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SEVENTEENTH  
ANNUAL REPORT  
OF THE  
STATE INSPECTOR  
OF  
COAL MINES

*1929*



1930

EAMES BROS., PRINTERS,  
DENVER, COLORADO

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## PERSONNEL OF THE COAL MINE INSPECTION DEPARTMENT

JAMES DALRYMPLE, Chief 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 in Las Animas County:  
Anchor, Baldy, Bear Canon No. 6, Beshoar, Boncarbo,  
Bowen, Cox, Dix, Engle, Fairview, Ferrill, Fishers Peak,  
Flag, Frederick, Jeffryes, La Belle, Lakeview, Martinez,  
Morley, Pieford, Pritchard, Santa Fe, Sopris, Tobaseco,  
Thor, Toller and Vigil.

FINLAY MCCALLUM, Box 334, Aguilar, Colo.....District No. 2

Includes the following mines in Las Animas County:  
Brodhead No. 9, Creston, Davich, Delagua, Empire, Ken-  
neth, Ludlow, New Congo, Rapson and Royal, and the fol-  
lowing mines in Huerfano County: Black Hawk, Bunker  
Hill, Cameron, Mutual, Pryor, Ravenwood and Torrid  
mines.

GEO. C. DALRYMPLE, Box 645, Walsenburg, Colo.....District No. 3

Includes the following mines in Huerfano County: Alamo  
No. 1, Alamo No. 2, Calumet No. 1, Calumet No. 2,  
Gordon, Kebler No. 2, Maitland, Oakdale, Ojo Canon, Pa-  
cific, Toltec and Vesta, and all of the mines in Fremont  
County.

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

Includes all mines in Boulder, Routt and Moffat Counties.

HUGO H. MACHIN, 1009 Lincoln Place, Boulder, Colo. District No. 5

Includes all mines in Weld, El Paso, Jefferson, Jackson  
and Elbert Counties.

THOMAS ALLEN, 560 Hill Ave., Grand Junction,

Colo. ....District No. 6

Includes all mines in Archuleta, Delta, Garfield, Gunni-  
son, La Plata, Mesa, Montezuma, Montrose, Ouray, Pitkin,  
Rio Blanco and San Miguel Counties.

BOARD OF EXAMINERS FOR COAL MINE OFFICIALS,  
appointed for four years beginning January, 1930, and ending  
December 31, 1933, consists of:

MR. FRED W. WHITESIDE, coal mining engineer, Denver, Colo.

MR. RALPH W. MOORE, coal mine official, Coalmont, Colo.

MR. HAROLD WILLIAMS, coal miner, Grand Junction, Colo.

MR. THOS. E. LLEWELLYN, coal miner, Silt, Colo.



## LETTER OF TRANSMITTAL

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Denver, Colorado, April 1, 1930.

To His Excellency,

WILLIAM H. ADAMS,

Governor of Colorado.

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

The period covered began January 1 and ended December 31, 1929.

Respectfully,

JAMES DALRYMPLE,

State Inspector of Coal Mines.

# STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 TO DECEMBER 31, 1929

## RECEIPTS

Tax collected on coal mines.....	\$39,770.58	
From sales of copies of the coal mining laws.....	384.70	
Refunds .....	2.38	
Balance brought forward from 1928.....	12,431.89	
		<hr/>
Total .....		\$52,589.55

## DISBURSEMENTS

Salaries of entire Department.....	\$26,211.12	
Fatal accident investigators, per diem and expenses.....	163.80	
Railroad transportation .....	721.50	
Printing .....	1,325.10	
Automobile mileage .....	5,921.45	
Postage .....	638.96	
Stationery and office supplies.....	338.75	
Telephone service (toll calls entire Department).....	137.62	
Telegraph service .....	36.42	
Instruments .....	19.50	
Hotel .....	949.55	
Meals .....	1,774.44	
Miscellaneous .....	526.62	
		<hr/>
Total .....		38,761.83
		<hr/>
Surplus December 31, 1929.....		\$13,824.72

## FIELD EQUIPMENT

Four Psychrometers	Five Speedometers
Seven Anemometers	Six Koehler Safety Lamps
One Geophone	Three Clineometers
Seven Carbon Monoxide Gas Detectors	
Four Baby Wolf Safety Lamps	
Seven Roof Sounding Canes	

## SUMMARY OF THE COAL PRODUCTION OF COLORADO FOR 1929

Number of mines operated.....	269
Number of new and old mines opened—new mines, 1; old mines reopened, 16; total.....	17
Number of mines closed, 14; abandoned, 3; total.....	17
Tons of sub-bituminous coal produced.....	3 189,406
Tons of semi-bituminous coal produced.....	197,451
Tons of bituminous coal produced.....	6,439,393
Tons of semi-anthracite coal produced.....	39,997
Tons of anthracite coal produced.....	67,817
Total number of tons of coal produced.....	9,934,064
Increase, 1929.....	12,479
Tons of run of mine coal produced.....	2,271,153
Tons of lump coal produced.....	2,886,127
Tons of nut coal produced.....	1,043,916
Tons of pea coal produced.....	233,403
Tons of slack coal produced.....	3,499,465
Percentage of slack coal produced.....	46%
Tons of coal mined by hand.....	4,263,728
Tons of coal mined by machine.....	5,670,336
Number and kind of machines used—compressed air, 61; elec- tric, 337; total.....	398
*Tons of coal mined for shipment.....	8,090,095
Tons of coal shipped out of the state.....	2,503,221
Tons of coal sold to local trade and used by employees.....	768,375
Tons of coal used at the mines for steam and heat.....	180,476
Tons of coal made into coke.....	1,103,308
Tons of coke made.....	722,672
Number of days coke ovens were operated.....	298.1
Number of coke ovens used.....	562
Number of men employed at coke ovens.....	104
Number of miners employed—pick, 3,657; machine, 3,393; total.....	7,050
Number of men employed in and about mines (average).....	11,196
Average number of days worked (man-days).....	181.3
Daily production per miner, tons.....	7.8
Annual production per miner, tons.....	1,409.1
Number and type of safety lamps used—flame, 685; electric, 9,668; total.....	9,753
Number of carbide lamps used.....	3,178
xNumber of pounds of carbide used (approximate).....	120,050
Number of pounds of black powder used.....	1,229,549
Number of pounds of permissible powder used.....	718,852
Number of pounds of dynamite powder used.....	43,983
Number of men killed—underground, 51; surface, 2; total.....	53
Number of men injured.....	1,726
Number of men killed per thousand employed.....	4.73+
Number of men injured per thousand employed.....	154.16+
Number of tons of coal produced for each life lost.....	187,435
Number of tons of coal produced for each non-fatal accident.....	5,755
Number of men killed per million tons of coal produced.....	5.34—
Number of men injured per million tons of coal produced.....	173.75—
Number of men employed per fatal accident.....	211.25—
Number of men employed per non-fatal accident.....	6.48+
Number of widows left.....	40
Number of children left fatherless.....	127
Cost of development work done in mines during 1929—112 mines reporting.....	\$523,109.00
Number of days lost on account of car shortage—19 mines reporting.....	171 Days
Number of tons of coal lost through labor shortage—5 mines reporting.....	1,650

NOTE—The yearly reports of 5 of the above 269 mines were filed too late to embody their combined production of 1,675 tons in the tables of this Annual Report. However, they are included in the "Mine Directory or Table No. 1."

x A number of the mines did not report the carbide used as same was furnished by the employees.

\* 205,190 tons of coal were made into coke at the mines and therefore not included in coal loaded for shipment.



# SEVENTEENTH ANNUAL REPORT OF THE STATE INSPECTOR OF COAL MINES 1929

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The coal production of the State of Colorado during the calendar year of 1929 was 9,934,064 tons, an increase of 12,479 tons over that of 1928. Two hundred twenty-six companies and individual operators worked two hundred sixty-four mines with an average of 11,196 men in and about the mines, a loss of 275 men as compared with the number of men employed in 1928. The number of man days worked was 181.3, or a loss of 6.4 days over that of the previous year.

During the year, fifty-one men were killed inside of the mines and two on the surface, making a total of fifty-three lives lost. The fatality rate per thousand employed was 4.73, or an increase of 52% over 1928, which showed a death rate of 3.05 per thousand men employed. Forty wives were left widows and one hundred twenty-seven children fatherless. There were 1,726 non-fatal accidents, a decrease of 84 as compared with the preceding year.

Only one hundred mines have railroad connections, the other mines are served by trucks and many of the local consumers haul their own supply.

A number of large mines were closed for indefinite periods, some abandoned and mine equipment removed. The tendency of the day being to concentration of operations and reducing the costs of same. Markets have shrunk and rigid economy has become necessary. However, the many small mines continue to keep the department busy. Their production is small and their operations mostly limited to the winter months. It is almost impossible to keep an accurate account of them as they change ownership frequently and consequently the names of the mines are also changed.

The Morgan Coal Co., with Thomas E. Llewellyn as part owner and manager, took a very old property and rebuilt it at a cost of \$2,100.00. This mine is located at Silt, Garfield county, and is intended only for local trade. No other new mines reported.

## IMPROVEMENTS

The usual purchase of mine equipment was reported by various companies and is briefly summarized as follows:

Fifteen rock dust distributors, 1,274 electric lamps, four fans, three platform scales, two railroad scales, twenty-two pit cars, one generator, seven box car loaders, one power loading machine, five screening plants, one power line, two camp water supply sys-

tems, one pump, two undercutters, electric haulage and conveyor systems were installed in various mines; fourteen tipples were built or rebuilt, several aerial trams, two gravity planes with chutes, six other chutes, six boiler smoke stacks, twenty-three dwellings, scale and engine houses, an office building, powder magazines, several bath and wash houses and a sixteen stall garage were erected. The Crested Butte and Leyden No. 3 mines were fully electrified. Several companies reported expenditures for mine equipment but did not enumerate the purchases.

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## REMARKS AND SUGGESTIONS BY THE STATE INSPECTOR OF COAL MINES

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### FATAL ACCIDENTS

There were fifty-three lives lost in and around the coal mines of Colorado in 1929, an increase of fifty-two per cent over 1928. Falls of rock and coal accounts for thirty-five of them. Twenty-eight of the thirty-five, or 80% of them, happened at the road-head. Seven, or 20% of them, happened at other points. Eight were caused by mine cars and motors. Four by electricity. Two from falling down shafts or slopes. Two from other causes and two on the surface. This is not a record to be proud of. How to improve it is the question. The accidents from falls of rock account for 26 out of the fifty-one underground, this in my opinion is very high, considering that every mine in the state is working under a timbering agreement considered adequate to take care of ordinary roof conditions by limiting the distance between timbers and between timbers and the face. It does not provide when those timbers should be set, this is left to the workers and the mine foremen, principally the workers. No doubt there are many places where there are no timbers set until the place has been cleaned up. I believe that the time of setting timbers is as important as the place of setting them, and that, by setting them at the right time, will reduce accidents from falls of roof. It might be well for the mine foreman on his daily visits, and the inspectors on their quarterly visits, to give as much attention to the time of setting timbers as they now do to the place of setting them.

In mines not having mine foremen, where the inspector finds a dangerous condition, he should see that such condition is remedied, if, in his opinion, the employes are not competent to remove it, the mine should be closed until the danger is removed. I am informed that in some of the mines, the mine foremen insist upon the loaders timbering their places to suit the mining machines, instead of timbering them to protect themselves. If machine runners find that a place or places are so timbered that the machine cannot operate, and they change or displace any of the timbers

so that the machine can operate, it is their duty to put the timbers back in their original position before leaving the place. If this is not done, it then becomes the duty of the mine foremen to see that the place is properly timbered before the loaders start loading.

The above remarks cover only a few of the many things responsible for accidents, but if each one of the many upon whom responsibility rests to make our mines safer will do his part, we will have a more creditable record for 1930.

Year	STATE OF COLORADO					Total No. of Mines State
	Tons of Coal Produced	No. of Men Employed	No. of Fatal Accidents	Killed Per 1000 Employed	Tons Coal Produced Per Fatal Accident	
1913 .....	9,268,939	12,871	110	8.6	84,263	178
1914 .....	8,201,423	10,596	75	7.0	109,352	188
1915 .....	8,715,397	12,563	64	5.1	136,178	199
1916 .....	10,522,185	13,315	44	3.35	239,085	219
1917 .....	12,515,305	13,970	188	13.5	66,571	238
1918 .....	12,658,055	14,374	71	4.94	177,578	219
1919 .....	10,406,543	12,799	91	7.1	114,357	241
1920 .....	12,514,693	13,665	70	5.1	178,781	231
1921 .....	9,141,947	14,164	52	3.6	175,807	249
1922 .....	10,003,610	13,436	*74	5.51	135,184	275
1923 .....	10,336,735	13,277	66	4.97	156,617	276
1924 .....	10,591,088	12,703	44	3.48	238,661	271
1925 .....	10,440,387	12,228	57	4.66	183,165	283
1926 .....	10,616,760	11,768	52	4.42	204,168	261
1927 .....	9,781,580	11,453	54	4.7	181,140	266
1928 .....	9,921,585	11,474	35	3.05	283,474	266
1929 .....	9,934,064	11,196	53	4.73	187,435	264
Average.....	10,322,370	12,700	70.6	5.56	146,209	244

Year	MINES EMPLOYING 1 to 10 MEN, INCLUSIVE					No. of Mines 1 to 10 Men In clusive
	Tons of Coal Produced	No. of Men Employed	No. of Fatal Accidents	Killed Per 1000 Employed	Tons Coal Produced Per Fatal Accident	
1913 .....	100,356	192	3	15.6	33,452	36
1914 .....	133,216	270	3	11.1	44,405	60
1915 .....	122,719	283	1	3.5	122,719	67
1916 .....	137,957	266	3	11.28	45,986	81
1917 .....	191,715	333	0	.....	.....	80
1918 .....	174,167	358	2	5.6	87,083	86
1919 .....	166,285	380	1	2.6	166,285	95
1920 .....	152,782	270	3	11.1	50,927	82
1921 .....	163,153	378	2	5.29	81,576	105
1922 .....	234,075	514	4	7.78	58,519	130
1923 .....	215,026	453	3	6.62	71,675	143
1924 .....	224,135	446	1	2.24	224,135	138
1925 .....	225,239	485	5	10.31	45,048	152
1926 .....	194,199	422	7	16.59	27,789	130
1927 .....	212,127	555	0	.....	.....	136
1928 .....	232,878	445	1	2.24	232,878	144
1929 .....	261,399	503	1	1.99	261,399	149
Average.....	184,789	385	2.35	6.1	78,633	107

Year	MINES EMPLOYING 1 TO 5 MEN, INCLUSIVE					No. of Men Employed
	No. of Mines	Tons of Coal Produced	No. of Fatal Accidents	Tons Coal Produced Per Fatal Accident	Killed Per 1000 Employed	
1913	23	42,399	2	21,199	24.4	82
1914	41	50,061	3	16,667	23.26	129
1915	49	50,304	1	50,304	6.94	114
1916	65	70,815	2	35,407	13.89	144
1917	52	71,969	0	.....	.....	129
1918	63	77,058	0	.....	.....	177
1919	72	87,065	0	.....	.....	194
1920	71	94,586	2	47,293	10.64	188
1921	83	94,422	1	94,422	4.59	218
1922	95	98,923	3	32,974	12.05	249
1923	106	112,484	2	56,242	7.91	253
1924	111	120,344	0	.....	.....	256
1925	132	137,780	5	27,556	15.38	325
1926	105	105,506	5	21,101	21.7	230
1927	110	113,674	0	.....	.....	263
1928	116	131,914	1	131,914	3.97	252
1929	117	115,833	0	.....	.....	261
Average...	83	92,652	1.59	58,272	7.71	296

The law governing the operation of coal mines in Colorado up until 1913 was copied, to a great extent, from the Ohio law, which, at the time it was copied and put into effect in Colorado, had been on the statutes for many years; consequently, it was inadequate to meet the conditions in the Colorado mines. Under this law the state coal mine inspectors had no police powers and could not close down a mine, regardless of how dangerous it was. The appropriation was so small that after the salaries were deducted the balance left for traveling expenses was so inadequate that the inspectors could not visit enough mines to earn their salaries, and the fatality rates during the last five years of the old law's existence averaged 9.5 per 1,000 employed.

In 1913 at the request of the honorable John F. Shafroth, deceased, then Governor, a new coal mining bill was drawn by a committee appointed by the senate. This committee was composed of the following five leading coal men of the state: E. H. Weitzel, manager of the Colorado Fuel and Iron Company; George T. Peart, general superintendent of the Rocky Mountain Fuel Company; John R. Lawson, executive board member of the United Mine Workers; Senator John S. Pearson, chairman, who had worked as a coal miner in his youth, and the present Chief Coal Mine Inspector. This bill was passed unanimously by both houses and went into effect in April, 1913.

Four of the important features of this bill were:

1. Giving of police power to the state to close dangerous mines.
2. The creation of a Board of Examiners to examine applicants for mine officials and state coal mine inspectors, in compliance with that part of the law requiring that only mine foremen,



assistant mine foremen, fire bosses, and state coal mine inspectors holding certificates of competency from said Board of Examiners were eligible to hold such positions.

3. The establishment of a special tax on coal of one-third cent per ton (later increased to four-tenths cent per ton) for the purpose of defraying the expenses of the State Coal Mine Inspection Department.
4. The installation of ventilating fans, thereby insuring a plentiful supply of fresh air to the workmen.

Those four features, combined with the co-operation of most of the large companies, and a few of the smaller ones, no doubt are responsible for the greatly improved working conditions generally.

The special tax collected from 1913 to 1928, both inclusive, approximately five hundred thousand dollars (\$500,000), not only enabled the Department to operate efficiently, but saved the taxpayers the amount collected.

The average fatality rate for the same period averaged 5.61 per one thousand employes, compared with 9.50 for the last five years under the old law, a decrease of forty per cent (40%), and a remarkable improvement.

The 1913 Colorado coal mining law, up until 1927, was considered a good law by the leading coal mining men of the United States. Early in 1925 petitions were circulated seeking to exempt the small mines from having to employ certified mine officials and from the installation of ventilating fans. Later in the year arrangements were made by the State Coal Mine Inspector to meet the small mine operators in the different mining centers throughout the state. Those meetings developed the facts that most of the mines were leased on a royalty basis ranging from forty cents to one dollar per ton and that the owners of the land were responsible for the circulation of the petitions. The lease holders, in general, did not want to be exempted from any of the requirements of the law. They wanted the excessive royalties reduced. This the land owners refused to do.

In 1927 the Twenty-Sixth General Assembly was asked to amend the law by exempting all mines employing not more than five men underground from the employment of certified mine foremen, and the installing of ventilating fans, and the law was so amended.

In 1929 the Twenty-Seventh General Assembly again amended the law by exempting the same mines from the employment of certified fire bosses. In both instances, the claim was made that the law, as it stood, discriminated against the small mines. To controvert this, the records of the State Coal Mine Inspector were produced, showing that in 1913 there were 23 mines in the state employing five men or less and that in 1929 there were 116 such mines and that the fatality rates in the five-men mines from 1913



to 1928, both inclusive, were 8.37 per one thousand employed, compared with 5.61 for the state as a whole. This is not an enviable record and it is to be hoped that the Twenty-Eighth General Assembly will assist in improving it by repealing the amendments passed by the Twenty-Sixth and Twenty-Seventh General Assemblies exempting the five-men mines from certified mine officials and the installing of ventilating fans.

The Twenty-Sixth and Twenty-Seventh General Assemblies, composed of one hundred men, contained one coal miner, and he was not a member of the committee on mines and mining.

What can the coal companies, their mine officials, and the state coal mine inspectors do to reduce accidents in the face of such unreasonable and unfair law making? Can it be that the Twenty-Sixth and Twenty-Seventh General Assemblies, on account of the forty per cent decrease in fatalities made under the 1913 law, concluded that our fatality rates were lower than the fatality rates of the United States? If such is the case, we call attention to the table compiled by E. H. Denny, C. W. Owings, and D. Harrington, of the United States Bureau of Mines, on page immediately following. This table gives the Colorado fatality rates, compared with that of the United States, based upon both a frequency and a tonnage basis, showing that for every fifty-eight lives lost in the United States on a frequency basis, one hundred are lost in Colorado, and that for every fifty-three lives lost in the United States on a tonnage basis, one hundred are lost in Colorado.

The life of a miner working in a five-man mine is as valuable to the country, and entitled to the same protection, as the miner working in a larger mine. The coal operators operating coal mines with fatality rates forty per cent higher than the average for the larger mines are not entitled to special consideration by being exempted from the law.

The law is the foundation upon which all the other features pertaining to safety are based. The law pertaining to five-men mines, as it now stands, removes them from the law so far as safe and sanitary conditions are concerned. The only other requirements of the law are the filing of monthly and annual reports, filing of maps, reporting of accidents, and payment of the special tax on coal mined.

The annual production from the five-men mines approximates 100,000 tons, which, at four-tenths cents, amounts to \$400.00. The annual cost of inspecting them approximates \$6,000, leaving a deficit of \$5,600 to be paid by the larger mines.

Now that the state cannot enforce its findings relative to safety in the five-men mines, would it not have been more consistent to have exempted them from state inspection and the payment of the special tax, thereby saving the \$5,600 spent in unnecessarily inspecting them every year?

It may be said that the state still has the power to close down any coal mine that is dangerous, but it takes three state inspectors

to close a mine; therefore, it is so expensive that, with the present income, it is prohibitive.

#### RECOMMENDED:

That the Twenty-Eighth General Assembly amend the coal mining law by repealing all the amendments made by the Twenty-Sixth and Twenty-Seventh General Assemblies governing the operation of all coal mines employing not more than five men underground.

### COLORADO COAL-MINE FATALITIES<sup>1</sup>

By E. H. Denny<sup>2</sup>, C. W. Owings<sup>3</sup>, and D. Harrington<sup>4</sup>.

Colorado coal-mine fatalities, which have gradually decreased since 1914, have shown a marked decline since 1924. Data on coal-mine fatalities in Colorado published by the U. S. Bureau of Mines<sup>5</sup> indicate that the deaths per thousand 300-day workers have decreased from 9.13 in 1914 to 6.14 in 1926, and that the deaths per million tons produced have decreased from 9.18 in 1914 to 4.98 in 1926. Table 1 gives fatality rates in Colorado and in the United States from 1914 to 1926 inclusive.

TABLE 1—FATALITY RATES IN COAL MINES OF COLORADO, AND IN THE UNITED STATES, 1914 TO 1926, INCLUSIVE

Date	Deaths per thousand 300-day workers		Deaths per 1,000,000 tons produced	
	Colorado	U. S.	Colorado	U. S.
1914 .....	9.13	4.90	9.18	4.40
1915 .....	7.87	4.47	7.30	3.80
1916 .....	4.23	3.88	4.10	3.33
1917 .....	15.07	4.31	15.06	3.83
1918 .....	5.76	3.97	5.72	3.50
1919 .....	10.25	4.15	8.81	3.62
1920 .....	6.00	3.79	5.70	3.13
1921 .....	6.56	4.35	5.70	3.48
1922 .....	8.71	5.16	7.49	3.99
1923 .....	8.55	4.65	6.38	3.46
1924 .....	5.72	5.39	4.21	3.94
1925 .....	6.63	4.79	5.43	3.53
1926 .....	6.14	4.86	4.98	3.60

<sup>1</sup>The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used: "Reprinted from U. S. Bureau of Mines Circular 6177."

<sup>2</sup>District Engineer, U. S. Bureau of Mines.

<sup>3</sup>Associate Engineer, U. S. Bureau of Mines.

<sup>4</sup>Chief Engineer, Safety Division, U. S. Bureau of Mines.

<sup>5</sup>Adams, W. W., Coal-Mine Fatalities in the United States, 1924. Bull. 251, Bureau of Mines, 1925, 95 pp.

<sup>6</sup>Adams, W. W., Coal-Mine Fatalities in the United States, 1927. Bull. 293, Bureau of Mines, 1928, 126 pp.

#### REPORT ON CARDOX

On March 16, 1929, I made an investigation of Cardox Cartridge at Slope No. 7 of the Covington Coal Corp., Ft. Smith, Ark. This mine is located in Oklahoma, 52 miles southwest of Ft. Smith, and classified as a gaseous mine. The coal is a semi-anthracite,

five feet four inches in thickness, pitching about 25%. The roof is a very hard blue slate. The coal leaves the roof freely. The roof does not seem to be effected by the use of the Cardox in breaking down the coal. The coal is undercut by Jeffrey Permissible Machines to a depth of seven feet. All electrical equipment is of the permissible type. The holes are drilled by electrical drills. The drillers tamp all holes with inert matter and explode all cartridges. Dimensions of the cartridges are 3 15/16" by 38", requiring a 4" hole. The contents of the cartridge is pure CO<sup>2</sup> in liquid form, put into the cartridge at a pressure of 2,500 lbs. per sq. in. at a temperature of 180° F. below zero. The pressure at the time of liberation has in this case increased from 60,000 to 90,000 lbs. per sq. in. The cartridge is so arranged that it is proof against contact between the time of charging and inserting into the drill hole.

Electricity is used exclusively for power. 240 AC for mining and drilling. 25 volts under 1.5 amperes is used in exploding the contents of the cartridge. Liberation of contents is caused by the shearing of a disc. The discs are made of different thicknesses, the greater the pressure needed, the thicker the disc. They are located at the inner end of cartridge, thus the total force is thrown against the solid face at back of hole, thereby creating an outward as well as a downward force. This outward force is very much in evidence after the coal is broken down by part of it being thrown outward from one to two feet from the face.

I visited eight places in which coal had been broken down and failed to see one instance where any coal had been thrown back far enough to displace timbers set up to within three feet of the face prior to breaking down of coal. I also witnessed the mining, drilling and breaking down of coal in main slope and room No. 57 off back slope.

The mine is very dry and during mining considerable fine dust is thrown in suspension. Samples of air were taken in main slope and room No. 57 off back slope immediately before starting to mine and two minutes after exploding of cartridges, with the following results:

Samples were taken by James Dalrymple, State Inspector of Coal Mines, in containers furnished by U. S. Bureau of Mines.

	% Oxygen	% Nitrogen	% CO <sub>2</sub>	% CH <sub>4</sub>
Sample No. 1—Face main slope before shooting	20.6	78.6	.2	.4
Sample No. 2—Same, two minutes after shooting	20.1	77.3	2.2	.4
Sample No. 3—Main slope, room No. 57, before shooting	20.2	78.5	.4	.9
Sample No. 4—Same, two minutes after shooting	19.7	76.6	2.8	.9

The main slope was about 50 ft. in advance of last cross cut and room 57 was about 30 ft. in advance of last cross cut. Air measurements at last cross cuts:

Main slope, area 55 ft., velocity 115 ft., quantity 6,325 cu. ft. per min.

Room No. 57, area 12 ft. velocity 180 ft., quantity 2,160 cu. ft. per min.

The above samples were taken for the purpose of determining any change in the atmosphere through the exploding of the  $\text{CO}^2$ .

The atmosphere in both places, two minutes after breaking down of coal was heavily laden with fine coal dust.

From my observations, I am convinced that with permissible electrical equipment, properly installed, good ventilation, thorough rock dusting of all places up to last cross cuts, plenty of water used on cutter bar of mining machine while running, and permissible electric head lamps for general purposes, that the Cardox Cartridge can be used at any time during the shift in most of our coal mines for breaking down coal, without increasing the hazard to life or property.

I am also convinced that a material increase can be obtained in the lump coal over that obtained from black powder. In every place visited the coal appeared as if it were all lump and did not have the shattered appearance that is generally evident from the use of powder.

Respectfully submitted,

(Signed) JAMES DALRYMPLE,

State Inspector of Coal Mines.

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The following air samples taken on October 15th and 16th at the Alamo No. 2 mine and Brodhead No. 9 mine following the use of Cardox. The purpose of the samples is to determine changes in mine air at the faces in dip and strike workings at the expiration of different periods of time after shooting and at different points in the places, and to further determine the length of time that should expire between shooting and men returning to work. It will be noted that the dip workings are the most difficult to ventilate and that this difficulty increases with the dip. This is just the reverse to places generating  $\text{CH}^4$ .

The samples from bottles 346, 340, 348 and 347 were taken as soon as possible after shooting at the request of Wm. H. Lewis, President of the Alamo Coal Co., in order that the greatest possible percentage of  $\text{CO}^2$  might be known, and that the time necessary to elapse between shooting and returning to work might be established as soon as possible.

The air samples taken November 21st and 22nd at the same mines shows considerable improvement and represents as nearly as practicable what true working conditions will be.



The fact being that the degree of change in the mine atmosphere at the face depends upon degree of dip, amount of Cardox used in rounds of shots and the amount of air and its velocity at the face, I do not believe any set time between shooting and returning to work can be adopted generally.

Coal can be broken down more safely with Cardox than with explosives because of this greater safety it can be used during working hours, this means fewer working places, concentration of work and supervision, and in domestic mines an increase in lump and quality as well as an increase in tons per man. In order that all the benefits of Cardox may be realized the machinery loading the coal must be kept in operation during the shift; to accomplish this, the ventilation must be sufficient to clear the places of all dangerous and noxious gases so that the loaders can return to work at the expiration of half an hour or less. In most places this will require line brattice kept close to the working faces and the closer the better. This may be accomplished by hanging at least twenty feet of brattice on a wire fastened to a plug in the roof at the inner end. This will allow pulling this section back while shots are being fired and immediately afterwards extended to the face. No doubt conditions will be found, such as crushed pillars or coal that have many open seams where Cardox will spend its energy, in such openings instead of in breaking down the coal, permissible powder would be the logical substitute.

## AIR SAMPLES BEFORE AND AFTER CARDOX BLASTING

Taken by Mr. E. H. Denny, District Engineer of the U. S. Bureau of Mines, accompanied by Messrs. James Dalrymple, State Inspector of Coal Mines, F. McCallum and G. C. Dalrymple, Deputy State Inspectors of Coal Mines.

### ALAMO NO. 2 MINE—OCTOBER 15, 1929

Location—Face fourth dip off first left entry, 31% pitch.

Ventilation—Canvas about 25 feet from face; 1,600 cubic feet of air per minute measured along canvas; crosscut 50 feet back from face.

Number shots fired—Four.

Pounds carbon dioxide used—11½.

Air before blasting (collected from top to bottom at face)—Analysis:

	Sample bottles 316 and 310	
	Percentages	
Carbon dioxide	0.12	0.11
Oxygen	20.65	20.59
Carbon monoxide	0.00	0.00
Methane	0.13	0.14
Nitrogen	79.10	79.16
	100.00	100.00



Air 6 feet from face  $4\frac{1}{2}$  minutes after blasting, collected from top to bottom)—Analysis:

Sample bottles 190 and 191 Percentages		
Carbon dioxide .....	4.85	4.19
Oxygen .....	19.51	19.79
Carbon monoxide .....	0.03	0.03
Methane .....	0.42	0.33
Nitrogen .....	75.19	75.66
	100.00	100.00

Air at bottom 6 feet from face  $12\frac{1}{2}$  minutes after blasting (collected at bottom only)—Analysis:

Sample bottles 348 and 347 Percentages		
Carbon dioxide .....	12.20	8.60
Oxygen .....	13.10	15.20
Carbon monoxide .....	0.11	0.05
Methane .....	1.50	1.00
Nitrogen .....	73.09	75.15
	100.00	100.00

Remarks—Some coal moved by miners prior to taking samples; safety lamp extinguished at bottom.

#### ALAMO NO. 2 MINE, OCTOBER 15, 1929

Location—Face No. 7 room off fourth panel off first left; room on strike of coal.

Ventilation—90 feet from last crosscut to the face of room and line brattice carried within 27 feet of the face; 5,000 cubic feet of air per minute circulating through crosscut.

Number shots fired—Three.

Pounds of carbon dioxide used—10%.

Air before blasting (collected from top to bottom at face)—Analysis:

Sample bottles 187 and 186 Percentages		
Carbon dioxide .....	0.10	0.09
Oxygen .....	20.63	20.53
Carbon monoxide .....	0.00	0.00
Methane .....	0.09	0.09
Nitrogen .....	79.18	79.29
	100.00	100.00

Air 6 feet back from face 2 minutes after blasting—Analysis:

Sample bottles 189 and 188 Percentages		
Carbon dioxide .....	0.77	0.76
Oxygen .....	20.62	20.62
Carbon monoxide .....	0.01	0.01
Methane .....	0.08	0.13
Nitrogen .....	78.52	78.48
	100.00	100.00

Air 6 feet from face 27 minutes after blasting (collected at bottom)—Analysis:

	Sample bottles 196 and 197 Percentages	
Carbon dioxide .....	0.73	0.86
Oxygen .....	20.62	20.62
Carbon monoxide .....	0.01	0.02
Methane .....	0.46	0.63
Nitrogen .....	78.57	78.50
	100.00	100.00

Remarks—Car of coal loaded before samples 196 and 197 were taken.

#### BRODHEAD NO. 9 MINE—OCTOBER 16, 1929

Location—Room No. 4 off fourth west entry off eleventh south entry at face.

Number shots fired—Two.

Pounds carbon dioxide used—Six.

Air before blasting (collected from top to bottom)—Analysis:

	Sample bottles 353 and 207 Percentages	
Carbon dioxide .....	0.98	1.00
Oxygen .....	19.18	19.22
Carbon monoxide .....	0.02	0.01
Methane .....	0.05	0.03
Nitrogen .....	79.77	79.74
	100.00	100.00

Air 6 feet from face 2½ minutes after blasting (collected from top to bottom)—Analysis:

	Sample bottles 359 and 360 Percentages	
Carbon dioxide .....	2.94	2.08
Oxygen .....	18.93	18.98
Carbon monoxide .....	0.02	0.02
Methane .....	0.08	0.05
Nitrogen .....	78.93	78.87
	100.00	100.00

Air at bottom 6 feet from face 8 minutes after blasting—Analysis:

	Sample bottles 203 and 171 Percentages	
Carbon dioxide .....	3.90	3.80
Oxygen .....	18.99	18.79
Carbon monoxide .....	0.02	0.01
Methane .....	0.05	0.04
Nitrogen .....	77.04	77.36
	100.00	100.00

Remarks—Room 240 feet in length, 19 feet 8 inches in width, and 120 feet from crosscut; room goes slightly to rise. Before taking samples 203 and 171 a little coal shoveled off bottom.

## BRODHEAD NO. 9 MINE—OCTOBER 16, 1929

Location—Face room nine off third east entry off eleventh south entry

Number shots fired—Three.

Pounds carbon dioxide used—Nine.

Air before blasting (collected from top to bottom)—Analysis:

	Sample bottle 169 Percentage
Carbon dioxide .....	0.75
Oxygen .....	19.38
Carbon monoxide .....	0.00
Methane .....	0.09
Nitrogen .....	79.78
	100.00

Air 6 feet back from face 2 minutes after blasting (collected bottom to top)—Analysis:

	Sample bottles 175 and 179 Percentages	
Carbon dioxide .....	3.19	2.08
Oxygen .....	18.87	19.12
Carbon monoxide .....	0.01	0.01
Methane .....	0.09	0.10
Nitrogen .....	77.84	78.69
	100.00	100.00

Air at bottom 6 feet from face 5 minutes after blasting—Analysis:

	Sample bottles 358 and 173 Percentages	
Carbon dioxide .....	6.28	4.96
Oxygen .....	18.44	18.56
Carbon monoxide .....	0.02	0.02
Methane .....	0.09	0.09
Nitrogen .....	75.17	76.36
	100.00	100.00

Remarks—Room 100 feet from entry and no crosscuts. Safety lamp extinguished at point of taking samples 358 and 173.

## AIR ANALYSIS OF SAMPLES TAKEN IN MINES USING THE CARDOX

Air sample taken in the Alamo No. 2 mine, Huerfano County, on November 22, 1929, at 10:10 a. m. (ten hours after shooting), in the Walsen seam, 9 feet 0 inches thick, at the face of third dip off first left at bottom:

	Laboratory No. 51637
CO <sub>2</sub> .....	0.07
O <sub>2</sub> .....	20.65
CO .....	0.00
CH <sub>4</sub> .....	0.18
N <sub>2</sub> .....	79.10

Air sample taken in the Brodhead No. 9 mine, Las Animas County, on November 21, 1929, in the Brodhead seam, 3 feet 9 inches thick, at the 11 south at first entry. This is sample of intake air after passing through old work and before entering live works.

	Laboratory No. 51641	Laboratory No. 51642
CO <sub>2</sub> .....	0.07	0.06
O <sub>2</sub> .....	20.83	20.83
CO .....	0.00	0.00
CH <sub>4</sub> .....	0.03	0.02
N <sub>2</sub> .....	79.07	79.09

Air sample taken in the Brodhead No. 9 mine, Las Animas County, on November 21, 1929, in the Brodhead seam, 3 feet 8 inches thick. Sample taken at the bottom of face room 6 off fourth west off eleventh south, 45 minutes after shooting. Room had just been connected at face so sample may be better than if taken ahead of air current. Taken at 1:10 p. m.

	Laboratory No. 51640
CO <sub>2</sub> .....	0.85
O <sub>2</sub> .....	20.02
CO .....	0.01
CH <sub>4</sub> .....	0.03
N <sub>2</sub> .....	79.09

## RULES GOVERNING THE USE OF ELECTRICAL LOADING MACHINES IN ALL MINES USING THE "CARDOX CARTRIDGE"

### RULE NO. ONE

That water be used on cutter bars while machines are cutting.

### RULE NO. TWO

That sprinkling system be installed and coal be kept thoroughly wetted down while loading.

### RULE NO. THREE

That loading machines be under the direct supervision of a first class certified mine foreman or assistant first class mine foreman, who shall devote his entire time to the machines while they are in operation.

### RULE NO. FOUR

VENTILATION: That cross cuts be given special attention and an adequate volume of air circulated at working faces to prevent any kind of accumulation of explosive or noxious gases, and miners shall not return to work until places have been thoroughly examined by certified official and reported safe. That air samples be taken and analysis made as often as necessary.

### RULE NO. FIVE

ELECTRICAL EQUIPMENT: That present electrical equipment may be used provided that any replacement or addition to present

equipment shall bear the approval plate of the United States Bureau of Mines, and that present unapproved equipment may be stopped at any time if deemed necessary. In all places where electrical loaders, other than conveyors, are used, line brattice shall be carried from last cross cut to face of workings.

#### RULE NO. SIX

That no employe shall be less than 100 feet from the face being shot and so situated that two right angles shall be between them and such face.

Recommended and approved by

(Signed) JAMES DALRYMPLE,

State Inspector of Coal Mines.

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### FIRST AID AND MINE RESCUE WORK

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The following shows the establishing of mine rescue stations, the purchasing of mine rescue equipment and number of men trained for the work in 1929.

The Routt County Coal Operators Association is composed of the following companies; Keystone Fuel Co., Victor-American Fuel Co., Moffat Coal Co., Hayden Bros. Coal Corporation, Colorado Utah Coal Co., Pinnacle Kemmerer Fuel Co., McNeil Coal Co., and Fraker Coal Co. Since the Association has introduced the safety branch into their organization, they have spent approximately \$5,000 for modern Mine Rescue equipment. The districts of the operating coal companies, namely the Mt. Harris and Oak Creek districts, are about 40 miles apart. During the winter, the railroad is the only means of transportation between these two districts, therefore it is necessary to maintain a complete mine rescue station in each district. These stations are equipped with the most modern McCaa breathing apparatus, five complete sets of this apparatus, together with all necessary equipment are kept at each station. In addition to this, each station has the latest type All Service Gas Masks. Each mine has men who are trained in the use of this apparatus and in the fundamentals of Mine Rescue work. These teams return to the Mine Rescue Station each month for additional training to keep familiar with the work.

In addition to the First Aid Teams from the different mines, approximately 50% of the employes are trained in First Aid work and expect to make the training 100%.



## THE COLORADO FUEL AND IRON CO. REPORT

COMPLETED ITINERARY OF MINE RESCUE CARS ON FIRST AID AND  
MINE RESCUE TRAINING TOUR—FIRST AID CLASSES

Mine and Date	No. Start- ing	No. Finish- ing	No. Not At- tend- ing	Per cent	
				Trained	Intrained
Kebler, Jan. 21 to Feb. 3.....	124	110	14	89.9	10.1
Pictou, Jan. 21 to Feb. 3.....	228	168	32	87.7	12.3
Walsen-Robinson, Jan. 21 to Feb. 3 .....	389	370	19	95.4	4.6
Cameron, Feb. 4 to Feb. 10.....	183	177	9	95.4	4.6
Ideal, Feb. 11 to Feb. 17.....	176	174	2	98.9	1.1
Lester, Feb. 18 to Feb. 24.....	144	138	7	95.4	4.6
Toller, Feb. 25 to Mch. 3.....	282	271	18	94.0	6.0
Tabasco, Mch. 3 to Mch. 10.....	225	220	2	99.1	.9
Morley, Mch. 11 to Mch. 17.....	473	399	60	88.8	11.2
Frederick, Mch. 18 to Mch. 24	480	450	59	89.1	10.9
Segundo, Mch. 25 to Mch. 31....	61	61	0	100.0	—
Total .....	2765	2538	222	92.5 %	7.5 %

The Calumet Fuel Co. announced that they installed at their Calumet No. 1 and 2 mines, six sets of Paul type mine rescue apparatus complete and fully equipped.

Nothing has been done in Boulder and Weld counties along the lines of First Aid and Mine Rescue work since the U. S. Bureau Mines Training Car left these districts. It is to be regretted that these two large coal producing counties take no interest in this important work so vital to the preservation of life and property.

#### LEGAL OPINION CONCERNING DUTIES OF COAL MINE INSPECTION DEPARTMENT IN REGARD TO MINES EMPLOYING FIVE MEN OR LESS UNDERGROUND

Offices of  
THE ATTORNEY GENERAL OF COLORADO

Denver, Sept. 10, 1929.

Mr. James Dalrymple,  
State Inspector of Coal Mines,  
State Office Bldg.,  
Denver, Colo.  
Dear Sir:

I have your letter of August 12 last, requesting my opinion as to what is "a five man mine," under the provisions of Section 5, Chapter 68, S. L. 1929, amending Section 3503 C. L. 1921, and asking me to say whether the State should continue to inspect the mines referred to said Section 3503 inasmuch as they are not required to employ foremen.

Section 3503 as amended does not define the meaning of a "five man mine." It merely says "in all mines except those in

which five men or less are employed underground," etc. *My opinion is that any mine in which no more than five men are employed underground at any one time comes within the terms of this section.* In other words the number of men employed in any mine is not to be determined by taking the average number for a year or for any other period.

As to your second question, Section 3480 C. L. 1921, seems to answer it. This section requires the inspector "to enter into, and examine thoroughly each and every coal mine in the State at least once every 90 days, to see that the provisions of this Act are observed and strictly carried out." Section 3481 C. L. 1921, provides that when the inspector, through his deputy, finds a coal mine or any part thereof so operated that "there is imminent danger to the lives or health of the miners or employes," the deputies shall at once notify the *person in charge of said mine* to immediately remove it and in case of his refusal or failure to comply, the deputies shall have full power to order the mine cleared of all persons other than those he deems actually necessary and competent to remove or care for the dangerous conditions.

I understand from you that in order to reach many of these mines it is necessary for your deputies to travel long distances; that the operators are in the habit of opening and closing these mines without giving any notice to your office, so that it frequently happens that when your deputy visits one of these mines, he may find it closed; and furthermore, that the cost of the inspection of these small mines is very large in proportion to the amount of their output. I believe, however, that you should continue to inspect these small mines whenever you have knowledge that they are operating and so far as the funds of your office will permit.

Very truly yours,

ROBERT E. WINBURN,  
Attorney General.

By OLIVER DEAN (Signed),  
Oliver Dean,  
Assistant Attorney General.

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Denver, Colorado, April 27, 1929.

To His Excellency,  
William H. Adams,  
Governor of Colorado,  
Capitol Bldg.,  
Denver, Colo.  
Sir:

As State Inspector of Coal Mines, I deem it my duty to bring your attention to one of the features of Senate Bill 262, as well as furnish you with tables of facts concerning a period of sixteen years, giving the fatality rates per thousand employed and number of tons of coal produced in the different mines as classified.

One of the features of Senate Bill 262 exempts mines employing not more than five men underground from having to employ certified mine foremen, assistant certified mine foremen and certified fire bosses. This amendment was introduced by Representative Johnson of Craig, who I am informed, told the members of both houses that said amendment had my approval. If Representative Johnson made such a statement it was made without my knowledge or consent. This amendment destroys the most vital requirements of the Coal Mining Laws and consequently deprives the miners of the most valuable protection guaranteed them under the present law and only applies to those mines having a forty per cent higher fatality rate than the larger mines, mines whose fatality rates are so high that no insurance carriers would insure them, thus compelling the State two years ago to pass an insurance law so that their employes might be insured.

I hope you will give the enclosed tables as well as this letter the consideration they are entitled to and that after doing so you will veto the Bill.

In my own defense, I feel duty bound to give the general public, especially that part of it directly interested in the coal mining industry, the information herein contained. I am at your service if further explanation is thought necessary by you.

Respectfully yours,

(Signed) JAMES DALRYMPLE,

State Inspector of Coal Mines.

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

Total inspections made in 1929.....	930
Total number of mines inspected.....	264
Number of fatal accidents investigated by inspectors and special investigators.....	53
Number of inquests attended by inspectors and special investigators.....	46
Scale inspections.....	12
Complaints investigated and adjusted.....	51
Prosecutions.....	4
Miles traveled by auto.....	51,147
Railroad scrip used.....	\$721.50

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

Respectfully submitted,

(Signed) JAMES DALRYMPLE,

State Inspector of Coal Mines.



TABLE NO. 1  
 DIRECTORY OF COAL MINES IN STATE OF COLORADO FOR THE YEAR ENDED DECEMBER 31, 1929

Name of Company	Name of Mine	County	Name of Manager or General Superintendent	Post Office	Name of Superintendent	Mine Post Office Address	Railroad to Mine	Geological Name or Number of Coal Bed Worked	Average Thickness	
									Feet	In.
T. L. Cox	Cox	Archuleta	Merle D. Vincent	Pagosa Springs	T. L. Cox	Pagosa Springs	None	Laramie Formation	4	6
W. J. Nossaman	Nossaman	Archuleta	Merle D. Vincent	Pagosa Springs	W. J. Nossaman	Pagosa Springs	None	Laramie Formation	6 to 9	6
Rocky Mountain Fuel Co.	Industrial	Yuma	Merle D. Vincent	Denver	Harry R. Finwin	Superior	C & S	Laramie Formation	5	6
Rocky Mountain Fuel Co.	Standard	Boulder	Merle D. Vincent	Denver	George Swerlengen	Lafayette	C & S Q	Laramie Formation	5	6
National Fuel Co.	Menarche No. 2	Boulder	Samuel Tescher	Denver	Henry Risher	Broomfield	C & S	Laramie Formation	6	6
Central Fuel Co.	Central	Boulder	Fred Neahl	Longview	Thos. Hilton	Boulder	C & S	Laramie Formation	6	6
Black Diamond Fuel Co.	Black Diamond	Boulder	David Allan	Gorham	Thos. Hilton	Gorham	None	Gorham Lower	6	6
David Allan	Crown	Boulder	David Allan	Gorham	Thos. Hilton	Gorham	C & S	Gorham Lower	6	6
S. Domencio & Sons, Inc.	Paramount	Boulder	None closed	No report submitted	None	None	None	Gorham Lower	6	6
Domestic Coal Co.	Gorham	Boulder	Geo. C. Watson	Boulder	Geo. C. Watson	Gorham	C & S	Gorham Lower	10	6
Excelsior Coal Co.	Excelsior	Boulder	No report submitted	No report submitted	None	None	None	Gorham Lower	6	2
High View Coal Co.	Hoover	Boulder	None	Gorham	James Wardle	Gorham	None	Gorham Lower	7	6
Sunrise Coal Co.	Sunrise	Boulder	None	Gorham	Tony Gharido	Gorham	None	Gorham Lower	7	6
Fox Coal Co.	Rocky Ridge	Boulder	None	Gorham	D. H. Davis	Gorham	None	Gorham Lower	7	6
Pittsburgh Coal Co.	Pittsburgh	Boulder	None	Gorham	D. H. Davis	Gorham	None	Gorham Lower	7	6
Gabriella & Sons	Blue Cliff	Boulder	None	Gorham	Thos. Gabriella	Gorham	None	Gorham Lower	7	6
Junalia Coal & Coke Co.	King	Boulder	J. S. Howie	Gorham	Thos. Gabriella	Gorham	None	Gorham Lower	7	6
Green Valley Coal Co.	Green Valley	Boulder	C. W. Hinchart	Howie	A. B. Howie	Howie	D & R G W	Mesa Verde	11 to 21	6
Red Canyon Coal Co.	Red Canyon	Boulder	Lloyd Patton	Cedarvale	John Francis	Cedarvale	None	Mesa Verde	6	6
Panola Farmers' Coal Co.	Panola	Delta	Arthur C. Brown	Panola	Ed Hill	Panola	None	Mesa Verde	1	6
States-Hall Coal Co.	Red Mountain	Delta	Arthur C. Brown	Cedarvale	Ed Hill	Cedarvale	None	Mesa Verde	1	6
States-Hall Coal Co.	States	Delta	Arthur C. Brown	Cedarvale	Ed Hill	Cedarvale	None	Mesa Verde	1	6
Independent Coal Co.	Independent	Delta	P. L. Ripp	Cedarvale	Ed Hill	Cedarvale	None	Mesa Verde	1	6
H. Owens & Sons	Owens	Delta	P. L. Ripp	Holchikins	R. Owens	Holchikins	None	Mesa Verde	1	6
Winton Coal Co.	Winton	Delta	J. C. Bowerman	Austin	None	Austin	None	Hollins	11	6
Frank Converse	Converse	Delta	John Zelaha	McPherson	Frank Converse	McPherson	None	Hollins	11	6
W. M. McLean Lumber Co.	North Star	Dolores	John Zelaha	McPherson	W. M. McLean	McPherson	N & S W	Hollins	11	6
Mason Coal, Oil & Clay Co.	Mason	Elbert	C. B. Williamson	Colorado Springs	C. B. Williamson	Matheson	None	Hollins	11	6
Wright Barker	Wright	Elbert	C. B. Williamson	Colorado Springs	Wright Barker	Matheson	None	Hollins	11	6
Burnell Fuel Co.	Burnell	Elbert	None closed	No report submitted	None	None	None	Hollins	11	6
Peaks Peak Fuel Co.	Peaks Peak	El Paso	V. H. Adams	No report submitted	V. H. Adams	Peaks Peak	D & R G W	Hollins	11	6
Altitude	Altitude	El Paso	None	No report submitted	None	None	None	Hollins	11	6
Chly Coal Mines	Chly Coal Mines	El Paso	George H. Krause	Colorado Springs	John Streeman	Colorado Springs	H & I	Hollins	11	6
W. D. Torley	W. D. Torley	El Paso	George H. Krause	Colorado Springs	Thos. Barclay	Colorado Springs	None	Hollins	11	6
Kurle Coal Co.	Kurle	El Paso	James Ralston	Colorado Springs	A. O. Hoffman	Colorado Springs	None	Hollins	11	6
Danville Coal Co.	Danville	El Paso	James Ralston	Colorado Springs	James Halston	Colorado Springs	None	Hollins	11	6
Francisville Coal Co.	Francisville	El Paso	James Ralston	Colorado Springs	Edwin Howells	Colorado Springs	None	Hollins	11	6
Thomas Mining Co.	Thomas	El Paso	J. R. Young	Colorado Springs	F. Sevelk	Colorado Springs	None	Hollins	11	6
Drennan Coal Co.	Drennan	El Paso	B. H. Ward	Colorado Springs	None	Colorado Springs	None	Hollins	11	6
Golden Dawn Coal Co.	Golden Dawn	El Paso	Arthur Kopp	Yoder	Arthur Kopp	Yoder	None	Hollins	11	6
Cottonwood Coal Co.	Cottonwood	El Paso	Arthur Kopp	Yoder	F. Sevelk	Yoder	None	Hollins	11	6
Colorado Fuel & Iron Co.	Rockvale No. 2	Premont	H. L. Hair	Pueblo	J. D. Crilum	Rockvale	A. T. & S. F.	Laramie Canon	3	9
Colorado Fuel & Iron Co.	Nonam	Premont	H. L. Hair	Pueblo	W. J. Davis	Canon City	A. T. & S. F.	Laramie Canon	3	9
Victor-American Fuel Co.	Chandler	Premont	B. W. Snodgrass	Denver	James Cameron	Chandler	D & R G W	Laramie Canon	3	9
Canon-Belliance Coal Co.	Wolf Park (Canon)	Premont	H. H. Plunkney	Pannon City	Nicholas Richards	Pannon City	A. T. & S. F.	Wolf Park	1.4 to 6	6
Double Dick Coal Co.	Double Dick	Premont	None	Canon City	Tony Santarilli	Canon City	None	Wolf Park	1.4 to 6	6
Quilman Coal Co.	Quilman	Premont	None	Canon City	John Gulliano	Canon City	None	Wolf Park	1.4 to 6	6
Bluff Springs Coal Co.	Bluff Springs No. 2	Premont	C. J. Caldwell	Canon City	Bluff Springs	Canon City	A. T. & S. F.	Wolf Park	1.4 to 6	6
Orechio Coal M. Co.	Orechio	Premont	Thomas Orechio	Canon City	Frank Orechio	Canon City	None	Wolf Park	1.4 to 6	6
Canon-Imperial Coal Co.	Canon Imperial (Carbon)	Premont	David Griffiths	Florence	A. V. Madonna	Florence	None	Wolf Park	1.4 to 6	6
Griffiths Coal Co.	Griffiths	Premont	David Griffiths	Canon City	W. H. Griffiths	Canon City	None	Wolf Park	1.4 to 6	6
Canon Coal Mining Co.	Canon	Premont	None	Canon City	Thomas Griffiths	Canon City	A. T. & S. F.	Wolf Park	1.4 to 6	6
Hoecho Coal Co.	Hoecho	Premont	None	Canon City	John Hoecho	Canon City	None	Wolf Park	1.4 to 6	6
Heer Coal Co.	Heer	Premont	None	Canon City	Wm. J. Boer	Canon City	None	Wolf Park	1.4 to 6	6
Canon District Coal Co.	Canon District	Premont	None	Canon City	M. E. Sommersville	Canon City	None	Wolf Park	1.4 to 6	6
Newman Coal Co.	Newman	Premont	None	Canon City	James Sommersville	Canon City	None	Wolf Park	1.4 to 6	6
Perlin Coal Co.	Perlin	Premont	None	Canon City	James Sommersville	Canon City	A. T. & S. F.	Wolf Park	1.4 to 6	6
Canon Quality Coal Co.	Canon Quality	Premont	None	Canon City	James Sommersville	Canon City	A. T. & S. F.	Wolf Park	1.4 to 6	6
Willie Coal Co.	Willie	Premont	None	Canon City	Paul Carastia	Canon City	None	Wolf Park	1.4 to 6	6
Sam Perry	Perry	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
New Castle Coal Co.	New Castle	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Gilson Asphaltum Co.	Carbonera	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Rifle Coal Mines, Inc.	North Canon	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
South Canon Mine Leasing Co.	South Canon	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Rifle Coal Co.	McLeath	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Hauman Coal Co.	Hauman	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Frank Do Boy	Frank Do Boy	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Morgan Coal Co.	Silt	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Angelo Helldt	Paradise	Premont	None	Canon City	None	Canon City	None	Wolf Park	1.4 to 6	6
Calumet Fuel Co.	Somersel	Gunnison	W. D. Brennan	Salt Lake City, Utah	Robt. Williams	Somersel	D & R G W	Mesa Verde	12	6
Colorado Fuel & Iron Co.	Crested Butte	Gunnison	R. L. Hair	Pueblo	J. R. MacDougall	Crested Butte	D & R G W	Mesa Verde	12	6
Columbine Anthracite Co.	Horace	Gunnison	L. L. Hair	Denver	W. H. Kerr	Crested Butte	D & R G W	Mesa Verde	12	6
Crested Butte Anthracite M. Co.	Smith-Anthracite	Gunnison	L. L. Hair	Denver	W. H. Kerr	Crested Butte	D & R G W	Mesa Verde	12	6
Crested Butte Coal Co.	Holkey No. 2	Gunnison	J. M. Page	Denver	J. J. McIntyre	Crested Butte	D & R G W	Mesa Verde	12	6
Oliver Coal Co.	Oliver	Gunnison	C. L. Oliver	Somersel	C. L. Oliver	Somersel	In construction	Mesa Verde	21	6
Rocky Mountain Fuel Co.	Alpine	Gunnison	Merle D. Vincent	Denver	James Jordan	Baldwin	D & R G W	Mesa Verde	21	6
Ohio Creek Coal Co.	Ohio Creek	Gunnison	Geo. D. Mansville	Baldwin	Robt. Donaldson	Baldwin	D & R G W	Mesa Verde	21	6
Western Fuel Co.	La Plante	Gunnison	Louis Simillan	Denver	D. D. La Plante	Baldwin	D & R G W	Mesa Verde	21	6
Haldwin Fuel Co.	Baldwin Star	Gunnison	Louis Simillan	Denver	James Hare	Baldwin	D & R G W	Mesa Verde	21	6
S. & R. Coal Co.	S. & R.	Gunnison	None	Canon City	Stuart Anderson	Gunnison	D & R G W	Mesa Verde	21	6
Colorado Fuel & Iron Co.	Robinson No. 1	Huerfano	R. L. Hair	Pueblo	J. L. McFray	Walton	C & S & D & R G W	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Robinson No. 2	Huerfano	R. L. Hair	Pueblo	J. L. McFray	Walton	C & S & D & R G W	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Picou	Huerfano	R. L. Hair	Pueblo	J. L. McFray	Walton	C & S & D & R G W	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Cameron	Huerfano	R. L. Hair	Pueblo	J. L. McFray	Walton	C & S	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Keller No. 2	Huerfano	H. L. Hair	Pueblo	E. O. Wilton	Tloga	D & R G W	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Lesler	Huerfano	H. L. Hair	Pueblo	E. O. Wilton	Tloga	D & R G W	Laramie Formation	5 to 6	6
Colorado Fuel & Iron Co.	Lesler	Huerfano	H. L. Hair	Pueblo	E. O. Wilton	Tloga	D & R G W	Laramie Formation	5 to 6	6
Calumet Fuel Co.	Calumet No. 1	Huerfano	W. D. Brennan	Salt Lake City, Utah	James R. Cameron	Declarion	D & R G W	Laramie Formation	5 to 6	6
Calumet Fuel Co.	Calumet No. 2	Huerfano	W. D. Brennan	Salt Lake City, Utah	James R. Cameron	Declarion	D & R G W	Laramie Formation	5 to 6	6
Alamo Coal Co.	Alamo	Huerfano	W. S. Gelchell	Alamo	James Hamilton	Alamo	C & S & D & R G W	Mesa Verde	6 to 10	6
Barbour Coal Co.	Barbour	Huerfano	W. S. Gelchell	Alamo	James Hamilton	Alamo	C & S & D & R G W	Mesa Verde	6 to 10	6
Oakdale Coal Co.	Oakdale	Huerfano	W. S. Gelchell	Alamo	W. D. Morgan	Oakdale	D & R G W	Mesa Verde	6 to 10	6
Callen Coal Co.	Havenwood	Huerfano	S. M. Thompson	Ravenwood	W. D. Morgan	Havenwood	C & S	Mammoth	10	6
Callen Coal Co.	Mallard	Huerfano	S. M. Thompson	Mallard	W. D. Morgan	Mallard	D & R G W	Mammoth	10	6
Gordon Coal Co.	Gordon	Huerfano	James H. Dick	Walsenburg	H. H. Elkin	Gordon	D & R G W	Mammoth	10	6
Aggie Coal M. Co.	Toltec	Huerfano	George Fruth	Denver	S. B. Smith	Toltec	D & R G W	Mammoth	10	6
Pryor M. Co.	Pryor	Huerfano	W. H. Marshall	Denver	W. H. Dapovan	Pryor	D & R G W	Mammoth	10	6
Mutual Coal Co.	Mutual	Huerfano	F. McDermott	Denver	W. L. Dixon	Walsenburg	D & R G W	Mammoth	10	6
Torrid Coal M. Co.	Torrid	Huerfano	George Fruth	Denver	T. J. Stone	Ruby	C & S	Mammoth	10	6
Wm. Peachey & Associates	Ojo Canon	Huerfano	Robt. Turner	La Vela	Wm. Peachey	La Vela	D & R G W	Mammoth	10	6
Minnesota Fuel Co.	Verde	Huerfano	John G. Caddell	Walsenburg	Robt. Turner	Walsenburg	D & R G W	Mammoth	10	6
Pacific Coal M. Co.	Pacific	Huerfano	John G. Caddell	Walsenburg	Robt. Turner	Walsenburg	D & R G W	Mammoth	10	6
Sunshine Coal M. Co.	Sunshine	Huerfano	John G. Caddell	Walsenburg	Robt. Turner	Walsenburg	D & R G W	Mammoth	10	6
Frank & Stone	Leader	Huerfano	George Fruth	Denver	R. T. Bell	Pryor	D & R G W	Mammoth	10	6
Sleeve Maltby & Sons	Bunker Hill	Huerfano	None	Agular	Sleeve Maltby	Agular	None	Mammoth	10	6
Bunker Hill Fuel Co.	Bunker Hill No. 2	Huerfano	None	Agular	James Glogo	Agular	None	Mammoth	10	6
D. M. Russell	Caddell	Huerfano	None	Agular	D. M. Russell	Agular	None	Mammoth	10	6
North Park Coal Co.	Moore No. 1	Jackson	R. W. Moore, Jr.	Walden	Wm. C. Bradford	Walden	L. N. P. W.	Mammoth	10	6
George M. Barnell	Star	Jackson	None	Walden	Geo. M. Barnell	Walden	None	Mammoth	10	6
Geo. W. Davidson	Mitchell	Jackson	None	Walden	Geo. W. Davidson	Walden	None	Mammoth	10	6
Conrad Coal Co.	Conrad	Jackson	None	Walden	Lee Conrad	Walden	None	Mammoth	10	6
Leyden Lignite Co.	Leyden	Jackson	None	Walden	E. H. McFray	Leyden	D & R G W	Mammoth	10	6
Gold Fuel Co.	Christensen	Jefferson	None	Walden	E. E. Daniels	Leyden	D & R G W	Mammoth	10	6
Allied Clay & Fuel Corp.	Sharon	Jefferson	None	Walden	None	Leyden	D & R G W	Mammoth	10	6
American Smelting & Ref. Co.	San Juan	La Plata	R. E. H. Pomeroy	Durango	O. P. Chisholm	Durango	R. G. S.	Mesa Verde	3	6
Durango Coal Co.	Durango	La Plata	Joe Murphy	Durango	None	Durango	H. G. S.	Mesa Verde	3	6
Triangle Coal Co.	Triangle	La Plata	W. H. Keck	Durango	None	Durango	None	Mesa Verde	3	6
O. K. Coal Co.	O. K.	La Plata	None	Durango	Tom Owen	Durango	None	Mesa Verde	3	6
Black Diamond Coal Co.	Black Diamond	La Plata	Joseph McColl	Durango	James D. Luzzo	Durango	None	Mesa Verde	3	6
Castle Coal Co.	Castle	La Plata	None	Durango	None	Durango	None	Mesa Verde	3	6
Sunshine Coal Co.	Sunshine	La Plata	None	Durango	K. P. Pierce	Durango	R. G. S.	Mesa Verde	3	6
Champion Coal M. Co.	Pearless	La Plata	Leo McCormick	Durango	None	Durango	None	Mesa Verde	3	6
Baudino & Co.	Morning Star	La Plata	John Baudino	Durango	None	Durango	None	Mesa Verde	3	6
I rank Tipotach	Tipotach	La Plata	John Baudino	Durango	None	Durango	None	Mesa Verde	3	6
Pine River Coal Co.	Pine River	La Plata	None	Bayfield	Chas. Hatcherell	Bayfield	None	Mesa Verde	3	6
Valley View Coal Co.	Valley View	La Plata	None	Bayfield	J. D. Hidding	Bayfield	None	Mesa Verde	3	6
Shamrock Mine Co.	Shamrock	La Plata	None	Bayfield	Dan Richardson	Bayfield	None	Mesa Verde	3	6
Dan Richardson	Excelsior	La Plata	None	Bayfield	Dan Richardson	Bayfield	None	Mesa Verde	3	6
El Lewis Farmers Coal Co.	El Lewis	La Plata	None	Kline	W. C. Martin	Kline	None	Mesa Verde	3	6
Wm. Hunt	Hunt	La Plata	None	Hesperus	Wm. Hunt	Hesperus	None	Mesa Verde	3	6
H. J. Rasmussen	Crawford	La Plata	None	Hesperus	H. J. Rasmussen	Hesperus	None	Mesa Verde	3	6
Colorado Fuel & Iron Co.	Frederick	Las Animas	H. L. Hair	Pueblo	A. M. Riddle	Valdez	C & W	Laramie Formation	4 to 5	6
Colorado Fuel & Iron										



Wm. Hunt	Hunt	La Plata	Rogers	Wm. Hunt	Hesperus	None	Mesa Verde
R. J. Hammison	Crawford	La Plata	Hesperus	H. J. Hammison	Hesperus	C & W	Laramie Formation
Colorado Fuel & Iron Co.	Frederick	Las Animas	Pueblo	A. M. Hiddle	Pueblo	A T & S L	Laramie Formation
Colorado Fuel & Iron Co.	Morley	Las Animas	Pueblo	E. T. Baker	Pueblo	C & S	Laramie Formation-Berwind
Colorado Fuel & Iron Co.	Taylor	Las Animas	Pueblo	F. C. Bennett	Pueblo	C & S	Laramie-Hastings-Berwind
Colorado Fuel & Iron Co.	Tobacco	Las Animas	Denver	J. C. Bennett	Denver	C & S	Laramie Formation
Victor-American Fuel Co.	Tobacco	Las Animas	Denver	James Struthers	Denver	C & S	Laramie Formation
American Smelting & Ref. Co.	Tobacco	Las Animas	Denver	C. B. Garrett	Denver	C & S	Laramie Formation
Temple Fuel Co.	Tobacco	Las Animas	Denver	Alex Shields	Denver	C & S	Laramie Formation
Victoria Coal Co.	Tobacco	Las Animas	Denver	James McIlwain	Denver	C & S	Laramie Formation
Empire Coal M. Co.	Tobacco	Las Animas	Denver	W. Hoop	Denver	C & S	Laramie Formation
Royal Fuel Co.	Tobacco	Las Animas	Denver	R. H. Heston	Denver	C & S	Laramie Formation
Huerfano Coal Co.	Tobacco	Las Animas	Denver	F. McDermott	Denver	C & S	Laramie Formation
Dick Coal Co.	Tobacco	Las Animas	Denver	Pete G. Miller	Denver	C & S	Laramie Formation
Jewel Collieries Corp.	Tobacco	Las Animas	Denver	H. H. Elkin	Denver	C & S	Laramie Formation
Bear Canon Coal Co.	Tobacco	Las Animas	Denver	James McKeown	Denver	C & S	Laramie Formation
National Fuel Co.	Tobacco	Las Animas	Denver	Eph. Wagstaff	Denver	C & S	Laramie Formation
Anchor Fuel Co.	Tobacco	Las Animas	Denver	C. Langowick	Denver	C & S	Laramie Formation
Anchor Fuel Co.	Tobacco	Las Animas	Denver	S. C. Dolamore	Denver	C & S	Laramie Formation
Rome Fuel & Supply Co.	Tobacco	Las Animas	Denver	Ell. Jeffries	Denver	C & S	Laramie Formation
Jeffries Fuel Co.	Tobacco	Las Animas	Denver	Wm. Morgan	Denver	C & S	Laramie Formation
Wm. Morgan	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
Prairie Canon Coal Co.	Tobacco	Las Animas	Denver	Jas. Wilson	Denver	C & S	Laramie Formation
Jas. Wilson	Tobacco	Las Animas	Denver	Geo. Gulley	Denver	C & S	Laramie Formation
Santa Fe Coal Co.	Tobacco	Las Animas	Denver	Mike Davish	Denver	C & S	Laramie Formation
Julian Coal Co.	Tobacco	Las Animas	Denver	Port Honglo	Denver	C & S	Laramie Formation
Davich Coal Co.	Tobacco	Las Animas	Denver	John Delosso	Denver	C & S	Laramie Formation
Boughla Coal Co.	Tobacco	Las Animas	Denver	J. H. Willon	Denver	C & S	Laramie Formation
John Delosso	Tobacco	Las Animas	Denver	P. B. Joerges	Denver	C & S	Laramie Formation
Willon Coal Co.	Tobacco	Las Animas	Denver	Nick Riggle	Denver	C & S	Laramie Formation
Joerges Coal Co.	Tobacco	Las Animas	Denver	Julian Valdez	Denver	C & S	Laramie Formation
Nick Riggle	Tobacco	Las Animas	Denver	Waller Marsh	Denver	C & S	Laramie Formation
Valdez Coal Co.	Tobacco	Las Animas	Denver	John Cox	Denver	C & S	Laramie Formation
Waller Marsh	Tobacco	Las Animas	Denver	Mine closed	Denver	C & S	Laramie Formation
Sarello Coal Co.	Tobacco	Las Animas	Denver	Louis Julian	Denver	C & S	Laramie Formation
Ralph Martinez	Tobacco	Las Animas	Denver	John Cox	Denver	C & S	Laramie Formation
Agullar Coal Co.	Tobacco	Las Animas	Denver	Mine closed	Denver	C & S	Laramie Formation
John S. Vigil	Tobacco	Las Animas	Denver	D. M. McNell	Denver	C & S	Laramie Formation
Brown & Cutturo	Tobacco	Las Animas	Denver	Harry G. Koch	Denver	C & S	Laramie Formation
Black Hawk Coal Co.	Tobacco	Las Animas	Denver	Walter Scott	Denver	C & S	Laramie Formation
J. A. Hollingsworth	Tobacco	Las Animas	Denver	W. C. Gilmore	Denver	C & S	Laramie Formation
McNeil Coal Corporation	Tobacco	Las Animas	Denver	W. S. Clark	Denver	C & S	Laramie Formation
Pallade Coal & Supply Co.	Tobacco	Las Animas	Denver	Clyde L. Faris	Denver	C & S	Laramie Formation
Garfield Coal Co.	Tobacco	Las Animas	Denver	John McQuinn	Denver	C & S	Laramie Formation
Clark Coal Co.	Tobacco	Las Animas	Denver	W. D. Stokes	Denver	C & S	Laramie Formation
Stove Canon Mine Co.	Tobacco	Las Animas	Denver	Myron D. Williams	Denver	C & S	Laramie Formation
Huerfano Coal Co.	Tobacco	Las Animas	Denver	Joe Cardone	Denver	C & S	Laramie Formation
W. D. Stokes	Tobacco	Las Animas	Denver	R. J. Campbell	Denver	C & S	Laramie Formation
Williams Coal Co.	Tobacco	Las Animas	Denver	August Miller	Denver	C & S	Laramie Formation
Williams Mutual Coal Co.	Tobacco	Las Animas	Denver	Wm. McGinley	Denver	C & S	Laramie Formation
Hidden Treasure Coal Co.	Tobacco	Las Animas	Denver	Joseph Allen	Denver	C & S	Laramie Formation
B. Gearhart	Tobacco	Las Animas	Denver	Naugle Grasso	Denver	C & S	Laramie Formation
Anchor Coal Co.	Tobacco	Las Animas	Denver	L. A. Fields	Denver	C & S	Laramie Formation
Thomas Coal Co.	Tobacco	Las Animas	Denver	Carl Wilson	Denver	C & S	Laramie Formation
Wm. McGinley	Tobacco	Las Animas	Denver	L. E. Blair	Denver	C & S	Laramie Formation
Mt. Lincoln Coal Co.	Tobacco	Las Animas	Denver	H. H. Clay	Denver	C & S	Laramie Formation
Midwest Dev. Corp.	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
Penceck Coal Co.	Tobacco	Las Animas	Denver	Chas. Taylor	Denver	C & S	Laramie Formation
Liberty Coal Co.	Tobacco	Las Animas	Denver	E. E. Whitlock	Denver	C & S	Laramie Formation
Naugle Grasso	Tobacco	Las Animas	Denver	Joe Kner	Denver	C & S	Laramie Formation
Fields & Wertz	Tobacco	Las Animas	Denver	J. C. Rumberg	Denver	C & S	Laramie Formation
Ute Coal Co.	Tobacco	Las Animas	Denver	Hugh Howd	Denver	C & S	Laramie Formation
Blair Coal Co.	Tobacco	Las Animas	Denver	A. F. Hopper	Denver	C & S	Laramie Formation
Moffat Co. Pinnacle Coal Co.	Tobacco	Las Animas	Denver	B. W. Morris	Denver	C & S	Laramie Formation
Geo. Wertz	Tobacco	Las Animas	Denver	George Stakish	Denver	C & S	Laramie Formation
Chas. Taylor	Tobacco	Las Animas	Denver	I. Willden	Denver	C & S	Laramie Formation
E. E. Whitlock	Tobacco	Las Animas	Denver	H. A. Alsworth	Denver	C & S	Laramie Formation
Joe Kner	Tobacco	Las Animas	Denver	Wm. J. Oberding	Denver	C & S	Laramie Formation
Mancos Coal & Fuel Co.	Tobacco	Las Animas	Denver	H. E. Hlee	Denver	C & S	Laramie Formation
G. B. Cushman	Tobacco	Las Animas	Denver	Wm. Hughes	Denver	C & S	Laramie Formation
Cortez Coal Co.	Tobacco	Las Animas	Denver	E. C. Hamby	Denver	C & S	Laramie Formation
G. W. Morris	Tobacco	Las Animas	Denver	E. C. Hamby	Denver	C & S	Laramie Formation
George Stakish	Tobacco	Las Animas	Denver	E. C. Hamby	Denver	C & S	Laramie Formation
Willden Coal Co.	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
H. A. Alsworth	Tobacco	Las Animas	Denver	Walter Mishork	Denver	C & S	Laramie Formation
Wm. J. Oberding	Tobacco	Las Animas	Denver	Thos. D. Foreman	Denver	C & S	Laramie Formation
Chas. A. Rice & Sons	Tobacco	Las Animas	Denver	James Copely	Denver	C & S	Laramie Formation
Claude Johnson	Tobacco	Las Animas	Denver	J. D. Ford	Denver	C & S	Laramie Formation
C. E. Nix	Tobacco	Las Animas	Denver	L. E. Jones	Denver	C & S	Laramie Formation
M. B. Brooks	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
Flacita Coal M. Co.	Tobacco	Las Animas	Denver	It. C. Reinau	Denver	C & S	Laramie Formation
Electric Coal Co.	Tobacco	Las Animas	Denver	R. M. Modill	Denver	C & S	Laramie Formation
Electric Coal Co.	Tobacco	Las Animas	Denver	R. M. Perry	Denver	C & S	Laramie Formation
Electric Coal Co.	Tobacco	Las Animas	Denver	Geo. T. Rolles	Denver	C & S	Laramie Formation
Electric Coal Co.	Tobacco	Las Animas	Denver	H. A. Mallot	Denver	C & S	Laramie Formation
Lion Canon Coal Co.	Tobacco	Las Animas	Denver	R. A. Pierce	Denver	C & S	Laramie Formation
Thos. D. Foreman	Tobacco	Las Animas	Denver	G. O. Arnold	Denver	C & S	Laramie Formation
S. L. Peary	Tobacco	Las Animas	Denver	G. O. Arnold	Denver	C & S	Laramie Formation
J. D. Ford	Tobacco	Las Animas	Denver	Frank Andrew	Denver	C & S	Laramie Formation
Jones & Trachta	Tobacco	Las Animas	Denver	John T. Sille	Denver	C & S	Laramie Formation
Crawford Coal Co.	Tobacco	Las Animas	Denver	Albert E. Oliver	Denver	C & S	Laramie Formation
R. C. Reinau	Tobacco	Las Animas	Denver	D. V. McNell	Denver	C & S	Laramie Formation
Moffat Coal Co.	Tobacco	Las Animas	Denver	John T. Milla	Denver	C & S	Laramie Formation
Moffat Coal Co.	Tobacco	Las Animas	Denver	E. Gwynn	Denver	C & S	Laramie Formation
Moffat Coal Co.	Tobacco	Las Animas	Denver	Alex Walker	Denver	C & S	Laramie Formation
Colorado & Utah Coal Co.	Tobacco	Las Animas	Denver	H. F. Smith	Denver	C & S	Laramie Formation
Hayden Brothers Coal Co.	Tobacco	Las Animas	Denver	Joseph Micheletti	Denver	C & S	Laramie Formation
Victor-American Fuel Co.	Tobacco	Las Animas	Denver	John Ritchneg	Denver	C & S	Laramie Formation
Victor-American Fuel Co.	Tobacco	Las Animas	Denver	Chris Panch	Denver	C & S	Laramie Formation
Kryatone Coal Co.	Tobacco	Las Animas	Denver	G. H. Franz	Denver	C & S	Laramie Formation
Fraker Coal Co.	Tobacco	Las Animas	Denver	James E. Wertz	Denver	C & S	Laramie Formation
Pinnacle-Kimmerer Fuel Co.	Tobacco	Las Animas	Denver	John Babinon	Denver	C & S	Laramie Formation
McNeil Coal Corp.	Tobacco	Las Animas	Denver	C. C. Amos	Denver	C & S	Laramie Formation
Baloon Coal Co.	Tobacco	Las Animas	Denver	John Matthews, Jr.	Denver	C & S	Laramie Formation
Seven Points Coal Co.	Tobacco	Las Animas	Denver	Tom Chergo	Denver	C & S	Laramie Formation
Hayden Valley Mutual Coal Co.	Tobacco	Las Animas	Denver	S. J. Royers	Denver	C & S	Laramie Formation
Edna Coal Co.	Tobacco	Las Animas	Denver	Wm. Marplot	Denver	C & S	Laramie Formation
Guth & Micheltti	Tobacco	Las Animas	Denver	Henry Thomas	Denver	C & S	Laramie Formation
Indian Creek Coal M. Co.	Tobacco	Las Animas	Denver	D. A. Kerr	Denver	C & S	Laramie Formation
John Ritchneg	Tobacco	Las Animas	Denver	James McHadden	Denver	C & S	Laramie Formation
Trout Creek Coal Co.	Tobacco	Las Animas	Denver	Geo. Mathews	Denver	C & S	Laramie Formation
G. H. Franz	Tobacco	Las Animas	Denver	Geo. Mathews	Denver	C & S	Laramie Formation
R. H. Zimmerman	Tobacco	Las Animas	Denver	R. S. Hubbard	Denver	C & S	Laramie Formation
John Babinon	Tobacco	Las Animas	Denver	Jan. Huelman	Denver	C & S	Laramie Formation
Amos Coal Co.	Tobacco	Las Animas	Denver	John B. McNell	Denver	C & S	Laramie Formation
John Matthews, Jr.	Tobacco	Las Animas	Denver	J. N. Mathews	Denver	C & S	Laramie Formation
Tom Chergo	Tobacco	Las Animas	Denver	Thos. Morgan	Denver	C & S	Laramie Formation
S. J. Royers	Tobacco	Las Animas	Denver	Chas. Lilley	Denver	C & S	Laramie Formation
Wm. Marplot	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
H. E. Hopper	Tobacco	Las Animas	Denver	No report submitted	Denver	C & S	Laramie Formation
Rocky Mountain Fuel Co.	Tobacco	Las Animas	Denver	Coy Blinn	Denver	C & S	Laramie Formation
Rocky Mountain Fuel Co.	Tobacco	Las Animas	Denver	L. J. Gray	Denver	C & S	Laramie Formation
Boulder Valley Fuel Co.	Tobacco	Las Animas	Denver	Gen. A. Greenwood	Denver	C & S	Laramie Formation
National Fuel Co.	Tobacco	Las Animas	Denver	C. H. Richards	Denver	C & S	Laramie Formation
Clayton Coal Co.	Tobacco	Las Animas	Denver	R. B. Merion	Denver	C & S	Laramie Formation
Imperial Coal Co.	Tobacco	Las Animas	Denver	Pio Michelli	Denver	C & S	Laramie Formation
Consolidated Coal & Coke Co.	Tobacco	Las Animas	Denver	Lebanon	Denver	C & S	Laramie Formation
McNeil Coal Corp.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
W. E. Russell Coal Co.	Tobacco	Las Animas	Denver	Rapson	Denver	C & S	Laramie Formation
Shamrock Coal Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
Lilley Coal & Land Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
Frederick Slope Coal Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
Franklin Coal Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
White Ash Coal Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
*L. J. Gray	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
*Geo. A. Greenwood	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
*C. H. Richards	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
*Walker Coal & Cattle Co.	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation
*Pio Michelli	Tobacco	Las Animas	Denver	Crail	Denver	C & S	Laramie Formation

\*Mines designated by (\*) were filed to late to be listed in their proper places.  
Table No. 2 omitted



TABLE No. 3

VENTILATING EQUIPMENT OF COAL MINES IN STATE OF COLORADO FOR THE YEAR ENDING DECEMBER 31, 1929











TABLE No. 4

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1929.

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
Aguilar Coal Co.	Fawcett	.....	.....	242	.....	242	.....	.....	.....
Ainsworth, H. A.	Pinos Altos	.....	.....	237	.....	237	.....	25	.....
Alamo Coal Co.	Alamo	.....	6	55,780	53,321	109,101	125	.....	12,181
Allan, David	Crown	.....	1	.....	11,169	11,169	3,500	200	.....
Allied Clay & Fuel Co.	Sharon	.....	.....	386	.....	386	.....	.....	.....
American Smelting & Ref. Co.	San Juan	.....	.....	21,320	.....	21,320	.....	.....	3,625
American Smelting & Ref. Co.	Boncarbo	1	8	89,139	130,042	219,181	.....	594	27,357
Amos Coal Co.	Amos	.....	.....	172	.....	172	175	.....	.....
Anchor Coal Co.	Anchor No. 1	.....	.....	755	.....	755	155	.....	.....
Anchor Fuel Co.	Anchor (Eureka)	.....	.....	9,317	.....	9,317	.....	.....	1,800
Anchor Fuel Co.	Baldy	.....	.....	2,495	.....	2,495	.....	.....	350
Aztec Coal M. Co.	Toitce	.....	6	4,705	49,833	54,538	.....	965	6,075
Babson Coal Co.	Babson	.....	.....	2,472	.....	2,472	500	.....	.....
Bainton, John	Walter	.....	.....	259	.....	259	175	.....	.....
Baldwin Fuel Co.	Baldwin Star	.....	.....	1,896	.....	1,896	500	.....	.....
Bear Coal Co.	Alamo No. 2	.....	5	20,720	65,127	85,847	.....	2,600	10,625
Barker, Wright	Wright	.....	.....	808	.....	808	400	.....	.....
Barnell, Geo. M.	Mart	.....	.....	3,236	.....	3,236	5,000	.....	50
Baudino & Co.	Morning Star	.....	.....	3,779	.....	3,779	750	.....	.....
Bear Canon Coal Co.	Bear Canon No. 6	.....	6	18,145	43,201	61,346	.....	.....	4,250
Beer Coal Co.	Jack O'Lantern	.....	.....	2,960	.....	2,960	.....	.....	.....

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1929

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
Bellodi, Angelo.....	Paradise.....	.....	.....	71	.....	71	.....	.....	.....
Black Diamond Coal Co.....	Black Diamond.....	.....	.....	5,277	.....	5,277	1,250	.....	.....
Black Diamond Fuel Co.....	Black Diamond.....	3	.....	.....	27,800	27,800	8,000	200	.....
Black Hawk Coal Co.....	Black Hawk.....	.....	.....	161	.....	161	25	.....	.....
Blair Coal Co.....	Blair.....	.....	.....	1,180	.....	1,180	600	.....	.....
Bluff Springs Coal Co.....	Bluff Springs No. 2.....	.....	1	.....	18,389	18,389	500	1,600	.....
Braglio Coal Co.....	Pickford.....	.....	.....	760	.....	760	500	.....	.....
Boulder Valley Coal Co.....	Boulder Valley.....	6	9	.....	370,948	370,948	81,832	.....	8,000
Brooks, M. B.....	Liberty Bell.....	.....	.....	44	.....	44	.....	.....	.....
Brown & Puttaro.....	Flag.....	.....	.....	179	.....	179	.....	.....	.....
Bunker Hill Fuel Co.....	Bunker Hill No. 2.....	.....	.....	769	.....	769	.....	.....	150
Burnittall Fuel Co.....	Burnittall.....	.....	.....	411	.....	411	.....	.....	.....
Caliente Coal Co.....	Ravenwood.....	6	.....	19,844	40,525	60,369	.....	.....	15,685
Caliente Coal Co.....	Maitland.....	2	.....	1,290	28,019	29,309	.....	250	2,850
Calumet Fuel Co.....	Somerset.....	5	.....	53,893	145,347	199,240	.....	.....	24,800
Calumet Fuel Co.....	Calumet No. 1.....	10	.....	45,983	181,291	227,274	.....	.....	30,015
Calumet Fuel Co.....	Calumet No. 2.....	6	.....	235	60,757	60,992	.....	.....	9,725
Canon Coal M. Co.....	Brewster.....	1	.....	.....	3,260	3,260	100	.....	.....
Canon District Coal Co.....	Canon District.....	.....	.....	.....	2,440	2,440	450	95	.....
Canon Imperial Coal Co.....	Canon-Imperial.....	1	.....	.....	7,374	7,374	3,300	.....	100
Canon Quality Coal Co.....	South Magnet.....	1	.....	.....	1,168	1,168	.....	.....	.....

Canon-Reliance Coal Co.....	Wolf Park.....	4	4,965	79,676	79,676	23,200	900
Castle Coal Co.....	Castle.....	10	4,204	63,279	4,965	1,250	1,275
Centennial Coal Co.....	Peerless.....	.....	.....	.....	63,279	11,750	.....
Champion Coal M. Co.....	.....	.....	.....	.....	4,204	1,500	.....
Chargo, Tom.....	Chargo.....	.....	65	.....	65	150	.....
Clark Coal Co.....	Winger.....	1	8,587	6,850	6,850	.....	.....
Clayton Coal Co.....	Clayton.....	9	139,776	239,824	248,411	80,000	100
Colorado Fuel & Iron Co.....	Rockvale No. 2.....	2	.....	29,656	139,776	1,082	8,829
Colorado Fuel & Iron Co.....	Nonac.....	.....	.....	.....	29,656	5,958	.....
Colorado Fuel & Iron Co.....	Crested Butte.....	.....	112,588	.....	112,588	.....	11,764
Colorado Fuel & Iron Co.....	Robinson No. 1.....	10	113,756	140,423	254,179	.....	3,970
Colorado Fuel & Iron Co.....	Robinson No. 2.....	10	6,310	40,074	46,384	.....	19,989
Colorado Fuel & Iron Co.....	Pictou.....	11	86,875	124,967	211,842	.....	16,284
Colorado Fuel & Iron Co.....	Colorado Fuel & Iron Co.....	2	100,218	92,048	192,266	.....	19,780
Colorado Fuel & Iron Co.....	Cameron.....	8	38,949	62,265	101,214	.....	332
Colorado Fuel & Iron Co.....	Keblor No. 2.....	.....	34,873	.....	34,873	.....	11,806
Colorado Fuel & Iron Co.....	Lester.....	.....	32,541	.....	32,541	.....	129,379
Colorado Fuel & Iron Co.....	Ideal.....	2	482,151	16,575	498,726	.....	760
Colorado Fuel & Iron Co.....	Frederick.....	.....	388,092	.....	388,092	.....	.....
Colorado Fuel & Iron Co.....	Morley.....	.....	.....	.....	.....	.....	.....
Colorado Fuel & Iron Co.....	Toller.....	4	185,580	21,864	207,444	940	9,095
Colorado Fuel & Iron Co.....	Tabasco.....	.....	176,155	.....	176,155	60	9,625
Colorado Springs Co.....	City Coal Mines.....	2	28,245	30,632	58,877	18,500	200
Colorado & Utah Coal Co.....	Harris.....	8	27,285	201,657	228,942	36,600	2,150
Columbine Anthracite Co.....	Horace.....	.....	43,505	.....	43,505	24,635	4,028
Conrad Coal Co.....	Conrad.....	.....	81	.....	81	75	.....
Consolidated Coal & Coke Co.....	Baum.....	7	159,415	159,415	159,415	66,350	.....
Converse, Frank.....	Converse.....	.....	75	.....	75	.....	.....
Corley, W. D.....	Corley.....	3	10,878	21,884	32,762	8,425	100
Cortez Coal Co.....	Cortez.....	.....	515	.....	515	650	20
Cottonwood Coal Co.....	Cottonwood.....	.....	554	.....	554	650	.....
Cox Coal Co.....	Cox.....	.....	283	.....	283	250	.....
Crawford Coal Co.....	Sulphur.....	.....	85	.....	85	.....	.....
Crested Butte Anthracite M. Co.....	Smith-Anthracite.....	1	24,312	24,312	24,312	2,000	100
Crested Butte Coal Co.....	Bulkley No. 2.....	.....	51,823	.....	51,823	17,833	.....
Cushman, G. B.....	Mesa Verde.....	.....	2,077	.....	2,077	250	200
Danville Coal Co.....	Climax.....	.....	3,207	.....	3,207	150	.....
Davich Coal Co.....	Davich.....	.....	955	.....	955	.....	128
Davidson, Geo. W.....	Mitchell.....	.....	114	.....	114	.....	15

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1929

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
De Boy, Frank	Ohkraut	.....	.....	463	.....	463	300	.....	.....
Deldosso, John	Sopris	.....	.....	661	.....	661	.....	.....	50
Dick Coal Co.	Dix	.....	3	.....	64,315	64,315	.....	100	12,520
Domenico, S., & Son, Inc	Paramount	.....	.....	6,419	.....	6,419	.....	.....	.....
Domestic Coal Co.	Gorham	.....	.....	.....	5,479	5,479	2,500	40	.....
Double Dick Coal Co.	Double Dick	.....	2	.....	.....	.....	.....	.....	.....
Dreannan Coal Co.	Dreannan	.....	.....	905	12,850	12,850	2,500	150	.....
Durango Coal Co.	Durango	.....	.....	9,501	.....	9,501	250	100	.....
Edna Coal Co.	Edna	.....	1	1,034	300	1,334	1,400	1,500	.....
Electric Coal Co.	Oldland	.....	.....	1,956	.....	1,956	2,500	.....	.....
Electric Coal Co.	Black Diamond	.....	.....	1,188	.....	1,188	625	.....	.....
Electric Coal Co.	McKee	.....	.....	813	.....	813	525	.....	.....
Electric Coal Co.	Pollard	.....	.....	49	.....	49	.....	.....	.....
Empire Coal M. Co.	Empire	.....	.....	86,585	.....	86,585	.....	.....	.....
Eversman Coal Co.	Eversman	.....	.....	5,342	.....	5,342	.....	.....	.....
Farmers Mutual Coal Co.	Farmer	.....	.....	1,865	.....	1,865	625	50	.....
Fields & Wertz	Hart	.....	.....	1,644	.....	1,644	1,250	.....	.....
Ford, J. P.	Ford	.....	.....	142	.....	142	125	.....	.....
Foreman, Thos. D.	Nine Mile Hill	.....	.....	936	.....	936	450	.....	.....
Fox Coal Co.	Rocky Ridge	.....	.....	950	.....	950	325	.....	.....
Fraker Coal Co.	Bear River	.....	2	34,809	33,389	68,198	6,220	.....	617



Company	Operator	Number of Mined Acres	Value of Coal	Value of Land	Value of Buildings	Value of Equipment	Value of Stock	Value of Other Assets	Total Value	Value of Coal	Value of Land	Value of Buildings	Value of Equipment	Value of Stock	Value of Other Assets	Total Value
Franceville Fuel Co.	Franceville	1	2,108	750	445	6,395	1,286	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040
Franklin Coal Co.	Withee	1	750	445	6,395	1,286	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040	2,108
Frank, G. H.	Peacock	1	445	6,395	1,286	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040	2,108	750
Frederick Slope Coal Co.	Frederick	1	6,395	1,286	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040	2,108	750	445
Fruth & Nicheletti	Premium	1	1,286	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040	2,108	750	445	6,395
Fruth & Stone	Leader No. 4	1	3,111	12,040	2,108	750	445	6,395	1,286	3,111	12,040	2,108	750	445	6,395	1,286
Ft. Lewis Farmers Coal Co.	Ft. Lewis	1	338	146	8,079	1,097	12,040	2,108	750	338	146	8,079	1,097	12,040	2,108	750
Gabriella & Sons	Pine Cliff	1	146	8,079	1,097	12,040	2,108	750	338	146	8,079	1,097	12,040	2,108	750	338
Garfield Coal Co.	Garfield	1	8,079	1,097	12,040	2,108	750	338	146	8,079	1,097	12,040	2,108	750	338	146
Gearhart, B.	P. V.	1	1,097	12,040	2,108	750	338	146	8,079	1,097	12,040	2,108	750	338	146	8,079
Gilson Asphaltum Co.	Carbonera	1	12,040	2,108	750	338	146	8,079	1,097	12,040	2,108	750	338	146	8,079	1,097
Giuliano Coal Co.	Bluff Springs No. 1	1	805	2,804	100	100	100	100	100	805	2,804	100	100	100	100	100
Golden Dawn Coal Co.	Golden Dawn	1	805	2,804	100	100	100	100	100	805	2,804	100	100	100	100	100
Good Fuel Co.	Christensen	1	2,804	100	100	100	100	100	100	2,804	100	100	100	100	100	100
Gordon Coal Co.	Gordon	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Grasso, Nunzio	Grasso	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Green Valley Coal Co.	Green Valley	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Griffiths Coal Co.	Griffiths	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Hayden Bros. Coal Corp.	Hayden No. 3	1	39,606	1,404	1,430	1,148	2,978	5,133	7,616	39,606	1,404	1,430	1,148	2,978	5,133	7,616
Hayden Valley Mutual Coal Co.	Hayden Mutual	1	1,404	1,430	1,148	2,978	5,133	7,616	147,703	1,404	1,430	1,148	2,978	5,133	7,616	147,703
Hidden Treasure Coal Co.	Hidden Treasure	1	1,430	1,148	2,978	5,133	7,616	147,703	1,404	1,430	1,148	2,978	5,133	7,616	147,703	1,404
High View Coal Co.	Rosser	1	1,148	2,978	5,133	7,616	147,703	1,404	1,430	1,148	2,978	5,133	7,616	147,703	1,404	1,430
Hollingsworth, J. A.	Ferrell	1	105	5,830	82	82	82	82	82	105	5,830	82	82	82	82	82
Home Fuel & Supply Co.	Bowen	1	5,830	82	82	82	82	82	82	5,830	82	82	82	82	82	82
Hopper, H. E.	Reliance	1	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Huerfano Coal Co.	Ludlow	1	53,699	16,192	69,891	279	205,527	2,482	1,000	53,699	16,192	69,891	279	205,527	2,482	1,000
Hunt, Wm.	Hunt	1	279	205,527	2,482	1,000	53,699	16,192	69,891	279	205,527	2,482	1,000	53,699	16,192	69,891
Imperial Coal Co.	Imperial	1	2,482	1,000	53,699	16,192	69,891	279	205,527	2,482	1,000	53,699	16,192	69,891	279	205,527
Independent Coal Co.	Independent	1	1,000	53,699	16,192	69,891	279	205,527	2,482	1,000	53,699	16,192	69,891	279	205,527	2,482
Indian Creek Coal Co.	Indian Creek	1	53,699	16,192	69,891	279	205,527	2,482	1,000	53,699	16,192	69,891	279	205,527	2,482	1,000
Jeffries Fuel Co.	Jeffries	1	5,428	18,101	47,239	500	180	92	46,684	5,428	18,101	47,239	500	180	92	46,684
Jewel Collieries Corp.	Creston	1	18,101	47,239	500	180	92	46,684	1,500	18,101	47,239	500	180	92	46,684	1,500
Joerges Coal Co.	Beshoar	1	500	180	92	46,684	1,500	23,848	33,819	500	180	92	46,684	1,500	23,848	33,819
Johnson, Claude	Tyler	1	180	92	46,684	1,500	23,848	33,819	200	180	92	46,684	1,500	23,848	33,819	200
Jones & Trachta	Douglas Creek	1	92	46,684	1,500	23,848	33,819	200	350	92	46,684	1,500	23,848	33,819	200	350
Juanita Coal & Coke Co.	King	1	46,684	1,500	23,848	33,819	200	350	2,000	46,684	1,500	23,848	33,819	200	350	2,000
Julian Coal Co.	Fairview	1	1,500	23,848	33,819	200	350	2,000	350	1,500	23,848	33,819	200	350	2,000	350
Keystone Coal Co.	Keystone	1	33,819	200	350	2,000	350	2,000	350	33,819	200	350	2,000	350	2,000	350

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1929

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
Knez, Joe.....	Knez.....	.....	.....	170	.....	170	.....	.....	.....
Kurie Coal Co.....	Kurie.....	.....	1	.....	10,367	10,367	3,000	200	.....
Leyden Lignite Co.....	Leyden No. 3.....	.....	2	39,685	55,540	95,225	17,000	.....	20,000
Liberty Coal Co.....	Nearing.....	.....	.....	172	.....	172	300	.....	.....
Liley Coal & Land Co.....	Liley.....	2	1	.....	51,724	51,724	16,400	.....	.....
Lion Canon Coal Co.....	Lion Canon.....	.....	.....	1,035	.....	1,035	.....	.....	.....
McGinley, Wm.....	McGinley.....	.....	.....	514	.....	514	2,500	.....	.....
McNeill Coal Corp.....	Cameo.....	.....	6	10,306	52,630	62,936	.....	400	10,250
McNeill Coal Corp.....	McNeill.....	.....	5	.....	24,302	24,302	3,600	18,516	.....
McNeill Coal Corp.....	Sterling.....	.....	3	5,059	98,458	103,517	.....	.....	.....
Mancos Coal & Fuel Co.....	School Sec. Lease.....	.....	.....	2,632	.....	2,632	1,200	200	.....
Marriott, Wm.....	Marriott.....	.....	.....	225	.....	225	375	.....	.....
Marsh, Walter.....	Fishers Peak.....	.....	.....	358	.....	358	.....	.....	.....
Martinez, R.....	Martinez.....	.....	.....	355	.....	355	.....	.....	.....
Mascot Coal, Oil & Clay Co.....	Mascot.....	.....	.....	1,784	.....	1,784	1,250	.....	.....
Mathews, John, Jr.....	Blue Spruce.....	.....	.....	79	.....	79	500	50	50
Mattivi, Steve & Sons.....	Bunker Hill.....	.....	.....	2,880	.....	2,880	.....	.....	150
Midwest Dev. Corp.....	Midwest.....	.....	.....	285	.....	285	.....	.....	.....
Minnequa Fuel Co.....	Vesta.....	2	.....	.....	14,082	14,082	.....	300	1,600
Moffat Coal Co.....	Oak Hills No. 1.....	3	3	40,905	52,225	93,130	16,978	959	9,067
Moffat Coal Co.....	Oak Hills No. 2.....	.....	6	49,702	51,180	100,882	13,062	958	6,924

Moffat Coal Co.	Arrowhead.....	1	6,025	6,132	12,157	3,536	50	4,478
Morgan Coal Co.	Evans.....	1	192	1,054	1,054	.....	.....	325
Morgan, Wm.	Silt.....	.....	4,991	.....	192	.....	.....	500
Morris, G. W.	La Belle.....	.....	470	.....	4,991	500	600	.....
	Morris.....	.....	.....	.....	470	.....	.....	.....
Mt. Lincoln Coal Co.	Mt. Lincoln.....	.....	500	.....	500	200	75	1,150
Mutual Coal Co.	Mutual.....	2	26,125	7,528	33,653	.....	1,500	2,260
National Fuel Co.	Monarch No. 2.....	2	3,013	99,169	102,182	40,012	.....	.....
National Fuel Co.	Thor.....	.....	37,574	.....	37,574	.....	.....	.....
National Fuel Co.	Puritan.....	2	1,408	321,950	323,358	99,886	.....	.....
New Castle Coal Co.	New Castle.....	.....	17,036	.....	17,036	.....	.....	4,000
Newlan Creek Coal Co.	Newlan.....	.....	1,924	.....	1,924	500	20	.....
New Mexico Lumber Co.	North Star.....	.....	11,732	.....	11,732	1,200	.....	.....
Nix, C. E.	Cloverdale.....	.....	100	.....	100	.....	.....	.....
North Park Coal Co.	Moore No. 1.....	2	12,952	39,955	52,887	40,000	300	.....
Nossaman, W. J.	Nossaman.....	.....	125	.....	125	150	300	5,611
Oakdale Coal Co.	Oakdale.....	.....	53,683	.....	53,683	5,334	.....	.....
Oberding, Wm. J.	Independence.....	.....	568	.....	568	275	.....	.....
Ohio Creek Coal Co.	Ohio Creek.....	1	7,097	10,705	10,705	.....	50	.....
O. K. Coal Co.	O. K.....	.....	.....	.....	7,097	2,000	.....	.....
Oliver Coal Co.	Oliver.....	.....	39,997	.....	39,997	.....	.....	9,877
Orechio Coal Co.	Brookside.....	1	.....	9,333	9,333	1,625	800	.....
Owens, R. & Sons.	Owens.....	.....	284	.....	284	250	.....	1,000
Pacific Coal M. Co.	Pacific.....	2	.....	13,966	13,966	.....	.....	3,500
Palisade Coal & Supply Co.	Palisade.....	2	.....	19,979	19,979	.....	.....	.....
Paonia Farmers Coal Co.	Paonia.....	.....	4,598	.....	4,598	250	.....	200
Peacock, Wm. & Associates.	Ojo Canon.....	*1	17,990	.....	17,990	.....	.....	1,500
Peacock Coal Co.	Peacock.....	.....	207	.....	207	.....	.....	.....
Peavy, S. L.	Fairfield.....	.....	400	.....	400	625	.....	.....
Perino Coal Co.	North Magnet.....	1	.....	1,676	1,676	1,000	900	.....
Petry, Sam.	Petry.....	.....	150	.....	150	.....	.....	.....
Pikes Peak Fuel Co.	Pikeview.....	7	89,883	156,862	246,745	.....	.....	.....
Pikes Peak Fuel Co.	Altitude.....	.....	4,052	.....	4,052	.....	.....	.....
Pine River Coal Co.	Pine River.....	.....	903	.....	903	1,225	.....	.....
Pinnacle-Kemmerer Fuel Co.	P. K. No. 1.....	2	28,777	22,963	51,740	15,163	300	1,679
Pittsburgh Coal Co.	Pittsburgh.....	.....	.....	626	626	100	.....	6,048
Placita Coal M. Co.	Placita.....	1	18,757	.....	18,757	.....	.....	.....
Prairie Canon Coal Co.	Prairie Canon.....	.....	4,828	.....	4,828	.....	.....	.....

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1929

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
Pryor Coal M. Co.	Pryor	.....	3	17,506	32,005	49,511	.....	350	6,050
Rasmussen, J. H.	Crawford	.....	.....	90	.....	90	.....	.....	.....
Rauman Coal Co.	Rauman	.....	.....	1,849	.....	1,849	2,300	100	650
Red Canon Coal Co.	Red Canon	.....	.....	4,878	.....	4,878	2,000	.....	.....
Reinart, R. C.	Reinart	.....	.....	75	.....	75	.....	.....	50
Rice, Chas. & Sons	Pleasant Valley	.....	.....	386	.....	386	650	.....	50
Richardson, Dan	Excelsior	.....	.....	375	.....	375	200	.....	150
Rifle Coal Mines, Inc.	North Canon	.....	.....	5,914	.....	5,914	.....	25	4,100
Rifle Coal Co.	McLearn	.....	.....	1,854	.....	1,854	.....	.....	.....
Rizzo, Nick	Lakeview	.....	.....	500	.....	500	.....	.....	.....
Ritchner, John	Richner	.....	.....	800	.....	800	625	.....	.....
Riverside Coal Co.	Riverside	.....	.....	3,696	.....	3,696	.....	500	.....
Rocchio Coal Co.	Rocchio	.....	1	.....	3,026	3,026	425	.....	163
Rocky Mountain Fuel Co.	Industrial	.....	7	25,228	78,645	103,873	27,850	.....	.....
Rocky Mountain Fuel Co.	Vulcan	5	.....	13,771	73,884	87,655	18,715	.....	3,292
Rocky Mountain Fuel Co.	Standard	.....	.....	.....	58,097	58,097	9,451	50	2,708
Rocky Mountain Fuel Co.	Alpine	3	.....	12,680	21,211	33,891	10,095	300	.....
Rocky Mountain Fuel Co.	Columbine	7	.....	147,078	209,621	356,699	55,500	.....	36,700
Rocky Mountain Fuel Co.	Grant	3	.....	961	162,547	163,508	44,251	.....	.....
Royal Fuel Co.	Royal	.....	.....	79,534	.....	79,534	.....	.....	50
Royers, J. S.	Royers	.....	.....	250	.....	250	250	.....	.....



Russell, A. M.	2	4,000	733	733	90,721	13,250	200	50
Russell, W. E. Coal Co.	3	2,946	86,721	86,721	2,946	13,250	200	200
Santa Fe	.....	358	.....	.....	358	.....	.....	50
Sarcillo Coal Co.	.....	1,886	.....	.....	1,886	.....	.....	.....
Seven Points Pinnacle Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....
Shamrock Coal Co.	3	460	87,544	87,544	87,544	24,350	.....	.....
Shamrock Mine Co.	.....	5,011	.....	.....	5,011	175	.....	1,800
South Canon	.....	372	.....	.....	900	750	.....	.....
S. & S. Coal Co.	.....	3,116	.....	.....	372	.....	.....	.....
Stakish, Geo.	.....	2,072	.....	.....	.....	.....	.....	.....
States-Hall Coal Co.	.....	2,010	.....	.....	3,116	1,250	.....	.....
States-Hall Coal Co.	.....	756	.....	.....	2,072	1,500	.....	.....
Stokes, W. D.	1	2,500	.....	.....	3,644	7,500	.....	600
Stove Canon Mine Co.	.....	296	.....	.....	3,712	2,750	50	.....
Sunnyside Coal M. Co.	3	51,566	95,158	7,000	7,756	.....	.....	.....
Sunnyside	.....	611	.....	.....	.....	.....	.....	.....
Sunrise Coal Co.	.....	1,213	.....	.....	2,500	100	.....	.....
Sunshine Coal Co.	.....	1,679	.....	.....	4,925	1,500	.....	.....
Taylor, Chas.	.....	21,990	.....	.....	296	.....	.....	24,000
Temple Fuel Co.	9	8,474	.....	.....	146,724	250	.....	200
Thomas Coal Co.	.....	685	.....	.....	611	.....	.....	.....
Thomas Mining Co.	.....	1,202	.....	.....	1,213	1,250	5	.....
Tipotsch, Frank	.....	455	.....	.....	1,679	.....	.....	.....
Tiptotsch	.....	798	.....	.....	21,990	.....	.....	3,600
Torrid Coal Co.	.....	17,029	.....	.....	8,474	300	.....	.....
Triangle Coal Co.	.....	229	.....	.....	685	200	.....	.....
Trout Creek Coal Co.	.....	1,730	.....	.....	.....	.....	.....	.....
Ute Coal Co.	.....	268,573	.....	.....	1,202	.....	.....	.....
Valdez Coal Co.	.....	116,764	.....	.....	455	.....	.....	500
Valley View Coal Co.	.....	7,555	.....	.....	798	750	.....	14,000
Vickers Coal Co.	4	.....	.....	.....	67,882	.....	.....	4,020
Vigil, Jose S.	.....	.....	.....	.....	229	.....	.....	.....
Victor-American Fuel Co.	15	.....	.....	.....	200,921	.....	.....	33,996
Victor-American Fuel Co.	7	.....	.....	.....	98,330	.....	.....	16,935
Victor-American Fuel Co.	5	.....	.....	.....	136,877	70,800	.....	1,682
Victor-American Fuel Co.	5	.....	.....	.....	59,428	13,301	.....	1,555
Western Fuel Co.	1	.....	.....	.....	2,544	225	50	.....
Wertz, Geo.	.....	308	.....	.....	308	.....	.....	.....
White Ash Coal Co.	.....	599	.....	.....	.....	1,300	.....	.....
Whitlock, E. E.	.....	171	.....	.....	171	400	.....	.....

TABLE No. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED  
DECEMBER 31, 1929

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
Willie Coal Co.	Willie	.....	.....	600	.....	600	.....	.....	.....
Willden Coal Co.	Willden	.....	.....	360	.....	360	.....	.....	.....
Williams Coal Co.	Williams	.....	.....	2,135	.....	2,135	.....	.....	50
Wilson, Jas.	Engle	.....	.....	3,514	.....	3,514	.....	.....	.....
Wilton Coal Co.	Pritchard	.....	.....	639	.....	639	.....	.....	.....
Winton Coal Co.	Winton	.....	.....	468	.....	468	300	.....	.....
Zimmerman, E. H.	Block	.....	.....	410	.....	410	.....	.....	.....
		61	337	4,263,728	5,670,336	9,934,064	1,229,549	43,983	718,852

• Not in use.

TABLE No. 6†

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES  
IN THE STATE OF COLORADO FOR THE YEAR ENDING  
DECEMBER 31, 1929.

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
9,934,064	8,090,095	768,375	180,476	*1,103,308	722,072

\*NOTE—208,190 tons of coal were made into coke at the mine and therefore not included in coal loaded at mines for shipment.

†Table No. 5 omitted.

TABLE No. 7

NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR  
ENDING DECEMBER 31, 1929

CAUSES	(A) Permanent Total Disability	(B) Permanent Partial Disability	(C) Temporary Disability		Total Injuries
			Time Lost More Than 14 Days	Time Lost Less Than 14 Days	
<b>Underground:</b>					
1. Falls of roof (coal, rock etc.).....	1	1	212	131	345
2. Falls of face or pillar coal.....	..	2	125	87	214
3. Mine cars and locomotives.....	....	3	236	126	365
4. Gas explosions and burning gas .....	....	....	3	2	5
5. Coal-dust explosions (including gas and dust combined) .....	....	....	....	....	....
6. Explosives .....	....	....	3	3	6
7. Suffocation from mine gas.....	....	....	....	....	....
8. Electricity .....	....	....	4	2	6
9. Animals .....	....	....	22	18	40
10. Mining machines .....	....	2	55	38	95
11. Mine fires (burned, suffocated, etc.).....	....	....	....	....	....
12. Other causes .....	....	10	225	280	515
<b>In Shaft:</b>					
13. Falling down shafts or slopes.....	....	....	....	....	....
14. Objects falling down shafts or slopes.....	....	....	4	....	4
15. Cages or skips .....	....	....	....	....	....
16. Other causes .....	....	....	3	....	3
Total number injured in mine.....	1	18	892	687	1,598
<b>On Surface:</b>					
17. Mine cars and mine locomotives .....	....	1	17	9	27
18. Electricity .....	....	....	1	1	2
19. Machinery .....	....	....	12	11	23
20. Boiler explosions or bursting steam pipes .....	....	....	....	1	1
21. Railway cars and locomotives .....	....	....	3	3	6
22. Other causes .....	....	1	31	37	69
Total number injured on the surface .....	....	2	64	62	128
Grand total .....	1	20	956	749	1,726

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, 1929

CAUSES	Foremen	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Run- ners and Scrapers	Shot Riggers	Drivers and Runners	Motormen and Assistants	Doorboys & Helpers	Crackmen and Battlemen	Timbermen and Rockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground	Surface Fatalities	Total Fatalities
<b>Underground—</b>																		
1. Falls of roof (coal, rock, etc.).....	3	.....	.....	10	7	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	22	22
2. Falls of face or pillar coal.....	.....	.....	.....	9	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	13
3. Mine cars and locomotives.....	.....	.....	.....	2	.....	.....	.....	4	1	1	.....	.....	.....	.....	.....	8	8	8
4. Gas explosions and burning gas.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5. Coal-dust explosions (including gas and dust combined).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6. Explosives.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7. Suffocation from mine gases.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8. Electricity (shock or burns).....	.....	.....	.....	.....	1	.....	.....	1	1	.....	.....	.....	.....	.....	1	4	4	4
9. Animals.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	1
10. Mining machines.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11. Mine fires (burned, suffocated, etc.).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12. Other causes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	1
<b>Shaft—</b>																		
13. Falling down shafts or slopes.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	2	2	2
14. Objects falling down shafts or slopes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15. Cages or skips.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16. Other causes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total underground.....	3	.....	.....	21	11	2	.....	7	2	1	.....	1	.....	.....	3	51	.....	51

TABLE No. 8—Continued

CAUSES	Foremen	Assistant Foremen	Fire Bosses	Pick Miners	Machine Miners	Machine Run- ners and Scrapers	Shot Fireers	Drivers & Runners	Motormen and Assistants	Doorboys & Helpers	Trackmen and Brakemen	Timbermen and Rockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground	Surface Fatalities	Total Fatalities
<b>Surface—</b>																		
17. Mine cars and mine locomotives.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18. Electricity (shocks or burns).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19. Machinery.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20. Boiler explosions or bursting steam pipes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21. Railway cars and locomotives.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
22. Other causes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total surface.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total.....	3	.....	.....	21	11	2	.....	7	2	1	.....	1	.....	.....	5	.....	2	53
•Number employed in each occu- pation.....	163	61	135	3,657	3,393	440	168	712	225	36	221	280	87	76	436	10,091	1,658	11,749

\*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, 1929

*UNDERGROUND		Employed in and Around the Mines of Colorado
1. Foremen .....		163
2. Assistant foremen .....		61
3. Fire bosses .....		136
4. Pick miners .....		3,657
5. Machine miners .....		3,393
6. Machine runners and scrapers .....		440
7. Shot firers .....		168
8. Drivers and runners .....		712
9. Motormen and assistants .....		225
10. Doorboys and helpers .....		36
11. Trackmen and bratticemen.....		221
12. Timbermen and rockmen .....		280
13. Pumpmen and pipemen .....		87
14. Electricians and helpers .....		76
15. All others .....		436
Total underground.....		10,091
SURFACE		
1. Superintendents .....		122
2. Foremen .....		59
3. Blacksmiths and carpenters .....		171
4. Engineers and firemen .....		211
5. Machinists and helpers .....		73
6. Trackmen and helpers .....		28
7. All others at mine .....		885
8. Coke-oven employes.....		104
9. Office employes .....		109
Total surface .....		1,762
Total employes .....		11,853
Number of days men worked during year .....		181.3

\*Table No. 9, omitted, is covered by Table No. 8. Applies to Metal Mining.  
Above poll taken in December, 1929.

TABLE A—1929

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	No. of Tons Produced per Fatal Accident	No. of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000	Injured per 1,000 Employed
Aguilar Coal Co.	242	2								23.8
Ainsworth, H. A.	237	166	3	55.3	36,367	5	17	3,117	18.1	105.3
Alamo Coal Co.	109,101	19					9.5	5,584		123.0
Allan, David	11,163	8				1	8.0	386		
Allied Fuel & Supply Co.	386									
American Smelting & Refining Co.	240,501	244	1	244.0	240,501	14	17.4	17,179	4.1	57.3
Amos Coal Co.	172	1								
Anchor Coal Co.	755	3								
Anchor Fuel Co.	11,812	51				4	12.8	2,953		78.4
Aztec Coal Mining Co.	54,538	78				2	39.0	27,269		25.6
Babson Coal Co.	2,472	3								
Bainton, John	259	1								
Baldwin Fuel Co.	1,896	7								
Barbour Coal Co.	85,847	110	1	110.0	85,847	17	6.5	5,050	9.1	154.5
Barker, Wright	808	2								
Barnell, Geo. W.	3,236	4								
Baudino & Co.	3,779	6								
Bear Canon Coal Co.	61,346	96				4	24.0	15,338		41.7
Beer Coal Co.	2,960	7				4	1.8	740		571.4
Bellodi, Angelo	71	1								
Black Diamond Coal Co.	5,277	9				1	9.0	5,277		111.1
Black Diamond Fuel Co.	27,800	23				7	3.3	3,971		304.3



[illegible]

TABLE A—Continued

COMPANIES	Total Production	Number of Men Employed	Fatal Accidents	Number of Men Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Davidson W. C.	114	1								
Deboy, Frank	463	1								
Deldosso, John	661	17								
Dick Coal Co.	64,315	72				2	36.0	32,158	50.0	27.8
Domenico & Sons, Inc.	6,419	20	1	20.0	6,419					
Domestic Coal Co.	5,479	8				8	1.0	685		1,000.0
Double Dick Coal Co.	12,850	23				9	2.6	1,428		391.3
Drennan Coal Co.	907	9								
Durango Coal Co.	9,501	18								
Edna Coal Co.	1,334	2								
Electric Coal Co.	4,006	10								
Empire Coal Mining Co.	86,585	74	1	74.0	86,585					
Eversman Coal Co.	5,342	15				5	10.0	4,006	13.5	100.0
Farmers Mutual Coal Co.	1,865	4						17,317		67.6
Fields & Wertz	1,641	1								
Ford, J. D.	142	1								
Foreman, Thos. D.	936	2								
Ft. Lewis Farmers Coal Co.	338	1								
Fox Coal Co.	950	2								
Fraker Coal Co.	68,198	71				32	2.2	2,131		450.7
Franceville Fuel Co.										
Franklin Coal Co.	2,108	14								
Franz, G. H.	750	2								
Frederick Slope Coal Co.	445	2								
Fruth & Micheletti	6,395	33	1	33.0	6,395	1	33.0	6,395	30.3	30.3
	1,286	3								
Fruth & Stone	3,111	17								
Gabriella & Sons	146	2								
Garfield Coal Co.	8,079	7				3	2.3	2,693		428.6

Gearheart, B.	1,097	3					366		1000.0
Gilson Asphaltum Co.	12,040	10					4,013		300.0
Giuliano Coal Co.	6,621	18					3,310		111.1
Golden Dawn Coal Co.	805	2							
Good Fuel Co.	3,144	7	1	7.0	3,144		786	142.9	571.4
Gordon Coal Co.	62,891	86					12,578		58.1
Grasso, Nunzio	100	2							
Green Valley Coal Co.	7,616	5					5,133		125.0
Griffiths Coal Co.	5,133	8					7,033		144.8
Hayden Bros. Coal Corp.	147,703	145							
Hayden Valley Mutual Coal Co.	1,404	5							
Hidden Treasure Coal Co.	1,430	2							
High View Coal Co.	4,126	6							
Hollingsworth, John	105	2							
Home Fuel & Supply Co.	5,830	5					5,830		200.0
Hopper, H. E.	82	1							
Huerfano Coal Co.	69,891	114					5,824		105.3
Hunt, Wm.	279	1					7,376		193.1
Imperial Coal Co.	205,527	145					2,482		250.0
Independent Coal Co.	2,482	4							
Indian Creek Coal Co.	1,000	10							
Jeffries Fuel Co.	5,428	13							
Jewel Colliers Corp.	47,239	62					7,873		96.8
Joergel Coal Co.	500	2							
Johnson, Claude	180	1							
Jones & Trachta	92	1							
Juanita Coal & Coke Co.	46,684	52					23,342		38.5
Julian Coal Co.	1,500	3							
Keystone Coal Co.	71,084	60					5,924		200.0
Knez, Joe	170	1							
Kurle Coal Co.	10,367	21					797		619.0
Leyden Lignite Co.	95,225	88	1	88.0	95,225		9,523	11.4	113.6
Liberty Coal Co.	172	1							
Leiley Coal & Land Co.	51,724	42					8,621		142.9
Lion Canon Coal Co.	1,035	1							
McGinley, Wm.	514	2							
McNeil Coal Corp.	190,755	207	1	207.0	190,755		7,337	4.8	124.8
Mancos Coal & Fuel Co.	2,632	3							
Marriott, Wm.	225	1							

TABLE A—Continued

COMPANIES	Total Production	Number of Men Employed	Number of Fatal Accidents	Number of Men Employed per Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000	Injured per 1,000 Employed
Marsh, Walter	358	2								
Martinez, Rafael	335	1								
Mascot Coal, Oil & Clay Co.	1,784	5				1	5.0	1,784		200.0
Mathews, John, Jr.	79	1								
Mattivi, Steve & Sons	2,880	8								
Midwest Development Corp.										
Minnetqua Fuel Co.	285	4								
Moffat Coal Co.	14,082	22				2	11.0	7,041		90.9
Moffat County Pinnacle Coal Co.	206,169	241	5	48.2	41,234	40	6.0	5,154	20.7	166.0
Morgan Coal Co.	1,054	3								
	192	2								
Morgan, Wm.	4,991	11								
Morris, G. W.	470	2								
Mt. Lincoln Coal Co.	500	3								
Mutual Coal Co.	33,653	49				7	7.0	4,808		142.9
National Fuel Co.	463,114	437	1	437.0	463,114	71	6.2	6,523	2.3	162.5
New Castle Coal Co.	17,036	9				7	1.3	2,434		777.0
Newman Creek Coal Co.	1,924	5				2	2.5	962		400.0
New Mexico Lumber Co.	11,732	12				1	12.0	11,732		83.3
Nix, C. E.	100	2								
North Park Coal Co.	52,887	56				3	18.7	17,629		53.6
Nossaman, W. J.	125	1								
Oakdale Coal Co.	53,683	66				9	7.3	5,965		136.4
Oberding, W. J.	568	1								
Ohio Creek Coal Co.	10,705	14				2	7.0	5,353		142.9
O. K. Coal Co.	7,097	8				1	8.0	7,097		125.0
Oliver Coal Co.	39,997	52				3	17.3	13,332		57.7
Orechio Coal Mining Co.	9,333	12				4	3.0	2,333		333.3
Owens, R. & Sons	284	1								



[illegible]



[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 1929 AND CAPACITY OF MINE PER DAY IN TONS.

## ARCHULETA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Number of Tons Produced	Capacity of Mine per Day, Tons
Cox	Cox Coal Co.	Pagosa Springs	Sub-bituminous	110	1	283	.....
Nossaman	W. J. Nossaman	Pagosa Springs	Sub-bituminous	90	1	125	.....
Number	of Mines operated: 2			200	2	408	.....

## BOULDER COUNTY

Industrial	Rocky Mountain Fuel Co.	Superior	Sub-bituminous	150.8	125	103,873	800
Vulcan	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	259.8	84	87,655	350
Standard	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	258.1	39	58,097	225
Monarch No. 2	National Fuel Co.	Broomfield	Sub-bituminous	215.9	131	102,582	550
Centennial	Centennial Coal Co.	Louisville	Sub-bituminous	221	57	63,279	300
Black Diamond	Black Diamond Fuel Co.	Boulder	Sub-bituminous	315	23	27,800	150
Crown	David Allan	Gorham	Sub-bituminous	125	19	11,169	500
Paramount	S. Domenico & Sons, Inc.	Louisville	Sub-bituminous	74	20	6,419	.....
Gorham	Domestic Coal Co.	Gorham	Sub-bituminous	206.5	8	5,479	50
Eversman	Eversman Coal Co.	Broomfield	Sub-bituminous	225	15	5,342	.....
Rosser	High View Coal Co.	Gorham	Sub-bituminous	284	6	4,156	25
Sunrise	Sunrise Coal Co.	Gorham	Sub-bituminous	220	1	2,500	15
Rocky Ridge	Fox Coal Co.	Gorham	Sub-bituminous	155	2	950	4
Pittsburgh	Pittsburgh Coal Co.	Gorham	Sub-bituminous	88	2	926	5
Pine Cliff	Gabriella & Sons	Gorham	Sub-bituminous	40	2	146	.....
Number	of Mines operated 15			206.4	534	479,643	.....



## DELTA COUNTY

Number	of Mines operated:	10	of Mines operated:	10	Number
Kling.....	Juanita Coal & Coke Co.	77	Bituminous.....	52	1,000
Green Valley.....	Green Valley Coal Co.	272	Semi-bituminous.....	5	.....
Red Canon.....	Red Canon Coal Co.	252.2	Semi-bituminous.....	5	40
Paonia.....	Paonia Farmers Coal Co.	228	Semi-bituminous.....	4	20
Red Mountain.....	States-Hall Coal Co.	250	Semi-bituminous.....	5	75
States.....	States-Hall Coal Co.	261	Semi-bituminous.....	3	100
Independent.....	Independent Coal Co.	207	Semi-bituminous.....	4	30
Winton.....	Winton Coal Co.	102	Semi-bituminous.....	2	35
Owens.....	R. Owens & Sons	95	Semi-bituminous.....	1	10
Converse.....	Frank Converse	46	Semi-bituminous.....	1	4
	of Mines operated:	131		82	72,273

## DOLORES COUNTY

Number	of Mines operated:	1	of Mines operated:	1	Number
North Star.....	New Mexico Lumber Co.	269	Sub-bituminous.....	12	500
	of Mines operated:	269		12	11,732

## ELBERT COUNTY

Number	of Mines operated:	3	of Mines operated:	3	Number
Mascot.....	Mascot Coal, Oil & Clay P. Co.	175	Sub-bituminous.....	5	50
Wright.....	Wright Barker	133	Sub-bituminous.....	2	25
Burntall.....	Burntall Fuel Co.	89	Sub-bituminous.....	2	.....
	of Mines operated:	135.4		9	3,003

## EL PASO COUNTY

Number	of Mines operated:	3	of Mines operated:	3	Number
Pikeview.....	Pikes Peak Fuel Co.	212	Sub-bituminous.....	173	1,500
Altitude.....	Pikes Peak Fuel Co.	119	Sub-bituminous.....	13	.....
City Coal Mines.....	Colorado Springs Co.	157	Sub-bituminous.....	67	500
Corley.....	W. D. Corley	182	Sub-bituminous.....	28	300

TABLE B—Continued  
EL PASO COUNTY—Continued

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine per Day, Tons
Kurie	Kurie Coal Co.	Colorado Springs	Sub-bituminous	276	21	10,367	80
Climax	Danville Coal Co.	Colorado Springs	Sub-bituminous	273	6	3,207	12
Franceville	Franceville Fuel Co.	Colorado Springs	Sub-bituminous	74	14	2,108	70
Jimmy Camp	Thomas Mining Co.	Colorado Springs	Sub-bituminous	75	6	1,213	50
Dreman	Dreman Coal Co.	Colorado Springs	Sub-bituminous	138	2	905	10
Golden Dawn	Golden Dawn Coal Co.	Yoder	Sub-bituminous	177	2	805	5
Cottonwood	Cottonwood Coal Co.	Colorado Springs	Sub-bituminous	135	1	554	5
Number	of Mines operated: 11			210.8	333	361,595	

## FREMONT COUNTY

Rockvale No. 2	Colorado Fuel & Iron Co.	Rockvale	Bituminous	200.9	241	139,776	800
Nonac	Colorado Fuel & Iron Co.	Canon City	Bituminous	188	33	29,656	200
Chandler	Victor-American Fuel Co.	Chandler	Bituminous	275.4	281	200,921	1,000
Wolf Park (Canon)	Canon-Reliance Coal Co.	Canon City	Bituminous	204	91	79,676	500
Double Dick	Double Dick Coal Co.	Coal Creek	Bituminous	258	23	12,850	50
Bluff Springs No. 1	Giuliana Coal Co.	Coal Creek	Bituminous	188	18	6,621	25
Bluff Springs No. 2	Bluff Springs Coal Co.	Florence	Bituminous	184	38	18,389	100
Brookside	Orechio Coal Co.	Florence	Semi-bituminous	257	12	9,333	30
Canon-Imperial (Carbon)	Canon-Imperial Coal Co.	Florence	Bituminous	213	15	7,374	40
Griffiths	Griffiths Coal Co.	Canon City	Semi-bituminous	178	8	5,133	60
Brewster	Canon Coal M. Co.	Florence	Bituminous	289	8	3,260	25
Richio	Rocchio Coal Co.	Coal Creek	Semi-bituminous	168	6	3,020	25
Jack O' Lantern	Beer Coal Co.	Florence	Bituminous	177	7	2,960	15
Canon District	Canon District Coal Co.	Canon City	Bituminous	154	6	2,440	30

## FREMONT COUNTY—Continued

Newlan.....	Newlan Creek Coal Co.....	Florence.....	Bituminous.....	145	5	1,924	.....
North Magnet.....	Perino Coal Co.....	Florence.....	Bituminous.....	145	6	1,676	20
South Magnet.....	Canon Quality Coal Co.....	Rockvale.....	Semi-bituminous.....	79	13	1,168	30
Willie.....	Willie Coal Co.....	Florence.....	Semi-bituminous.....	200	2	600	3
Petry.....	Sam Petry.....	Florence.....	Semi-bituminous.....	60	2	150	.....
Number	of Mines operated: 19			224.7	815	526,927	

## GARFIELD COUNTY

New Castle.....	New Castle Coal Co.....	New Castle.....	Bituminous.....	287	9	17,036	200
Carbonera.....	Gilson Asphaltum Co.....	Mack.....	Bituminous.....	229.5	10	12,040	60
South Canon.....	Rifle Coal Mines, Inc.....	Rifle.....	Bituminous.....	268	4	5,914	50
South Canon.....	South Canon Mine Leasing Co.....	Glenwood Springs.....	Bituminous.....	162	9	5,011	100
McLearn.....	Rifle Coal Co.....	Rifle.....	Bituminous.....	205	4	1,854	50
Rauman.....	Rauman Coal Co.....	Rifle.....	Bituminous.....	217.5	3	1,849	45
Ohkraut.....	Frank De Boy.....	Glenwood Springs.....	Bituminous.....	147	1	463	.....
Silt.....	Morgan Coal Co.....	Silt.....	Bituminous.....	36	2	192	.....
Paradise.....	Angelo Bellodi.....	Glenwood Springs.....	Bituminous.....	21	1	71	.....
Number	of Mines operated: 9			212.1	43	44,430	

## GUNNISON COUNTY

Somerset.....	Calumet Fuel Co.....	Somerset.....	Bituminous.....	129	138	199,240	1,500
Crested Butte.....	Colorado Fuel & Iron Co.....	Crested Butte.....	Bituminous.....	159.4	154	112,588	750
Horace.....	Columbine Anthracite Co.....	Crested Butte.....	Anthracite.....	173.5	89	43,505	400
Smith Anthracite.....	Crested Butte Anthracite M. Co.....	Crested Butte.....	Anthracite.....	201	34	24,312	300
Bulkeley No. 2.....	Crested Butte Coal Co.....	Crested Butte.....	Bituminous.....	182	52	51,823	400
Oliver.....	Oliver Coal Co.....	Somerset.....	Semi-anthracite.....	212	52	39,997	300
Alpine.....	Rocky Mountain Fuel Co.....	Baldwin.....	Semi-bituminous.....	145.5	57	33,891	300
Ohio Creek.....	Ohio Creek Coal Co.....	Gunnison.....	Bituminous.....	159	14	16,705	90
La Plante.....	Western Fuel Co.....	Gunnison.....	Bituminous.....	185	4	2,344	15
Baldwin-Star.....	Baldwin Fuel Co.....	Baldwin.....	Bituminous.....	63	7	1,896	50
S. & S.....	S. & S. Coal Co.....	Gunnison.....	Bituminous.....	117	1	900	.....
Number	of Mines operated: 11			161	602	521,401	

TABLE B—Continued  
HUERFANO COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine per Day, Tons
Robinson No. 1	Colorado Fuel & Iron Co.	Walsen	Bituminous	205.4	229	254,179	1,000
Robinson No. 2	Colorado Fuel & Iron Co.	Walsen	Bituminous	52	182	46,384	1,400
Pictou	Colorado Fuel & Iron Co.	Pictou	Bituminous	201	266	211,842	1,200
Cambron	Colorado Fuel & Iron Co.	Farr	Bituminous	196.8	203	192,266	1,200
Kebler No. 2	Colorado Fuel & Iron Co.	Tioga	Bituminous	203.6	105	101,214	1,000
Lester	Colorado Fuel & Iron Co.	Lester	Bituminous	68	132	34,873	600
Ideal	Colorado Fuel & Iron Co.	Ideal	Bituminous	52	166	32,541	600
Calumet No. 1	Calumet Fuel Co.	DeCarbon	Bituminous	232.9	217	227,274	1,000
Calumet No. 2	Calumet Fuel Co.	DeCarbon	Bituminous	145.8	84	66,992	400
Alamo No. 1	Alamo Coal Co.	Alamo	Bituminous	216	166	109,101	1,000
Alamo No. 2	Barbour Coal Co.	Alamo	Bituminous	180	110	85,847	1,000
Oakdale	Oakdale Coal Co.	Oakview	Bituminous	215.5	66	53,683	250
Ravenwood	Caliente Coal Co.	Ravenwood	Bituminous	199.8	107	60,369	400
Maitland	Caliente Coal Co.	Maitland	Bituminous	123.1	57	29,309	300
Gordon	Gordon Coal Co.	Gordon	Bituminous	162	86	62,891	500
Toltec	Aztec Coal M. Co.	Toltec	Bituminous	141.1	78	54,538	400
Pryor	Pryor Coal M. Co.	Pryor	Bituminous	168.7	78	49,511	400
Mutual	Mutual Coal Co.	Walsenburg	Bituminous	168.9	49	33,653	300
Torrid	Torrid Coal Co.	Rugby	Bituminous	229	36	21,990	175
Ojo Canon	Wm. Peachey & Associates	La Veta	Bituminous	119	36	17,990	150
Vesta	Minnequa Fuel Co.	Walsenburg	Bituminous	203	22	14,982	150
Pacific	Pacific Coal M. Co.	Walsenburg	Bituminous	195	35	13,966	400
Sunnyside	Sunnyside Coal M. Co.	Strong	Bituminous	62	37	7,156	75
Leader No. 4	Fruth & Stone	Pryor	Bituminous	69	17	2,111	75
Bunker No. 1	Steve Mattivi & Sons	Rapson	Bituminous	240	8	2,880	13
Bunker No. 2	Bunker Hill Fuel Co.	Aguilar	Bituminous	90	5	769	8
Caddell	D. M. Russell	Walsenburg	Bituminous	39	9	733	8
Number	of Mines operated:	27		165	2,586	1,783,744	



## JACKSON COUNTY

Moore No. 1.....	North Park Coal Co.....	Coalmont.....	Sub-bituminous.....	241	56	52,887	600
Marr.....	George M. Barnell.....	Walden.....	Sub-bituminous.....	215	4	3,296	25
Mitchell.....	Geo. W. Davidson.....	Walden.....	Sub-bituminous.....	43	1	114	.....
Conrad.....	Conrad Coal Co.....	Walden.....	Sub-bituminous.....	62	2	81	.....
Number	of Mines operated: 4			231	63	56,318	.....

## JEFFERSON COUNTY

Leyden No. 3.....	Leyden Lignite Co.....	Leyden.....	Sub-bituminous.....	228.2	88	95,225	750
Christensen.....	Good Fuel Co.....	Littleton.....	Sub-bituminous.....	217	7	3,144	200
Sharon.....	Allied Clay & Fuel Corp.....	Morrison.....	Sub-bituminous.....	30	8	386	.....
Number	of Mines operated: 3			196.7	103	98,755	.....

## LA PLATA COUNTY

San Juan.....	American Smelting & Ref. Co.....	Durango.....	Bituminous.....	230	33	21,320	150
Durango.....	Durango Coal Co.....	Durango.....	Bituminous.....	222	18	9,501	50
Triangle.....	Triangle Coal Co.....	Durango.....	Bituminous.....	239	9	8,474	.....
O. K.....	O. K. Coal Co.....	Durango.....	Bituminous.....	228	8	7,697	50
Black Diamond.....	Black Diamond Coal Co.....	Durango.....	Bituminous.....	147	9	5,277	75
Castle.....	Castle Coal Co.....	Durango.....	Bituminous.....	142	7	4,965	50
Sunshine.....	Sunshine Coal Co.....	Durango.....	Bituminous.....	161	6	4,325	40
Peerless.....	Champion Coal M. Co.....	Durango.....	Bituminous.....	176.8	13	4,204	150
Morning Star.....	Baudino & Co.....	Durango.....	Bituminous.....	181	6	3,779	20
Tipotsch.....	Frank Tipotsch.....	Hesperus.....	Bituminous.....	289	1	1,679	.....
Pine River.....	Pine River Coal Co.....	Bayfield.....	Bituminous.....	165	2	903	10
Valley View.....	Valley View Coal Co.....	Manitou.....	Bituminous.....	200	2	798	25
Shamrock.....	Shamrock Mine Co.....	Bayfield.....	Bituminous.....	175	2	460	.....
Excelsior.....	Dan Richardson.....	Bayfield.....	Bituminous.....	72	2	375	.....
Lewis.....	F. T. Lewis Farmers Coal Co.....	Kline.....	Sub-bituminous.....	250	1	338	.....
Hunt.....	Wm. Hunt.....	Hesperus.....	Bituminous.....	90	1	279	3
Crawford.....	H. J. Rasmussen.....	Hesperus.....	Bituminous.....	60	1	90	.....
Number	of Mines operated: 17			188.7	121	74,464	.....

TABLE B—Continued  
LAS ANIMAS COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine per Day, Tons
Frederick	Colorado Fuel & Iron Co.	Valdeza	Bituminous	240.8	437	498,726	2,050
Morley	Colorado Fuel & Iron Co.	Morley	Bituminous	218.6	468	388,092	1,700
Toller	Colorado Fuel & Iron Co.	Tollerburg	Bituminous	160.4	207	207,441	1,200
Tabasco	Colorado Fuel & Iron Co.	Berwind	Bituminous	160.3	273	176,155	1,000
Delagua	Victor-American Fuel Co.	Delagua	Bituminous	223.2	382	366,903	2,500
Boncarbo	American Smelting & Ref. Co.	Cokedale	Bituminous	265	211	219,181	1,500
Brodhead No. 9	Temple Fuel Co.	Brodhead	Bituminous	243	183	146,724	700
Kennetts	Vickers Coal Co.	Rugby	Bituminous	162	80	67,882	400
Empire	Empire Coal M. Co.	Agular	Bituminous	163.8	74	86,585	600
Royal	Royal Fuel Co.	Agular	Bituminous	171	120	79,534	800
Ludlow	Huelfano Coal Co.	Ludlow	Bituminous	179.8	114	69,891	600
Dix	Dick Coal Co.	Dicks	Bituminous	154.9	72	64,215	500
Creston	Jewel Collieries Corp.	Agular	Bituminous	214	62	47,239	300
Bear Canon No. 6	Bear Canon Coal Co.	Vallorso	Bituminous	141.3	96	61,346	400
Thor	National Fuel Co.	Trinidad	Bituminous	160.9	68	37,574	400
Anchor	Anchor Fuel Co.	Trinidad	Bituminous	70	47	9,317	300
Baldy	Anchor Fuel Co.	Trinidad	Bituminous	190	4	2,495	25
Bowen (Banner)	Home Fuel & Supply Co.	Trinidad	Bituminous	224	5	5,830	40
Jeffries	Jeffries Fuel Co.	Trinidad	Bituminous	214	13	5,428	100
La Belle	Wm. Morgan	Trinidad	Bituminous	171	11	4,991	30
Prairie Canon	Prairie Canon Coal Co.	Vallorso	Bituminous	51.5	27	4,828	50
Engle	Jas. Wilson	Trinidad	Bituminous	188	5	3,514	50
Santa Fe	Santa Fe Coal Co.	Trinidad	Bituminous	93	8	2,946	50
Fairview	Julian Coal Co.	Trinidad	Bituminous	120	3	1,500	10
Davich	Davich Coal Co.	Rapson	Bituminous	257	4	955	10
Pickford	Peaglio Coal Co.	Trinidad	Bituminous	224	1	760	4
Sopris	John Deldossi	Sopris	Bituminous	26	17	661	25
Pritchard	Wilton Coal Co.	Trinidad	Bituminous	201	1	639	10

## LAS ANIMAS COUNTY—Continued

Number	of Mines operated:	39	Trinidad	Bituminous	110	2	500	8
Beshoar.....	Joerger Fuel Co.....		Trinidad	Bituminous	110	2	500	.....
Lakeview.....	Nick Riggio.....		Trinidad	Bituminous	181	2	455	10
New Congo.....	Valdez Coal Co.....		Agular	Bituminous	93	2	358	.....
Fishers Peak.....	Walter Marsh.....		Trinidad	Bituminous	60	3	358	10
Cox.....	Sarcillo Coal Co.....		Segundo	Bituminous				
Martinez.....	Ralph Martinez.....		Cokedale	Bituminous	212	1	355	.....
Fawcett.....	Agular Coal Co.....		Agular	Bituminous	95	2	242	.....
Vigil.....	Jose S. Vigil.....		Valdez	Bituminous	110	1	229	.....
Flag.....	Brown & Putaturo.....		Trinidad	Bituminous	70	1	179	.....
Black Hawk.....	Black Hawk Coal Co.....		Agular	Bituminous	69	2	161	4
Ferril.....	J. A. Hollingsworth.....		Trinidad	Bituminous	43	2	105	.....
	of Mines operated:	39			192.4	3,013	2,564,897	.....

## MESA COUNTY

Number	of Mines operated:	19	Cameo	Semi-bituminous	198	64	62,936	600
Cameo.....	McNeill Coal Corporation.....		Cameo	Semi-bituminous	198	64	62,936	150
Palisade.....	Palisade Coal & Supply Co.....		Palisade	Semi-bituminous	224	31	19,379	75
Garfield.....	Garfield Coal Co.....		Palisade	Semi-bituminous	246	7	8,079	50
Winger.....	Clark Coal Co.....		Palisade	Semi-bituminous	190	6	6,850	40
Stove Canon.....	Stove Canon Mine Co.....		Fruita	Semi-bituminous	237.5	5	3,712	30
Riverside.....	Riverside Coal Co.....		Palisade	Semi-bituminous	181	7	3,696	80
Stokes.....	W. D. Stokes.....		Palisade	Semi-bituminous	199	7	3,644	.....
Williams.....	Williams Coal Co.....		Grand Junction	Semi-bituminous	195	4	2,135	20
Farmers-Mutual.....	Farmers Mutual Coal Co.....		Grand Junction	Semi-bituminous	218.7	4	1,865	20
Hidden Treasure.....	Hidden Treasure Coal Co.....		Fruita	Semi-bituminous	154	2	1,430	.....
P. V.....	B. Gearhart.....		Palisade	Semi-bituminous	95	3	1,097	10
Anchor No. 1.....	Anchor Coal Co.....		Fruita	Semi-bituminous	122	3	455	30
Thomas.....	Thomas Coal Co.....		Grand Junction	Semi-bituminous	130	4	911	.....
McGinley.....	Wm. McGinley.....		Grand Junction	Semi-bituminous	72	2	514	6
Mt. Lincoln.....	Mt. Lincoln Coal Co.....		Palisade	Semi-bituminous	80	3	500	.....
Midwest.....	Midwest Dev. Corp.....		Palisade	Semi-bituminous	74	4	285	2
Peacock.....	Peacock Coal Co.....		Grand Junction	Semi-bituminous	48	3	207	.....
Nearing.....	Liberty Coal Co.....		Fruita	Semi-bituminous	60	1	172	.....
Grasso.....	Nunzio Grasso.....		Grand Junction	Semi-bituminous	40	2	100	.....
	of Mines operated:	19			187.7	162	118,367	.....

TABLE B—Continued

## MOFFAT COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine per Day, Tons
Hart	Fields & Wertz	Craig	Bituminous	226	1	1,644	40
Life	Life Coal Co.	Axial	Bituminous	210	1	1,202	4
Blair (North Side)	Blair Coal Co.	Craig	Bituminous	130	3	1,180	50
Evans	Moffat Co. Pinnacle Coal Co.	Craig	Bituminous	173	3	1,054	50
Baker	Geo. Wertz	Craig	Bituminous	93	1	398	—
Square Deal	Chas. Taylor	Craig	Bituminous	100	1	296	—
Whitlock	E. F. Whitlock	Hamilton	Bituminous	90	1	171	2
Knez	Joe Knez	Craig	Bituminous	38	1	170	—
Number	of Mines operated: 8			138.8	12	6,025	—

## MONTEZUMA COUNTY

Mancos	Mancos Coal & Fuel Co.	Mancos	Sub-bituminous	238	3	2,632	—
Mesa Verde	G. B. Cushman	Cortez	Sub-bituminous	283	5	2,077	—
Cortez	Cortez Coal Co.	Cortez	Sub-bituminous	76	3	515	30
Morris	Geo. W. Morris	Dolores	Sub-bituminous	110	2	470	—
Black Ace	Geo. Stakish	Dolores	Sub-bituminous	205	1	372	3
Willden	Willden Coal Co.	Mancos	Sub-bituminous	72	3	360	15
Pinos Altos	H. A. Ainsworth	Mancos	Sub-bituminous	150	2	237	2
Number	of Mines operated: 7			173.5	19	6,663	—



## MONTROSE COUNTY

Independent.....	Wm. J. Oberding.....	Nucla.....	Sub-bituminous.....	110	1	568
Pleasant Valley.....	C. A. Rice & Son.....	Nucla.....	Sub-bituminous.....	107	1	386
Tyler.....	Claude Johnson.....	Montrose.....	Sub-bituminous.....	60	1	180
Cloverdale.....	C. E. Nix.....	Nucla.....	Sub-bituminous.....	20	2	100
Liberty Bell.....	M. B. Brooks.....	Nucla.....	Sub-bituminous.....	20.5	2	44
Number	of Mines operated: 5			51.2	7	1,278

## PITKIN COUNTY

Placita.....	Placita Coal M. Co.....	Placita.....	Bituminous.....	241	19	18,757
Number	of Mines operated: 1			241	19	18,757

## RIO BLANCO COUNTY

Oldland.....	Electric Coal Co.....	Meeker.....	Bituminous.....	255	4	1,956
Black Diamond.....	Electric Coal Co.....	Meeker.....	Bituminous.....	229	3	1,188
McKee.....	Electric Coal Co.....	Meeker.....	Bituminous.....	251	1	813
Pollard.....	Electric Coal Co.....	Meeker.....	Bituminous.....	95	2	49
Lion Canon.....	Lion Canon Coal Co.....	Meeker.....	Bituminous.....	166	1	1,035
Nine Mile Hill.....	Thos. D. Foreman.....	Meeker.....	Bituminous.....	180	2	936
Fairfield.....	S. L. Peavey.....	Meeker.....	Bituminous.....	110	2	400
Ford.....	J. D. Ford.....	Rio Blanco.....	Bituminous.....	110	1	142
Douglas Creek.....	Jones & Trachta.....	Rangleley.....	Bituminous.....	100	1	92
Sulphur.....	Crawford Coal Co.....	Meeker.....	Bituminous.....	26	3	85
Reinau.....	R. C. Reinau.....	Meeker.....	Bituminous.....	43	1	75
Number	of Mines operated: 11			153.6	21	6,771

## ROUT COUNTY

Oak Hills No. 1.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	46.1	110	93,130
Oak Hills No. 2.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	52.5	112	100,882
Arrowhead.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	27.7	19	12,157
						2,000
						2,000
						300

TABLE B—Continued

## ROUTT COUNTY—Continued

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine per Day, Tons
Harris.....	Colorado & Utah Coal Co.....	Mt. Harris.....	Bituminous.....	177.6	193	228,942	3,000
Hayden No. 3.....	Hayden Bros. Coal Corp.....	Haybro.....	Bituminous.....	106.7	145	147,703	1,200
Pinnacle.....	Victor-American Fuel Co.....	Oak Creek.....	Bituminous.....	80.1	167	136,877	1,750
Wadge.....	Victor-American Fuel Co.....	Mt. Harris.....	Bituminous.....	50.6	102	59,428	1,200
Keystone.....	Keystone Coal Co.....	Oak Creek.....	Bituminous.....	160	60	71,084	750
Bear River.....	Fraker Coal Co.....	Bear River.....	Bituminous.....	145.5	71	68,198	.....
P. K. No. 1.....	Pinnacle-Kemmerer Fuel Co.....	Mt. Harris.....	Bituminous.....	125.5	82	51,740	500
McNeil.....	McNeil Coal Corp.....	McGregor.....	Bituminous.....	49.7	62	24,302	200
Babson.....	Babson Coal Co.....	Hayden.....	Bituminous.....	192	3	2,472	.....
Seven Points.....	Seven Points Coal Co.....	Phippsburg.....	Bituminous.....	177	2	1,886	50
Hayden Valley Mutual.....	Hayden Valley Mutual Co.....	Hayden.....	Bituminous.....	110	5	1,404	15
Arthur (Edna).....	Edna Coal Co.....	Oak Creek.....	Bituminous.....	210	2	1,324	.....
Premium.....	Fruth-Michel-etti.....	Milner.....	Bituminous.....	120	3	1,286	.....
Coal View.....	Indian Creek Coal M. Co.....	Bear River.....	Bituminous.....	28	10	1,000	.....
Ritchneg.....	John Ritchneg.....	Bear River.....	Bituminous.....	230	1	800	10
Ben Male.....	Trout Creek Coal Co.....	Oak Creek.....	Bituminous.....	170	2	685	16
Peacock.....	G. H. Franz.....	Oak Creek.....	Bituminous.....	100	2	445	35
Block.....	E. H. Zimmerman.....	Steamboat Springs.....	Bituminous.....	102	3	410	.....
Walter.....	John Bainton.....	Mt. Harris.....	Bituminous.....	51	1	259	.....
Amos.....	Amos Coal Co.....	McGregor.....	Bituminous.....	69	1	172	.....
Blue Spruce.....	J. Mathews, Jr.....	Oak Creek.....	Bituminous.....	60	1	79	.....
Chergo.....	Tom Chergo.....	Oak Creek.....	Bituminous.....	60	1	65	.....
Number	of Mines operated: 25.....	.....	.....	104.8	1,160	1,006,740	.....



TABLE C  
PRODUCTION OF COUNTIES BY MONTHS—1929

Month	Archuleta	Boulder	Delta	Dolores	Elbert	El Paso
January.....	.....	58,812	7,697	1,167	933	48,175
February.....	.....	62,026	7,517	1,278	695	44,697
March.....	.....	37,018	6,184	1,434	181	35,491
April.....	.....	28,134	5,079	853	142	27,773
May.....	.....	21,885	4,014	880	62	22,218
June.....	.....	13,950	3,318	689	18	13,610
July.....	.....	18,079	1,952	806	.....	14,418
August.....	.....	29,676	2,443	794	.....	15,195
September.....	.....	55,096	6,178	860	88	24,659
October.....	.....	45,213	7,469	821	222	31,010
November.....	.....	54,208	10,580	1,051	309	42,805
December.....	408	55,546	9,842	1,099	353	41,544
Totals.....	408	479,643	72,273	11,732	3,003	361,595

Month	Fremont	Garfield	Gunnison	Huerfano	Jackson	Jefferson
January.....	61,549	3,718	56,596	233,747	7,086	11,138
February.....	59,764	4,557	51,674	222,986	5,312	11,152
March.....	36,383	2,704	29,922	93,403	3,828	7,334
April.....	36,155	2,553	31,211	87,712	2,820	6,689
May.....	32,575	2,832	29,903	88,228	2,584	6,295
June.....	23,492	2,968	24,360	66,837	2,061	6,240
July.....	21,522	2,206	30,380	83,228	2,584	7,100
August.....	37,466	2,552	45,519	126,614	2,463	6,892
September.....	46,092	3,568	54,941	165,239	5,991	8,359
October.....	52,616	4,816	64,795	187,574	10,096	9,746
November.....	58,270	6,323	56,478	224,599	5,898	9,474
December.....	61,043	5,593	45,622	203,577	5,595	8,336
Totals.....	526,927	44,430	521,401	1,783,744	56,318	98,755

Month	La Plata	Las Animas	Mesa	Moffatt	Montezuma	Montrose
January.....	11,062	264,820	16,467	1,002	1,039	.....
February.....	6,828	233,620	12,159	160	599	.....
March.....	3,990	201,224	9,664	215	328	.....
April.....	5,925	193,390	8,045	226	178	.....
May.....	6,742	178,650	6,044	239	241	.....
June.....	3,010	181,630	5,702	166	207	.....
July.....	3,513	204,356	5,547	116	129	.....
August.....	3,166	197,696	6,760	201	200	.....
September.....	5,047	205,117	9,707	277	342	.....
October.....	7,264	225,898	11,628	414	579	.....
November.....	8,125	246,789	12,904	635	863	.....
December.....	9,492	231,707	13,940	2,371	1,958	1,278
Totals.....	71,464	2,564,897	118,567	6,025	6,663	1,278

Month	Pitkin	Rio Blanco	Routt	San Miguel	Weld	Total
January.....	1,498	867	426,744	.....	303,096	1,217,210
February.....	1,867	1,066	437,743	.....	294,610	1,160,310
March.....	2,876	491	40,029	.....	184,161	696,860
April.....	1,448	224	50,867	.....	123,306	612,730
May.....	1,062	269	47,020	.....	89,641	541,384
June.....	1,036	197	30,818	.....	55,566	435,875
July.....	1,292	112	36,423	.....	62,058	495,821
August.....	1,345	135	66,100	.....	69,373	614,930
September.....	1,282	356	104,509	.....	207,660	905,368
October.....	1,615	465	108,266	.....	223,993	994,530
November.....	1,665	648	121,423	.....	284,748	1,147,795
December.....	1,741	1,941	136,801	557	270,904	1,111,251
Totals.....	18,757	6,771	1,006,740	557	2,169,116	9,934,064



TABLE D

SHOWING INCREASE AND DECREASE BY COUNTIES, 1928-1929

Counties	1928	1929	Increase	Decrease
Archuleta.....	515	408		107
Boulder.....	434,995	479,643	44,648	
Delta.....	68,745	72,273	3,528	
Dolores.....	8,354	11,732	3,378	
Elbert.....	4,249	3,003		1,246
El Paso.....	352,589	361,595	9,006	
Fremont.....	480,069	526,927	46,858	
Garfield.....	33,498	44,430	10,932	
Gunnison.....	460,805	521,401	60,596	
Huerfano.....	1,800,105	1,783,744		16,361
Jackson.....	66,832	56,318		10,514
Jefferson.....	101,169	98,755		2,414
La Plata.....	89,701	74,464		15,237
Las Animas.....	2,944,211	2,564,897		379,314
Mesa.....	163,861	118,567		45,294
Moffat.....	7,396	6,025		1,371
Montezuma.....	7,399	6,663		736
Montrose.....	1,354	1,278		76
Ouray.....	373	None		373
Pitkin.....	16,198	18,757	2,559	
Rio Blanco.....	5,942	6,771	829	
Routt.....	928,855	1,006,740	77,885	
San Miguel.....	1,057	557		500
Weld.....	1,943,313	2,169,116	225,803	
Totals.....	9,921,585	9,934,064		
Increase.....			12,479	

TABLE E

COKE PRODUCED IN 1929 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.	279	119,960	La Plata .....	24	8,607
Colorado Fuel and Iron Co.....	283	602,112	Las Animas ....	418	148,434
			Pueblo .....	120	565,031
Total.....	562	722,072		562	722,072

## REMARKS:

Average number of days worked..... 298.1  
 Average number of men employed at the coke ovens..... 104  
 Number of tons of coal made into coke..... 1,103,308

TABLE F  
SHOWING BY COUNTIES PRODUCTION OF 1929 IN PREPARED SIZES

COUNTIES	Mine Run	Lump	Nut	Pea	Slack	Total Tons
Archuleta	408					408
Boulder	30,007	175,648	54,831	7,010	212,147	479,643
Delta	7,307	35,020	16,044	1,244	12,658	72,273
Dolores	11,732					11,732
Elbert	1,998	691	100		214	3,003
El Paso	89,845	85,677	57,611	1,655	126,807	361,595
Fremont	62,364	238,834	49,339	4,060	142,330	526,927
Garfield	32,400	3,562	4,340	324	3,204	44,436
Gunnison	291,596	103,817	16,338	945	108,705	521,401
Huerfano	577,045	553,529	168,254	75,660	409,256	1,783,744
Jackson	12,393	13,381	13,582		16,962	56,318
Jefferson	24,162	19,435	7,936	3,081	44,141	98,755
La Plata	50,779	10,873	3,600	1,038	8,174	74,464
Las Animas	926,537	201,781	227,476	57,935	1,151,168	2,564,897
Mesa	58,932	23,862	6,725	3,525	25,523	118,567
Moffat	3,540	1,861	412	206	6	6,025
Montezuma	5,101	875	236	102	349	6,663
Montrose	1,278					1,278
Pitkin	730	2,649			15,378	18,757
Rio Blanco	2,663	3,008	419		681	6,771
Routt	40,280	479,713	192,767	5,016	288,964	1,006,740
San Miguel	557					557
Weld	39,499	931,911	193,906	71,002	932,798	2,169,116
Totals	2,271,153	2,886,127	1,043,916	233,403	3,499,465	9,934,064

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

# COAL PRODUCTION OF COLORADO FROM 1873 TO 1929, INCLUSIVE

Year	Tons	Year	Tons
1873.....	69,977	1902.....	7,522,923
1874.....	87,372	1903.....	7,775,302
1875.....	98,838	1904.....	6,776,551
1876.....	117,666	1905.....	8,989,631
1877.....	160,000	1906.....	10,308,421
1878.....	200,630	1907.....	10,965,640
1879.....	322,732	1908.....	9,773,007
1880.....	375,000	1909.....	10,722,490
1881.....	706,744	1910.....	12,104,887
1882.....	1,161,479	1911.....	10,197,595
1883.....	1,220,593	1912.....	11,016,948
1884.....	1,130,024	1913.....	9,268,939
1885.....	1,398,796	1914.....	8,201,423
1886.....	1,436,211	1915.....	8,715,397
1887.....	1,791,735	1916.....	10,522,185
1888.....	2,185,477	1917.....	12,515,305
1889.....	2,400,629	1918.....	12,658,055
1890.....	3,075,781	1919.....	10,406,543
1891.....	3,512,632	1920.....	12,514,693
1892.....	3,771,234	1921.....	9,141,947
1893.....	3,947,056	1922.....	10,003,610
1894.....	3,021,028	1923.....	10,336,735
1895.....	3,339,495	1924.....	10,501,088
1896.....	3,371,633	1925.....	10,440,387
1897.....	3,565,660	1926.....	10,616,760
1898.....	4,174,037	1927.....	9,781,580
1899.....	4,826,939	1928.....	9,921,585
1900.....	5,495,734	1929.....	9,934,064
1901.....	6,021,405		

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

(Poll taken January, 1930)

Americans .....	4,882	Mexicans .....	3,163
Austrians .....	568	Montenegrins .....	10
Belgians .....	11	Negroes .....	318
Bohemians .....	40	Norwegians .....	4
Bulgarians .....	178	Philippines .....	14
Croatians .....	53	Poles .....	124
Danes .....	7	Portugese .....	3
English .....	195	Russians .....	73
Finlanders .....	34	Scotch .....	173
French .....	87	Servians .....	41
Germans .....	147	Slavonians .....	318
Greeks .....	259	Spanish .....	98
Hollanders .....	2	Swedes .....	49
Hungarians .....	64	Swiss .....	2
Irish .....	80	Syrians .....	2
Italians .....	1,915	Tyroleans .....	2
Japanese .....	49	Welsh .....	118
Korean .....	1		
Lithuanians .....	22	Total.....	13,122
Number of the above who can speak English (including Americans and English).....			
			12,614
Number of the above who are foreign born.....			
			7,922

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN  
THE COAL MINES OF COLORADO DURING THE  
YEAR ENDED DECEMBER 31, 1929

January 3—FRED C. MARTINEZ, Mexican, machine miner, experience 6 years, age 22 years, married, no children, employed by the Calumet Fuel Co., at the Calumet No. 1 mine, Huerfano county, was killed by a fall of coal. The place was well timbered, the roof good and solid. Deceased was in the act of loading the machine cuttings when coal bumped off the rib, striking him and killing him instantly. The accident was unforeseen and is classed as unavoidable.

January 4—FRANK CERCONI, Italian, machine helper, experience 20 years, age 40 years, single, employed by the Colorado Fuel and Iron Co., at the Frederick mine, Las Animas county, was injured by a fall of rock December 28, 1928, and died on the above date. Deceased and his partner were preparing to complete a room cutting and moved the machine to start the work. In doing so, he knocked out a prop so that he could tighten the chain with the rachet. The vibration from the machine and chain on the jack pipe wedged to the drawslate, loosened it and caused it to fall. Had deceased reset the prop, the accident might have been avoided. He died from blood poisoning.

January 25—SILAS HART, Mexican, pick miner, experience 16 years, age 48 years, married, two children, employed by the Moffat Coal Co., at the Oak Hills No. 2 mine at Routt county, was killed between a loaded car and prop. Deceased had coupled cars together and as they moved down the track, he was caught between a car and prop. In stepping away from the track he came against a prop, which was not set two and one-half feet from the track as required by law, consequently he was crushed so severely that he died a few hours afterwards. Company is responsible in not timbering according to law.

January 28—JOHN HARRIS, American, machine miner, experience 26 years, age 39 years, married, three children, employed by the Vickers Coal Co., at the Kenneth mine, Las Animas county, was killed by a fall of rock. Deceased was working alone when the accident occurred. He was working in an entry that passed through a throw-down, causing a roll in the roof of two feet, owing to dislodgement of coal. The entry was cut by machine twice after the roll had been squared. The first cut had been loaded out and the second was still standing. An invisible slip was in the roll which gave way breaking off at the face of the coal and striking the deceased. The accident is classed as unforeseen.

January 28—CHARLES ZAFFARANI, Italian, pick miner, experience 6 years, age 28 years, married, one child,



employed by the Colorado Fuel and Iron Co., at the Ideal mine, Huerfano county, was killed by a fall of rock. Deceased and partner were working on a chain pillar. Deceased had started to mine on the left-hand side of the place and released a large rock from an invisible slip. According to the statement of deceased's partner, he had tested the roof before starting to mine at face and apparently found it safe. Place was well timbered. The accident is classed as unforeseen.

February 1—MARTIN POLLCONI, Italian, machine miner, experience 15 years, age 33 years, married, three children, employed by S. Domenico & Sons, at the Paramount mine, Boulder county, was injured by a fall of rock on January 30 and died on the above date. Deceased and his partner were cleaning up rock at a room neck. The roof had been tested and found safe. However, a slab, which was supported by a row of props on each side of the track gave way from the lip of the rock and fell on deceased, injuring him so severely that he died two days later. The place was well timbered and every precaution had been taken, therefore no one can be held responsible for the accident.

February 6—DOMENIC ANTONIO, Italian, pick miner, experience 23 years, age 44 years, married, five children, employed by the Colorado Fuel & Iron Co. at the Morley mine, Las Animas county, was killed by a fall of rock. Deceased had gone into a room for a rail and was caught by a fall of rock which gave way from a slip. This is a case where the accident might have been avoided had deceased been supplied with the necessary rails near his working place. However, the accident was unforeseen and is classed as unavoidable.

February 7—JOSEPH PERAGLIA, Italian, top man, experience 36 years, age 55 years, married, eight children, employed by the Colorado Fuel & Iron Co. at the Rockvale No. 2 mine, Fremont county, came to his death by being squeezed between a scale house and a railroad car. He was through with his own work so he assisted in placing a car under a lump chute. Inadvertently he got on the wrong side of the scale track which was close to the weigh-house and a car moved towards him and caught him before he could get out of the way. The clearance on that side of the track is one foot and on the other side the clearance is six feet. He could have escaped had he used good judgment, either by stepping ahead of the car or crossing over instead of trying to pass the point where the weigh-house and the track were so close together before the car reached that point. The accident can be charged partly to his own negligence and can be blamed partly to the company for not having a wider clearance between the track and building.

February 9 — GARRETT McCARTNEY, Negro, pick miner, experience 27 years, age 47 years, married, no children, and

THOMAS DORSEY, Negro, pick miner, experience 25 years, age 48 years, married, one child, both employed by the Moffat Coal Company at the Oak Hills No. 1 mine, Routt county, were killed by a fall of rock. The two deceased were working in a pillar loading their last car of coal, before starting home, when a bump occurred, throwing out a slab of rock which caught both men, injuring them so severely that they died a few hours later. The roof had been sounded a few minutes prior to the accident and the place was well timbered. The accident was unforeseen and is classed as unavoidable.

February 12—LOUIS PICARDI, French, trapper, experience 35 years, age 67 years, married, no children, employed by the Vickers Coal Co. at the Kenneth mine, Las Animas county, was killed by a run-away trip of empty cars. Deceased was trapping a door on the main slope, about 2,500 feet from the mouth, and hearing a trip coming, attempted to open the door. He thought that the trip was under control, but as it was a run-away trip, it smashed the door and struck him, injuring him so severely that he died almost instantly. The cause of the accident was due to a new man, who was unfamiliar with the work. He was coupling and dispatching trips into the mine and neglected to open the spring latch which derails the trips on the tippie until ready to be sent into the mine. The accident was a misadventure, but the management is partly to blame for putting an inexperienced man on such a responsible job.

February 14—BENITO HERNANDEZ, Mexican, pick miner, experience 2 years, age 23 years, married, two children, employed by the Temple Fuel Company at the Brodhead No. 9 mine, Las Animas county, was killed by a fall of rock. Deceased was mining coal when a rock broke along the face line from a smooth slip which was not visible. The place was well timbered and deceased was not aware of the slip, hence the accident was unforeseen and unavoidable.

February 27—JOHN PERNA, Italian, machine miner, experience 24 years, age 44 years, married, nine children, employed by the Canon-Reliance Coal Company at the Canon mine, Fremont county, was injured by a fall of coal on February 9, and died on the above date. A machine had cut the coal in an entry and a shot firer had shot it the night before, but not enough powder had been used to bring the coal down. Deceased began cutting and it gave way, about three tons falling on him. The accident was unforeseen and is classed as unavoidable.

March 7—C. M. ASHBY, American, machine helper, experience 22 years, age 41 years, married, three children, employed by the Caliente Coal Co., at the Ravenwood mine, Huerfano county, was injured by a fall of rock on February 28 and died on the above date. Deceased and his partner had just finished cutting a room and were loading the machine on the truck. Deceased was coiling the cable on the machine when a pot rock fell on him. The place was well timbered and the slip was not visible until the rock fell. The accident was unforeseen and is classed as unavoidable.

March 8—PABLO ROQUE, Mexican, pick miner, experience 9 years, age 28 years, single, employed by the Colorado Fuel & Iron Co., at the Morley mine, Las Animas county, was killed by a fall of top coal and rock. Deceased and his partner had loaded four cars on the butts and had gone into the cut to measure for a prop to set a cross-bar when top coal and rock gave way from a slip in the roof and struck deceased. The distance of cut from car to face was seven feet, with no emergency prop set in the cut for protection. If a prop had been set between car and face, the accident might have been avoided.

March 14—G. F. Moss, American, colored, machine miner, experience one year, age 30 years, married, no children, employed by the Colorado Springs Co. at the City Coal mines, El Paso county, was killed by a fall of rock from roof. Deceased and his partner were loading a car of coal in a room when a pot rock fell from roof on deceased, killing him instantly. The roof had been thoroughly examined and found safe and the place was well timbered. The slip was not visible and therefore the accident was unforeseen and is classed as unavoidable.

March 15—DANIEL A. MARTINEZ, Spaniard, driver, experience 17 years, age 47 years, married, two children, employed by the McNeil Coal Corporation at the Cameo mine, Mesa county, came to his death by being run over by a car. From an examination of scene of accident, it appears, deceased in some manner unknown, as there was no eye-witness to the accident, slipped off the front end of car and was run over. The accident was a mishap for which no one, according to the findings of the investigation, can be held responsible.

March 22—CARLOS GILBERT, American, pick miner, experience 15 years, age 37 years, widower, no children, employed by the Victor-American Fuel Co. at the Delagua mine, Las Animas county, was killed by a fall of rock. Deceased and his partner were extracting a room pillar when a large rock fell between the face and the nearest row of timbers, which was seven feet from the face. The place was not well timbered. Had there been more props set, the accident might have been avoided.



March 25—GRANVILLE CHANNELL, American, machine miner, experience 45 years, age 61 years, married, 8 children, employed by the Boulder Valley Coal Co., at the Boulder Valley mine, Weld county, was killed by a fall of top coal. The mine foreman had instructed deceased to prepare his place for cutting a pillar by taking down the top coal into which a shot had been fired the night before and which had thrown down a portion of the coal. Deceased was cutting the top coal on the right side next to the breaker prop, to let down the remaining portion when it gave way, and deceased in some manner slipped and was caught by the falling coal. He was so severely injured that he died a few hours later. Deceased was known as a practical miner, especially efficient at this kind of work. The accident was a mishap and no one can be held responsible for it.

March 30—PEDRO JIMENEZ, Mexican, pick miner, experience 17 years, age 40 years, married, six children, employed by the American Smelting & Refining Co. at the Boncarbo mine, Las Animas county, was killed by a fall of rock. Deceased and his partner had started to load coal in an entry when a rock gave way breaking over one foot of the crushed coal of the chain pillar and dislodging two props. Deceased had measured a prop to set under the rock, but started to load the coal first with the above result. The balance of the place was well timbered. The accident is classed as unavoidable.

April 2—JOSEPH AMEZCUA, Mexican, machine miner, experience 11 years, age 27 years, married, two children, employed by the Victor-American Fuel Co. at the Chandler mine, Fremont county, was killed by a fall of roof. Deceased and his partner were working in the back slope wedging down some coal and released a slip at the face which fell, striking deceased and killing him instantly. The place was well timbered, but the slip in falling displaced five or six props. The accident was unforeseen and is classed as unavoidable.

April 5—WM. IRWIN GRANT, American, driver, experience 2 years, age 38 years, married, three children, employed by the Crested Butte Coal Co., at the Bulkley No. 2 mine, Gunnison county, came to his death by electrocution. Deceased was driving a trip in a cross-cut and stopped to reach for a can of water which was filling under drippers, and grasped a wire accidentally. The entry was wet, and deceased must have been wet also after working all day in this place, and probably had a foot in contact with a rail or pipe and therefore became a conductor for a maximum charge of electricity. The wire Grant came in contact with disclosed a bare spot which could have been detected only by the closest examination. The accident is classified as unforeseen and unavoidable.



April 26—PETER TADUSZ, Pole, pick miner, experience 13 years, age 38 years, married, one child, employed by the Colorado Fuel & Iron Co. at the Morley mine, Las Animas county, was killed by a fall of rock. Deceased and his partner had loaded five cars of coal from the face in a slant off the main haulage road and he was mining coal on the left side of the place in order to set a prop against the face when a rock from a pot hole fell on him. The place was well timbered, but had an emergency or safety prop been set on road head close to the face, the accident might have been avoided.

May 1—ELROY ROYBAL, Mexican, machine runner, experience 9 years, age 34 years, married, two children, employed by the Caliente Coal Co. at the Ravenwood mine, Huerfano county, was killed by a fall of rock. Deceased and his partner had finished cutting a room and were pulling the machine out when a rock gave way from an invisible slip in the roadway face and caught the former, killing him almost instantly. The place seemed to be well timbered and had been visited by the mine foreman about four hours prior to the accident. It was unforeseen and is classed as unavoidable.

May 10—LEO LAVERTY, American, rope rider, experience 5 years, age 21 years, single, employed by the Alamo Coal Co. at the Alamo mine, Huerfano county, was injured by being thrown between two trips of cars and died the following day. Deceased was in the act of dropping an empty trip into a parting, the rope is cut loose from these trips while they are still in motion. Evidently he was unable to cut the rope from his trip and when the engineer stopped it, the sudden jerk caught him between the empty and the loaded trips and he was crushed so severely that he died on the above date. The accident was a misadventure for which no one could be held responsible.

June 2—V. Z. STORRS, American, master mechanic, experience 25 years, age 52 years, married, no children, employed by the Frederick Coal Co., at the Frederick slope mine, Weld county, came to his death through an electric shock. Deceased was preparing to put in an electric switch close to the motor. While at work he came in contact with power wires or some other electric equipment and received the fatal shock. The accident might have been avoided had the power been turned off while deceased was working, or if the wire insulation had been in good condition.

July 11—WM. E. SIMPSON, Scotch, pick miner, age 63 years, experience 25 years, married, eight children (all grown), employed by the Leyden Lignite Co. at the Leyden mine No. 3, Jefferson county, was killed by a fall of coal and rock. Deceased and partner had driven a skip along pillar from an outby cross-cut to the room face. After the loose

coal had been taken, about 2 feet of top coal was left for roof. Deceased was picking down some coal from the pillar, which was nearly through, when suddenly a portion of top coal and rock gave way from an invisible slip on one side and a pillar breaker crack that extended over the remaining pillar and fell on him, killing him almost instantly. The place had been examined at 3:00 P. M. the day before and the accident occurred at 9:15 A. M. the following morning. The place was well timbered, the props being not more than 3 feet from the working face. Deceased was known to be a careful workman, especially for extracting pillars. The accident is classed as unavoidable due to the hazard of the work.

July 19—EUGENE PLAZZA, Swiss, driver, experience 20 years, age 34 years, married, no children, employed by the Colorado & Utah Fuel Co. at the Harris mine, Routt county, was caught between a loaded car of coal and prop. Deceased was driving a trip of two loaded cars hitched to a horse, to a parting. He was on the front end of the trip. The horse, instead of going ahead, made a turn toward an empty track. Deceased's left ankle was caught in the tail chain of the loaded car and the horse by turning dragged him between the car and a prop, causing injuries from which he died instantly. The clearance between the side of the car and prop where the accident occurred is 10 inches; this is not sufficient clearance between car and prop, although every other way there is ample clearance. Accident might not have happened if the horse had not turned out or had there been ample clearance between car and prop. Accident is classed as unavoidable.

July 24—ALEXANDER W. URWIN, English, company man, experience 25 years, age 40 years, single, employed by the Good Fuel Co., at the Christensen mine, Jefferson county, was killed by falling down the shaft. The shaft is driven 460 feet down from surface on a pitching seam about 8 feet between the foot and hanging walls and on about 65° pitch. They are driving three level entries, turned north and south of this shaft at 400 feet, 430 feet and at 460 feet points of depth, there being no other connections with the levels mentioned. The mine foreman had just left the 400-foot level and went to the 430-foot level and finding the place clear called for deceased to come down and help him cut the place. No one saw how the accident occurred, but deceased stated before his death that he slipped and fell. The point where the accident occurred is very moist and deceased wore rubber shoes which were worn smooth on the bottom of the soles and this probably caused him to slip and fall down the shaft. Deceased was experienced in this kind of work as he assisted in the sinking of the shaft, installing the ladders, guards, etc. The accident was due to a mishap of some kind while in the per-

formance of his duties and no one is responsible for the accident.

August 2—LEO TRUJILLO, Mexican, pick miner, experience 19 years, age 40 years, married, three children, employed by the Colorado Fuel & Iron Co. at the Frederick mine, Las Animas county, was injured by a fall of rock on July 29 and died two days later. Deceased was working single on a pillar, it had caved and he went back 30 feet to start a new place to break off through the pillar. He drilled a hole 6 feet on the rib. He heard the rock about to fall and jumped back, but tripped over the rails and fell on his back. The rock fell on the coal and slid down on his legs and injured him so severely that he died as above stated. The place had been visited two and one-half hours prior to the accident by the assistant mine foreman. The roof was good and no timbers were set. The track was set against the rib. The accident was unavoidable.

August 19 — JASPER HURTADO, Mexican, machine miner, experience 6 years, age 24 years, single, employed by the Alamo Coal Co. at the Alamo No. 1 mine, Huerfano county, came to his death by falling down a cross-cut. Deceased had walked down second dip to the last connecting cross-cut between first and second dips and in walking through the last cross-cut he fell and broke his neck. The cross-cut pitching 45 feet. The accident was a misadventure for which no one could be held responsible.

August 20—W. M. WATSON, Negro, pick miner, experience 44 years, age 58 years, single, employed by the Moffat Coal Co. at the Oak Hills No. 2 mine, Routt county, was killed by a fall of rock. Deceased was loading a car of coal when a bump occurred which loosened a slab of rock and fell on him while he was in a stooping position and struck his neck, killing him instantly. The mine foreman was present at the accident. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

August 22—WILLIAM E. HEARN, Welsh, night foreman, experience 28 years, age 42 years, single; and

LAWRENCE SNYDER, American, miner and timberman, experience 25 years, age 38 years, married, three children, both employed by the Smith-Anthracite Mining Co., at the Smith-Anthracite mine, Gunnison county, were killed instantly by a fall of rock. W. E. Hearn, the night foreman had charge of the shift on cutting machine and he had sounded the roof just prior to the accident and declared it sound. A few moments after his statement, a slab of rock fell, covering him and Snyder, who was a few feet away from Hearn, killing both. The place was timbered according to agreement with this Department and mine, but apparently the judgment



of the foreman was at fault as to the soundness of the roof, for had it not been, he would have set timbers closer as called for by a clause in this agreement and the accident possibly might have been avoided.

September 4—DENO GUERRI, Italian, motorman, experience 4 years, age 21 years, single, employed by the Temple Fuel Co. at the Brodhead No. 9 mine, Las Animas county, came to his death by electrocution. Deceased was turning the trolley pole on his motor and in doing so, he missed the wire causing his hand to come in contact with trolley wire, which killed him instantly. The voltage was 550 D. C. The accident was a mishap and is classed as unavoidable.

September 6—THOMAS P. SANTARELLI, American, mine foreman, experience 24 years, age 40 years, married, five children, employed by the Canon Imperial Coal Co. at the Carbon mine, Fremont county, was killed by a fall of rock. Deceased was switching a coal cutting machine. It jumped the track at the frog switch and the cutter bar struck a prop knocking out a cross bar and releasing a rock which fell with the above result. The place had been visited by the mine foreman a short time prior to the accident, also the place was well timbered. The accident was unavoidable.

September 26—MANUEL CHAVEZ, Mexican, car dropper, outside experience 19 years, age 40 years, married, six children, employed by the Barbour Coal Co. at the Alamo No. 2 mine, Huerfano county, came to his death by a railroad car running over him. Deceased was dropping three cars, two box cars and one dump car from the storage track to the tipple. He lost control of them due to a defective brake on the first box car. When colliding with the other cars on the tipple, the impact threw him to the track between the two box cars, and the front wheels of the second box car passed partly over his body and dragging him along the rail about a distance of 20 feet. He was dead when help reached him. Had the brake on the first car been in good condition, probably the accident would have been avoided.

September 27—JESUS MARES, American, pick miner, experience 16 years, age 46 years, married, three children, employed by the National Fuel Co. at the Thor mine, Las Animas county, was killed by a fall of rock. Deceased was working single and had loaded a pit car and after it had been hauled out from the room, he measured for an emergency prop to put up where the car had been loaded and while in this act a rock gave way and fell on him. He was able to extricate himself from under the rock and stated he was injured. The pillar was timbered according to agreement. The mine foreman had visited the place ten hours prior to the accident. It is classed as an unavoidable accident.



October 11 — ROLAND T. TODD, English, machine miner, length of experience not known, age 45 years, single, employed by the Rocky Mountain Fuel Co. at the Alpine mine, Gunnison county, was killed by a fall of draw slate. The place had been examined by the mine foreman at 10:30 A. M. and was found safe and the accident occurred between 11:45 A. M. and 2:00 P. M., when deceased was found dead under a pot-shaped piece of draw slate. He had notified the driver who delivered an empty car to him not to call for it until 2:00 P. M. because he was putting in a shearing in the coal and he could not have the car ready until then. There was no eye witness and from all evidence the accident was a mishap for which no one could be held responsible.

October 28—ANDRES GONZALES, Mexican, driver, experience 16 years, age 38 years, married, two children, employed by the Colorado Fuel & Iron Co. at the Morley Slope mine, Las Animas county, was fatally injured by being caught under a mine car. He was driving a trip of two cars and had stopped at a room, and when he started again for the main parting, he ran along on the side of the trip to board the front end of the first car. In some manner he slipped off the bumper and fell under the car. He died shortly after. There was sufficient clearance from the rail to the rib and no obstructions in the way. The accident was a mishap and is classed as unavoidable.

November 4—TONY FERKOL, Austrian, laborer, experience in coal mines, 5 months, age 40 years, widower, one child, employed by the Alamo Coal Co. at the Alamo No. 1 mine, Huerfano county, was injured on October 31, by a blown-out Cardox shell and died on the above date. Deceased was employed to carry the loaded shells to the face and help shot firer insert them and then to remove the shells after the shots had been fired. Two shots had been charged and shot firer and his helpers had retired to a cross-cut 70 feet from face and 14 feet into the cross-cut, which was up the pitch. One of the shells blew out and striking a rail was deflected into the cross-cut and struck deceased on the right foot, severing it just above the ankle. Gangrene set in and caused death. The accident was unforeseen and is classed as unavoidable. Recommendation made, "that in the future the men employed in shooting shall retire through the cross-cut and into an adjoining room or entry so as to keep two right angles between them and the point where the shells are being fired."

November 12—PAUL SUVEDA, Austrian, pick miner, experience 29 years, age 49 years, married, three children, employed by the Moffat Coal Co. at the Oak Hills No. 1 mine, Routt county, was caught between two empty pit cars and injured so severely that he died three hours later. Deceased was busy pulling down some loose coal and rock on a slope

preparatory to loading a car. The rope runner pulled up on the slope above the latches to a room, then he pulled pin out to let the car drop into the room, but instead it ran down the slope. Deceased saw it coming and ran to get out of its way to his own car, however, the cars came together and he was caught between the bumpers and his leg was crushed. The accident might have been avoided had deceased waited a few minutes until ropeman had got through switching. Rope rider should not have let the car go until it was at the frog, then there would be no danger of it running away. The accident is charged to the negligence of the mine officials and co-worker.

November 14—LOUIS D. MOSCHETTI, Italian, mine foreman, experience 15 years, age 33 years, married, four children, employed by the Canon Imperial Coal Co. at the Canon Imperial mine, Fremont county, was injured on the 12th inst. by a fall of rock and died two days later. The accident occurred in a room while he was talking to a machine man at the roadhead when a slab of rock fell near the center of the roadhead and caught deceased. The accident was unforeseen and is classed as unavoidable.

November 20—SIMON GONZALES, Mexican, driver, experience 10 years, age 27 years, married, two children, employed by the Colorado Fuel & Iron Co. at the Robinson No. 1 mine, Huerfano county, came to his death from a kick by a mule. Deceased was leaving the parting driving a team when in some manner the front mule kicked him in the head, injuring him so severely that he died a few minutes later. There were no eye witnesses to the accident and it is classed as a mishap due to the hazard of the work.

November 25—PRENTICE WALTHALL, American (colored), pick miner, experience 40 years, age 58 years, single, employed by the Colorado & Utah Coal Co. at the Harris mine, Routt county, was killed by coal bumping out on him. Deceased was picking down coal when without warning a large bump occurred, covering him and injuring him so severely that he died a few hours later. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

November 28—DANIEL E. MOON, American, machine miner, experience 7 years, age 28 years, married, one child, employed by the Clayton Coal Co. at the Clayton mine, Weld county, was injured by a fall of coal from the face on the 27th inst., and died the following day. Two shots had been fired into the coal of a room pillar before the accident. In the morning it was found that the shots were not effectual and the deceased, his partner and the assistant mine foreman decided that it would be necessary to shoot again. Before leav-

ing the mine official gave instructions to set another row of props. This was being done when the place gave a bump and the standing coal rolled over striking deceased with fatal results as above stated. The place was well timbered and additional timbers were being set to further safeguard the place. Deceased and his partner were good practical and experienced miners. The accident was unforeseen and due to the hazard of pillar work.

December 3—LEE DYTRI, Italian, pick miner, experience 22 years, age 37 years, married, two children, employed by the Pikes Peak Fuel Co. at the Pikeview mine, El Paso county, was killed by a fall of coal from roof. Deceased and partner were instructed to start extracting a pillar on a cross-cut between rooms No. 4 and No. 5. About two weeks prior to accident after a cave had taken place due to inby portions of the pillar being extracted, No. 4 room was abandoned from the cross-cut to cave and two cribs 5'x5' were set along the old roadway to prevent top coal from cutting around the timber and possibly causing the cave to extend out to the cross-cut. Deceased and partner had prepared some shots in said pillar to be fired that night, and after doing this deceased went inby of the cribs to No. 3 pillar to ascertain whether or not there was any need for additional timbering before the shots were fired, and while doing so a block of top coal came down, without warning, striking deceased, from the effects of which he died a few hours later. The place had been visited by the mine foreman about 10:00 A. M. and the accident occurred a few hours later. The accident was a misadventure for which no one could be held responsible.

December 4—JOHN EVANHOFF, Bulgarian, machine miner, experience 18 years, age 52 years, widower, five children, employed by the Rocky Mountain Fuel Co. at the Industrial mine, Boulder county, came to his death through electrocution. The accident occurred on an entry near the man trip station. Deceased was getting into the man trip in the third car. He had one foot inside the car, the other on the bumper and his hand on the iron door of the car, when in some manner he tripped and his forehead came in contact with the trolley wire causing instant death. The trolley wire is on the opposite side of the car entrance and is 5 feet 2 inches above the track or nearly two feet above the top of the car. The accident might have been avoided had guard rails been put up to the trolley wire or the power cut off before the men got in. However, the accident was a mishap and is classed as unavoidable. The mine management, will, from now on, cut off the power while the men are getting on or off the trip.

December 6 — VALENTINE ORTEZ, Mexican, pick miner, experience 15 years, age 49 years, married, five chil-



dren, employed by the Empire Coal Mining Co. at the Empire mine, Las Animas county, was injured November 28, by a fall of coal and died on the above date. Deceased and his partner were extracting a room pillar. He was laying a track at the face when a bump occurred, releasing a large lump of coal from the rib and falling on him, broke his leg which resulted in his death. The place was well timbered. The mine foreman had visited the place about 15 minutes prior to the accident. It was unforeseen and is classed as unavoidable.

December 8—JOE ZAROVICH, Austrian, timberman, experience 13 years, age 40 years, married, no children, employed by the Colorado Fuel & Iron Co. at the Toller mine, Las Animas county, was injured on the 7th inst. by a fall of rock and died on the above date. Deceased and his partner were renewing timbers and hitchings had been cut out of the ribs for the two legs of the cross-bar. On one side some rock had to be taken down to gain height for the leg. While trying to pry the rock loose with a bar, it suddenly gave way from the rib and fell on deceased. The mine foreman had visited the place one hour before the accident. It is classed as unavoidable.

December 10—JOHN DEBORSKI, Pole, pick miner, experience 28 years, age 45 years, married, three children, employed by the Rocky Mountain Fuel Co. at the Industrial mine, Boulder county, was killed by a fall of rock. Deceased was driving through a pillar when a rock fell from the roof killing him almost instantly. The place had been visited by the mine foreman about three hours prior to the accident. The place was well timbered and deceased was considered a good, careful workman. The rock fell from an invisible slip and the accident was unavoidable.

December 12—LIBERIO RUIZ, Mexican, pick miner, experience two months, age 40 years, married, three children, employed by the Colorado Fuel & Iron Co., at the Pictou mine, Huerfano county, was killed by a fall of pot rock. Deceased and his partner entered their working place to start work. On examining the roof they found some bad roof at the road-head and they started to timber. They had set one prop at side of roadway and were in the act of setting one in the center of the track when a rock fell on deceased, killing him instantly. The accident is classed as unavoidable.

December 20—GUS WILLIAMS, American, nipper, experience three months, age 19 years, single, employed by the Boulder Valley Coal Co., at the Boulder Valley mine, Weld county, was injured on the 16th inst., by being squeezed between two trips of cars and died on the above date. Deceased and motorman were dropping a trip of empty cars, the motorman cut the motor off the trip and deceased ran



alongside of the cars to get to the other end to see if all the cars of the out-going loaded trip were coupled. When the incoming empty trip struck the standing cars on the same track, the collision in some manner bounced three cars over the track towards the side on which deceased was moving and caught him, crushing him against the other trip, causing such injuries that he died four days later. The accident was a mishap while deceased was performing his duties. However, a method should be devised whereby it would not be necessary for anyone to pass between trips while one was in motion.

#### MISCELLANEOUS

March 21—PAUL HERNANDEZ, Mexican, married, no children, and JESUS CHAVEZ, Mexican, married, three children, both employed by the National Fuel Co., at the Puritan mine, Weld county, were found dead in the air shaft of the abandoned Eureka mine, owned by the Bell Coal Co. For some unknown purpose these men entered this mine and found instant death by suffocation from noxious gases. The bodies were lying one on the top of the other on a stairway about thirty feet below the collar of shaft and in plain view from the surface. The rescue party could not enter the shaft as there were no helmets available and without them it was not safe, as the Safety Lamp would not burn when lowered to the level of where the bodies were lying. The bodies were pulled out by means of a rope and hook. The responsibility for the accident rests partly with the deceased for trespassing on property and partly with the Bell Coal Co., for not filling in or fencing off an abandoned opening.

These deaths cannot be charged to the coal mining industry as they were caused on an abandoned property which had been inactive for several years.





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