50,842 | ..... | ..... | 7,468 |
| Canon-Reliance Coal Co. | Reliance | ..... | 2 | 26,091 | 4,926 | 31,017 | ..... | ..... | 7,022 |
| Castle Coal Co. | Caprock | ..... | ..... | 10,672 | ..... | 10,672 | 50 | ..... | 1,300 |
| Cedar Hill Coal and Coke Co. | Greenville | ..... | ..... | 14,042 | ..... | 14,042 | ..... | ..... | ..... |
| Cedar Hill Coal and Coke Co. | Black Diamond | ..... | ..... | 1,251 | ..... | 1,251 | ..... | ..... | ..... |
| Chergo, Thomas | Chergo | ..... | ..... | 500 | ..... | 500 | 750 | ..... | ..... |

| | | | | | | | | | |
|--------------------------------|-----------------|---------|-------|---------|-------|-----------|-------|-------|--------|
| Chew, J. S. | Missouri | 579 | ..... | 579 | ..... | 700 | ..... | ..... | ..... |
| Clark, J. H. | McKee | 134 | ..... | 134 | ..... | 275 | ..... | ..... | ..... |
| Clayton Coal Co. | Clayton | 78,101 | ..... | 78,101 | ..... | ..... | ..... | ..... | ..... |
| Colorado Collieries Co. | Satanic | 8,549 | ..... | 12,734 | ..... | ..... | ..... | ..... | 12,000 |
| Colorado Fuel and Iron Co. | Rockvale | 102,628 | ..... | 17,356 | ..... | 12,230 | ..... | ..... | 6,783 |
| Colorado Fuel and Iron Co. | Coal Creek | 105,809 | ..... | ..... | ..... | ..... | ..... | ..... | 5,402 |
| Colorado Fuel and Iron Co. | Freemont | 81,251 | ..... | 22,246 | ..... | 6,150 | ..... | ..... | 7,747 |
| Colorado Fuel and Iron Co. | Nonac | 1,315 | ..... | 19,719 | ..... | 5,600 | ..... | ..... | 18 |
| Colorado Fuel and Iron Co. | Emerald | 19,690 | ..... | ..... | ..... | 42 | ..... | ..... | 367 |
| Colorado Fuel and Iron Co. | Crested Butte | 95,255 | ..... | ..... | ..... | ..... | ..... | ..... | 3,144 |
| Colorado Fuel and Iron Co. | Elk Mountain | 20,689 | ..... | 3,641 | ..... | 8,523 | ..... | ..... | 2,271 |
| Colorado Fuel and Iron Co. | Robinson-Walsen | 120,064 | ..... | 211,849 | ..... | 40,556 | ..... | ..... | 45,384 |
| Colorado Fuel and Iron Co. | Ideal | 136,041 | ..... | ..... | ..... | ..... | ..... | ..... | 68,081 |
| Colorado Fuel and Iron Co. | Cameron | 44,122 | ..... | 110,723 | ..... | ..... | ..... | ..... | 17,826 |
| Colorado Fuel and Iron Co. | Lester | 148,652 | ..... | 4,630 | ..... | ..... | ..... | ..... | 36,205 |
| Colorado Fuel and Iron Co. | Pictou | 45,771 | ..... | 37,062 | ..... | ..... | ..... | ..... | 9,389 |
| Colorado Fuel and Iron Co. | Keblor No. 1 | 87 | ..... | 8,425 | ..... | 4,700 | ..... | ..... | 260 |
| Colorado Fuel and Iron Co. | Keblor No. 2 | 10,313 | ..... | 19,677 | ..... | 11,085 | ..... | ..... | 1,837 |
| Colorado Fuel and Iron Co. | Johal | 1,086 | ..... | 10,433 | ..... | 3,735 | ..... | ..... | 2,233 |
| Colorado Fuel and Iron Co. | Sopris | 112,674 | ..... | 138,386 | ..... | ..... | ..... | ..... | 57,434 |
| Colorado Fuel and Iron Co. | Morley | 245,142 | ..... | ..... | ..... | ..... | ..... | ..... | 3,199 |
| Colorado Fuel and Iron Co. | Frederick | 152,201 | ..... | 39,355 | ..... | ..... | ..... | ..... | 28,060 |
| Colorado Fuel and Iron Co. | Tabasco | 107,574 | ..... | 67,672 | ..... | ..... | ..... | ..... | 23,056 |
| Colorado Fuel and Iron Co. | Toller | 99,979 | ..... | 51,258 | ..... | ..... | ..... | ..... | 15,041 |
| Colorado Fuel and Iron Co. | Primerio | 114,924 | ..... | ..... | ..... | ..... | ..... | ..... | 14,971 |
| Colorado Fuel and Iron Co. | Berwind | 25,432 | ..... | 88,407 | ..... | ..... | ..... | ..... | 7,165 |
| Colorado Fuel and Iron Co. | Starkville | 26,686 | ..... | ..... | ..... | ..... | ..... | ..... | 497 |
| Colorado Fuel and Iron Co. | Engle | 8,840 | ..... | ..... | ..... | ..... | ..... | ..... | 897 |
| Colorado Springs Co. | City No. 1 | 13,949 | ..... | 41,236 | ..... | 16,950 | ..... | 80 | 110 |
| Colorado & Utah Coal Co. | Harris | 217,174 | ..... | ..... | ..... | No record | ..... | ..... | ..... |
| Consolidated Coal and Coke Co. | Baum | ..... | ..... | 83,554 | ..... | ..... | ..... | ..... | ..... |
| Converse, Frank | Converse | 975 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Corley, W. D. | Old Patterson | 11,389 | ..... | 3,000 | ..... | No record | ..... | ..... | ..... |
| Corley, W. D. | Black Marian | 286 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Corra, John | Corra | 150 | ..... | ..... | ..... | ..... | ..... | 200 | ..... |
| Cottonwood Coal Co. | Cottonwood | 494 | ..... | ..... | ..... | 550 | ..... | ..... | ..... |
| Cracker-Jack Coal Co. | Cracker-Jack | ..... | ..... | 6,704 | ..... | 2,500 | ..... | 20 | ..... |

TABLE No. 4—Continued
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1921.

| Name of Operator | Name of Mine | Mining Machines | | Coal Mined by (Short Tons) | | | Explosives Used (Pounds) | | |
|---------------------------------|----------------------|-----------------|-----------------------------|----------------------------|---------|--------|--------------------------|----------|-------------|
| | | No. Operated by | No. Operated by Electricity | Hand | Machine | Total | Black Powder | Dynamite | Permissible |
| Crested Butte Anthracite M. Co. | Smith-Anthracite | | | 16,480 | | 16,480 | 3,875 | 490 | |
| Crested Butte Coal Co. | Bulkley | | | 18,166 | | 18,166 | 11,000 | 120 | |
| Crown Fuel Co. | Crown | 4 | | 483 | 45,029 | 45,512 | 22,500 | | |
| Danville Coal Co. | Danville | | | 1,208 | | 1,208 | 750 | | |
| Davies Coal Co. | Lewis | | | 3,465 | | 3,465 | 900 | | |
| De Graffenried, J. R. | De Graffenried | | | 263 | | 263 | 125 | 75 | 350 |
| Dick Coal Co. | Dix | | | 267 | | 267 | | | |
| Dickerson, M. O. | Lorella | | | 1,155 | | 1,155 | 175 | | |
| Dillon Coal Co. | Eureka | | | 5,097 | | 5,097 | 25 | | |
| Double Dick Coal Co. | Double Dick | | 1 | | 8,633 | 8,633 | 2,500 | 500 | |
| Drott, John | Liberty Bell | | | 405 | | 405 | 250 | | |
| Dunbaugh, Jr., F. M. | Jack O'Lantern | | | 137 | | 137 | 75 | | |
| Empire Coal Co. | Empire | | | 61,767 | | 61,767 | | | 7,943 |
| Engineers' Leasing Co. | Cambro | 5 | | 19,664 | 19,664 | 19,664 | 1,000 | | 324 |
| Estes Bros. | Estes | | | 1,499 | | 1,499 | 750 | | |
| Eureka Coal Mining Co. | Macoye | | | 29,364 | | 29,364 | | | 4,767 |
| Fairview Coal Co. | Thompson | | | 280 | | 280 | | | 300 |
| Flicks, Frank M. | Coalby Red Canon | | | 1,376 | | 1,376 | None | | |
| Florence-Canon Coal Co. | Florence-Canon | | 1 | | 4,057 | 4,057 | 425 | 600 | |
| Ft. Lupton Coal Co. | Witherbee | 1 | | | 1,346 | 1,346 | 500 | 1,500 | |
| Fox Coal M. Co. | Fox | 5 | | 27,256 | 19,138 | 46,394 | 15,300 | | |
| French & Fielding | School Section Lease | | | 1,980 | | 1,980 | 100 | | |
| Fruth & Stone | Leader | | | 4,137 | | 4,137 | | | |

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1921.

| 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 |
| Liberty Coal and Merc. Co. | Nearing | 1 | | | 2,230 | 2,230 | 1,250 | | |
| Louisville Mining Co. | Nonpareil | 4 | | | 29,232 | 29,232 | 12,500 | 50 | 50 |
| MacCormac Coal Co. | Red Ash | | | 14,367 | | 14,367 | 1,900 | | |
| Mancos Mesa Coal Co. | Spencer | | | 109 | | 109 | 150 | 30 | |
| Marchetti, J. R. | Marion | | | 1,648 | | 1,648 | | | 500 |
| Marsh, R. | Fishers Peak | | | 847 | | 847 | | | |
| Mattive, Steve & Sons | Bunker Hill | | | 372 | | 372 | | | 500 |
| McGinley, Wm. | McKinley | | | 150 | | 150 | 150 | | |
| McLaughlin, Jas. E. | Henderson | | | 80 | | 80 | | | |
| McMillin Coal Co. | Rollins | 1 | | 132 | 300 | 432 | 100 | | 10 |
| McNally & Thompson | Maitland | | 4 | | 27,722 | 27,722 | 13,500 | | |
| McNeil Coal Co. | McGregor | | 5 | | 58,095 | 58,095 | | | |
| Miners Coal and Coke Co. | Williams | | 1 | | 1,432 | 1,432 | | | 200 |
| Moffat Coal Co. | Oak Hill No. 1 and 2 | | 2 | 190,116 | 81,478 | 271,594 | 93,875 | 30 | 157 |
| Mountain View Coal Co. | Walden | 1 | | | 5,175 | 5,175 | 2,000 | | 50 |
| Mutual Coal Co. | Mutual | | 6 | 9,102 | 132,996 | 142,102 | 44,375 | | 4,586 |
| National Fuel Co. | Monarch No. 2 | 8 | | 2,269 | 70,709 | 72,978 | 35,665 | | 200 |
| National Fuel Co. | Thor | | | 32,718 | | 32,718 | | | 1,500 |
| National Fuel Co. | Puritan | 13 | 1 | 13,523 | 211,712 | 225,235 | 87,500 | 726 | |
| Naturita Stores Co. | Cloverdale | | | 976 | | 976 | 475 | | |
| North Park Coal Co. | Moore | | | 42,784 | | 42,784 | 27,500 | 175 | 250 |
| Nossaman & Fowler | Pagosa | | | 714 | | 714 | 500 | | |
| Oakdale Coal Co. | Oakdale | 3 | 2 | 5,868 | 123,315 | 129,183 | 6,400 | 200 | 21,508 |

| | | | | | | | |
|----------------------------------|------------------------|------------|--------------|---------|--------------|--------|-------|
| Oberding, W. J. | Knauss | 197 | 15,760 | 197 | 175 | ..... | ..... |
| Ohio Creek Coal Mining Co. | Ohio Creek | 2,356 | ..... | 18,116 | 6,250 | ..... | ..... |
| O. K. Coal Co. | O. K. | 4,082 | ..... | 4,082 | 13,125 | ..... | ..... |
| Palisade Coal and Supply Co. | Palisade | 20,653 | 211 | 20,864 | 2,500 | 25 | ..... |
| Palmetto, Felix | Farmer-Mutual | 1,251 | ..... | 1,251 | ..... | ..... | ..... |
| Paonia Coal Co. | Paonia | 5,756 | ..... | 5,756 | 1,325 | 150 | ..... |
| Parkdale Coal Co. | Parkdale | 110 | ..... | ..... | ..... | ..... | ..... |
| Patterson, Alex. | City No. 2 | ort 3,774 | ..... | 3,774 | ..... | ..... | ..... |
| Perino Bros. | Minnie | 315 | ..... | 315 | ..... | 50 | ..... |
| Petry, Sam | Willie | 2,210 | ..... | 2,210 | 650 | 60 | ..... |
| Pickford Coal Co. | Pickford | 1,028 | ..... | 1,028 | 100 | 10 | ..... |
| Pikes Peak Consolidated Coal Co. | Pikeview | 84,235 | 80,768 | 165,003 | not reported | ..... | ..... |
| Pinos Altos Coal Co. | Freeman | 889 | ..... | 889 | 275 | ..... | 5,500 |
| Prairie Canon Coal Co. | Prairie Canon | 16,810 | ..... | 16,810 | ..... | ..... | 3,500 |
| Rapson Coal Mining Co. | Rapson | 20,886 | 1,677 | 22,563 | ..... | ..... | ..... |
| Rauman Coal Co. | Rauman | 924 | ..... | 924 | 1,500 | 50 | ..... |
| Reynolds & Babcock | Black Diamond | 2,000 | 127 | 2,127 | 1,625 | ..... | ..... |
| Rio Blanco Coal Co. | Fairfield | 215 | ..... | 215 | ..... | ..... | ..... |
| Rocchilo, James | Rocchilo | 105 | ..... | 105 | ..... | ..... | ..... |
| Rocky Mountain Fuel Co. | Simpson | 128,587 | not reported | 128,587 | 41,448 | ..... | ..... |
| Rocky Mountain Fuel Co. | Standard | 9,787 | 65,588 | 75,375 | 14,611 | 714 | ..... |
| Rocky Mountain Fuel Co. | Vulcan | 11,882 | ..... | 63,761 | 21,733 | 455 | ..... |
| Rocky Mountain Fuel Co. | Acme | 3,466 | 54,082 | 57,548 | 15,307 | 640 | ..... |
| Rocky Mountain Fuel Co. | Industrial | 30,211 | 83,632 | 113,843 | 25,425 | 70 | ..... |
| Rocky Mountain Fuel Co. | Gorham | 21,619 | 11,578 | 33,197 | 5,100 | ..... | ..... |
| Rocky Mountain Fuel Co. | Alpine | 14,443 | 11,588 | 26,031 | 6,400 | 11,218 | ..... |
| Rocky Mountain Fuel Co. | Alpine (3 Mch. in use) | 48,373 | 24,435 | 72,808 | ..... | ..... | ..... |
| Rocky Mountain Fuel Co. | La Belle | 25,654 | 10,067 | 35,721 | 12,322 | ..... | ..... |
| Rocky Mountain Fuel Co. | Southwestern | 24,548 | 513 | 25,061 | 2,545 | ..... | ..... |
| Rocky Mountain Fuel Co. | Piedmont | 1,501 | ..... | 1,501 | ..... | ..... | ..... |
| Rocky Mountain Fuel Co. | Columbine | ..... | 130,218 | 130,218 | 34,737 | ..... | ..... |
| Rocky Mountain Fuel Co. | Grant | 13,588 | 98,987 | 112,575 | 37,312 | ..... | ..... |
| Rocky Mountain Fuel Co. | Frederick | 479 | 8,505 | 8,984 | 2,613 | ..... | ..... |
| Rocky Mountain Fuel Co. | Roletto | 613 | ..... | 613 | 200 | ..... | ..... |
| Roletto Coal Co. | Roletto | ..... | ..... | ..... | ..... | ..... | ..... |
| Roman Coal Co. | Crown-Point | ort 5,104 | ..... | 5,104 | ..... | ..... | ..... |
| Ross Coal Co. | Horace | use 43,047 | ..... | 43,047 | 31,325 | 3,950 | ..... |
| Ross & Lorenzo | Gorham No. 2 | 2,358 | ..... | 2,358 | 800 | ..... | ..... |

TABLE No. 4—Continued
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1921.

| 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 |
| Routt-Pinnacle Coal Co. | Routt-Pinnacle | | | 5,776 | 9,254 | 15,030 | 7,500 | | |
| Royal Fuel Co. | Royal | | 2 | 198,945 | | 198,945 | | 281 | 4,814 |
| Rugby Fuel Co. | Rugby | | | 9,529 | | 9,529 | | | 12 |
| Rush Coal and Dev. Co. | Rush | | | 1,211 | | 1,211 | 1,875 | | |
| Russell, W. E. Coal Co. | Russell | 7 | | | 68,196 | 68,196 | 17,075 | 25 | |
| Santa Fe Coal Co. | Santa Fe | | | 5,756 | | 5,756 | | | 2,050 |
| Shamrock Coal Co. | Shamrock | 2 | | | 37,698 | 37,698 | 11,900 | | |
| Smith-Tanner Coal Co. | Smith-Tanner | | | 1,499 | | 1,499 | 450 | 15 | |
| South Canon Mine Leasing Co. | South Canon | | | 4,843 | | 4,843 | 5,000 | | |
| Stanley, C. O. | Stanley | | | 698 | | 698 | | | 100 |
| Star Coal Co. | Star | No | rep | 200 | | 200 | | | |
| States Coal Co. | States | | | 1,630 | | 1,630 | 300 | | |
| Stillwagon Bros. | Old Coalby | | | 689 | | 689 | 325 | 25 | |
| Stokes, W. D. | Stokes | | | 3,151 | | 3,151 | 1,875 | 200 | |
| Sunshine Coal Co. | Sunshine | | | 4,600 | | 4,600 | 1,800 | | |
| Sunnyside Coal Co. | Sunnyside | | | 3,205 | | | | | |
| Temple Fuel Co. | Broadhead No. 9 | 5 | | 15,807 | 49,877 | 53,082 | 22,950 | 500 | 2,000 |
| Templeton & Long | Broadhead No. 10 | 7 | | | 82,221 | 98,028 | | 2,000 | 18,000 |
| Thomas Coal Co. | Pollard | 3 | | 141 | 9,131 | 9,131 | | 500 | 1,000 |
| | Thomas | | | 1,265 | | 1,265 | 750 | 22 | |
| | | | | | | | 1,925 | 50 | |
| Three Pines Coal Co. | Three Pines | | | 1,060 | | 1,060 | | | 10 |
| Triangle Coal Co. | Triangle | | | 4,739 | | 4,739 | | | 200 |
| Trinidad Coal Co. | Baldy Mountain | | | 2,512 | | 2,512 | | | 600 |

| | | | | | | | | | | |
|-------------------------------|--------------------|--------|-------|-----------|-----------|-----------|-----------|--------|-------|---------|
| Trinidad Coal Co. | Ferrell | ..... | ..... | 1,500 | ..... | 153,947 | 875 | ..... | ..... | 100 |
| Turner Coal Co. | Turner | ..... | 9 | 5,500 | ..... | 576 | 13,175 | 60 | ..... | 29,847 |
| Tygett & Aspell | Fairview | ..... | ..... | 576 | ..... | 52,682 | 125 | 5 | ..... | 4,500 |
| Union Coal and Coke Co. | Pryor | ..... | 4 | 17,548 | ..... | 68,978 | 26,425 | ..... | ..... | ..... |
| United Collieries Co. | Monroe | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Utah Fuel Co. | Somerset | Not in | use 1 | 237,131 | ..... | 237,131 | ..... | ..... | ..... | 1,800 |
| Vesta Mines, Incorporated | Vesta | 3 | ..... | 2,733 | 15,487 | 18,220 | 18,750 | 600 | ..... | ..... |
| Vezzetti & Moschetti Coal Co. | Brookside | 1 | ..... | ..... | 17,885 | 17,885 | 11,250 | ..... | ..... | ..... |
| Victor-American Fuel Co. | Chandler | ..... | 9 | 338 | 106,477 | 106,815 | ..... | ..... | ..... | 24,445 |
| Victor-American Fuel Co. | Radiant | ..... | 4 | 2,316 | 29,343 | 31,659 | 14,800 | ..... | ..... | 3,059 |
| Victor-American Fuel Co. | Ravenwood | ..... | 6 | 30,933 | 28,604 | 59,537 | ..... | ..... | ..... | 10,006 |
| Victor-American Fuel Co. | Delagua | ..... | 8 | 266,105 | 105,751 | 371,856 | 15,625 | ..... | ..... | 15,625 |
| Victor-American Fuel Co. | Cass | ..... | 6 | 10,686 | 85,766 | 96,452 | 10,257 | ..... | ..... | 10,257 |
| Victor-American Fuel Co. | Hastings | ..... | 2 | 14,372 | 6,375 | 20,747 | 4,321 | ..... | ..... | 4,321 |
| Victor-American Fuel Co. | Gray Creek | ..... | 2 | 8,886 | 10,340 | 19,226 | 3,825 | ..... | ..... | 3,825 |
| Victor-American Fuel Co. | Pinnacle | ..... | ..... | 98,256 | ..... | 98,256 | 42,075 | ..... | ..... | ..... |
| Victor-American Fuel Co. | Wadge | ..... | 4 | 25,771 | 32,591 | 58,362 | 30,750 | 100 | ..... | 15 |
| Waite Mining Co. | Baker | ..... | ..... | 871 | ..... | 871 | 3,125 | ..... | ..... | ..... |
| Waite Mining Co. | Waite | ..... | ..... | 84 | ..... | 84 | 50 | ..... | ..... | ..... |
| Walker Land and C. Co. | Walker | ..... | ..... | 400 | ..... | 400 | 600 | ..... | ..... | ..... |
| White River Lumber Co. | Lion Canon | ..... | ..... | 1,487 | ..... | 1,487 | 1,000 | ..... | ..... | ..... |
| Williamsburg Slope Coal Co. | Williamsburg Slope | ..... | ..... | 3,122 | ..... | 3,122 | 2,500 | ..... | ..... | ..... |
| Winton Coal Co. | Winton | ..... | ..... | 1,124 | ..... | 1,124 | 1,825 | ..... | ..... | ..... |
| Totals | ..... | 162 | 270 | 4,846,446 | 4,295,501 | 9,141,947 | 1,260,955 | 22,220 | ..... | 760,117 |

Remarks—Tonnage of mines not reported included in hand mined.

TABLE No. 6

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES
IN THE STATE OF COLORADO FOR THE YEAR ENDING
DECEMBER 31, 1921.

| 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 |
|------------------------------------|------------------------------------|--|---|---------------------------|-----------|
| 9,141,947 | 8,350,388 | 1,995,571 | 520,240 | 695,170 | 369,267 |

TABLE No. 5

Table No. 5 omitted. Applies to metal mining.

TABLE No. 7
NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR ENDING DECEMBER 31, 1921.

| CAUSES | Permanent Total Disability | Permanent Partial Disability | Temporary Disability | | Total Injuries |
|---|----------------------------------|------------------------------------|-----------------------------------|-----------------------------------|-------------------|
| | | | Time Lost More Than 14 Days | Time Lost Less Than 14 Days | |
| Underground— | | | | | |
| 1. Falls of roof (coal, rock, etc.) | ..... | 6 | 243 | 167 | 416 |
| 2. Falls of face or pillar coal | ..... | ..... | 28 | 24 | 52 |
| 3. Mine cars and locomotives | 2 | 9 | 191 | 131 | 346 |
| 4. Gas explosions and burning gas | ..... | ..... | 6 | ..... | 6 |
| 5. Coal-dust explosions (including gas and dust combined) | ..... | ..... | ..... | ..... | ..... |
| 6. Explosives | ..... | ..... | 5 | ..... | 5 |
| 7. Suffocation from mine gas | ..... | ..... | ..... | ..... | ..... |
| 8. Electricity | ..... | ..... | ..... | ..... | ..... |
| 9. Animals | ..... | ..... | 4 | 6 | 10 |
| 10. Mining machines | ..... | 1 | 41 | 40 | 82 |
| 11. Mines fires (burned, suffocated, etc.) | ..... | 4 | 27 | 30 | 61 |
| 12. Other causes | ..... | 12 | 156 | 1 | 1 |
| In Shaft— | 1 | ..... | ..... | 250 | 419 |
| 13. Falling down shafts or slopes | ..... | ..... | 2 | ..... | 2 |
| 14. Objects falling down shafts or slopes | ..... | ..... | 1 | 1 | 2 |
| 15. Cages or skips | ..... | 1 | 2 | 1 | 4 |
| 16. Other causes | ..... | ..... | ..... | ..... | ..... |
| Total number injured in mine | 3 | 33 | 706 | 661 | 1,403 |
| On Surface— | | | | | |
| 17. Mine cars and mine locomotives | ..... | ..... | 9 | 13 | 22 |
| 18. Electricity | ..... | ..... | 1 | 2 | 3 |
| 19. Machinery | ..... | 1 | 9 | 11 | 21 |
| 20. Boiler explosions or bursting steam pipes | ..... | ..... | 1 | ..... | 1 |
| 21. Railway cars and locomotives | ..... | ..... | 2 | ..... | 2 |
| 22. Other causes | ..... | 3 | 35 | 30 | 68 |
| Total number injured on the surface | ..... | 4 | 57 | 56 | 117 |
| GRAND TOTAL | 3 | 37 | 763 | 717 | 1,520 |

A. PERMANENT TOTAL DISABILITY. Loss of both legs or arms, one leg and one arm, total loss of eyesight, paralysis or other condition permanently incapacitating workman from doing any work of a gainful occupation.

B. PERMANENT PARTIAL DISABILITY. Loss of one foot, leg, hand, eye, one or more fingers, one or more toes, and dislocation where ligaments are severed, or any other injury known in surgery to be permanent partial disability.

C. In this column include only accidents which cause a loss of time more than the balance of the day or shift upon which the accident occurred.

TABLE No. 8

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED DECEMBER 31, 1921.

| CAUSES | UNDERGROUND AND SHAFT | | | | | | | | | | | | | | | | | |
|---|-----------------------|-------------------|-------------|-------------|----------------|------------------------------|-------------|---------------------|-------------------------|----------------------|--------------------------|-----------------------|------------------|--------------------------|------------|-------------------|--------------------|------------------|
| | Foreman | Assistant Foreman | Fire Bosses | Pick Miners | Machine Miners | Machine Runners and Scrapers | Shot Pivers | Drivers and Runners | Motormen and Assistants | Doorboys and Helpers | Trackmen and Bratticemen | Timbermen and Rockmen | Pump and Pipemen | Electricians and Helpers | All Others | Total Underground | Surface Fatalities | Total Fatalities |
| Underground— | | | | | | | | | | | | | | | | | | |
| 1. Falls of roof (coal, rock, etc.) | | | 1 | 7 | 7 | | | | | | | | | | | 1 | 16 | |
| 2. Falls of face or pillar coal | | | | 5 | 4 | | | | | | 1 | | | | | | 10 | |
| 3. Mine cars and locomotives | | | | 3 | 1 | | | 2 | | 1 | 1 | | | | | | 8 | |
| 4. Gas explosions and burning gas | | | | | | | | | | | | | | | | | | |
| 5. Coal-dust explosions (including gas and dust combined) | | | | | | | 2 | | | | | | | | | 1 | 5 | |
| 6. Explosives | | | | | | | | | | | | | | | | | | |
| 7. Suffocation from mine gases | | | | | | | | | | | | | | | | | | |
| 8. Electricity (shock or burns) | | | | | | | | 1 | 1 | | | | | | | | 3 | |
| 9. Animals | | 1 | | | | | | | | | | | | | | | | |
| 10. Mining machines | | | | | | | | | | | | | | | | | | |
| 11. Mine fires (burned, suffocated, etc.) | | | | 4 | | | | | | | | | | | | 1 | 6 | |
| 12. Other causes | 1 | | | | | | | | | | | | | | | | | |
| Shaft— | | | | | | | | | | | | | | | | | | |
| 13. Falling down shafts or slopes | | | | | | | | | | | | | | | | | | |
| 14. Objects falling down shafts or slopes | | | | | | | | | | | | | | | | | | |
| 15. Cages or skips | | | | | | | | | | | | | | | | | | |
| 16. Other causes | | | | | | | | | | | | | | | | | | |
| Total Underground | 1 | 1 | 1 | 19 | 14 | | 2 | 3 | 1 | 1 | 2 | | | | | 3 | 48 | |

[illegible]

(a) To be supplied from Table 10.

TABLE No. 10

COAL MINE EMPLOYEES CLASSIFIED BY OCCUPATION IN THE STATE
OF COLORADO DURING YEAR ENDED DECEMBER 31, 1921.

| UNDERGROUND | Employed in and Around the Mines of Colorado |
|---|--|
| 1. Foremen | 204 |
| 2. Assistant foremen | 52 |
| 3. Fire bosses | 168 |
| 4. Pick miners | 4,769 |
| 5. Machine miners | 3,356 |
| 6. Machine runners and scrapers | 582 |
| 7. Shot firers | 152 |
| 8. Drivers and runners | 1,058 |
| 9. Motormen and assistants | 200 |
| 10. Doorboys and helpers | 86 |
| 11. Trackmen and bratticemen | 335 |
| 12. Timbermen and rockmen | 457 |
| 13. Pumpmen and pipemen | 124 |
| 14. Electricians and helpers | 103 |
| 15. All others | 380 |
| Total underground | 12,046 |
| SURFACE | |
| 1. Superintendents | 154 |
| 2. Foremen | 62 |
| 3. Blacksmiths and carpenters | 266 |
| 4. Engineers and firemen | 335 |
| 5. Machinists and helpers | 87 |
| 6. Trackmen and helpers | 50 |
| 7. All others at mine | 1,266 |
| 8. Coke-oven employees | 134 |
| 9. Office employees | 151 |
| Total surface | 2,505 |
| Total employees | 14,531 |
| Number of days men worked during year | 164.4 |

Table No. 9 omitted, is covered by Table No. 8. Applies to Metal Mining.

TABLE A

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

| COMPANIES | Total Production | Number of Men Employed | Number of Fatal Accidents | Number of Men Employed per Fatal Accident | Number of Tons Produced per Fatal Accident | Number of Non- Fatal Accidents | No. of Men Em- ployed per Non- Fatal Accident | Number of Tons Produced per Non-Fatal Accident | Killed per 1,000 Employed | Injured per 1,000 Employed |
|--------------------------------------|---------------------|---------------------------|------------------------------|---|--|-----------------------------------|---|--|------------------------------|-------------------------------|
| Ajax Coal Company | 16,196 | 32 | ..... | ..... | ..... | 3 | 10.7 | 5,399 | ..... | 93.7 |
| Altitude Coal Company | 292 | 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| American Smelting & Refining Company | 146,061 | 198 | ..... | ..... | ..... | 15 | 13.2 | 9,737 | ..... | 75.8 |
| Anchor Coal Company | 2,070 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Axial Basin Development Company | 1,161 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Aztec Coal Mining Company | 29,189 | 60 | ..... | ..... | ..... | 5 | 12 | 5,837 | ..... | 83.3 |
| Baldwin Fuel Company | 6,058 | 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Baudino & Company | 4,001 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Barker, Wright | 2,313 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bear Canon Coal Company | 46,872 | 94 | ..... | ..... | ..... | 10 | 9.4 | 4,687 | ..... | 106.4 |
| Bear River Coal Company | 29,081 | 53 | ..... | ..... | ..... | 6 | 8.9 | 4,847 | ..... | 113.2 |
| Bedlien, W. C. | 1,801 | 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Bell, John & Company | 578 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Berglund, Clara | 600 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Berry, Chas. T. | 590 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Big Five Coal Company | 4,829 | 18 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Big Four Coal & Coke Company | 56,770 | 85 | 2 | 42.5 | 28,385 | 5 | 17 | 11,354 | 23.5 | 58.8 |
| Big Six Coal Company | 5,148 | 37 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Black Canon Coal & Fuel Company | 13,535 | 42 | ..... | ..... | ..... | 1 | 42 | 13,535 | ..... | 23.8 |
| Black Cat Coal Company | 47 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Black Diamond Coal Company | 519 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Black Hawk Coal Company | 21,479 | 44 | 1 | 44 | 21,479 | 3 | 14.7 | 7,160 | 22.7 | 68.2 |

[illegible]

[illegible]

TABLE A—Continued

| COMPANIES | Total Production | Number of Men | | Fatal Accidents | Number of Men Employed per Fatal Accident | Number of Tons | | No. of Men Em- ployed per Non- Fatal Accident | Number of Tons Produced per Non-Fatal Accident | Killed per 1,000 Employed | Injured per 1,000 Employed |
|---|---------------------|---------------|-----------------|-----------------|---|--------------------------------|-----------------------------------|---|---|------------------------------|-------------------------------|
| | | Employed | Fatal Accidents | | | Produced per Fatal Accident | Number of Non- Fatal Accidents | | | | |
| Moffat Coal Company..... | 271,594 | 310 | 7 | 44.3 | 38,799 | 43 | 7.2 | 6,316 | 22.6 | 138.7 | |
| Mountain View Coal Company..... | 5,175 | 11 | | | | | | | | | |
| Mutual Coal Company..... | 142,102 | 162 | 1 | 162 | 142,102 | 8 | 20.3 | 17,763 | 6.2 | 49.4 | |
| National Fuel Company..... | 330,931 | 535 | 1 | 535 | 330,931 | 44 | 12.2 | 7,521 | 1.9 | 82.2 | |
| Naturita Stores Company..... | 976 | 2 | | | | | | | | | |
| North Park Coal Company..... | 42,784 | 47 | | | | 4 | 11.8 | 10,696 | | 85.1 | |
| Nossaman & Fowler..... | 714 | 3 | | | | | | | | | |
| Oakdale Coal Company..... | 129,183 | 156 | 2 | 78 | 64,592 | 26 | 6 | 4,969 | 12.8 | 166.7 | |
| Oberding, J. R..... | 197 | 1 | | | | | | | | | |
| Ohio Creek Coal Mining Company..... | 18,116 | 32 | | | | 1 | 32 | 18,116 | | 31.3 | |
| O. K. Coal Company..... | 4,082 | 7 | | | | 1 | 7 | 4,082 | | 142.9 | |
| Palisade Coal & Supply Company..... | 20,864 | 47 | | | | 6 | 7.8 | 3,478 | | 127.7 | |
| Palmetto, Felix..... | 1,251 | 4 | | | | | | | | | |
| Paonia Coal Company..... | 5,756 | 4 | | | | | | | | | |
| Parkdale Coal Company..... | 110 | 3 | | | | | | | | | |
| Patterson, Alexander..... | 3,774 | 14 | | | | | | | | | |
| Perino Bros..... | 315 | 2 | | | | | | | | | |
| Petry, Sam..... | 2,210 | 4 | | | | 1 | 4 | 2,210 | | 250 | |
| Pickford Coal Company..... | 1,028 | 3 | | | | | | | | | |
| Pikes Peak Consolidated Fuel Company..... | 165,003 | 173 | | | | 11 | 15.7 | 15,000 | | 63.6 | |
| Pinos Altos Coal Company..... | 889 | 4 | | | | | | | | | |
| Prairie Canon Coal Company..... | 16,810 | 52 | | | | 5 | 10.4 | 3,362 | | 96.2 | |
| Rapson Coal Mining Company..... | 22,563 | 53 | | | | 1 | 53 | 22,563 | | 18.9 | |
| Rauman Coal Company..... | 924 | 3 | | | | | | | | | |
| Reynolds & Babcock..... | 2,127 | 2 | | | | | | | | | |
| Rio Blanco Coal Company..... | 215 | 1 | | | | | | | | | |
| Rocchio, James..... | 105 | 2 | | | | | | | | | |
| Rocky Mountain Fuel Company..... | 897,092 | 1,007 | 1 | 1007 | 897,092 | 199 | 5.1 | 4,508 | 1— | 197.6 | |

[illegible]

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 1921, AND CAPACITY OF MINE PER DAY IN TONS.

ADAMS COUNTY

| Name of Mine | Name of Company | Mine Post Office | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Num- ber of Tons Produced | Capacity of Mine Per Day, Tons |
|---------------|----------------------|---------------------|----------------------|--------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|
| Parkdale | Parkdale Coal Co. | Lafayette | Sub-bituminous | 30 | 3 | 110 | 10 |
| Totals—Number | of Mines Operated, 1 | | | 30 | 3 | 110 | |

ARCHULETA COUNTY

| | | | | | | | |
|---------------|----------------------|----------------|----------------|-----|---|-----|---|
| Pagosa | Nossaman & Fowler | Pagosa Springs | Sub-bituminous | 250 | 3 | 714 | 3 |
| Totals—Number | of Mines Operated, 1 | | | 250 | 3 | 714 | |

BOULDER COUNTY

| | | | | | | | |
|--------------------|-------------------------------------|-----------------|------------------|-------|-------|---------|-------|
| Simpson..... | Rocky Mountain Fuel Co..... | Lafayette..... | Sub-bituminous.. | 228 | 69 | 128,587 | 600 |
| Standard..... | Rocky Mountain Fuel Co..... | Lafayette..... | Sub-bituminous.. | 202.5 | 90 | 75,375 | 500 |
| Vulcan..... | Rocky Mountain Fuel Co..... | Lafayette..... | Sub-bituminous.. | 198.8 | 79 | 75,643 | 400 |
| Acme..... | Rocky Mountain Fuel Co..... | Louisville..... | Sub-bituminous.. | 174.1 | 74 | 57,548 | 500 |
| Industrial..... | Rocky Mountain Fuel Co..... | Superior..... | Sub-bituminous.. | 134 | 136 | 113,843 | 800 |
| Gorham..... | Rocky Mountain Fuel Co..... | Gorham..... | Sub-bituminous.. | 154.9 | 34* | 33,197 | 250 |
| Monarch No. 2..... | National Fuel Co..... | Broomfield..... | Sub-bituminous.. | 106.2 | 179 | 72,978 | 900 |
| Centennial..... | Big Four Coal and Coke Co..... | Louisville..... | Sub-bituminous.. | 98.4 | 85 | 56,770 | 900 |
| Fox..... | Fox Coal Mining Co..... | Gorham..... | Sub-bituminous.. | 220 | 68 | 46,394 | 500 |
| Crown..... | Crown Fuel Co..... | Crown..... | Sub-bituminous.. | 220.5 | 61 | 45,512 | 600 |
| Nonpareil..... | Louisville Mining Co..... | Louisville..... | Sub-bituminous.. | 231.2 | 47 | 29,232 | 175 |
| Champion..... | International Fuel Corporation..... | Louisville..... | Sub-bituminous.. | 119.4 | 55 | 24,840 | 500 |
| Cambro..... | Engineers' Leasing Co..... | Lafayette..... | Sub-bituminous.. | 114 | 42 | 19,664 | 300 |
| Red Ash..... | MacCormac Coal Co..... | Gorham..... | Sub-bituminous.. | 94 | 34 | 14,367 | 200 |
| Black Diamond..... | Boulder Black Diamond Coal Co..... | Boulder..... | Sub-bituminous.. | 137 | 29 | 20,555 | 400 |
| Capitol..... | Ajax Coal Co..... | Louisville..... | Sub-bituminous.. | 194 | 32 | 16,196 | 150 |
| Cracker-Jack..... | Cracker-Jack Coal Co..... | Boulder..... | Sub-bituminous.. | 141 | 7 | 6,704 | 100 |
| Sunnyside..... | Big Six Coal Co..... | Louisville..... | Sub-bituminous.. | 81 | 37 | 5,148 | ..... |
| Lewis..... | Davies Coal Co..... | Gorham..... | Sub-bituminous.. | 243 | 4 | 3,465 | 25 |
| Gorham No. 2..... | Ross & Lorenzo..... | Gorham..... | Sub-bituminous.. | 240 | 3 | 2,358 | ..... |
| Independent..... | Independent Coal Co..... | Boulder..... | Sub-bituminous.. | 204 | 4 | 1,703 | 10 |
| Blue Goose..... | Blue Goose Coal Co..... | Boulder..... | Sub-bituminous.. | 126 | 2 | 671 | 15 |
| Star..... | Star Coal Co..... | Lafayette..... | Sub-bituminous.. | 24 | 10 | 200 | ..... |
| Totals—Number..... | of Mines Operated, 23..... | | | 156.1 | 1,181 | 850,950 | ..... |

TABLE B—Continued

DELTA COUNTY

| Name of Mine | Name of Company | Mine Post Office | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Number of Tons Produced | Capacity of Mine Per Day, Tons |
|------------------|-------------------------------|------------------|-------------------|--------------------------------|-----------------------------|-------------------------------|--------------------------------|
| King | Juanita Coal and Coke Co. | Bowie | Bituminous | 126 | 68 | 70,358 | 600 |
| Farmer (Paonia) | Paonia Coal Co. | Paonia | Bituminous | 160 | 4 | 5,756 | 80 |
| Red Mountain | A. W. Hall & Son | Cedaredge | Semi-bituminous | 305 | 6 | 5,150 | 60 |
| Green Valley | Green Valley Coal Co. | Cedaredge | Semi-bituminous | 301 | 4 | 3,947 | 24 |
| States | States Coal Co. | Cedaredge | Semi-bituminous | 222 | 3 | 1,630 | 50 |
| Coalby Red Canon | Frank M. Fickes | Cedaredge | Semi-bituminous | 240 | 2 | 1,376 | 20 |
| Winton | Winton Coal Co. | Cedaredge | Semi-bituminous | 175 | 3 | 1,124 | 60 |
| Kurtzville | Independent Lumber Co. | Hotchkiss | Semi-bituminous | 121 | 2 | 1,105 | 25 |
| Converse | Frank Converse | Paonia | Bituminous | 155 | 1 | 975 | 30 |
| Old Coalby | Stillwagon Bros. | Cedaredge | Semi-bituminous | 240 | 1 | 689 | 20 |
| Berry | Chas. T. Berry | Paonia | Bituminous | 89 | 2 | 590 | 20 |
| Fairview | Tygett & Aspel | Delta | Semi-bituminous | 175 | 2 | 576 | 60 |
| Rollins | McMillin Coal Co. | Delta | Semi-bituminous | 106 | 2 | 432 | 30 |
| De Graffenried | J. R. De Graffenried | Hotchkiss | Semi-bituminous | 90 | 2 | 263 | 30 |
| Bennett | Hotchkiss Fuel and Supply Co. | Hotchkiss | Semi-bituminous | 60 | 2 | 180 | 12 |
| Totals—Number | of Mines Operated, 15 | | | 149.9 | 104 | 94,151 | ..... |

ELBERT COUNTY

| | | | | | | | |
|---------------|----------------------|----------|----------------|-----|---|-------|-------|
| Wright | Wright, Barker | Matheson | Sub-bituminous | 172 | 3 | 2,313 | 25 |
| Totals—Number | of Mines Operated, 1 | | | 172 | 3 | 2,313 | ..... |

EL PASO COUNTY

| | | | | | | |
|--------------------|--------------------------------------|------------------|-------|-----|---------|--------|
| Pikeview..... | Pikes Peak Consolidated Fuel Co..... | Sub-bituminous.. | 123.6 | 173 | 165,003 | 1,900 |
| Keystone..... | Keystone Mining Co..... | Sub-bituminous.. | 174 | 55 | 58,974 | 275 |
| City No. 1..... | Colorado Springs Co..... | Sub-bituminous.. | 215 | 60 | 55,185 | 600 |
| City No. 2..... | Alexander Patterson | Sub-bituminous.. | 58 | 14 | 3,774 | Closed |
| Old Patterson..... | W. D. Corley | Sub-bituminous.. | 233 | 16 | 14,389 | 150 |
| Golden Dawn..... | Golden Dawn Coal Co..... | Sub-bituminous.. | 209 | 3 | 1,889 | 25 |
| Rush..... | Rush Coal and Development Co. | Sub-bituminous.. | 124 | 4 | 1,211 | ..... |
| Danville..... | Danville Coal Co..... | Sub-bituminous.. | 65 | 7 | 1,208 | 40 |
| Cottonwood..... | Cottonwood Coal Co..... | Sub-bituminous.. | 237 | 2 | 494 | 6 |
| Altitude..... | Altitude Coal Co..... | Sub-bituminous.. | 94 | 4 | 292 | ..... |
| Black Mariah..... | W. D. Corley | Sub-bituminous.. | 70 | 4 | 286 | 50 |
| Totals—Number | of Mines Operated, 11 | | 149.4 | 342 | 292,705 | ..... |

FREMONT COUNTY

| | | | | | | |
|-------------------------|--------------------------------|-----------------|-------|-------|---------|-----------|
| Rockvale..... | Colorado Fuel and Iron Co..... | Semi-bituminous | 172 | 262 | 119,984 | 1,000 |
| Coal Creek..... | Colorado Fuel and Iron Co..... | Semi-bituminous | 164 | 212 | 105,809 | 800 |
| Fremont..... | Colorado Fuel and Iron Co..... | Semi-bituminous | 177 | 183 | 81,251 | 500 |
| Nonac..... | Colorado Fuel and Iron Co..... | Semi-bituminous | 272 | 30 | 21,034 | 150 |
| Emerald..... | Colorado Fuel and Iron Co..... | Semi-bituminous | 172 | 67 | 19,690 | 100 |
| Chandler..... | Victor-American Fuel Co..... | Semi-bituminous | 184.8 | 173 | 106,815 | 1,000 |
| Radiant..... | Victor-American Fuel Co..... | Semi-bituminous | 188.8 | 64 | 31,659 | 500 |
| Canon..... | Canon-Reliance Coal Co..... | Semi-bituminous | 131.5 | 148 | 50,842 | 700 |
| Brookside..... | Vezzetti & Moschetti Coal Co. | Semi-bituminous | 220.5 | 15 | 17,885 | 75 |
| Royal Gorge..... | Gibson Lumber and Fuel Co. | Semi-bituminous | 76 | 34 | 11,913 | 200 |
| Double Dick..... | Double Dick Coal Co..... | Semi-bituminous | 212 | 13 | 8,633 | 35 |
| Walden..... | Mountain View Coal Co..... | Semi-bituminous | 193 | 11 | 5,175 | Not Rep'd |
| Florence-Canon..... | Florence Canon Coal Co..... | Semi-bituminous | 244 | 10 | 4,057 | 50 |
| Williamsburg Slope..... | Williamsburg Slope Coal Co. | Semi-bituminous | 186 | 7 | 3,122 | Not Rep'd |
| Willie..... | Sam Petry | Semi-bituminous | 208 | 4 | 2,210 | 15 |
| Smith-Tanner..... | Smith-Tanner Coal Co..... | Semi-bituminous | 198 | 3 | 1,499 | 15 |
| Bassick..... | Canon-Crystal Coal Co..... | Semi-bituminous | 169 | 12 | 1,499 | 15 |
| Brewster..... | Brewster Independent Coal Co. | Semi-bituminous | 26 | 7 | 144 | 10 |
| Jack O'Lantern..... | F. M. Dunbaugh, Jr. | Semi-bituminous | 20 | 6 | 137 | 15 |
| Rocchio..... | James Rocchio | Semi-bituminous | 23 | 2 | 105 | Closed |
| Totals—Number | of Mines Operated, 20 | | 169.2 | 1,263 | 593,463 | ..... |

TABLE B—Continued

GARFIELD COUNTY

| Name of Mine | Name of Company | Mine Post Office | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Number of Tons Produced | Capacity of Mine Per Day, Tons |
|------------------|----------------------------------|-----------------------|-------------------|--------------------------------|-----------------------------|-------------------------------|--------------------------------|
| Carbonera..... | Gilson Asphaltum Co..... | Mack..... | Bituminous..... | 206.3 | 9 | 8,515 | 60 |
| South Canon..... | South Canon Mine Leasing Co..... | Glenwood Springs..... | Bituminous..... | 226 | 5 | 4,843 | 10 |
| Estes..... | Estes Bros..... | Rifle..... | Bituminous..... | 163 | 2 | 1,499 | Not Rep'd |
| Harvey Gap..... | Bracken & Cozza..... | Newcastle..... | Bituminous..... | 127 | 3 | 1,123 | 6 |
| Rauman..... | Rauman Coal Co..... | Rifle..... | Bituminous..... | 209 | 3 | 924 | 7 |
| Roletto..... | Roletto Coal Co..... | Newcastle..... | Bituminous..... | 194 | 2 | 613 | 3 |
| Berglund..... | C. Berglund..... | Rifle..... | Bituminous..... | 90 | 2 | 600 | 15 |
| Totals—Number | of Mines Operated. 7 | | | 190.5 | 25 | 18,117 | ..... |

GUNNISON COUNTY

| | | | | | | | |
|-----------------------|-------------------------------------|--------------------|-------------------------------|-------|-----|---------|-------|
| Somerset..... | Utah Fuel Co..... | Somerset..... | Bituminous..... | 173 | 208 | 237,131 | 1,800 |
| Crested Butte..... | Colorado Fuel and Iron Co..... | Crested Butte..... | Bituminous..... | 160 | 170 | 95,255 | 650 |
| Elk Mountain..... | Colorado Fuel and Iron Co..... | Crested Butte..... | Anthracite and Bit. (2 seams) | 177 | 49 | 24,330 | 400 |
| Horace..... | Ross Coal Co..... | Crested Butte..... | Anthracite | 184 | 80 | 43,047 | 225 |
| Smith-Anthracite..... | Crested Butte Anthracite M. Co..... | Crested Butte..... | Anthracite | 162 | 40 | 16,480 | 300 |
| Bulkey..... | Crested Butte Coal Co..... | Crested Butte..... | Bituminous..... | 106 | 25 | 18,116 | 250 |
| Alpine..... | Rocky Mountain Fuel Co..... | Baldwin..... | Semi-bituminous | 103 | 53 | 26,031 | 350 |
| Ohio Creek..... | Ohio Creek Coal Co..... | Gunnison..... | Semi-bituminous | 125 | 32 | 18,116 | 150 |
| Baldwin-Star..... | Baldwin Fuel Co..... | Baldwin..... | Bituminous..... | 203 | 7 | 6,058 | 50 |
| Totals—Number | of Mines Operated. 9 | | | 160.5 | 664 | 484,614 | ..... |

HUEFANO COUNTY

| Robinson-Walsen..... | Colorado Fuel and Iron Co..... | Walsen..... | Bituminous..... | 250 | 572 | 331,913 | 1,900 |
|----------------------|-----------------------------------|-------------------|-----------------|-------|-------|-----------|-------|
| Ideal..... | Colorado Fuel and Iron Co..... | Ideal..... | Bituminous..... | 201 | 251 | 156,041 | 900 |
| Cameron..... | Colorado Fuel and Iron Co..... | Parr..... | Bituminous..... | 230 | 236 | 154,845 | 900 |
| Lester..... | Colorado Fuel and Iron Co..... | Lester..... | Bituminous..... | 243 | 226 | 153,282 | 700 |
| Pictou..... | Colorado Fuel and Iron Co..... | Pictou..... | Bituminous..... | 169 | 178 | 82,833 | 560 |
| | | | | | | | |
| Kebler No. 1..... | Colorado Fuel and Iron Co..... | Tioga..... | Bituminous..... | 154 | 37 | 8,512 | 200 |
| Kebler No. 2..... | Colorado Fuel and Iron Co..... | Pictou..... | Bituminous..... | 173 | 91 | 29,990 | 350 |
| Johal..... | Colorado Fuel and Iron Co..... | Pictou..... | Bituminous..... | 64 | 54 | 11,519 | 180 |
| Turner..... | Turner Coal Co..... | Walsenburg..... | Bituminous..... | 216.1 | 131 | 159,947 | 900 |
| Mutual..... | Mutual Coal Co..... | Walsenburg..... | Bituminous..... | 194.6 | 162 | 142,102 | 800 |
| | | | | | | | |
| Oakdale..... | Oakdale Coal Co..... | Oakview..... | Bituminous..... | 219 | 156 | 129,182 | 800 |
| Gordon..... | Gordon Coal Co..... | Walsenburg..... | Bituminous..... | 188.5 | 95 | 68,226 | 300 |
| Ravenwood..... | Victor-American Fuel Co..... | Ravenwood..... | Bituminous..... | 197.2 | 118 | 59,537 | 500 |
| Sunnyside..... | Sunnyside Coal Mining Co..... | Strong..... | Bituminous..... | 116.8 | 99 | 53,082 | 600 |
| Pryor..... | Union Coal and Coke Co..... | Pryor..... | Bituminous..... | 123 | 86 | 52,682 | 400 |
| | | | | | | | |
| Reliance..... | Canon-Reliance Coal Co..... | Ojo..... | Bituminous..... | 164 | 69 | 31,017 | 300 |
| Toltec..... | Aztec Coal Mining Co..... | Toltec..... | Bituminous..... | 128.4 | 60 | 29,189 | 350 |
| Maitland..... | McNally & Thompson..... | Maitland..... | Bituminous..... | 138.5 | 60 | 27,722 | 250 |
| Brennan..... | Brennan Coal Mining Co..... | Walsenburg..... | Bituminous..... | 96.4 | 70 | 27,092 | 300 |
| Vesta..... | Vesta Mines, Incorporated..... | Camp Shumway..... | Bituminous..... | 92.2 | 36 | 18,220 | 300 |
| | | | | | | | |
| Hezron..... | Caddell & Son..... | Lester..... | Bituminous..... | 225 | 11 | 16,563 | 50 |
| Caddell..... | Black Canon Coal and Fuel Co..... | Walsenburg..... | Bituminous..... | 126.1 | 42 | 13,535 | 125 |
| Caprock..... | Castle Coal Co..... | Walsenburg..... | Bituminous..... | 255 | 22 | 10,672 | 250 |
| Rugby..... | Rugby Fuel Co..... | Rugby..... | Bituminous..... | 49 | 41 | 9,529 | 50 |
| Leader..... | Fruth & Stone..... | Rouse..... | Bituminous..... | 180 | 10 | 4,137 | 50 |
| | | | | | | | |
| Cuchara Canon..... | Caddell & Taggart..... | Toltec..... | Bituminous..... | 86 | 6 | 469 | 15 |
| Bunker Hill..... | Steve Mattive & Son..... | Rugby..... | Bituminous..... | 61 | 2 | 372 | 30 |
| Black Hills..... | Black Hills Coal Co..... | Tioga..... | Bituminous..... | 40 | 3 | 309 | 10 |
| Totals—Number | of Mines Operated, 28..... | | | 195 | 2,924 | 1,782,520 | |

JACKSON COUNTY

| | | | | | | | |
|---------------|---------------------------|---------------|------------------|-----|----|--------|-----|
| Moore..... | North Park Coal Co..... | Coalmont..... | Sub-bituminous.. | 159 | 47 | 42,784 | 400 |
| Totals—Number | of Mines Operated, 1..... | | | 159 | 47 | 42,784 | |

TABLE B—Continued
JEFFERSON COUNTY

| Name of Mine | Name of Company | Mine Post Office | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Num- ber of Tons Produced | Capacity of Mine Per Day, Tons |
|-------------------|-----------------------------|---------------------|----------------------|--------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|
| Leyden No. 3..... | Leyden Coal Co..... | Golden..... | Sub-bituminous.. | 182 | 145 | 121,848 | 1,100 |
| Satanic..... | Colorado Collieries Co..... | Morrison..... | Sub-bituminous.. | 197 | 34 | 12,734 | 75 |
| Totals—Number | of Mines Operated, 2..... | | | 184.8 | 179 | 134,582 | |

LA PLATA COUNTY

| | | | | | | | |
|-------------------|----------------------------------|---------------|-----------------|-------|-----|---------|-----------|
| Perins Peak..... | Calumet Fuel Co..... | Perins..... | Bituminous..... | 178.6 | 79 | 54,466 | 350 |
| San Juan..... | American Smelting & Refining Co. | Durango..... | Bituminous..... | 171 | 31 | 16,570 | 150 |
| Hesperus..... | Hesperus Fuel Co..... | Hesperus..... | Semi-bituminous | 106.4 | 38 | 13,186 | 200 |
| Triangle..... | Triangle Coal Co..... | Durango..... | Bituminous..... | 210 | 8 | 4,739 | 70 |
| Sunshine..... | Sunshine Coal Co..... | Durango..... | Bituminous..... | 195 | 5 | 4,600 | 26 |
| O. K..... | O. K. Coal Co..... | Durango..... | Bituminous..... | 178 | 7 | 4,082 | 30 |
| Morning Star..... | Baudino & Co..... | Durango..... | Bituminous..... | 191 | 5 | 4,001 | 22 |
| City..... | John Blatnick..... | Durango..... | Bituminous..... | 81 | 3 | 516 | Not Rep'd |
| Minnie..... | Perino Bros..... | Durango..... | Bituminous..... | 90 | 2 | 315 | 3 |
| Basin Ridge..... | Gates Coal Co..... | Durango..... | Bituminous..... | 21 | 2 | 152 | 20 |
| Totals—Number | of Mines Operated, 10..... | | | 159.8 | 180 | 102,627 | |

LAS ANIMAS COUNTY

STATE INSPECTOR OF COAL MINES

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| | | | | | | | |
|----------------------|----------------------------------|-----------------|-----------------|-------|-----|---------|-------|
| Sopris..... | Colorado Fuel and Iron Co. | Sopris..... | Bituminous..... | 207 | 446 | 251,060 | 1,200 |
| Morley..... | Colorado Fuel and Iron Co. | Morley..... | Bituminous..... | 211 | 303 | 245,142 | 1,200 |
| Fredrick..... | Colorado Fuel and Iron Co. | Valdez..... | Bituminous..... | 140 | 320 | 191,556 | 1,000 |
| Tabasco..... | Colorado Fuel and Iron Co. | Tabasco..... | Bituminous..... | 192 | 242 | 175,346 | 800 |
| Toller..... | Colorado Fuel and Iron Co. | Tollerburg..... | Bituminous..... | 201 | 250 | 151,237 | 800 |
| Primero..... | Colorado Fuel and Iron Co. | Primero..... | Bituminous..... | 111 | 240 | 114,924 | 1,200 |
| Berwind..... | Colorado Fuel and Iron Co. | Berwind..... | Bituminous..... | 116 | 275 | 113,839 | 900 |
| Starkville..... | Colorado Fuel and Iron Co. | Starkville..... | Bituminous..... | 30 | 103 | 26,686 | 900 |
| Engle..... | Colorado Fuel and Iron Co. | Engleburg..... | Bituminous..... | 64 | 58 | 8,840 | 500 |
| Delagua..... | Victor-American Fuel Co. | Delagua..... | Bituminous..... | 177.4 | 446 | 371,856 | 2,400 |
| Cass..... | Victor-American Fuel Co. | Hastings..... | Bituminous..... | 152.7 | 135 | 96,452 | 600 |
| Hastings..... | Victor-American Fuel Co. | Hastings..... | Bituminous..... | 60.7 | 80 | 20,747 | 500 |
| Gray Creek..... | Victor-American Fuel Co. | Gray Creek..... | Bituminous..... | 146.1 | 67 | 19,226 | 250 |
| Forbes..... | Rocky Mountain Fuel Co. | Forbes..... | Bituminous..... | 203 | 118 | 72,808 | 400 |
| La Belle..... | Rocky Mountain Fuel Co. | Sopris..... | Bituminous..... | 158.7 | 66 | 35,721 | 300 |
| Southwestern..... | Rocky Mountain Fuel Co. | Agular..... | Bituminous..... | 163.9 | 56 | 25,061 | 300 |
| Piedmont..... | Rocky Mountain Fuel Co. | Sopris..... | Bituminous..... | 19 | 12 | 1,501 | 75 |
| Royal..... | Royal Fuel Co. | Agular..... | Bituminous..... | 225.2 | 239 | 198,945 | 950 |
| Boncarbo..... | American Smelting & Refining Co. | Cokedale..... | Bituminous..... | 179 | 167 | 129,491 | 1,000 |
| Brodhead No. 9..... | Temple Fuel Co. | Brodhead..... | Bituminous..... | 181 | 132 | 98,028 | 500 |
| Brodhead No. 10..... | Temple Fuel Co. | Brodhead..... | Bituminous..... | 43 | 47 | 9,131 | 200 |
| Empire..... | Empire Coal Co. | Agular..... | Bituminous..... | 207.5 | 85 | 67,767 | 400 |
| Ludlow..... | Huerfano Coal Co. | Ludlow..... | Bituminous..... | 119.6 | 120 | 57,331 | 600 |
| Bear Canon..... | Bear Canon Coal Co. | Valorso..... | Bituminous..... | 188 | 94 | 46,872 | 400 |
| Thor..... | National Fuel Co. | Bowen..... | Bituminous..... | 80.3 | 102 | 32,718 | 500 |
| MaCoye..... | Eureka Coal Mining Co. | Boncarbo..... | Bituminous..... | 121 | 76 | 29,364 | 300 |
| Rapson No. 1..... | Rapson Coal Mining Co. | Rapson..... | Bituminous..... | 161.8 | 53 | 22,563 | 300 |
| Primrose..... | Black Hawk Coal Co. | Rapson..... | Bituminous..... | 134.8 | 44 | 21,779 | 150 |
| Jewel..... | Jewel Coal Co. | Agular..... | Bituminous..... | 177.8 | 43 | 18,938 | 200 |
| Prairie Canon..... | Prairie Canon Coal Co. | Valorso..... | Bituminous..... | 100 | 52 | 16,310 | 250 |
| Greenville..... | Cedar Hill Coal and Coke Co. | Ludlow..... | Bituminous..... | 106 | 32 | 14,042 | 300 |
| Black Diamond..... | Cedar Hill Coal and Coke Co. | Rugby..... | Bituminous..... | 20 | 23 | 1,251 | 150 |
| Jeffries..... | Jeffries Fuel Co. | Trinidad..... | Bituminous..... | 162 | 18 | 9,624 | 200 |
| Santa Fe..... | Santa Fe Coal Co. | Trinidad..... | Bituminous..... | 27 | 72 | 5,756 | 350 |
| Fritchard..... | Kinley-Wilton Coal Co. | Trinidad..... | Bituminous..... | 191 | 7 | 2,795 | 25 |

*The Engle Mine was closed February 25, 1921, and reopened under lease to T. P. Davis, who mined 1,678 tons which is included in the production of the Engle Mine.

TABLE B—Continued
LAS ANIMAS COUNTY—Continued

| Name of Mine | Name of Company | Mine Post Office | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Num- ber of Tons Produced | Capacity of Mine Per Day, Tons |
|---------------------|----------------------------|---------------------|----------------------|--------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|
| Baldy Mountain..... | Trinidad Coal Co..... | Trinidad | Bituminous..... | 283 | 3 | 2,512 | 12 |
| Ferrell..... | Trinidad Coal Co..... | Trinidad | Bituminous..... | 140 | 3 | 1,500 | 25 |
| Williams..... | Miners Coal and Coke Co. | Trinidad | Bituminous..... | 42 | 6 | 1,492 | 50 |
| Beshoar..... | Joerger Fuel Co..... | Trinidad | Bituminous..... | 273 | 2 | 2,331 | ..... |
| Leone..... | L. Leone..... | Trinidad | Bituminous..... | 226 | 3 | 2,211 | 10 |
| Liberty..... | Liberty Coal Co..... | Forbes | Bituminous..... | 125 | 6 | 1,745 | 25 |
| Three Pines..... | Three Pines Coal Co..... | Valloriso | Bituminous..... | 25 | 22 | 1,060 | 150 |
| Pickford..... | Pickford Coal Co..... | Trinidad | Bituminous..... | 125 | 3 | 1,028 | 25 |
| Premium-Star..... | Caminotti & Co..... | Rugby | Bituminous..... | 35 | 9 | 1,022 | 50 |
| Fishers Peak..... | R. Marsh..... | Trinidad | Bituminous..... | 206 | 2 | 847 | 5 |
| Stanley..... | C. O. Stanley..... | Boncarbo | Bituminous..... | 22 | 7 | 698 | 28 |
| Thompson..... | Fairview Coal Co..... | Trinidad | Bituminous..... | 40 | 4 | 280 | 3 |
| Dix..... | Dick Coal Co..... | Boncarbo | Bituminous..... | 25 | 15 | 267 | ..... |
| Hines..... | Hines Coal Co..... | Trinidad | Bituminous..... | 13 | 4 | 175 | ..... |
| Corra..... | John Corra..... | Sopris | Bituminous..... | 50 | 2 | 150 | 20 |
| Henderson..... | Jas. E. McLaughlin..... | Trinidad | Bituminous..... | 32 | 2 | 80 | ..... |
| Totals—Number | of Mines Operated, 51..... | | | 160.1 | 4,716 | 2,716,405 | ..... |

MESA COUNTY

| | | | | | | |
|--------------------|-----------------------------------|-----------------|-------|-----|---------|-------|
| Cameo..... | Grand Junction Mining & Fuel Co.. | Semi-bituminous | 135.5 | 75 | 59,033 | 800 |
| Palisade..... | Palisade Coal and Supply Co. | Semi-bituminous | 217 | 47 | 20,864 | 250 |
| Garfield..... | Garfield Coal Mining & T. Co. | Semi-bituminous | 189 | 28 | 13,462 | 200 |
| Book Cliff..... | Book Cliff Coal Co. | Semi-bituminous | 178.5 | 12 | 8,144 | 100 |
| Stokes..... | W. D. Stokes | Semi-bituminous | 175 | 6 | 3,151 | 50 |
| Nearing..... | Liberty Coal and Mercantile Co. | Semi-bituminous | 272 | 3 | 2,230 | 40 |
| Anchor No. 1..... | Anchor Coal Co. | Semi-bituminous | 112 | 2 | 156 | 60 |
| Anchor No. 2..... | Anchor Coal Co. | Semi-bituminous | 258 | 3 | 1,914 | 30 |
| Riverside..... | W. C. Holland | Semi-bituminous | 192 | 3 | 1,557 | 30 |
| Holland..... | W. C. Holland | Semi-bituminous | 30 | 1 | 150 | 25 |
| Thomas..... | Thomas Coal Co. | Semi-bituminous | 235 | 3 | 1,265 | 20 |
| Farner-Mutual..... | Felix Palmetto | Semi-bituminous | 210 | 4 | 1,251 | 8 |
| Black Diamond..... | Black Diamond Coal Co. | Semi-bituminous | 60 | 2 | 519 | 10 |
| Hunter..... | J. B. Hunter | Semi-bituminous | 80 | 2 | 231 | 20 |
| McGinley..... | Wm. McGinley | Semi-bituminous | 24 | 4 | 150 | 20 |
| Totals—Number | of Mines Operated, 15..... | | 269 | 195 | 114,077 | ..... |

MOFFAT COUNTY

| | | | | | | |
|---------------|-----------------------------|------------|-------|----|-------|-------|
| Collom..... | Axial Basin Development Co. | Bituminous | 167 | 2 | 1,161 | 20 |
| Baker..... | Waite Mining Co. | Bituminous | 136 | 3 | 871 | 50 |
| Waite..... | Waite Mining Co. | Bituminous | 64 | 2 | 84 | 25 |
| Walker..... | Walker Land and C. Co. | Bituminous | 60 | 2 | 400 | 5 |
| Hart..... | J. M. Hart | Bituminous | 136 | 1 | 331 | ..... |
| Totals—Number | of Mines Operated, 5..... | | 112.6 | 10 | 2,847 | ..... |

MONTEZUMA COUNTY

| | | | | | | |
|----------------------------|---------------------------|------------------|-------|----|-------|-------|
| School Section Lease..... | French & Fiedling | Sub-bituminous.. | 217 | 5 | 1,980 | 15 |
| Kelly-Sheddy (McElmo)..... | Kelly-Sheddy Coal Co. | Sub-bituminous.. | 242 | 2 | 1,044 | 15 |
| Freeman..... | Pinos Altos Coal Co. | Sub-bituminous.. | 199 | 4 | 889 | 3 |
| Spencer..... | Mancos Mesa Coal Co. | Sub-bituminous.. | 50 | 3 | 109 | 2 |
| Black Cat..... | Black Cat Coal Co. | Sub-bituminous.. | 85 | 1 | 47 | ..... |
| Totals—Number | of Mines Operated, 5..... | | 173.3 | 15 | 4,069 | ..... |

TABLE B—Continued
MONTROSE COUNTY

| Name of Mine | Name of Company | Post Office Mine | Character of Coal | Average No. of Men Days Worked | Average No. of Men Employed | Total Number of Tons Produced | Capacity of Mine Per Day, Tons |
|-------------------|-------------------------|------------------|-------------------|--------------------------------|-----------------------------|-------------------------------|--------------------------------|
| Cloverdale..... | Naturita Stores Co..... | Naturita..... | Sub-bituminous.. | 189.5 | 2 | 976 | 15 |
| Missouri..... | J. S. Chew..... | Nucila..... | Sub-bituminous.. | 109 | 2 | 579 | 3 |
| Liberty Bell..... | John Drott..... | Naturita..... | Sub-bituminous.. | 201 | 1 | 405 | 2 |
| Blixt..... | Swan Blixt..... | Olathe..... | Sub-bituminous.. | 90 | 2 | 200 | 4 |
| Knauss..... | W. J. Oberding..... | Nucila..... | Sub-bituminous.. | 50 | 1 | 197 | ..... |
| Totals—Number | of Mines Operated, 5 | | | 128.5 | 8 | 2,357 | ..... |

OURAY COUNTY

| | | | | | | | |
|---------------|----------------------|--------------|------------------|-----|---|-----|-------|
| Economy..... | John Bell & Co..... | Ridgway..... | Sub-bituminous.. | 100 | 2 | 578 | 4 |
| Totals—Number | of Mines Operated, 1 | | | 100 | 2 | 578 | ..... |

PITKIN COUNTY

| | | | | | | | |
|---------------|----------------------|-----------------|-----------------|-----|---|-------|-------|
| Marion..... | J. R. Marchetti..... | Carbondale..... | Bituminous..... | 212 | 2 | 1,648 | ..... |
| Totals—Number | of Mines Operated, 1 | | | 212 | 2 | 1,648 | ..... |

RIO BLANCO COUNTY

| | | | | | | | |
|--------------------|----------------------------|---------------|-----------------|-------|---|-------|-------|
| Black Diamond..... | Reynolds & Babcock..... | Meeker..... | Bituminous..... | 202.6 | 2 | 2,127 | 50 |
| Lion Canon..... | White River Lumber Co..... | Meeker..... | Bituminous..... | 281 | 2 | 1,187 | 15 |
| Fairfield..... | Rio Blanco Coal Co..... | Meeker..... | Bituminous..... | 40 | 1 | 215 | ..... |
| Pollard..... | Temple & Long..... | Meeker..... | Bituminous..... | 156 | 1 | 141 | 3 |
| McKee..... | J. H. Clark..... | Meeker..... | Bituminous..... | 61.5 | 1 | 134 | ..... |
| Douglas Creek..... | Jones & Trachta..... | Rangeley..... | Bituminous..... | 100 | 1 | 120 | ..... |
| Totals—Number | of Mines Operated, 6 | | | 165.6 | 8 | 4,224 | ..... |

ROUTT COUNTY

| Oak Hills Nos. 1. and 2. | Moffat Coal Co. | Oak Creek. | Bituminous. | 115.6 | 310 | 271,594 |
|--------------------------|-------------------------------|-------------|-------------|-------|-------|---------|
| Harris. | Colorado & Utah Coal Co. | Mt. Harris. | Bituminous. | 99.9 | 258 | 2,400 |
| Pinnacle. | Victor-American Fuel Co. | Oak Creek. | Bituminous. | 55.8 | 133 | 217,174 |
| Wadge. | Victor-American Fuel Co. | Mt. Harris. | Bituminous. | 55.9 | 108 | 98,256 |
| Hayden. | Hayden Bros. Coal Corp. | Haybro. | Bituminous. | 113.9 | 116 | 58,362 |
| | | | Bituminous. | | | 65,088 |
| McGregor. | McNeil Coal Co. | McGregor. | Bituminous. | 56.2 | 82 | 58,995 |
| Wolf Creek. | International Fuel Corp. | Mt. Harris. | Bituminous. | 136.4 | 37 | 31,183 |
| Bear River. | Bear River Coal Co. | Bear River. | Bituminous. | 43.9 | 53 | 29,081 |
| Elk Creek. | Blue Seal Coal Co. | Milner. | Bituminous. | 56.5 | 52 | 15,497 |
| Routt Pinnacle. | Routt-Pinnacle Coal Co. | Bear River. | Bituminous. | 48.7 | 32 | 15,030 |
| Crown Point. | Roman Coal Co. | Milner. | Bituminous. | 46.5 | 21 | 5,104 |
| Yampa. | Big Five Coal Co. | Milner. | Bituminous. | 43.5 | 18 | 4,829 |
| McDowell. | Hackeye Coal Co. | Bear River. | Bituminous. | 66.5 | 12 | 4,519 |
| Dry Creek. | Hayden Valley Mutual Coal Co. | Hayden. | Bituminous. | 139 | 2 | 1,171 |
| Lorella. | M. O. Dickerson | Hayden. | Bituminous. | 99 | 3 | 1,155 |
| Chergo. | Thomas Chergo | Oak Creek. | Bituminous. | 108 | 1 | 500 |
| Totals—Number | of Mines Operated, 16 | | | 87.2 | 1,238 | 876,638 |

WELD COUNTY

| | | | | | | |
|----------------------|--------------------------------------|-----------------|---------------------|-------|-------|-----------|
| Puritan..... | National Fuel Co..... | Dacono..... | Sub-bituminous..... | 152 | 254 | 225,235 |
| Columbine..... | Rocky Mountain Fuel Co..... | Frederick..... | Sub-bituminous..... | 298 | 114 | 130,218 |
| Grant..... | Rocky Mountain Fuel Co..... | Frederick..... | Sub-bituminous..... | 137 | 83 | 112,575 |
| Frederick Slope..... | Rocky Mountain Fuel Co..... | Frederick..... | Sub-bituminous..... | 38.5 | 23 | 8,984 |
| Baum..... | Consolidated Coal and Coke Co..... | Dacono..... | Sub-bituminous..... | 135 | 81 | 83,554 |
| Clayton..... | Clayton Coal Co..... | Erie..... | Sub-bituminous..... | 219 | 82 | 78,101 |
| Sterling..... | Grand Junction Mining & Fuel Co..... | Dacono..... | Sub-bituminous..... | 228.5 | 62 | 75,144 |
| Evans..... | International Fuel Corp..... | Frederick..... | Sub-bituminous..... | 122.1 | 98 | 69,647 |
| Monroe..... | United Collieries Co..... | Erie..... | Sub-bituminous..... | 222.7 | 48 | 68,978 |
| Russell..... | W. E. Russell Coal Co..... | Firestone..... | Sub-bituminous..... | 137 | 82 | 68,196 |
| Boulder Valley..... | Boulder Valley Coal Co..... | Erie..... | Sub-bituminous..... | 120.5 | 61 | 52,880 |
| Shamrock..... | Shamrock Coal Co..... | Erie..... | Sub-bituminous..... | 120.5 | 38 | 37,698 |
| Eureka..... | Dillon Coal Co..... | Frederick..... | Sub-bituminous..... | 135 | 6 | 5,097 |
| White Ash..... | W. C. Bedlien..... | La Salle..... | Sub-bituminous..... | 276 | 4 | 1,801 |
| Witherbee..... | Ft. Lupton Coal Co..... | Ft. Lupton..... | Sub-bituminous..... | 47 | 14 | 1,346 |
| Totals—Number | of Mines Operated, 15 | | | 180.4 | 1,050 | 1,019,454 |
| Grand Totals..... | 249 | | | 164.4 | 14164 | 9,141,947 |

See Estrella Mae Coal Company

†Two men are included in the total number of men employed not included in the above table.

TABLE C
PRODUCTION OF COUNTIES BY MONTHS—1921

| Months | Adams | Archuleta | Boulder | Delta | Elbert | El Paso | Fremont |
|-----------|-------|-----------|---------|--------|--------|---------|---------|
| January | | | 111,939 | 9,863 | ..... | 33,923 | 74,604 |
| February | | | 83,454 | 6,595 | ..... | 32,412 | 49,397 |
| March | | | 73,576 | 5,875 | ..... | 26,090 | 23,291 |
| April | | | 68,149 | 6,939 | ..... | 26,108 | 52,615 |
| May | | | 48,321 | 5,665 | ..... | 15,747 | 56,155 |
| June | | | 46,742 | 3,781 | ..... | 13,393 | 18,707 |
| July | | | 58,920 | 5,815 | ..... | 13,334 | 54,990 |
| August | | | 68,446 | 6,461 | ..... | 15,106 | 53,406 |
| September | | | 70,419 | 10,062 | ..... | 19,479 | 63,784 |
| October | | | 83,220 | 7,914 | ..... | 30,702 | 80,026 |
| November | | | 61,160 | 11,619 | ..... | 30,040 | 56,775 |
| December | | | 76,604 | 13,562 | ..... | 36,371 | 9,713 |
| Totals | 110 | 714 | 850,950 | 94,151 | 2,313 | 292,705 | 593,463 |

| Months | Garfield | Gunnison | Huerfano | Jackson | Jefferson | La Plata |
|-----------|----------|----------|-----------|---------|-----------|----------|
| January | 2,060 | 51,491 | 195,868 | 3,622 | 14,525 | 11,419 |
| February | 1,529 | 33,845 | 111,059 | 1,855 | 13,683 | 8,009 |
| March | 863 | 31,187 | 73,378 | 3,556 | 8,079 | 7,716 |
| April | 939 | 30,658 | 128,727 | 4,012 | 8,524 | 6,476 |
| May | 1,171 | 35,468 | 151,281 | 2,112 | 7,719 | 5,725 |
| June | 968 | 26,766 | 110,145 | 1,589 | 6,652 | 5,676 |
| July | 935 | 39,698 | 146,795 | 3,898 | 7,801 | 5,428 |
| August | 1,280 | 46,916 | 185,457 | 3,406 | 10,549 | 7,802 |
| September | 1,538 | 58,571 | 176,253 | 4,932 | 11,785 | 10,228 |
| October | 1,819 | 64,296 | 230,200 | 6,513 | 16,000 | 12,286 |
| November | 2,477 | 42,029 | 169,859 | 3,877 | 16,002 | 13,008 |
| December | 2,538 | 23,689 | 103,498 | 3,412 | 13,263 | 8,854 |
| Totals | 18,117 | 484,614 | 1,782,520 | 42,784 | 134,582 | 102,627 |

| Months | Las Animas | Mesa | Moffat | Montezuma | Montrose | Ouray |
|-----------|------------|---------|--------|-----------|----------|-------|
| January | 362,637 | 12,711 | 353 | 604 | 156 | ..... |
| February | 247,284 | 7,355 | 167 | 370 | 165 | ..... |
| March | 224,405 | 4,381 | 74 | 88 | 122 | ..... |
| April | 205,676 | 5,854 | 207 | 126 | 107 | ..... |
| May | 225,019 | 4,338 | 141 | 302 | 213 | ..... |
| June | 188,640 | 4,326 | 163 | 304 | 170 | ..... |
| July | 196,157 | 5,488 | 202 | 180 | 106 | ..... |
| August | 197,314 | 9,379 | 340 | 257 | 45 | ..... |
| September | 205,505 | 14,590 | 277 | 406 | 165 | ..... |
| October | 236,730 | 13,758 | 154 | 351 | 191 | ..... |
| November | 238,676 | 12,264 | 210 | 534 | 237 | ..... |
| December | 188,362 | 19,633 | 559 | 547 | 650 | 578 |
| Totals | 2,716,405 | 114,077 | 2,847 | 4,069 | 2,357 | 578 |

| Months | Pitkin | Rio Blanco | Routt | Weld | Grand Total |
|-----------|--------|------------|---------|-----------|-------------|
| January | 156 | 645 | 60,155 | 112,779 | 1,059,510 |
| February | 85 | 534 | 49,811 | 100,533 | 748,142 |
| March | 42 | 428 | 64,019 | 73,652 | 620,822 |
| April | 142 | 378 | 25,140 | 74,233 | 644,868 |
| May | 81 | 178 | 80,422 | 36,550 | 676,638 |
| June | 153 | 58 | 88,016 | 32,203 | 548,452 |
| July | 140 | 144 | 77,953 | 45,503 | 663,487 |
| August | 163 | 162 | 105,196 | 67,661 | 779,646 |
| September | 219 | 226 | 112,495 | 106,527 | 867,461 |
| October | 74 | 346 | 111,434 | 143,637 | 1,039,651 |
| November | 322 | 461 | 80,040 | 98,438 | 838,028 |
| December | 213 | 664 | 21,657 | 127,738 | 655,242 |
| Totals | 1,648 | 4,224 | 876,638 | 1,019,454 | 9,141,947 |

TABLE D

SHOWING INCREASE AND DECREASE OF PRODUCTION BY COUNTIES
1920-1921

| Counties | Tons Produced 1920 | Tons Produced 1921 | Increase | Decrease |
|------------------|--------------------------|--------------------------|----------|-----------|
| Adams | | 110 | 110 | |
| Archuleta | | 714 | 714 | |
| Boulder | 1,230,347 | 850,950 | | 379,397 |
| Delta | 123,478 | 94,151 | | 29,327 |
| Elbert | | 2,313 | 2,313 | |
| El Paso | 379,869 | 292,705 | | 87,164 |
| Fremont | 874,766 | 593,463 | | 281,303 |
| Garfield | 28,507 | 18,117 | | 10,390 |
| Gunnison | 620,632 | 484,614 | | 136,018 |
| Huerfano | 2,448,733 | 1,782,520 | | 666,213 |
| Jackson | 50,905 | 42,784 | | 8,121 |
| Jefferson | 176,427 | 134,582 | | 41,845 |
| La Plata | 132,497 | 102,627 | | 29,870 |
| Las Animas | 4,345,110 | 2,716,405 | | 1,628,705 |
| Mesa | 174,801 | 114,077 | | 60,724 |
| Moffat | 3,173 | 2,847 | | 326 |
| Montezuma | 4,147 | 4,069 | | 78 |
| Montrose | 2,105 | 2,357 | 252 | |
| Ouray | 500 | 578 | 78 | |
| Pitkin | 913 | 1,648 | 735 | |
| Rio Blanco | 6,068 | 4,224 | | 1,844 |
| Routt | 966,912 | 876,638 | | 90,274 |
| Weld | 944,803 | 1,019,454 | 74,651 | |
| Totals..... | 12,514,693 | 9,141,947 | | |

Decrease, 1921..... 3,372,746

TABLE E

COKE PRODUCTION IN 1921 BY COMPANIES AND COUNTIES

| Companies | Total No. of Ovens Used | Total Tonnage | Counties | Total No. of Ovens Used | Total Tonnage |
|---|----------------------------------|------------------|----------------|----------------------------------|------------------|
| American Smelting and Refining Co..... | 172 | 56,358 | La Plata..... | 22 | 7,473 |
| Colorado Fuel and Iron Co. | 168 | 312,909 | Las Animas.... | 198 | 75,039 |
| | | | Pueblo | 120 | 286,755 |
| | — | — | | — | — |
| Totals..... | 340 | 369,267 | | 340 | 369,267 |

REMARKS:

Average number of days worked at the coke ovens..... 344.5
 Average number of men employed at the coke ovens..... 134
 Number of tons of coal made into coke..... 695,170

TABLE F
SHOWING BY COUNTIES THE COAL PRODUCTION OF 1921 IN PREPARED SIZES

| Counties | Mine Run | Lump | Nut | Egg | Pea | Slack | Total |
|------------|-----------|-----------|---------|--------|--------|-----------|-----------|
| Adams | 110 | | | | | | 110 |
| Archuleta | 714 | | | | | | 714 |
| Boulder | 411,066 | 209,376 | 16,421 | | | 214,087 | 850,950 |
| Delta | 24,270 | 38,872 | 12,922 | | | 18,087 | 94,151 |
| Elbert | 2,313 | | | | | | 2,313 |
| El Paso | 113,364 | 70,674 | 4,141 | | | 104,526 | 292,705 |
| Fremont | 22,687 | 314,382 | 93,356 | | 3,757 | 159,281 | 593,463 |
| Garfield | 13,039 | 9,742 | 1,119 | | | 517 | 18,117 |
| Gunnison | *383,100 | 77,741 | 1,963 | | | 22,810 | 484,614 |
| Huerfano | 487,827 | 619,815 | 227,106 | | 30,683 | 417,089 | 1,782,520 |
| Jackson | 9,658 | 14,464 | 8,088 | | | 10,574 | 42,784 |
| Jefferson | 35,642 | 32,375 | 12,319 | | | 54,246 | 134,582 |
| La Plata | 81,445 | 9,596 | 3,700 | | 1,053 | 6,833 | 102,627 |
| Las Animas | 1,257,046 | 520,547 | 131,544 | | 19,268 | 788,000 | 2,716,405 |
| Mesa | 41,561 | 35,978 | 11,410 | | | 25,128 | 114,077 |
| Moffat | 1,429 | 910 | 239 | | 63 | 206 | 2,847 |
| Montezuma | 2,660 | 993 | 254 | | | 162 | 4,069 |
| Montrose | 1,695 | 602 | | | | 60 | 2,357 |
| Ouray | 578 | | | | | | 578 |
| Pitkin | 1,648 | | | | | | 1,648 |
| Rio Blanco | 639 | 2,363 | 1,292 | | | | 4,224 |
| Routt | 175,028 | 376,591 | 116,030 | 35,210 | 4,052 | 169,727 | 876,638 |
| Weld | 338,019 | 347,051 | 8,638 | 1,449 | | 324,297 | 1,019,454 |
| Totals | 3,405,538 | 2,674,772 | 650,472 | 36,659 | 58,876 | 2,315,630 | 9,141,947 |

*63,986 tons anthracite coal included. In the slack, some mines include pea, others nut and pea coal.

TABLE G

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

(Poll Taken in January, 1922.)

| Nationality | No. of Men | Nationality | No. of Men |
|------------------|---------------|--------------------|---------------|
| Americans | 4,522 | Montenegrins | 22 |
| English | 206 | Bulgarians | 269 |
| Welsh | 162 | Greeks | 506 |
| Scotch | 215 | Russians | 131 |
| Irish | 107 | Poles | 155 |
| Negroes | 304 | Bohemians | 35 |
| Italians | 2,493 | Swedes | 79 |
| French | 142 | Danes | 7 |
| Belgians | 16 | Finlanders | 25 |
| Spanish | 159 | Japanese | 22 |
| Mexicans | 2,075 | Rumanians | 6 |
| Slavonians | 463 | Syrians | 3 |
| Croatians | 455 | Lithuanians | 5 |
| Austrians | 523 | Armenians | 1 |
| Germans | 136 | Swiss | 2 |
| Hungarians | 110 | Norwegians | 1 |
| Servians | 94 | Hollander | 1 |
| | | Total..... | 13,452 |

REPORT ON OAK HILLS EXPLOSION

On February 12, 1921, at 5:30 P. M., an explosion occurred in Oak Hills No. 2 mine, resulting in the death of five men.

The Oak Hills mine No. 1 and 2, are situated one-half mile west of the town of Oak Creek, Routt county, Colo., on the Denver & Salt Lake Railroad, and operated by the Moffat Coal Co., Denver, Colo., of which S. M. Perry is President; R. M. Perry, Gen. Supt., and John Alexander, mine superintendent.

The mines originally were opened on different seams and later connected by a rock tunnel. They are classified as non-gaseous mines. The mines are ventilated by two exhaust fans. One fan taking care of No. 1 mine and part of No. 2 mine. Open lights are used for general purposes. Black powder being used exclusively for blasting the coal and adobe for tamping.

The seam operated, is known as the Pinnacle seam, a very hard, domestic bituminous coal, from seven to ten feet in thickness. Eighty-five per cent of the coal mined is by solid shooting, balance by machine. Shot firers are employed to tamp and fire all shots. Shot firing is supposed to be done after all other employes are out of the mine. An identification check board is in use as a means of ascertaining when all the employes are out of the mine. The cleavage in the seam runs in all directions, intersecting at different angles. Powder was taken into the mines in powder jacks. The machines used by the miners for drilling holes have no side gearing, consequently, all drilling is done with end gear, making it necessary to have room between rib and thread bar to turn crank or handle of machine in drilling rib holes.

I arrived at Oak Hills on the 14th, about midnight, and was informed that the bodies of Edward Hamidy, Weaver Sharp, and Samuel Patrick had been found on the main south entry about 1,000 feet from portal of mine and that there was no hope of the other two men being alive. On the following morning, accompanied by Mr. Smith, engineer in charge of Car No. 2, U. S. Bureau of Mines, Thomas Allen, superintendent of the Elk Creek and Yampa mines, John Harrison, mine foreman of the Haybro mine, Jeff Rhodes, foreman of the Wadge mine, and several other, including helmet crews of the Moffat Coal Co., and Mount Harris, I entered the mine in search for the bodies of Celestin Testas and Hy Wagner. Testas' body was found Tuesday night on a raise entry about 600 feet from face of main south entries. Wednesday, Wagner's body was found in room 6 off L slope. The balance of the week was spent exploring both mines to determine, if possible, the initial point and cause of explosion. In no part of either mine could we detect any indications of fire damp, notwithstanding that we were considerable in advance of the ventilation.

A number of parts of holes that had been fired, were found measuring from one to five feet in depth, drilled into the solid beyond the line of face and drilled at such angles that it was impossible for the charge to do more than blow out the tamping, or a small part of the coal from the muzzle of the holes. The firing of dependent shots was very much in evidence. Holes were found tamped beyond the point where the bodies of the shot firers were found. The number of shots fired each day ran from 80 to 100. Shot firers were supposed to enter the mine at 2:00 P. M. or two hours before quitting time for the purpose of examining the shots to be fired later in the day. They probably tamped all the shots that were ready on this trip. They were supposed to start firing at 5:00 P. M., one hour after quitting time, provided all men were out of the mine.

I am reliably informed that the shot firers were home by 7:00 P. M. nearly every evening. The time taken to fire the number of shots above mentioned is entirely insufficient to do the work properly, as required by law. I was also informed that some of the miners were in the habit of staying at work after quitting time. Because of this practice and the failure of the mine officials to see that all employes, except the shot firers, were out of the mine before shots were fired, Hamidy, Sharp and Patriek lost their lives.

The explosion, in my opinion, was a dust explosion, caused by one or more blown out or overcharged shots, assisted by explosions of black powder in different parts of the mine. The initial point may have been either K & L slopes, M & N slopes, or main or back south entries. The explosion covered practically all of mine No. 2 and part of No. 1 mine. The slopes of mine No. 2 into and including K & L are connected with the third level of No. 1 mine. The forces apparently traveled towards No. 1 mine, spending itself before reaching the rock tunnel connecting the two mines.

The responsibility for the explosion is placed upon the shot firers and the mine foreman. The former for firing of impractical and unlawfully placed shots and the later through his failure to prohibit the firing of such shots.

(Signed) JAMES DALRYMPLE.

REPORT ON THE SATANIC MINE DISASTER

The Satanic mine is operated by The Colorado Collieries Company, at Mount Morrison, Jefferson county, Colorado. It is a vertical shaft opening, about 200 feet in depth. The seam being operated, lies at an angle of eighty-five degrees with the horizontal, dipping to the east. The shaft is located on the west side of seam, rock tunnels being driven through the measures at different levels to the coal seam. The exits or escapeways are driven in the coal seam to the surface at an angle of forty-five degrees. There are two

levels, one at One hundred feet and one at Two hundred feet, and are connected at different points. On the south side of the shaft, where the fires occurred, there are several openings to the surface.

On the morning of December 3rd, 1921, smoke was seen coming up through some of these openings, apparently coming from a fire in the upper level. Men were put to work at once to fill in the openings from which the smoke was coming for the purpose of smothering the fire. On the morning of the 10th inst., smoke was discovered coming from the southern-most opening, which is the main air course for the south workings. Upon investigation by Mr. Ream and Superintendent Dunn, fire was discovered at room 14, on south entry, lower level. Preparations were made at once to build a concrete stopping at mouth of south entry, and was completed on the night of the 11th, or early on the morning of the 12th inst. On the afternoon of the 12th, Supt. Dunn, sent Wm. Jones and Louis Golob, two of the deceased, over to the south air-shaft to cover it and to leave only a small hole, which was carried out. Shortly after the disaster, and before all of the bodies were out of the mine, Mr. Baxter and Mr. Alden, two employes, went to the air-shaft and found an opening six to twelve inches in diameter. They enlarged this opening to the full size of the shaft. This was done to give the fumes in the mine a chance to recede, so that the bodies could be reached.

On the forenoon of the 13th inst., Supt. Dunn entered the mine by an opening known as the forty-five degree slope to the upper level and advanced to a point where a concrete stopping was to be built for the purpose of isolating the entire south side workings from the north side workings. Upon his return from this inspection, just before noon, he reported to the men that were to assist him in building the stopping that everything was all right. Immediately after dinner, accompanied by Wm. Jones, E. Bovie, Jr., Louis Golob, and Louis Daregetti, he went into the mine to build the concrete stopping. About two hours afterwards the men on the outside heard some one call from the inside, and thinking help was needed, two of them entered, one of them lost his life trying to save his son, who was in the mine.

I was in Trinidad, Colo., when notified of the disaster. I immediately notified Deputy Inspector Wm. H. James, of Walsenburg, who met me on the first train, arriving in Denver the next morning. We arrived at the mine before noon, made some investigation, and after due consideration determined not to enter the mine until early the next morning. The reason for this postponement was that the mine depends entirely upon nature for ventilation, that is the atmospheric pressure has to be greater at one opening than it is at the other to create a volume of air. This pressure is subject to reversal by a change in outside temperature, and very liable to happen especially during the middle of the day in warm weather. A reversal may also occur through a change in the direction of the wind on the outside. It was about noon when we arrived, and it was warm, hence the delay.

Early next morning, accompanied by Manager Ream, and two State Deputy Inspectors, I entered the mine and advanced fifty feet beyond the point where the concrete stopping was to be built, and where deceased lost their lives. The atmosphere was clear and no signs of temperature. While it is evident from the above statement that the mine foreman had laid out the work in an effort to seal off the fire, I believe his judgment was in error to attempt this work during the day, under the weather conditions existing at the time, in a mine depending on the elements for air and governing the direction of its travel. He also neglected to notify the State Inspection Department at the time the fire was discovered, as required by Section 51 of the Coal Mining Laws. Had this been done, it is my opinion that the loss of life would not have occurred. Owing to the frequency of fires in the Lignite Mines of the State and mine managers having constantly to face this condition, do not look upon this as seriously as could be wished, and often do not report them until they have made every effort to control them, and it is obvious that Mine Foreman Dunn had taken this course. The deceased lost their lives from inhaling fumes from fire carried to them either by sealing off of air-shaft or by a reversal of the air current. All of the employes directly engaged in sealing off the fires having lost their lives, my opinion is based upon the statements made under oath and otherwise by Mr. Ream, General Manager of The Colorado Collieries Company, some of the employes working in the mine at the time of the disaster, and upon my knowledge from experience in coal mines dependent upon natural ventilation.

The Satanic Mine was inspected four times by State Deputy Inspector Henry P. King, in 1921, prior to the accident. Dates of inspection are: January 17th, April 5th, August 17th, and November 5th, and in none of these reports is a fire mentioned. The first information the State Coal Mine Inspection Department had of the fire was through the press on the evening of and after the disaster. Section 120 of the Coal Mining Laws, requires that all mines shall be equipped with fans. Deputy Inspector King, on April 5th and August 17th, recommended that a fan be installed. The company being in financial straits to the extent that the employes took over the operation on a basis of eighty cents on the dollar, in an effort to get their back pay and have work, the fan was not installed. Had a fan been in operation and the work of sealing off the fire been done as it was done, the result would have been the same, because of building of the stopping in the main south intake, thereby making it impossible to ventilate the south side of mine through this entry.

There are several openings from the south upper level to the surface, and the lower south level is connected with the upper south at different points. The southernmost connection being at room 17, upper level, and continued to the surface, which was the main air course for south side of mine and with this opening and the main sealed, there was only one direction left for the fumes to travel,

which was towards the openings between the main shaft and the main south air course. The forty-five degree slope which the men entered to build the stopping is one of these openings. It appears to me that if the fumes had approached the men gradually, the safety lamp would have indicated their presence in time, so that at least some of them could have reached a point of safety. A considerable area was standing open on both sides of room 14, lower south level, and it is possible a cave took place sending the fumes back over the deceased at a high velocity.

On the day after the accident I made two tests with the Carbon Monoxide Gas Detector. The first at the main south return and the other at one of the openings between main shaft and main return. The first test showed over one per cent and the other three-tenths of one per cent C O, (Carbon Monoxide).

REPORT OF DEPUTY INSPECTOR JAS. W. GRAHAM, ON FIRE OF TIPPLE AT THE MONARCH NO. 2 MINE, AT BROOMFIELD, COLO., ON NOVEMBER 15, 1921.

A fire occurred at the Monarch No. 2 mine, at Broomfield, Colo., on November 15, 1921, about 9:00 P. M., which destroyed tippie, head frame, platform of railroad scales, and also did more or less damage to the outside equipment. By strenuous efforts the fire was kept away from the engine and boiler house.

Tippie house and head frame were enclosed with corrugated iron. The tippie house was steam heated. Mr. Sidle said that he was at the fire shortly after it was discovered, which started at or near the tippie scale, this was very near to the head frame. A wind was blowing from the South and East, which prevented the fire fighters from getting on the tippie, as the stairway which leads to it was situated on the north side. When the fire could not be reached from the inside, and very little could be done from the outside, the fire fighters devoted their time to keep the fire from spreading to other buildings.

At the time of the fire there were six men in the mine. Fire Boss Richards went down the ladder at the air-shaft and informed the men what was taking place. They at once returned to the surface by climbing the ladder, which is about 300 feet straight up.

The main shaft was damaged but very little, owing to it being on the return. This kept the flames from being drawn into the mine.

The local management, fire fighters, and Fire Boss Richards, are to be commended for their efficient work performed in keeping the fire from spreading to other buildings. Fire Boss Richards is to be further commended for his voluntary service in going into the mine to warn his fellowmen, when they were in danger.

It will probably take the company to repair the damage the balance of this year, and before they will be ready to resume operations.

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE
COAL MINES OF THE STATE OF COLORADO
DURING THE YEAR 1921

January 7—MIKE PAVLETICH, Austrian, trackman, experience 7 years, age 28 years, widower, two children, employed by the Colorado Fuel and Iron Company at the Kebler No. 2 mine, Huerfano county, was crushed to death between a loaded car and roof of mine. Deceased had loaded his tools on top of a loaded car and was riding with the rope rider on the front end of this car. The driver, thinking the car would jump the track because the rope was catching on the fish plate bolt on side of track, jumped off to give bell signal to stop. In the meantime, deceased attempted to get off also, but at a point where the roof was low, which threw his body between the moving car and roof crushing him. It is against the rules at this mine for anyone to ride the trips except the rope rider. Had deceased observed this rule the accident would have been avoided.

January 8—JOHN DA ANDREA, Italian, machine miner, experience 40 years, age 63 years, married, no children, employed by the National Fuel Company at the Monarch No. 2 mine, Boulder county, was killed by a fall of rock. Deceased was in the act of propping his working place when the rock fell from the roof. The place was well timbered and the accident is not charged to anyone, but was due to the inherent danger of the work.

January 12—MIKE H. KACHANER, Russian, miner, experience 6 years, age 28 years, single, employed by the Colorado Fuel and Iron Company at the Cameron mine, Huerfano county. Deceased and his partner on entering their room tested the roof before starting to work and decided it was safe. After loading two cars deceased again tested the roof, telling his partner it was loose. They took down some of the rock and found it was too hard to get it all down, and decided they would consult the mine foreman. The partner went to the opposite side of the room to set a prop and deceased started to remove the rock taken down when a slab of rock gave way from a slip, falling on deceased and killing him instantly. Accident was due to faulty judgment, had the rock been taken down, the accident would have been avoided.

January 17—MATT LARSON, Austrian, rope rider, experience 8 years, age 37 years, single, employed by the Sunnyside Coal Mining Company at the Sunnyside mine, Huerfano county, was crushed to death between pillar and car. Deceased was riding on front end of a six car trip. The car attached to the

rope left the track on the short side of curve, on the same side was the passing room and bell wire. Deceased's light going out, he jumped off at the narrow side or opposite the side on which the derailed car was going. The latter passed him, but the other part of the trip remained on the track and he was rolled between it and the pillar for a distance of twenty feet. Deceased losing his light was the principal cause of the accident, as he was an experienced rope rider. The accident is classed as "Unavoidable."

February 5—JOHN RUSSELL, American (Colored), machine miner, experience 20 years, age 45 years, single, employed by the Temple Fuel Company at the Brodhead No. 9 mine, Las Animas county, was killed by a fall of rock. Deceased was working single in an entry at a point which was being widened out for a cross cut. He had loaded a car and then went out and told a co-worker that he had a bad rock in his place. He was told to take it down or timber it. Sometime after, the rock was heard falling, and upon investigation, deceased was found with a broken neck under the rock. The entry was well timbered to a distance of $9\frac{1}{2}$ feet from the face. The latter was, however, 11 feet wide allowing too much open space between timbers and face. The accident could have been avoided had deceased taken the rock down.

February 10—JOE SACCOI, Italian, machine miner, experience 12 years, age 32 years, married, one child, employed by the Colorado Fuel and Iron Company at the Kebler No. 1 mine, Huerfano county, was killed by a fall of rock. Deceased was going to remove a fall of rock which had occurred near the face of the back slope. He was advised to begin timbering at the outer edge of the fall to make the place safe as he advanced. Instead, he climbed at once to the top of the fall and was caught by a second fall which resulted in his death. Had deceased been careful, the accident would have been avoided.

February 12—EDWARD HAMIDY, Italian, hoistman, experience 2 years, age 21 years, single;

WEAVER SHARP, American, miner, experience 24 years, age 36 years, married, one child;

SAM PATRICK, American, miner, experience 22 years, age 35 years, married, three children;

CELESTIN TESTAS, French, shot firer, experience 19 years, age 31 years, married, two children; and

HY. WAGNER, American, shot firer, experience 28 years, age 60 years, single. He and the above men were employed by the Moffat Coal Company at the Oak Hills No. 2 mine, Routt county, were killed by a dust explosion caused by blown-out or overcharged shots. See full report.

February 25—ROBERT FALAGRADY, Italian, driver, experience 4 years, age 20 years, single, employed by the Colorado Fuel and Iron Company at the Sopris mine, Las Animas county, came to his death by electrocution. Deceased in some way unknown, accidentally came into contact with a live trolley wire, at the man-trip station located on an entry off the main haulage road. According to evidence, the cut-off switch had been drawn and the power cut off from the man-trip station and he must have come in contact with the live wire at the outer edge of the cut-off switch. The latter had been tested for leakages and found in good condition. The man-trip station also was guarded for a distance of 500 feet. The accident is classed as unforeseen and unavoidable.

March 1—SCOTT MANLEY, American, assistant mine foreman, experience 15 years, age 38 years, married, one child, employed by the Canon-Reliance Coal Company, at the Canon mine, Fremont county, came to his death by electrocution. Deceased was making an examination of the return airway at a certain point, he encountered water standing several inches above the track. To keep out of it he walked on the rail but lost his footing. In an effort to save himself from falling, he accidentally caught hold of a live wire carrying a voltage of 440 A. C. The wire was insulated and showed no broken places. The accident was a misadventure and no one can be charged with its responsibility.

March 1—MANUEL CRUZ, Mexican, rope rider, experience 14 years, age 40 years, married, no children, employed by the Colorado Fuel and Iron Company at the Kebler No. 1 mine, Huerfano county, was killed by being squeezed between a car and rib. Deceased was riding up a panel having a ten per cent grade, when his cars were derailed on the narrow side and he was thrown between cars and rib, receiving such injuries that he died several hours later. A careful examination disclosed no cause for the derailment of the cars and it seems to have been a case of misadventure while deceased was performing his duties.

March 8—JAMES RICHARDSON, Scotch, motorman, experience 12 years, age 24 years, married, two children, employed by the Colorado Fuel and Iron Company at the Frederick mine, Las Animas county, came to his death by electrocution. Deceased was cleaning track and was in the act of changing a trolley pole when he came into contact with a live wire. The accident was unforeseen and unavoidable.

March 8—RAFAEL BERNANDEZ, Mexican, machine miner, experience one year, age 24 years, single, employed by the Victor-American Fuel Company at the Delagua mine, Las Animas county, was injured by a fall of rock on February 14th, and died from the effects of the injuries sustained, on the above

date. Deceased had removed coal with a pick from the face of his room and had exposed a slip running parallel with the face intersecting another slip running parallel with a pillar. The place was well timbered and deceased considered it safe and began loading a car when the rock gave way without any warning, forcing out prop and cross bar, and fell on him injuring him to such an extent that he died 22 days later. The accident was due to the inherent danger of the work and no one can be held responsible for it.

April 4—PETE KLIMO, Pole, pick miner, experience 7 years, age 33 years, single, employed by the Oakdale Coal Company at the Oakdale mine, Huerfano county, was killed by a fall of rock. Deceased was drawing a pillar. He had set a prop and started to mine when suddenly a number of props gave way and rock and coal from an area 100 sq. ft. and 5 ft. thick fell. Deceased made an effort to escape but was caught by the edge of the fall and killed instantly. The accident was unforeseen and no one can be held responsible.

April 22—WILLIAM SOTIROPOULOS, Greek, pick miner, experience 8 years, age 56 years, married, four children, employed by the Victor-American Fuel Company at the Delagua mine, Las Animas county, was injured on the 3rd of April by a pit car running over him and died later on the above date. Deceased was riding the front end of a loaded car, which had been in his way and which he had intended to move only a short distance, when he reached the curve he tried to set the brake and in attempting this he fell forward on to the track and was run over by the car. Had deceased heeded the rules of the company which forbade employes, other than the drivers, riding cars, the accident in all probability would have been avoided.

April 27—PAUL MANDERICH, Austrian, pick miner, experience 21 years, age 38 years, married, two children, employed by the Victor-American Fuel Company at the Delagua mine, Las Animas county, was killed by a fall of rock. The accident happened at the face of a room which was well timbered. Deceased was working at the gob side of the room, and his partner in the cross cut. Without giving any warning, a large pot rock fell from the roof between the face and the last row of timbers, a distance of about 5½ feet. The rock was released by a slip which had not been visible to the men working under it. This accident was due to the inherent danger of the work and no one can be charged with its responsibility.

May 5—J. A. CHAVEZ, Mexican, pick miner, experience 27 years, married, ten children, employed by the Colorado Fuel and Iron Company at the Ideal mine, Huerfano county, was injured Jan. 5th, by a fall of rock and died on the above date. On the day of the accident deceased had gone into his room

to work, his lamp went out and while filling it with carbide, a prism shaped rock fell out of the room neck, striking him and breaking his back, which, with other internal injuries, resulted in his death four months later.

May 23—BALDOMANIO LOPEZ, Mexican, pick miner, experience 3 years, single, employed by the Colorado Fuel and Iron Company at the Pictou mine, Huerfano county, was killed by a fall of rock. Deceased and his partner had been working on a stump of coal 8 ft. wide by 8 ft. long between the outby cross cut and the open space where the pillar had been extracted. After they had loaded the coal which they had mined, they began removing their tools from the face preparing to leave the mine. While thus engaged, the remaining stump gave way, causing the coal and drawslate to fall on deceased, killing him instantly. The accident might have been avoided had the mine foreman visited the place earlier in the day and warned the men, or had the men realized the danger of a small stump of coal left under the above mentioned conditions.

June 3—LUCIANO D'ORAZIE, Italian, pick miner, experience 7 months, age 24 years, married, no children, employed by the Colorado Fuel and Iron Company at the Berwind mine, Las Animas county, was killed by a fall of bony and coal. Deceased and his partner were working in a room off a blind entry, the former had set a prop and was in the act of setting another when bony and coal gave way from an invisible slip, **falling on** deceased and killing him almost instantly. The place was well timbered and the accident was due to the inherent danger of the work.

June 6—MIKE OSPENKO, Russian, pick miner, experience 8 years, age 21 years, single, employed by the Moffat Coal Company at the Oak Hills No. 2 mine, Routt county, was killed by a fall of rock. The accident was due to a loose rock left in the roof after a fall had occurred and which either should have been taken down or properly timbered. As there was plenty of timber at hand and the condition of the roof was visible, the accident is charged to deceased's own negligence in not properly protecting himself.

June 15—JOHN DENNY, Macedonian, pick miner, experience not given, age 37 years, single, employed by the Amalgamated Development Corporation, at the Elk Creek mine. Routt county, came to his death by being pulled by a derailed push car, about a mile and one-half from the mine. Deceased and a gang of men were employed in re-enforcing with rock a bridge that was endangered by high waters. He was riding the car which was loaded with rock and pulled by a locomotive. The car was going down grade at a low rate of speed when the car jumped the track, pulling him under it for forty feet when the engine stopped. He was found in a serious con-

dition and died four hours later. There was no obstruction on the track and the accident cannot be accounted for. It was unforeseen and unavoidable.

June 20—JOE CHEPIRIO, Italian, machine miner, experience 6 years, age 32 years, married, no children, employed by the Mutual Coal Company at the Mutual mine, Huerfano county, was killed by a fall of rock. Deceased was working in an entry preparing to load coal. Upon examining his roof, he asked the rope rider to bring him a cross bar, stating that he would not load coal until he had put up the timber. It is not usual at this mine to set cross bars in the entries, but they are kept in a convenient place so that the rope rider can get them in a short time when needed. In this instance the storage place was about 500 feet from the working face. The place was full of loose coal being all shot down, and in order to set the prop, it was necessary to move the coal. When the rope rider returned he found deceased lying dead under a large rock. The accident was unavoidable as deceased must have thought that the rock was too large to take down and therefore, was moving the coal in order to set the prop.

June 25—ALBERT SALAS, Mexican, trapper, experience 18 months, age 18 years, single, employed by the Colorado Fuel and Iron Company at the Cameron mine, Huerfano county, came to his death by being crushed between a car and a rib. Deceased was trapping on the main slope and stated to his brothers before he died that he did not hear the trip of 21 empty cars coming in time to have the door open. In his haste and excitement he tried to open the door, but hearing the trip close behind him, he left the door and made a dash for the safety hole about 14 feet from the door when it is open. Before he could reach the shelter hole, the trip went through the door carrying it along and derailing 13 cars, scattering them in all directions, one of them caught him and fastened him to the rib of the shelter hole, crushing him so seriously that he died a few minutes after reaching the hospital in Pueblo, four hours after the accident occurred. Deceased was performing his duties and the accident was due to the inherent danger of the work.

July 7—G. A. HAMPTON, American, pick miner, experience 5 years, employed by the Triangle Coal Company at the Black Hawk mine, La Plata county, came to his death by a fall of rock. Deceased had left his assigned working place and entered the adjoining old workings, where he was caught by a fall of rock which resulted in his death. These old workings had been reported as "dangerous," but the company failed to post up the danger sign as required by law. Also there was no certified mine foreman employed to see that the mine was operated in accordance with the law. Therefore, the responsibility of the accident is charged to the company for failure

to fence off the dangerous place and for failure to engage the services of a certified mine foreman, and also for the impracticable method by which the mine was worked.

August 3—JOSEPH SWINEBERGER, German, machine miner, experience 30 years, age 49 years, married, three children, employed by the Rocky Mountain Fuel Company at the Vulcan mine, Boulder county, was injured by a fall of rock on July 29th, 1921, and died on the above date. Deceased was injured by a rock which fell between face and inside cross bar 5½ feet from face when he was preparing to set a prop. Testimony showed that deceased was a very competent miner and always willing to obey orders given pertaining to safety. The accident is classed as unavoidable.

August 9—PETE SONEFF, Bulgarian, pick miner, experience 8 years, age 36 years, married, no children, employed by the Victor-American Fuel Company at the Pinnacle mine, Routt county, was killed by a fall of rock. A large rock was hanging almost across the track in a room and supported by one prop set near the edge, while the roof surrounding it had fallen away, leaving the rock practically unsupported. Deceased was riding the rear end of a loaded car that he was letting down from the face and the vibration of the moving cars dislodged the rock. The responsibility is charged to the officials of the mine who had overlooked the rock, showing that their examinations were not thorough. The rest of the room was well propped and there were plenty of extra props on hand.

August 9—BUYRIL WINDSOR, American, engineer, experience none, age 19 years, single, employed by the Black Hawk Coal Company at the Primrose mine, Las Animas county, came to his death by electrocution. Deceased was an outside electrical hoisting engineer. According to the testimony given, he entered the mine entrance at his lunch hour, and placed himself close to the electric wires, taking hold of one and received the shock that killed him. Upon examination, it was found that the insulation was bared the distance of one and one-half inch on the side next the timber and was invisible and hard to detect. The accident is classed as unavoidable.

August 10—TONY KOMAR, Austrian, machine miner, experience 4 years, age 36 years, married, two children, employed by the Victor-American Fuel Company at the Radiant mine, Fremont county, was killed by a fall of rock. Deceased was loading coal on an entry. A slip running diagonally across the entry released a rock which had been examined previous to the accident and was considered safe. The top being full of slips and very wet made the roof conditions very uncertain, therefore, the accident was unforeseen and unavoidable.

September 1—HERBERT V. FACKLER, American, machine miner, experience two weeks, age 32 years, married, one child,

employed by the Boulder Black Diamond Coal Company at the Black Diamond mine, Boulder county, was killed by a fall of rock. Deceased was working with F. W. Fedder, father-in-law of deceased, who is a practical miner. They were loading coal when a large pot fell from the roof on deceased causing his death a short time afterward. The rock was surrounded on three sides by a smooth slip and broke off three feet from the face. The place was fairly well timbered and F. W. Fedder stated that he had tested the roof just prior to the accident and had considered it safe to work under. The accident was unavoidable and can be charged to no one.

September 14—K. TODOROFF, Bulgarian, pick miner, experience 10 years, age 36 years, married, two children, employed by the Colorado & Utah Coal Company at the Harris mine, Routt county, was killed by a fall of coal. According to evidence, deceased was responsible for the accident, having been warned that the coal he was mining was loose. The night previous he had fired two shots in the coal which did not bring it down, merely loosening it. Had he taken the precaution to either sprag it or take it down before he started to undercut it, the accident would have been avoided.

September 24—LAWRENCE McHUGH, Irish, machine miner, experience 35 years, age 63 years, married, nine children, employed by the Big Four Coal and Coke Company at the Centennial mine, Boulder county, was injured while working in his room by a piece of coal sluffing from a rib which fell on him and resulted in his death on the above date. On account of roof conditions at this mine coal sluffs from the sides. When the accident occurred, deceased was making a cap piece standing on the road thirty feet from the face. Although props are set along the sides of the road, no timbers had been put at the place where this piece of coal sluffed. Had this been done the accident would have been avoided.

October 7—ANGELO FABRIZIO, Italian, weigh boss, experience three years, married, three children, employed by the Colorado Fuel and Iron Company, at the Coal Creek mine, Fremont county, came to his death by electrocution. Deceased was in his office taking a burnt-out globe from a socket, to replace it by a new one. In order to reach it easily he climbed on to an iron pipe which was used as a speaking tube between his office and the engine room; in doing so he touched the brass bracket, and caused a current to form which struck him. The accident was unforeseen and therefore unavoidable.

October 14—JAMES H. HICKS, Colored, pick miner, experience 26 years, age 37 years, married, three children, employed by the Temple Fuel Company at the Brodhead No. 9 mine, Las Animas county, was killed by a fall of rock while extracting chain pillars. An invisible slip had been released and while the place was well timbered, the rock was so heavy that it gave

way, breaking the timbers and falling on deceased and killing him instantly. The fire boss had examined the place on his second visit on the day shift and did not discover any noticeable sign of danger. However, the place was worked only on night shifts, and extracting chain pillars in most cases is very hazardous, therefore, it is possible that had a mine foreman been employed for the night shift, the accident might have been avoided.

October 19—CLARENCE FRONK, American, machine runner, experience 23 years, age 43 years, married, two children, employed by the Boulder Valley Coal Company at the Boulder Valley mine, Weld county, was injured on October 11th, by a fall of rock and died on the above date. Deceased was underground mining coal with a puncher machine when a large piece of rock fell on him. He stated fifteen minutes after the accident that he was aware that the rock was loose and that he had tried to take it down, but failing, continued to work under it. Had he put a prop under it to make it safe it is possible the accident might have been avoided.

October 25—ALBERT POHNL, German, machine miner, experience 16 years, age 45 years, single, employed by the Moffat Coal Company at the Oak Hills mine, Routt county, was killed by a fall of rock. A shot in deceased's room the night before had knocked out two props, leaving a space of 25 feet from the face unprotected. It appears deceased had discovered that the rock was loose and was in the act of taking it down, when it fell on him, killing him instantly. The fire boss' book showed that he had reported the dangerous condition of this place. Therefore, the accident cannot be charged to anyone. The deceased was endeavoring to pull the rock down, and in case of failure, there were plenty of props close at hand.

October 29—ALBERT OAKS, American, laborer, no experience in coal mining, age 49 years, married, one child, employed by the Colorado & Utah Coal Company at the Harris mine, Routt county, was killed by a fall of rock. Deceased was working for a contractor who had charge of concreting the slope. The roof of the slope is fairly good and well timbered, but at the point where the accident occurred, it showed several offsets or edges, and it was from one of these that the rock fell. The accident was unforeseen and unavoidable.

November 1—JOSEPH DRATTER, Austrian, trackman, experience 25 years, age 41 years, single, employed by the Oakdale Coal Company at the Oakdale mine, Huerfano county, came to his death by a fall of top coal. Deceased was assisting the pillar boss in taking down loose coal at an intersection of two entries. Empty cars were set under this coal for the purpose of catching it as it fell. The pillar boss inquired of deceased if he were in the clear of the falling coal and upon his assur-

ance that he was, he placed a bar over the top of the coal and pulled it down. There was more of a fall than they expected and it caught deceased who was standing about two and one-half feet away from the car. The responsibility of this accident is charged to both pillar boss and deceased. They did not take the proper safeguards.

November 14—NICANOR SAID, Mexican, pick miner, experience 6 years, age 25 years, single, employed by Robt. Caddell at the Estella Mae mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were engaged in taking off the outby corner of a cross cut in order to lay a long switch. After the coal had been taken down two temporary props were set under the exposed drawslate so that the coal could be loaded out to make room for permanent cross bars which could then be set with safety. Considering the temporary props safe until the coal was out of the way, they began to load coal. when the drawslate suddenly gave way, throwing out the props and letting the rock fall on deceased, killing him instantly. The accident was unforeseen and therefore unavoidable.

November 21—JIM COLLETTI, Italian, machine miner, experience 8 years, age 34 years, single, employed by the Routt Pinnacle Coal Company at the Routt Pinnacle mine, Routt county, was injured by a fall of rock on the 14th of November and died from the effects of the injury sustained on the above date. The accident occurred at the face of a room where the coal had been cut the night before. The foreman in visiting the place in the morning noticed that a rock in the roof was loose and instructed deceased to prop it, apparently it was not loose enough to pull down. The roof is of soapstone and very treacherous, but the deceased being a practical miner, should have tested it before trying to set a prop. He neglected to examine the roof and while setting a prop it fell on him. The cause of the accident may be charged to the carelessness of deceased.

November 29—WM. K. COOLIDGE, American, employed to feed coal crusher, experience 15 months, age 46 years, married and two children, employed by the Crested Butte Anthracite M. Company at the Smith-Anthracite mine, Gunnison county, came to his death by being crushed between car and car door. The accident occurred at the lower terminus of the gravity plane where the car dumped the coal while the door of same was held open by hooks attached to a bar. It is the custom when the car enters the gravity plane to hoist a flag indicating that it was not ready to be pulled up by the drum runner. Evidently there was no flag hoisted and consequently the car was pulled up and deceased was caught between it and the door and crushed to death. The accident was due to some mischance and no one is charged with its responsibility.

November 29—ORESTE STENECK, Austrian, pick miner, experience 17 years, age 34 years, married, two children, employed by the Colorado Fuel and Iron Company at the Frederick mine, Las Animas county, was killed by being run over by a motor. Deceased and two other men had taken a motor from the mine entrance to ride to their work. After traveling a short distance, the motor arced and flashed a flame enveloping it and caused deceased, who was driving it, to fall in front of the motor and was run over. Mine officials claim that deceased had no permission to take the motor, but his partner stated that deceased told him he had. At any rate the motor should not have been driven except by a regular motorman.

December 12—ANTON KROPROSHIEK, Austrian, miner, experience 8 years, age 36 years, married, no children, employed by the Utah Fuel Company at the Somerset mine, Gunnison county, was injured by a fall of coal on November 12th, and died on the above date. Deceased was working in a pillar room. He had finished loading a car and went to the face, bumping it with his pick, in doing so he released a slip and coal fell, which struck him and resulted in injuries so serious that he died from the effects of them a month later. The accident was a misadventure, and no one can be blamed for same.

December 13—G. E. DUNN, Supt., American, mine superintendent, experience 2 years, age 38 years, married, one child;

EUGENE F. BOVIE, Sr., American, laborer, age 55 years, married, two children;

EUGENE F. BOVIE, Jr., American, pick miner, age 25 years, single;

WILLIAM JONES, Welsh, pick miner, age 40 years, married, two children;

LOUIS GOLOB, Austrian, pick miner, age 32 years, single, and

LOUIS DORIGATTI, Austrian, pick miner, age 42 years, married, four children, all employed by the Collieries Company at the Satanic mine, Jefferson county, came to their deaths by being overcome by fumes generated by a mine fire. (See special report.)

December 18—ALFREDI PERNA, Italian, machine miner, experience 14 months, age 21 years, single, employed by the Big Four Coal and Coke Company at the Centennial mine, Boulder county, was injured by a fall of rock on December 14th, and died on the above date. Deceased was shoveling coal cuttings away from the machine puncher when a piece of coal and rock, weighing about 500 pounds, fell from the face, striking him. The accident was due to absence of proper spragging and the mine management is to blame for not enforcing this precaution.

