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# ANNUAL REPORT

for the Year

1960



G. A. FRANZ, JR.

Deputy Commissioner of Mines

Publication Approved by E. G. Spurlin, State Controller



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24

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## Letter of Transmittal

May 1, 1961

Honorable Steve McNichols  
Governor of Colorado  
State Capitol  
Denver 2, Colorado

Dear Governor McNichols:

In compliance with the requirements of Chapter 92, Article 32, Section 11, of the Colorado Revised Statutes 1953, I have the honor to transmit herewith the Report of the State Bureau of Mines for the year 1960.

Respectfully submitted,

G. A. Franz, Jr.

Deputy Commissioner of Mines

## Personnel

G. A. FRANZ, JR., Deputy Commissioner.....	Lakewood
NORMAN R. BLAKE, Inspector, District No. 1.....	Black Hawk
FRED E. THEOBALD, Inspector, District No. 2.....	Canon City
JOHN W. DOYLE, Inspector, District No. 3.....	Leadville
ELZIE D. RAY, Inspector, District No. 4.....	Montrose
JOSEPH L. KEATING, Deputy Inspector.....	Leadville
JOHN H. PAKKA, Deputy Inspector.....	Telluride
MARGARET G. LAWRENCE, Principal Clerk.....	Denver
THELMA L. MACMANUS, Account Clerk.....	Denver
NAOMI S. JONES, Clerk Stenographer.....	Denver
AGNES K. BRENNAN, Clerk Typist.....	Denver

## Commissioners of Mines

HARRY A. LEE.....	May 11, 1895-May 10, 1903
E. L. WHITE.....	May 10, 1903-May 10, 1907
T. J. DALZELL.....	May 10, 1907-May 10, 1911
T. R. HENAHEN.....	May 10, 1911-May 10, 1915
FRED CARROLL.....	May 10, 1915-May 10, 1919
HORACE F. LUNT.....	June 1, 1919-June 1, 1923
JOHN T. JOYCE.....	June 1, 1923-June 12, 1939
EDWARD P. ARTHUR.....	June 12, 1939-August 26, 1943
FRED JONES.....	September 27, 1943-April 25, 1950
WALTER E. SCOTT, JR.....	May 3, 1950-May 31, 1959

## Director of Natural Resources

DR. EDWARD L. CLARK.....	October 15, 1959
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## Deputy Commissioner of Mines

G. A. FRANZ, JR.

## Districts of Inspection

**DISTRICT NO. 1**, all of the following counties: Adams, Arapahoe, Boulder, Cheyenne, Clear Creek, Denver, Douglas, Elbert, Gilpin, Grand, Jackson, Jefferson, Kit Carson, Larimer, Logan, Morgan, Phillips, Sedgwick, Washington, Weld, Yuma, and that part of Park County lying north of Fairplay.

**DISTRICT NO. 2**, all of the following counties: Alamosa, Baca, Bent, Conejos, Costilla, Crowley, Custer, El Paso, Fremont, Huerfano, Kiowa, Las Animas, Lincoln, Otero, Prowers, Pueblo, Teller, and that part of Park County lying south of Fairplay.

**DISTRICT NO. 3**, all of the following counties: Chaffee, Eagle, Garfield, Lake, Mineral, Moffat, Pitkin, Rio Blanco, Rio Grande, Routt, Summit, and that part of Gunnison County in the extreme northwest corner and lying north of the 39th degree of latitude, and that part of Saguache County lying south and east of the Continental Divide.

**DISTRICT NO. 4**, all of the following counties: Archuleta, Delta, Dolores, Hinsdale, La Plata, Mesa, Montezuma, Montrose, Ouray, San Juan, San Miguel, and Gunnison County, except the extreme northwest corner lying north of the 39th degree of latitude, and that part of Saguache County lying north and west of the Continental Divide.





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# Publications of the Bureau of Mines

## BULLETINS

- Bulletin No. 1, Recommendations for Safety Appliances in Mining, Harry A. Lee, Commissioner of Mines, 1896.
- Bulletin No. 2, Precious Metal Production for the Year 1898, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 3, Mining Laws, Relative to Bureau of Mines Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 4, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1901.
- Bulletin No. 5, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1902.
- Bulletin No. 6, Regulations Relative to the Construction, Equipment and Operation of Metalliferous Mines, Mills and Metallurgical Plants, Recommendations and Mineral Production for 1905, E. L. White, Commissioner of Mines, 1906.
- Bulletin No. 7, Federal and State Laws Relating to Mining, Fred Carroll, Commissioner of Mines, 1916.
- Supplement to Bulletin No. 7, Mining Laws Enacted by the Twenty-First General Assembly, Fred Carroll, Commissioner of Mines, 1917.
- Supplement No. 2 to Bulletin No. 7, Amendments to the Mining Laws Enacted by the Twenty-Second General Assembly, Horace F. Lunt, Commissioner of Mines, 1919.
- Supplement No. 3 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-Third General Assembly, Horace F. Lunt, Commissioner of Mines, 1921.
- Supplement No. 4 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-Fourth General Assembly, Horace F. Lunt, Commissioner of Mines, 1923.
- Bulletin No. 8, The Oil Shales of Northwestern Colorado, Horace F. Lunt, Commissioner of Mines, 1919.
- Bulletin No. 9, Mine Safety Standards, Horace F. Lunt, Commissioner of Mines, 1920.
- Bulletin No. 11, Federal and State Laws Relating to Mining, John T. Joyce, Commissioner of Mines, 1931.

- Bulletin No. 12, Mining Laws of Colorado, Edward P. Arthur, Commissioner of Mines, 1942.
- Bulletin No. 13, Mining Laws of Colorado, Fred Jones, Commissioner of Mines, 1946.
- Bulletin No. 14, Mining Laws of Colorado, Fred Jones, Commissioner of Mines, 1949.
- Bulletin No. 15, Oil Well Safety Laws, Walter E. Scott, Jr., Commissioner of Mines, 1953.
- Circular No. 1, Location of Lode and Placer Mining Claims, Walter E. Scott, Jr., Commissioner of Mines, 1953.
- Bulletin No. 16, Colorado Mining Laws with Rules and Regulations, Walter E. Scott, Jr., Commissioner of Mines, 1954.
- Circular No. 1, Revised, Location of Lode and Placer Mining Claims, Walter E. Scott, Jr., Commissioner of Mines, 1957.
- Bulletin No. 17, Safety Rules and Regulations (Condensed), G. A. Franz, Jr., Deputy Commissioner of Mines, 1959.
- Circular No. 2, Minerals of Colorado and Area Locations, G. A. Franz, Jr., Deputy Commissioner of Mines, 1960.

## REPORTS

- Report of Bureau of Mines, Colorado, from its establishment in May, 1895, to November 30, 1896, Harry A. Lee, Commissioner of Mines.
- Annual Reports for 1897-1898, Harry A. Lee, Commissioner of Mines.
- Biennial Reports for 1899-1902, Harry A. Lee, Commissioner of Mines.
- Biennial Reports for 1903-1906, E. L. White, Commissioner of Mines.
- Biennial Reports for 1907-1910, T. J. Dalzell, Commissioner of Mines.
- Biennial Reports for 1911-1914, T. R. Henahen, Commissioner of Mines.
- Biennial Reports for 1915-1918, Fred Carroll, Commissioner of Mines.
- Annual Reports for 1919-1922, Horace F. Lunt, Commissioner of Mines.
- Annual Reports for 1923-1924, John T. Joyce, Commissioner of Mines.

Annual Report for 1925 was fully prepared but, because of lack of funds, was not printed. The manuscript is on file in the office of the State Bureau of Mines.

Annual Reports for 1926-1935, John T. Joyce, Commissioner of Mines.

Owing to lack of funds the Annual Report for 1936 was not published.

Annual Report for 1937, John T. Joyce, Commissioner of Mines.

Owing to lack of funds the Annual Report for 1938 was not published.

Annual Report for 1939, Edward P. Arthur, Commissioner of Mines.

Owing to lack of funds the Annual Report for 1940 was not published.

Annual Report for 1941, Edward P. Arthur, Commissioner of Mines.

Annual Reports for 1942 and 1943, Fred Jones, Commissioner of Mines.

Lists of Mines for 1944 and 1945, Fred Jones, Commissioner of Mines.

Annual Reports for 1946-1947, Fred Jones, Commissioner of Mines.

Annual Report for 1948 was not published.

Annual Reports for 1949-1953, Walter E. Scott, Jr., Commissioner of Mines.

Annual Reports for 1959-1960, G. A. Franz, Jr., Deputy Commissioner of Mines.

## Foreword

The year 1960 saw the Bureau of Mines offices moved from the State Museum Building to the third floor of the new State Services Building, north of the State Capitol. Our new quarters are modern in every respect and the new location affords easy access to other Natural Resources departments of the State.

Annual reports prior to this year have listed in detail the functions of the Bureau of Mines and to some extent its accomplishments. These functions have not changed during 1960 with the exception that more information, deemed of value to the industry, has been collected and we are continually endeavoring to accumulate this type of information for the interested public.

In order that those interested may know what type of information can be obtained from the Bureau of Mines we will devote this portion of the 1960 report to enumerating the specific information obtainable from our office.

Our library contains bound volumes of all U.S.G.S. bulletins and professional papers from which old and current information on world, North American and Colorado Geology, rock structure, deposits and formations can be obtained. We have a complete set of Colorado Geological Survey Bulletins, Colorado Scientific Society papers and U.S.G.S. Annual Reports. We also have a set of U.S.G.S. Mineral Resources and most all of the U. S. Bureau of Mines bulletins pertaining to Colorado. In addition to this we have many current volumes on metallurgy, mineral facts and problems, as well as a complete set of Mineral Yearbooks giving the United States and world production of the mineral industry.

We maintain a current information file on all mineral activity in Colorado as well as on all minerals found in this and other states and countries. This information file contains unpublished reports and papers of interest to the industry and state. It also contains engineers' reports on a number of areas and properties in Colorado. During the last year we have secured a complete set of quadrangle maps and detailed section maps of Colorado and this is in addition to the many area and property maps we have accumulated over the years. We also have geological maps of most areas in Colorado as well as some detailed sections. Our map department is being continually improved and at present we are collecting maps of underground workings from every operating property in the State. These maps are available for reference only on written permission from the present operators.

Probably the most important source of information in our office is some 32,000 Inspection, Information and Operators' Annual Reports on all properties dating from 1895 to the pres-

ent date. Some of these reports are bound and written in longhand. The most recent reports from 1915 are bound in individual folders. From these reports it is possible to secure a year to year description of activities, production, employment, and development from the day the property started to the present. Information on the owners and operators, type of ground, size of vein and the condition of the country rock, pertaining to those mines is in many cases available from no other source. These reports are filed by mine name and a cross index will give a complete listing of mine operations since 1895.

The Bureau of Mines welcomes personal calls, phone calls, or letters requesting information on any subject pertaining to the mineral industry. All of the above facilities are available to the public and any of the above can be used in the office. We do not allow any item to be removed from the premises. Special arrangements can be made to secure Verifax or certified copies of any report when extraordinary conditions warrant this service. The Bureau of Mines also has circulars for distribution on Colorado minerals, placer locations, the manner of locating a mineral claim, and others of interest to both students and potential operators. Information on mining and oil well safety laws in Colorado is freely given and assistance along this line may be had from any of our six mine inspectors.

Every effort has been made to assure accuracy and completeness of the data used in this report. However, because of the fact that this report is printed before final production figures can possibly be secured, there will be some minor variations in the final results. It is intended to present an early resume of mining activity in Colorado for the year and to indicate the value of the mineral industry to the State and county.

Acknowledgment is gratefully given to the various State agencies, the Occupational Health Section of the Colorado Health Department, and the United States Bureau of Mines for their generous cooperation during the year.

This report has been compiled through the cooperation of the entire staff of the Bureau of Mines. Each and every member of the office personnel and inspection division is to be congratulated for his most generous contribution and help all during the year. It is the desire of all personnel of the Bureau of Mines to cooperate with the industry in every way and we earnestly solicit all inquiries, where constructive, that will tend to develop mining in Colorado.

G. A. Franz, Jr.

## Minerals in 1960

Colorado's mineral production of \$376,298,093 based on the quantity of minerals produced and the average yearly mineral price for 1960, shows an increase of \$44,434,458 over 1959. The increased production value is listed in petroleum, molybdenum, uranium, vanadium, lead, clay, lime, mica and perlite and the addition this year of coal production. Decreased production values were listed in cement, feldspar, fluorspar, gypsum and others.

Crude oil production of \$137,659,948 in 1960 showed the first increase since 1956 and this increased production was due in part to secondary recovery projects at Colorado's two largest fields, Rangely in northwest Colorado and Adena in northeast Colorado. Over-all drilling operations in the State decreased during the year with some 130 successful completions of oil wells and 119 successful gas wells. Three hundred forty-eight wildcat wells were drilled and of these twenty-six located new oil deposits and twenty-two located new gas deposits. With increased secondary recovery projects in the planning and in actual operation, along with new discoveries in other parts of the State, petroleum production should remain steady if not increased in 1961.

Although gold production in Teller County again dropped to a new low in 1960, Colorado's over-all gold production increased as a by-product from producers of base metals in other areas of the State. Silver production likewise increased for the year as did lead and copper. Zinc, however, showed a slight decrease due to part year production at the Empire Zinc Company's Eagle Mine in Eagle County, caused by a company-wide strike. Major producers of base and precious metals, in the order of 1960 production, were Idarado Mining Company, Empire Zinc Company, Emperius Mining Company, Rico Argentine Mining Company and the Golden Cycle Corporation.

Molybdenum production in 1960 again leads the list of metallic minerals mined in Colorado. All of this production came from the Climax Molybdenum Division of American Metals Climax Company's property at Climax, Colorado. Production continued throughout the year without interruptions and plans for continued high production were assured by careful and practical development of their ore bodies.

Uranium and vanadium were next in order in dollar value production with the major part of this ore coming from the Colorado Plateau. The average grade of uranium ore mined in Colorado had a  $U_3O_8$  content of .25% as compared with .26% in 1959. Some contracts with the Atomic Energy Commission were extended to 1966 and most producer contracts

were in the process of being extended to this date from 1962. Colorado maintained its second place standing in uranium production, surpassed only by the State of New Mexico.

Other metallic minerals which received considerable attention in Colorado in 1960 were beryl, columbium and iron. Beryl deposits in the form of bertrandite in the Lake George area were developed by the U. S. Beryllium Company. Columbium was developed by E. I. du Pont de Nemours & Company near Powderhorn, Colorado. Iron ore was mined near Ashcroft in Pitkin County.

Non-metallic mineral production remained third in dollar value of minerals produced in 1960. A slight decline in construction was responsible for a drop in cement manufacturing, which directly resulted in a decline in gypsum, feldspar and scoria. Cement production at the plants of the Ideal Cement Company, located at Portland and La Porte, decreased enough to counteract the increased production of sand and gravel, leaving the State with an approximate 4% decrease in over-all non-metallic production. General highway construction and project construction and maintenance were responsible for the continued increased output of sand and gravel. Stone production for building purposes and monumental design continued steady with an increased interest in the red and gray sandstone quarried in Larimer and Boulder Counties.

In general, Colorado's mineral industry, although declining steadily in the number of base metal operations, which are directly affected by fixed prices on gold and silver and high operating costs, continues to be supported by other metals and non-metallics. Petroleum, uranium and molybdenum, along with other plentiful minerals in the State, have replaced the production value formerly enjoyed by gold, silver, lead and zinc.

The following comparative list of average prices used to calculate Colorado's mineral production is indicative of the reason for our decreasing base metal industry.

	1960	1959	1947	
Gold .....	\$35.00	\$35.00	\$35.00	per oz.
Silver .....	0.91375	0.91202	0.905	per oz.
Copper .....	0.32053	0.31182	0.300	per lb.
Lead .....	0.11948	0.12211	0.144	per lb.
Zinc .....	0.12946	0.11488	0.115	per lb.
Molybednum ..	1.250	1.250	1.10	per lb.

Most prices have lowered or remained steady, while production costs have steadily increased.



Information in this report is gathered by Bureau of Mines Inspectors and office personnel and although the production figures cannot be accepted as final, they are as nearly accurate as possible to secure at this early date. They are intended as a preliminary indication and cannot be used for tax or other valuation purposes. Petroleum production is supplied by the Colorado Oil and Gas Conservation Commission and the dollar value is calculated by this office. All production figures are calculated by multiplying the units of production by the average yearly prices.

# Production of Metals, Non-Metallics, Petroleum and Coal

## State Totals

	<b>Metallics</b>
Molybdenum .....	\$ 62,038,147
Uranium .....	51,682,365
Vanadium .....	15,603,408
Zinc .....	8,172,924
Lead .....	4,420,555
Tungsten .....	3,609,632
Copper .....	2,254,966
Gold .....	1,992,156
Silver .....	1,312,280
Pyrite .....	1,088,536
Beryl .....	297,343
Manganese .....	61,200
Iron .....	57,000
Tin .....	37,620
<hr/>	
Total Metallic Mineral Production.....	\$152,628,132
	<b>Non-Metallics</b>
Cement .....	\$ 17,042,416
Sand and Gravel.....	15,559,778
Stone .....	2,349,808
Limestone .....	1,347,243
Fluorspar .....	1,239,444
Clay .....	1,143,785
Feldspar, Mica, Gypsum.....	384,578
Volcanic Scoria, Pumicite.....	67,632
Miscellaneous Non-Metallics (Peat, Silica Sand, etc.)	37,605
Gemstones .....	34,360
<hr/>	
Total Non-Metallic Minerals.....	\$ 39,206,649
	<b>Petroleum</b>
Crude Oil.....	\$137,659,948
Gas (All classes, well head value).....	23,787,087
<hr/>	
Total Petroleum Production.....	\$161,447,035
Coal .....	\$ 23,052,277
<hr/>	
TOTAL STATE MINERAL PRODUCTION.....	\$376,334,093

## County Activity and Production

### ADAMS (1)

\*BRIGHTON

Area 1,250 square miles

Gravel placers, plants, oil wells—123 men

The second productive oil field in Colorado is still active in Adams County. Petroleum production from this county has been relatively steady for a number of years with an average of new completions and abandonments. Sand and gravel, gold and stone were produced from the several pits and quarries in the west end of the county. Gold was produced as a by-product of the sand and gravel industry.

Gold .....	\$ 10,000
Sand and Gravel .....	\$ 1,540,602
Petroleum .....	2,731,327
Gas .....	177,157
<hr/>	
Total .....	\$ 2,908,484
TOTAL PRODUCTION FOR COUNTY.....	\$ 4,459,086

### ARCHULETA (4)

\*PAGOSA SPRINGS

Area, 1,364 square miles

Projects, placers, oil and gas wells—110 men

Sand and gravel, crude oil and gas were again the major minerals produced in Archuleta County. By far the largest oil production came from the Gramps field owned by the Hughes Estate and operated by the Oriental Oil Company. This field is located southeast of Pagosa Springs in the original Terra Amarilla land grant. Oil produced at this field is de-watered in the company's modern plant and then is pumped to the railroad in Chama, New Mexico.

Sand and Gravel .....	\$ 9,000
Petroleum .....	\$ 297,865
TOTAL PRODUCTION FOR COUNTY.....	\$ 306,865

\*County seats

**BACA (2)**

\*SPRINGFIELD

Area 2,565 square miles

Oil wells, placers—35 men

Petroleum activity continued in Baca County with the addition of several new producing gas wells and other drilling ventures. Natural gas production in the county for 1960 indicated a slight increase over 1959.

Sand and Gravel .....	\$	3,613
Gas .....	\$	51,397
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$</b>	<b>55,010</b>

**BOULDER (1)**

\*BOULDER

Area 758 square miles

16 mines, 5 plants, 12 quarries, projects and oil—391 men

Boulder County's versatile mineral industry, severely curtailed by the loss of tungsten production, continues to show a determination to keep the industry alive. Fluorspar production in the county remained steady with production coming from the Burlington Mine and the Emmett Mine near Jamestown. The Valmont Plant of the General Chemical Division of Allied Chemical Corporation operated steadily all year on ore from their Burlington Mine and ore from Williams' Emmett Mine. A substantial deposit of uranium ore has been developed by the La Salle Mining Company at their Fair Day Tunnel located two and a half miles west of Jamestown, Colorado. The Utex Exploration Company continued gold and silver development in their Cash and Rex properties east of Gold Hill and on Gold Creek. Building and flagstone quarries in Boulder County continued throughout the year on a steady production basis, supplying red, pink and gray sandstone to the building trade in the Rocky Mountain Empire. Many mines were opened for prospecting and development of gold and silver ores.

Gold .....	\$	2,210
Silver .....		6,643
Copper .....		266
Lead .....		2,399
Tungsten .....		37,675
Tin .....		2,500
<b>Total .....</b>	<b>\$</b>	<b>51,693</b>
Sand and Gravel .....		55,199
Fluorspar .....		1,239,444
Stone .....		95,200
Clay .....		14,000
Peat .....		970
<b>Total .....</b>	<b>\$</b>	<b>1,404,813</b>
Petroleum .....	\$	7,076
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$</b>	<b>1,463,582</b>

\*County seats

**CHAFFEE (3)**

\*SALIDA

Area 1,040 square miles

2 mines, 2 plants, quarries and oil—76 men

Limestone, granite, sand and gravel, mica, beryl, and feldspar comprised most of Chaffee County's mineral production for 1960. The Colorado Fuel & Iron Works' Limestone Quarry, located on the east side of Monarch Pass, supplied a considerable amount of fluxing material to the CF&I steel plant at Pueblo. The Crystal Placer, operated by the Salida Granite Company and located on Ute Trail northeast of Salida, had a steady production of granite for monumental purposes. The Homestake Quarry, operated by M&S, Inc. and the Rock King Quarry, producers of feldspar, mica and beryl, sent their ore to the Western Feldspar Mill which was operated by the Western Feldspar Milling Company at Salida. Prospecting and development activity was evident throughout the year. A portable mica mill was field-tested by Mica Minerals, Inc. twelve miles north of Salida on the Turret Road. Mica ore for the plant was received from Lamberg Brothers of Salida.

Gold .....	\$	200
Sand and Gravel .....		78,000
Limestone .....		437,778
Stone .....		25,400
Feldspar, Mica, etc. ....		198,601
Total .....		\$ 739,779
TOTAL PRODUCTION FOR COUNTY .....		\$ 739,979

**CLEAR CREEK (1)**

\*GEORGETOWN

Area 395 square miles

24 mines, 6 plants, projects—191 men

Clear Creek County's mineral activity suffered a minor setback in 1960 as a direct result of inadequate and fixed mineral prices. Operations at the Big Five, or Central Tunnel, were active only part of the year. Some work was done by the Fall River Exploration Company toward dewatering the Argo Tunnel which according to plans will eventually be connected to the Lucania Tunnel. Some production came from the Bald Eagle property which produced considerable gold, silver, lead and copper ore in previous years. Road construction in Clear Creek Canyon below Idaho Springs was in full force all year with the completion of a four-lane highway to the Floyd Hill interchange and the holing through of the Twin Tunnels above the Floyd Hill interchange. Sand and gravel production in the county increased because of this accelerated road construction. Many small properties in the county were active doing prospecting and development work, which indicates possible future and increased mining activity in the county. The selec-

\*County seats

tion of the Strait Creek site for the new transcontinental highway project will, no doubt, employ many miners of the area when the tunnel project is started.

Gold .....	\$	59,000
Silver .....		21,000
Copper .....		9,000
Lead .....		32,000
Beryllium .....		500
Total .....		\$ 121,500
Sand and Gravel .....		116,330
Stone .....		180
Total .....		\$ 116,510
TOTAL PRODUCTION FOR COUNTY.....		\$ 238,010

**COSTILLA (2)**

\*SAN LUIS

Area 1,220 square miles

Gravel and well drilling—20 men

The announcement by Easterdale Oil Company to drill a test well in Section 23, Township 74 West in Costilla County was an indication that petroleum might one day be added to the production of this county. Production now consists of volcanic scoria from the Colorado Aggregates, Inc. scoria quarry two miles west of Mesita. Sand and gravel also added to the county production.

Sand and Gravel .....	\$	10,000
Scoria .....		37,800

---

TOTAL PRODUCTION FOR COUNTY.....\$ 47,800

**CUSTER (2)**

\*WESTCLIFFE

Area 738 square miles

4 mines, gravel—18 men

Mineral activity in Custer County centered around prospecting and development operations near Westcliffe and Wetmore. Eisenhour and Decker operated the Buckeye Holt property and Charles and Lyman Akin operated the Lodge Pole No. 1 and Tomboy Mines. Joe J. and Charles Tomsick sampled the Virginia Silver Mine near Westcliffe. A small production was noted from the county.

Sand and Gravel .....	\$	3,506
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TOTAL PRODUCTION FOR COUNTY.....\$ 3,506

\*County seats

**DELTA (4)**

\*DELTA

Area 1,161 square miles

Projects, placers, drilling—110 men

Highway construction by C. E. Mills Construction Company and Siegrist Construction Company and construction on the Smith Fort Dam were responsible for increased sand and gravel production in Delta County this year. Other mineral products were carbon dioxide gas and sulphur. Some wildcat oil well drilling was evident in 1960. The Atlas Mining & Milling Company's sulphur pits located east of Delta have been sold to Sun-Gro Materials, Inc. of Long Beach, California. Mined material from these pits will be used for soil conditioner.

Sand and Gravel .....	\$	49,825
Sulphur .....		3,000
		<hr/>
TOTAL PRODUCTION FOR COUNTY .....	\$	52,825

**DENVER (1)**

\*DENVER

Area 73 square miles

2 plants—171 men

Although there was no mineral production from Denver County two large plants, operating on ores from other parts of the State and the Rocky Mountain area, were active all year. The Globe Plant of the American Smelting & Refining Company located at 495 East Fifty-first Street has operated in excess of five years or 1,780 days or 1,150,000 man-hours without a lost-time injury. The General Chemical Division, Allied Chemical Corporation, Denver plant operated all year manufacturing sulphuric acid and other chemicals. Many Colorado mining companies have their main offices in Denver.

Sand and Gravel .....	\$	420,688
TOTAL PRODUCTION FOR COUNTY .....	\$	420,688

\*County seats

**DOLORES (4)**

\*DOVE CREEK

Area 1,029 square miles

5 mines, 2 plants, projects and drilling—198 men

Five mines, two plants, two projects and one placer were in operation in Dolores County during 1960. The county's largest operator, the Rico Argentine Mining Company at Rico, maintained steady production at their mill and acid plant on ores from the St. Louis Tunnel and their Mountain Springs Mine. Some vanadium ore was mined by the Vanadium Corporation of America at their Barlow claims near the head of Barlow Creek; and some silver, gold, copper and manganese were mined at the Rosebud group by Brown & Johnson. Jones & Harrington worked the St. Louis Mine for some gold production. Union Carbide Nuclear Company established offices in Dove Creek during the year.

Silver .....	\$ 8,000
Lead .....	249,318
Zinc .....	90,163
Uranium .....	
Vanadium .....	
Pyrite .....	840,796
<hr/>	
Total .....	\$ 1,188,277
Sand and Gravel .....	\$ 157,316
TOTAL PRODUCTION FOR COUNTY.....	\$ 1,345,593

**DOUGLAS (1)**

\*CASTLE ROCK

Area 844 square miles

4 mines, quarries, gravel—100 men

Clay, sand and gravel, silica sand and limestone were produced in Douglas County in 1960. Principal producers were the Robinson Brick & Tile Company from their Hogback Nos. 2 and 3 clay mines near Waterton, Denver Brick & Pipe Company from their Ringenberg Clay Mine, and Stroud Whisenhunt from their Stevens Ranch and Stroh Mines. Several sand and gravel plants operated in Douglas County during the year.

Sand and Gravel .....	\$ 70,000
Stone .....	4,500
Clay .....	211,090
<hr/>	
TOTAL PRODUCTION FOR COUNTY .....	\$ 285,590

\*County seats



**EAGLE (3)**

\*EAGLE

Area 1,686 square miles

1 mine, 1 plant, gravel—513 men

Base and precious metal production at the New Jersey Zinc Company's Eagle property was curtailed to some extent during the year by a strike which started August 5 and ended November 28. During this strike maintenance crews were kept at the mine and mill, which enabled almost normal production to continue after the strike ended. Other county operations were at the Dotsero Quarry where volcanic cinders were produced by the Ideal Lava Products Company, and at the Roaring Fork Quarry twenty-two miles southeast of Glenwood Springs where pumice was produced by E. H. Bone.

Silver .....	\$ 300,000
Copper .....	300,000
Lead .....	1,205,520
Zinc .....	3,735,000
<hr/>	
Total .....	\$ 5,540,520
Sand and Gravel .....	18,847
Scoria .....	6,406
<hr/>	
Total .....	\$ 25,253
TOTAL PRODUCTION FOR COUNTY .....	\$ 5,565,773

**EL PASO (2)**

\*COLORADO SPRINGS

Area 2,159 square miles

1 mine, 3 quarries, gravel and drilling—119 men

Silica sand, concrete aggregate, limestone, sand and gravel were the principal products produced in El Paso County during 1960. Aggregate was produced at the Castle and Lennox Breed Quarries northwest of Colorado Springs. Limestone came from the Rampart Range Mine located on the Rampart Range Road. Silica sand was produced from the Springs Silica Quarry on the Flying W Ranch. Sand and gravel from many pits was the principal county mineral product.

Sand and Gravel .....	\$ 1,125,035
Limestone .....	165,000
Silica .....	4,500
<hr/>	
TOTAL PRODUCTION FOR COUNTY .....	\$ 1,294,535

\*County seats

**FREMONT (2)**

\*CANON CITY

Area 1,562 square miles

15 mines, 2 plants, 9 quarries, drilling—282 men

Cement, manufactured by the Ideal Cement Company at Portland, was the county's principal mineral product. Twenty-five separate mineral operations were listed for the year and the production from these include cement, sand and gravel, limestone, various building stones, clay, gypsum, uranium, beryl, and petroleum. During the year Cotter Corporation's uranium mill at Canon City was enlarged to treat 200 tons of ore per day. This tonnage comes from mines in the district as well as from the Front Range area and Gunnison County. Colonna & Company expanded their plant for increased production of terrazzo chips and colored stones. The Antero Beryllium Corporation completed their beryllium oxide plant at Florence and ores from the Lake George area will be treated. Some copper was produced from the Boot Jack Mine, four and a half miles north of Howard. Silica rock, used in the manufacturing of fire brick and for ladle lining, was produced steadily all year from the Horney and Burnito quarries, operated by Ralph Pierce and Ray Sturbaum, respectively. Petroleum production was steady from Colorado's oldest oil field near Florence.

Tungsten .....	\$ 4,772
Uranium .....	
Cement .....	7,814,162
Sand and Gravel .....	98,047
Limestone .....	424,522
Stone .....	153,768
Clay .....	9,761
Gypsum .....	47,000
Silica .....	37,249
	<hr/>
Total .....	\$ 8,584,509
Petroleum .....	\$ 78,979
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$ 8,663,488</b>

\*County seats

**GARFIELD (3)**

\*GLENWOOD SPRINGS

Area 3,000 square miles

2 mines, plant, quarry, drilling—272 men

Natural gas, limestone, sand and gravel were the principal minerals produced in Garfield County during 1960. With continuing oil exploration some petroleum production may be expected. Both the Union Oil Company and the United States Government oil shale properties were idle, with the exception of the simulated atomic blast at the U. S. Bureau of Mines oil shale mine during the year. This blast was for test purposes to determine the effect of a nuclear explosion on subsurface rock structure. The Union Carbide Nuclear Company's uranium and vanadium plant operated continuously all year on ores from their many properties in Colorado, Utah and Wyoming. Late in the year work started to recondition the Rifle vanadium mine, fourteen miles northeast of Rifle. Ore from this once heavy producer of vanadium ore will be treated in the Rifle Mill. Limestone produced by Frank H. Norberg from the Glenwood Springs lime quarry was used for sugar refining, construction and lime manufacturing.

Sand and Gravel .....	\$	44,569
Limestone .....		53,316
		97,885
Total .....	\$	97,885
Petroleum .....	\$	139,529
TOTAL PRODUCTION FOR COUNTY .....	\$	237,414

**GILPIN (1)**

\*CENTRAL CITY

Area 149 square miles

19 mines, 3 plants, gravel, placers—77 men

With three mills, nineteen mines and seven placers and peat operations listed, Gilpin County was most active in prospecting and development work. However, production from the county was very light due largely to inadequate and set mineral prices. The Nye Mathews operation in the Apex Area was the only continuous operation during the year. Their molybdenum prospect looks very encouraging. Late in the year work was resumed at the Glory Hole, Inc. property which included the driving of a new access crosscut tunnel which will connect the LaCross workings with the Glory Hole Mill. Several mines were operated as tourist attractions and many mines were opened and sampled. Very little new ground was opened nor can this type of development be expected until more promising mineral prices are realized.

\*County seats

Gold .....	\$	1,424
Silver .....		100
Copper .....		100
Total .....		\$ 1,624
Sand and Gravel .....		200
Stone .....		500
Peat .....		14,135
Total .....		\$ 14,835
TOTAL PRODUCTION FOR COUNTY .....		\$ 16,459

**GUNNISON ( 3 and 4 )**

\*GUNNISON

Area 3,243 square miles

14 mines, 4 plants, quarries, gravel—286 men

Of significance to Gunnison County's mineral industry is the development of the carbonate columbium deposit near Powderhorn, Colorado. Work for the duPont Company by Stearns-Roger continued during the summer months on this deposit and present plans call for more development in the summer of 1961. Prospecting and development work with some production of gold, silver, lead, zinc and copper were listed during the year from mines in the Taylor River and Crested Butte areas. Uranium production from the mines in the area was shipped to the Gunnison Mining Company's mill located south of Gunnison city limits. This mill had a steady production all year on ores from Fremont, Saguache and other counties in the State. Some marble was produced by the Colo-Tex Stone Company from Basic Chemical Corporation's quarry at Marble. Earth-work on the Paonia project was about 80% completed at the end of the year and completion is expected sometime in 1961.

Silver .....	\$	15,788
Copper .....		1,779
Lead .....		36,409
Zinc .....		71,434
Uranium .....		
Total .....		\$ 125,410
Sand and Gravel .....		182,434
Stone .....		4,100
Total .....		\$ 186,534
TOTAL PRODUCTION FOR COUNTY .....		\$ 311,944

\*County seats

**HINSDALE (4)**

\*LAKE CITY

Area 1,062 square miles  
3 mines, 1 plant, projects—24 men

Three mines and a mill were active in Hinsdale County. The Pelican Mill, operated by the Coltex Mining Company, concentrated gold, silver, lead and zinc ores from the Pelican Mine on Henson Creek west of Lake City. Other operators were the Golden Cycle Corporation on the Frank Hough and Reitcher, Waffensmith and Stake on the Blue Ribbon claims.

Gold .....	\$ 800
Silver .....	5,675
Lead .....	300

TOTAL PRODUCTION FOR COUNTY .....\$ 6,775

**JACKSON (1)**

\*WALDEN

Area 1,628 square miles  
Oil wells—80 men

There was no mining activity recorded in Jackson County during the year. However, much new interest was shown in oil and gas. Crude oil production declined over 1959 and gas production increased. Most production came from the Battle-ship, McCallum and Canadian River fields. Considerable exploration drilling was noted during the year.

Petroleum .....	\$ 2,473,656
Gas .....	8,966,023

TOTAL PRODUCTION FOR COUNTY .....\$ 11,439,679

**JEFFERSON (1)**

\*GOLDEN

Area 791 square miles  
29 mines, 6 plants, 8 quarries, gravel—269 men

Jefferson County's mineral activities in 1960 included the operation of three projects, six processing plants, eight quarries and twenty-nine mines. Production, in order of dollar value, consisted of sand and gravel, uranium, clay, stone, scrap mica, and beryl. Sand and gravel were produced steadily by the Brannan Sand & Gravel Company, Rio Grande Company, Asphalt Paving Company and Table Mountain, Inc. Uranium was produced by the Denver Golden Corporation from the Schwartzwalder property on Ralston Creek, and by the Yellow Queen Uranium Company, Cotter Corporation, Joseph Walsh and others. Clay production from the properties of the George W. Parfet Estate, Denver Fire Clay Company, Denver

\*County seats

Brick & Pipe Company, Wesley D. Conda, John L. Harvey, Lakewood Brick & Tile Company, Robinson Brick & Tile Company, George Lindsay, and others was increased over last year's production, and remained an important part of mineral production in the county. Some petroleum production was listed from the Soda Lake area. A new light weight aggregate plant and quarry, owned by Idealite Incorporated, was under construction near Rocky Flats in Jefferson County.

Uranium .....	
Sand and Gravel .....	\$ 2,040,732
Stone .....	26,050
Clay .....	656,941
<hr/>	
TOTAL PRODUCTION FOR COUNTY .....	\$ 2,723,723

**LAKE (3)****\*LEADVILLE**

Area 384 square miles

3 mines, 3 plants, project—2,184 men

Through the operations of the Climax Molybdenum Division of American Metals Climax Company on Fremont Pass, Lake County continues to be the largest producer of metallic minerals in Colorado. The Climax operations had a steady year of unbroken production which resulted in an all-time high of over 11,600,000 tons mined this year. New development and exploration work continued with the sinking of the 18-foot circular shaft below the Storke Tunnel. Additional plans are under way to sink a large shaft from surface at the Storke level. Some production is expected from the 600 level below the Storke level by 1965. New surface treatment facilities were completed as was additional tailings storage. Additional men were employed at Climax during the year, and employment now exceeds 1,900 men. It was announced during the year that the American Smelting & Refining Company's Arkansas Valley Plant, started in 1879, would cease operations and be dismantled early in 1961. This plant has long been of major economic assistance to Leadville and the mineral industry in Colorado. On its closing the last early-day custom ore smelter for lead, copper, gold and silver in Colorado will be history. It was announced that the company will operate a buying station at Leadville and all ore will be routed or shipped to the company smelter in El Paso, Texas. Other mineral activity in the county showed some increase in the

\*County seats

form of development and prospecting operations.

Gold .....	\$	7,539
Silver .....		2,165
Copper .....		3,120
Lead .....		680
Molybdenum .....		62,038,147
Tungsten .....		3,567,185
Pyrite .....		247,740
Tin .....		35,120
<hr/>		
Total .....	\$	65,901,696
Sand and Gravel .....	\$	693
TOTAL PRODUCTION FOR COUNTY .....	\$	65,902,389

**LA PLATA (4)**

\*DURANGO

Area 1,691 square miles

8 mines, 2 plants, oil and gas—345 men

Fixed prices on gold and silver, combined with relatively low copper, lead and zinc prices and high operating costs, have had a retarding effect on La Plata County mining activity. Although several properties including the Neglected operations have been prospecting and developing for these minerals, very little production was recorded from the county. The Vanadium Corporation of America's uranium and vanadium plant at Durango operated on record tonnage all year from mines in New Mexico, Utah and Colorado. Their contract balance from the Atomic Energy Commission, expiring in 1962, is of significant value to county economy. Oil and gas production from Barker Dome, Ignacio, Red Mesa, and other fields was increased due to the successful completion of several new wells. Petroleum development activity was steady during the year with encouraging results.

Uranium .....		
Vanadium .....		
Sand and Gravel .....	\$	51,200
Petroleum .....		60,992
Gas .....		3,269,734
<hr/>		
Total .....	\$	3,330,726
TOTAL PRODUCTION FOR COUNTY .....	\$	3,381,926

\*County seats

**LARIMER (1)**

\*FORT COLLINS

Area 2,640' square miles

10 mines, 6 plants, 15 quarries—244 men

Even though a slight decrease in cement production was noticed in Larimer County, the Ideal Cement Company's Boettcher plant at La Porte continued to be the county's largest mineral producer. Limestone and shale, mined at the company quarry, supplied raw material for cement manufacturing. Gypsum was mined from the Loveland quarry by the United States Gypsum Company, as was limestone for sugar purification from the Rex Quarry operated by the Norberg Construction Company. Beryl production decreased and most of the beryl ore treated at Minerals Concentrates & Chemical Company's plant at Loveland came from the Boomer property in Park County. Stone production in the county from the Lyons and Masonville area remained steady during the year. Petroleum production remained a very valuable asset to the county's economy. Feldspar and mica production came from several quarries in the area.

Beryllium .....	\$ 1,393
Cement .....	9,228,254
Sand and Gravel .....	841,411
Limestone .....	112,850
Stone .....	156,269
Feldspar, Mica, etc. ....	9,266
Gypsum .....	129,711
<hr/>	
Total .....	\$ 10,477,761
Petroleum .....	556,635
Gas .....	4,814
<hr/>	
Total .....	\$ 561,449
TOTAL PRODUCTION FOR COUNTY .....	\$ 11,040,603

**LAS ANIMAS (2)**

\*TRINIDAD

Area 4,798 square miles

1 mine, gas wells, gravel—76 men

Clay, carbon dioxide, sand and gravel were the only metals produced, with the exception of coal, in Las Animas County in 1960. Clay production from the Santa Fe Mine, operated by the Scott Mining Company, was steady. Carbon dioxide from the Nina View field was piped to Bent County for con-

\*County seats



version to dry ice.

Sand and Gravel .....	\$	75,893
Clay .....		27,011
		<hr/>
Total .....	\$	102,904
Gas .....	\$	9,949
TOTAL PRODUCTION FOR COUNTY .....	\$	112,853

**LOGAN (1)**

\*STERLING

Area 1,849 square miles  
 Oil and gas wells—320 men

Logan County was again fourth in petroleum production in the State with 4,582,809 barrels of oil and fifth in gas production with 10,287,473 mcf. Four hundred sixty-seven (467) producing wells, located in 103 fields, were active in 1960. Development activity continued throughout the year.

Petroleum .....	\$	13,290,146
Gas .....		1,172,772
		<hr/>

TOTAL PRODUCTION FOR COUNTY .....\$ 14,462,918

**MESA (4)**

\*GRAND JUNCTION

Area 3,334 square miles  
 56 mines, 7 plants, projects, gravel—1,081 men

Carnotite ores from Beaver Mesa, Outlaw Mesa, Calamity Mesa, Tenderfoot Mesa, and many other areas of the county have assisted Mesa County to maintain its third place in State uranium and vanadium production. Of the seven uranium concentrators in Colorado, Climax Uranium plant at Grand Junction was the first to receive a contract with the Atomic Energy Commission to extend operations beyond 1962. The new contract runs from August 1960 through December of 1966. The plant is capable of processing 330 tons of crude ore per day. Both company and independent ores from the Colorado Plateau will be processed. Several wildcat wells were drilled in 1960. Some gas and oil production was recorded. In addition to uranium and oil, some clay was mined and brick produced by the Grand Junction Brick & Tile Company. Sand and gravel was produced by several independent contractors for road surfacing and concrete aggregate. The Whitewater Sand & Gravel plant at Whitewater was active all year. Some stone was quarried south of Loma on the Colorado River and

\*County seats

hauled to Ridgway for cutting and sizing. Plant expansions were completed by the American Gilsonite Company at their plant near Fruita, Colorado.

Uranium .....		
Vanadium .....		
Sand and Gravel .....	\$	310,559
Stone .....		275
Clay .....		3,000
		<hr/>
Total .....	\$	310,834
Gas .....	\$	67,453
TOTAL PRODUCTION FOR COUNTY .....	\$	378,287

**MINERAL (3)**

\*CREEDE

Area 923 square miles

4 mines, 1 plant, gravel—64 men

The Emperius Mining Company, the State's third largest producer of lead and zinc ores, carried on continuous operations at their Amethyst Mine. Ore from the Amethyst was milled in the company mill below Creede. Other operations in the county included the Jack Pot, Monon, and Phoenix Mines, operated by the H. & B. Construction Company, Monon Mining Company, and the Outlet Mining Company, respectively. Lead, zinc, silver and gold prospecting was evident through the year and several sand and gravel plants produced aggregate for highway surfacing and the construction trade.

Gold .....	\$	25,571
Silver .....		260,211
Copper .....		62,872
Lead .....		371,892
Zinc .....		443,785
		<hr/>
Total .....	\$	1,164,331
Sand and Gravel .....	\$	46,696
TOTAL PRODUCTION FOR COUNTY .....	\$	1,211,027

**MOFFAT (3)**

\*CRAIG

Area 4,761 square miles

8 mines, 1 plant, projects—465 men

Uranium and petroleum were the principal mineral products of Moffat County during 1960. Some sand and gravel were produced by private operators for highway surfacing in

\*County seats

the building trade. Trace Elements Corporation, a subsidiary of Union Carbide Nuclear Company, operated the Maybell Mill on uranium ore from their pits near the plant. Production during the year was at capacity. In excess of 1,000 tons of low-grade ore per day was treated in this new and modern plant. Petroleum production came from the Danforth Hills, Moffat, Maudlin, Elk Springs, Powder Wash, Isles Dome and Hiawatha fields. Several new wells were completed which assisted the over-all county petroleum production to gain over the 1960 volume.

Uranium .....	
Sand and Gravel .....	\$ 97,408
Petroleum .....	5,283,817
Gas .....	1,033,770
	<hr/>
Total .....	\$ 6,317,587
TOTAL PRODUCTION FOR COUNTY .....	\$ 6,414,995

**MONTEZUMA (4)**

\*CORTEZ

Area 2,097 square miles

6 mines, projects, oil and gas wells—214 men

New wells and new discoveries in the Towaoc Desert Canyon and Flodine Park fields, located in the Paradox Basin area, were responsible for increased production of both oil and gas in Montezuma County. Considerable drilling activity was evident all year in the Desert Canyon area and along the Utah border towards the Aneth field. Work continued on the new highway between Cortez and the Four Corners area. Colorado Carbonics Company maintained a steady production of carbon dioxide gas, from the McElmo field, which was converted into dry ice. Placer operations were conducted part of the year by the Ripple & Baby Bear Mining Company south of Rico. Other operations in the county were on the Brownville group east of Mancos, on the Red Arrow group, Gold Run Nos. 1, 2, 3, and 4, and on the Hazel-Lu. The operators of these properties were Gene Crawford, the First National Oil & Minerals Company, Warren Lyen, and John & Albert Lyen, respectively.

Uranium .....	
Vanadium .....	
Sand and Gravel .....	\$ 81,765
Petroleum .....	229,334
Gas .....	22,571
	<hr/>
Total .....	\$ 251,905
TOTAL PRODUCTION FOR COUNTY .....	\$ 333,670

\*County seats

**MONTROSE (4)**

\*MONTROSE

Area 2,240 square miles

214 mines, 1 plant, projects—1,784 men

For the eleventh consecutive year Montrose County has been the State's leading uranium producer. Most all of the major uranium producers have properties in the west end of the county, some of which are Union Carbide Nuclear Company, Vanadium Corporation of America, Climax Uranium Company, Worcester Mines, Golden Cycle Corporation, and many others. The only processing mill in the county is located at Uravan, Colorado, and is operated by the Union Carbide Nuclear Company on tonnage from company and other mines on the Colorado Plateau. Vanadium Corporation of America maintained a purchase and collection plant at Naturita and these ores are shipped to their processing plant in Durango. Many carnotite mines in the county, thought to be worked out several years ago, are still producing substantial amounts of ore on deposits and have proved to be extended and continuous. In many cases ore has been developed on lower levels, which has doubled and tripled the original estimated recoverable ore tonnage. Considerable development drilling has been done this year in areas surrounding proven ore bodies. This drilling has also added potential tonnage to many properties. The principal producing areas are Long Park, Monogram Mesa, Bull Canyon, Paradox Valley, Carpenter Flats, Atkinson Mesa, and Martin Mesa. Montrose County also produced sand and gravel and stone for highway and building construction. During the year oil well drilling was in progress on Wray Mesa and on the San Miguel River northeast of Naturita.

Uranium .....	
Vanadium .....	
Sand and Gravel .....	\$ 151,272
Gas .....	\$ 2,460
TOTAL PRODUCTION FOR COUNTY .....	\$ 153,732

**MORGAN (1)**

\*FORT MORGAN

Area 1,300 square miles

Oil and gas wells—350 men

During the year the Colorado Oil & Gas Conservation Commission set a production limit of 22,000 barrels of oil and 25,173,000 cubic feet of gas per day on Adena, Colorado's second largest producing field. Oil activity in the county continued with many completions. Three hundred five producing

\*County seats

wells were recorded in 1960.

Sand and Gravel .....	\$ 113,709
Petroleum .....	26,971,693
Gas .....	1,497,315
<hr/>	
Total .....	\$ 28,469,008
TOTAL PRODUCTION FOR COUNTY .....	\$ 28,582,717

**OURAY (4)**

\*OURAY

Area 540 square miles

13 mines, 2 plants, projects—248 men

Of significant importance to Ouray County in 1960 was the erection and completion of the new 500-ton selective flotation mill by Western Knapp Engineering Company for Camp Bird-Colorado, Inc. on the site of the old cyanide and gravity mill. The mill was completed and test runs started late in October on ores which had been stockpiled. Ore blocking and development work on the Pierson and Camp Bird veins has been continuous during the year. The Francis Mill in the Sneffles District was completed during 1960 and satisfactory test runs on Ruby Trust and other ores were continued late in the year. Other Ouray County operators were the American Nettie, Atlas, Bachelor, Keeno, Monarch and Rouville. Service and supply operations for the Idarado Mining Company were maintained at the Treasury Tunnel portal during the year. Their main office, shops and warehouse, as well as a portion of the 200 employees, added materially to the economy of Ouray County. Ore mined in this two-county operation is milled in the company's Pandora Mill at Telluride.

Gold .....	\$ 171,670
Silver .....	147,680
Copper .....	415,912
Lead .....	621,319
Zinc .....	978,983
<hr/>	
Total .....	\$ 2,335,564
Sand and Gravel .....	\$ 6,000
TOTAL PRODUCTION FOR COUNTY .....	\$ 2,341,564

\*County seats

**PARK (1 and 2)**

\*FAIRPLAY

Area 2,178 square miles

6 mines, projects—219 men

Park County, like many other early day gold, silver, lead and zinc producing counties, is expanding through production of other mineral products. In addition to several operating gold placer properties, beryl and tungsten, as well as sand and gravel are fast becoming major products. Beryl ore from the Boomer and Red Skin Mines, operated by the U. S. Beryllium Company, was mined during the year. Some ore was stock-piled and some shipped to Mineral Concentrates Company at Loveland where it was reduced to beryllium oxide. The D M F Company, operators of the Betty Mine, a lead-silver-copper mine, did experimental work with a portable mill. Transmount Mining Ventures, Inc. shipped a carload of ore to a Boulder County milling plant.

Beryllium .....	\$	295,450
Sand and Gravel .....	\$	3,100
TOTAL PRODUCTION FOR COUNTY .....	\$	298,550

**PITKIN (3)**

\*ASPEN

Area 975 square miles

4 mines, gravel—27 men

For the first time in several years signs of mining activity were evident in this once large mining county. Montezuma Industries were developing ore reserves at the Montezuma Mine, six miles southwest of Ashcroft. Charles Howie conducted exploration work for lead-silver ore at the Star No. 1 on the west side of Independence Pass. Morrison Knudsen, contractors for the Pitkin Iron Corporation, completed roads and stripping operations and some iron ore was shipped during 1960 from the open pit above Ashcroft. The Utex Exploration Company started oil drilling operations at No. 1 Cal, located in Northeast Northwest Section 28, Township 8 South, Range 90 West, Pitkin County, with results unannounced at this time.

Silver .....	\$	1,000
Copper .....		150
Lead .....		600
Zinc .....		50
Iron .....		27,000
Total .....	\$	28,800
Sand and Gravel .....	\$	1,750
TOTAL PRODUCTION FOR COUNTY .....	\$	30,550

\*County seats

**PUEBLO (2)**

\*PUEBLO

Area 2,414 square miles

7 mines, projects—98 men

Five clay mines and one uranium mine added to Pueblo County's mineral economy during the year. The Chamblin, Miller Freeman, and Nellie Helen were operated by the Standard Fire Brick Company, Raymond Moore and Arthur Wanz, respectively. General Refractories No. 2 and 5, open pit mines, were clay producers in 1960. Cotter Corporation at Canon City operated the Kathryn uranium mine two miles south of Fort Carson and some production was recorded. Sand and gravel production was a major mineral product for the county.

Uranium .....	
Sand and Gravel .....	\$ 139,340
Clay .....	196,582
<hr/>	
TOTAL PRODUCTION FOR COUNTY .....	\$ 335,922

**RIO BLANCO (3)**

\*MEEKER

Area 3,264 square miles

5 mines, projects, oil and gas—532 men

Uranium development with some production from five mines located twenty-two miles northeast of Meeker in the Uranium Peak area, contributed mineral production to Colorado's top mineral producing county. Rangely field located in northwest Rio Blanco County continued to hold first place in petroleum production in the State. Under direction of the California Company, operators of the unitized Webber field, water flooding operations continued which will eventually stabilize production from the field. Wesco Refining Company had a steady operation at its 1,700-barrel-per-day refinery. New discoveries and production were listed at the Dragon Trail, Pinnacle, and Wilson Creek fields.

Uranium .....	
Vanadium .....	
Sand and Gravel .....	\$ 8,800
Petroleum .....	57,429,175
Gas .....	6,580,113
<hr/>	
Total .....	\$ 64,009,288
TOTAL PRODUCTION FOR COUNTY .....	\$ 64,018,088

\*County seats

**RIO GRANDE (3)**

\*DEL NORTE

Area 916 square miles

1 mine, projects—17 men

In addition to oil exploration and sand and gravel activities, exploration and development work was started at the Reynolds Tunnel, twenty-seven miles southwest of Del Norte at Summitville. This property was formerly a heavy gold, silver and copper producer and is owned by the Reynolds Morse Corporation and Ben Poxson. John Riggs of Denver is the present operator. Most work so far consists of reopening old workings and reconditioning old buildings and roads.

Sand and Gravel .....	\$	1,200
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$</b>	<b>1,200</b>

**ROUTT (3)**

\*STEAMBOAT SPRINGS

Area 2,331 square miles

Quarries, projects, oil and gas—129 men

Volcanic scoria used for railroad ballast and the manufacture of light weight building blocks was produced from the McCoy Cinder Pit operated by the McCoy Aggregate Company, four miles northeast of McCoy. Petroleum production came from several fields in the county which include the Curtis and Tow Creek fields. The New Sage and Grass Creek fields continued to produce from the Niobrara formation. Several new wells in the county were successfully completed and development and wildcat activity continued.

Sand and Gravel .....	\$	3,250
Scoria .....		23,426
<b>Total .....</b>	<b>\$</b>	<b>26,676</b>
Petroleum .....		310,242
Gas .....		3,709
<b>Total .....</b>	<b>\$</b>	<b>313,951</b>
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$</b>	<b>340,627</b>

**SAGUACHE (3 and 4)**

\*SAGUACHE

Area 3,146 square miles

13 mines, 4 plants, projects—175 men

Saguache County, separated by the Continental Divide, has enjoyed some base metal mining on the east slope and

\*County seats



uranium mining on the west slope for the past several years. Mining operations of the Gunnison Mining Company at their Los Ochos Group, Pinnacle Exploration Company at their Pitch Tunnel, and Gibraltar Minerals Company at their new Lookout Mine were the major uranium producers in 1960. All of these operations are on the west slope of the county. Ores from these mines were milled at the Gunnison Mining Company mill at Gunnison and at the Cotter Corporation mill at Canon City. Operators on the east slope were the Superior Mines Company, Gendev Mining Corporation, Monon Leasing Company, Rico Mining Company, Tom Amer, Joseph D. Blunt, and the Villa Grove Turquoise Company. Operations at the S. & S. Milling Company plant continued until late in the year. Some lead-zinc-silver production was noted on the east slope. Work on highway 114 by the Gardner Construction Company in the Cochetopa Pass area was in progress during the year.

Uranium .....		
Sand and Gravel .....	\$	5,093
Turquoise .....		16,360
<hr/>		
TOTAL PRODUCTION FOR COUNTY .....	\$	21,453

**SAN JUAN (4)**

\*SILVERTON

Area 392 square miles

22 mines, 3 plants, project—183 men

Mining activities in San Juan County in 1960 experienced a return to near normal with the exception of production. Through the development and exploration work conducted by Standard Metals, Inc. at the Gold King, or American Tunnel, the Shenandoah and Letter G properties and the reconditioning of the Mayflower Mill, Silverton's economy was materially helped. The American Tunnel was enlarged and lengthened beyond the 9,500-foot station and plans are to connect this tunnel by means of a raise to the old Sunnyside workings. The Shenandoah Mill was operated during the year on company and custom ores. The Denver-Golden Corporation continued operations at the Burbank Tunnel and some production was noted from both the Pride and Lackawanna Mills. Other operations were conducted at the Auburn Group, Blackhawk, Burbank Tunnel, Clear Lake, Columbus, Elk Park, Graysill Group, Katy, Little Giant, Little Ida, Rabbit Placer, Long-fellow Shaft, Osceola, Queen Ann, Rainbow, or Brooklyn,

\*County seats

## Silent Friend, Silver Wing and Sultan Tunnels.

Gold .....	\$	79,864
Silver .....		100,659
Copper .....		227,170
Lead .....		185,428
Zinc .....		37,212
Total .....	\$	630,333
Sand and Gravel .....	\$	7,600
TOTAL PRODUCTION FOR COUNTY .....	\$	637,933

**SAN MIGUEL (4)**

\*TELLURIDE

Area 1,284 square miles

85 mines, 2 plants, quarry, projects—1,056 men

The Idarado Mining Company's Idarado Mine operations east of Telluride continued to be the largest producer of silver, copper and lead in the State. Their operations, extending from Red Mountain to Telluride, have produced a record amount of tonnage from San Miguel and Ouray Counties, and this ore was processed in their modern plant at Pandora. Careful planning and economical operating procedures have enabled this company to operate despite fixed prices on gold and silver and high commodity costs. County uranium production continued high from the Slick Rock, Egnar, Bull Canyon and Gypsum Valley areas. Much of this uranium ore was treated at the Union Carbide Nuclear Company plant at Slick Rock. Petroleum exploration continued during the year with major gas discoveries reported in the Egnar and other areas. Of interest to this department was the completion of one year without a lost-time injury at the Union Carbide Nuclear Company's Burro properties at Slick Rock.

Gold .....	\$	524,440
Silver .....		443,025
Copper .....		1,234,597
Lead .....		1,714,690
Zinc .....		2,816,297
Uranium .....		
Vanadium .....		
Total .....	\$	6,733,049
Sand and Gravel .....		129,144
Stone .....		15,000
Total .....	\$	144,144
TOTAL PRODUCTION FOR COUNTY .....	\$	6,877,193

\*County seats

**SUMMIT (3)**

\*BRECKENRIDGE

Area 616 square miles

4 mines, 2 plants, projects—567 men

Blue River Constructors, Inc., contractors for the Harold D. Roberts diversion tunnel, holed through between the shaft and the Dillon entry on January 2 and made the final connection between the shaft and the Grant entry on February 24. This entire twenty-three mile tunnel was driven without a fatal accident, which is a great credit to the contractors. Concreting the entire tunnel was started in August and this work will be completed early in 1962. Brown Construction Company holed through on the McCullough Tunnel during the last half of the year and cleanup and concreting operations continued throughout 1960. F. H. Linneman completed driving the Dillon Dam diversion tunnel this year and work continued on concreting and gate-valve raise driving. Abutment and base excavating was started on the Dillon high dam by Potashnick Construction Company. Several placer and lode mining operations were evident in the county during the year. C. Ryan and Son operated the Climax Sand & Gravel plant above Kokomo.

Gold .....	\$	1,000
Sand and Gravel .....	\$	316,720
<b>TOTAL PRODUCTION FOR COUNTY .....</b>	<b>\$</b>	<b>317,720</b>

**TELLER (2)**

\*CRIPPLE CREEK

Area 555 square miles

8 mines, 1 plant, quarries—120 men

Mining operations in Teller County were again sub-normal and gold production in the county was very little different from the 1959 figure. Golden Cycle Corporation operated the Ajax and Theresa Shaft mines. The Deadwood Leasing Company operated the Deadwood property. Peiffer and Company operated the Grace Greenwood and John Robush operated the Little May. The Mollie Kathleen operated as both a tourist mine and a producing mine. All ore was milled in the Golden Cycle Carlton Mill located between Cripple Creek and Victor. Granite for monumental uses was produced by the Pikes Peak Granite Company and exploratory drilling is in progress in the High Park area. Other operators in the county were Frank H. Norberg, Herb Crisler and Alpen

\*County seats

## Meadows, Inc.

Gold .....	\$ 1,095,169
Sand and Gravel .....	1,164
Stone .....	8,485
Peat .....	15,000
Total .....	\$ 24,649
TOTAL PRODUCTION FOR COUNTY .....	\$ 1,119,818

**WASHINGTON (1)**

\*AKRON

Area 2,530 square miles

Petroleum—240 men

Petroleum production again this year should keep this county in the top six for the State. Several new wells were completed northeast of Lyndon and several wells were drilled on the south side of highway 36.

Sand and Gravel .....	\$ 122,362
Petroleum .....	23,289,816
Gas .....	463,195
Total .....	\$ 23,753,011
TOTAL PRODUCTION FOR COUNTY .....	\$ 23,875,373

**WELD (1)**

\*GREELEY

Area 4,033 square miles

Petroleum—68 men

One hundred nineteen producing wells were recorded in Weld County during 1960 and 1,583,804 barrels of crude oil were produced. The county was sixth in petroleum production, led by Rio Blanco, Morgan, Washington, Logan and Moffat Counties.

Sand and Gravel .....	\$ 324,140
Petroleum .....	4,593,032
Gas .....	269,244
Total .....	\$ 4,862,276
TOTAL PRODUCTION FOR COUNTY .....	\$ 5,186,416

NOTE: County mineral production mentioned or listed without a value has been placed in the State's total mineral production on page 16.

## Safety Awards

Safety Awards have been issued to the following operators who have completed the year 1960 without a lost-time accident and who have exceeded 30,000 man-hours of employment during the year:

American Smelting & Refining Company—Globe Plant  
The California Company—Weld County Operations  
Douglas Cleghorn—Joe & Sandy Mine  
General Chemical Division, Allied Chemical Corporation  
—Valmont Mill  
Golden Cycle Corporation—Carlton Mill  
Gunnison Mining Company—Gunnison Mill  
Harrison Construction Company—Highway Construction  
Idarado Mining Company—Mill Department  
Idarado Mining Company—Shop Department  
Mountain Fuel & Supply Company—Hiawatha Oil Field  
Calvin C. Sanders—Long Park Nos. 6 & 12 Mine  
Texaco Inc.—Wilson Creek Oil Field  
Trace Elements Corporation—Maybell Mill  
Trace Elements Corporation—Mining Division  
Union Carbide Nuclear Company—Burro Nos. 3, 5, 7 Mine  
Union Carbide Nuclear Company—Paradox Nos. 5 & 6  
Mine

Awards of Merit have been issued to the following operators, some of which had no lost-time accidents during the year but had insufficient man-hours to qualify for a Safety Award. This award is given to large and small operators alike in appreciation of outstanding effort and cooperation in the field of Safety during the year.

C. N. Athey—Opera Box Group  
Atlas Well Service  
Barnes Brothers—First National Bank Mine  
Delbert Burbridge—Little Dick Mine  
Climax Uranium Company—G-3 Mine  
Colorado Fuel & Iron Corporation—Monarch Lime Quarry  
& Plant  
Colorado Granite Grits Inc.—Mining Operations  
Wesley D. Conda—Church Quarry  
Cooley Gravel Company—Denver Operations  
Cotter Corporation—Cotter Mill  
Deadwood Leasing Company—Deadwood Mine

Hoyt Deaver & Son—Trace Elements Pits  
 Denver Brick & Pipe Company—Clay Mining Operations  
 Denver Fire Clay Company—Two Brothers & Black Silica  
 Quarries  
 Empire Zinc Division, The New Jersey Zinc Company—  
 Canon City Plant  
 Fibreboard Paper Products Company—Coaldale Quarry  
 General Chemical Division, Allied Chemical Corporation  
 —Burlington Mine  
 General Chemical Division, Allied Chemical Corporation  
 —Denver Works  
 Golden Cycle Corporation—Theresa Shaft  
 Herren & Strong—Highway Construction  
 Ideal Cement Company—Boettcher Quarry  
 Ideal Cement Company—Portland Quarry  
 Javernick, Javernick & Borgenson—Mill No. 2 Mine  
 E. J. Johannsen & Elwood Kelly—Deluxe Mine  
 Mountain Fuel & Supply Company—Powder Wash Oil  
 Field  
 Mountain Fuel & Supply Company—Sugar Loaf Oil Field  
 Ernest W. Munroe—Munroe Plant & Goodwin Quarry  
 Nielson, Inc.—Highway Construction  
 George W. Parfet Estate, Inc.—Rockwell & Green Moun-  
 tain Quarries  
 William R. Pierce—Long Park No. 1 Mine  
 DeVar Shumway—Plateau Operations  
 Paul Smith & Oran Thompson—Merry Widow Mine  
 Dale Souther—Sunbeam Mine  
 Lowell Staats—Carnation Mine  
 Sterling Sand & Gravel Company—Larimer County Op-  
 erations  
 Stocklasa, Blake, & Power—Big Dick & Buckshot Mines  
 Texaco Inc.—Hamilton Area  
 U. S. Beryllium Company—Boomer & Red Skin Mines  
 Union Carbide Nuclear Company—Capella Mine  
 Union Carbide Nuclear Company—Eula Belle Mine  
 Union Carbide Nuclear Company—Mining Department  
 United States Gypsum Company—Loveland Works  
 Utex Exploration Company—Cash, Rex & Victoria Mines  
 Western Feldspar Milling Company—Western Feldspar  
 Mill  
 Worcester Mines—Worcester Mine

## Injuries

A substantial reduction of lost-time injuries in the mineral industry occurred in 1960, despite the fact that more men were employed. Severity of injuries received was increased due to sixteen fatal accidents, which were three more than in 1959. Ten of the fatals occurred in District No. 4, where a major part of the State's operating properties are located. Underground injuries decreased by 20% in 1960 and surface injuries increased by 15%. In general, continued improved cooperation between the operators, employees and the Bureau of Mines has resulted in decreasing accidents in the industry. Most of the sixteen fatal accidents were caused by carelessness on the part of either management or the injured.

Six fatal accidents occurred underground, or one for every 802 men working or for every 1,635,600 man-hours worked. Three fatals occurred at mine surface or one for every 1,153 men working or for every 1,647,266 man-hours worked. Four fatals occurred on State and Federal projects or one for every 409 men working or one for every 981,000 man-hours worked. Three fatals occurred at oil and gas well drilling operations or one for every 750 men working or for every 2,360,000 man-hours worked. One fatal occurred for every 932 men working in the mineral industry or one for every 2,255,800 man-hours worked.

All of the above accidents were personally investigated by the inspector for the district in which the accident occurred and a complete written report was filed in this office. Corrective orders were issued to the employer for the purpose of eliminating a re-occurrence of a similiar accident and these recommendations were passed on to the other inspectors for their future use.

**SUMMARY OF INJURIES**

	Total Man-Hours	Fatal Injuries	Lost-Time Injuries	Number of Lost Days	Frequency Rate Per One Million Man-Hours	Severity Rate Per One Million Man-Hours
Mines, Underground	9,813,600	6	433	42,061	44.1	4,285.
Mines, Surface	4,948,800	3	175	19,443	35.3	3,928.
Quarries-Pits	1,152,000	0	16	184	13.8	72.
Mill-Plants-Smelters	8,853,600	0	97	1,128	10.9	127.
State & Federal Projects	3,924,000	4	159	25,875	40.5	6,596.
Oil & Gas Industry	7,080,000	3	190	13,363	26.8	2,734.
<b>Totals</b>	<b>35,772,000</b>	<b>16</b>	<b>1,070</b>	<b>107,954</b>	<b>29.9</b>	<b>3,017.</b>

This table includes the loss of 96,000 days due to 16 fatalities and 3,740 days due to 17 permanent partial disabilities.

Frequency Rate =  $\frac{\text{Number of Injuries} \times 1,000,000}{\text{Number of Man-Hours of Exposure}}$

Severity Rate =  $\frac{\text{Total Time Charges in Days} \times 1,000,000}{\text{Number of Man-Hours of Exposure}}$

**INJURIES BY DISTRICTS**

District	Fatals	Mines, Under- ground	Mines, Surface	Quarries- Pits	Mills- Plants- Smelters	Projects	Oil	Totals
District 1	0	20	6	9	13	37	52	137
District 2	2	11	6	4	4	37	4	66
District 3	4	116	56	3	38	73	96	382
District 4	10	286	107	0	42	12	38	485
<b>Totals</b>	<b>16</b>	<b>433</b>	<b>175</b>	<b>16</b>	<b>97</b>	<b>159</b>	<b>190</b>	<b>1,070</b>

**FATAL INJURIES**

**Mines, Underground**

Date	Name	Age	Employed By	County	Cause of Injury
2-2-60	Oscar B. Poyer	40	Dulaney Mining Co.	San Miguel	Premature blast. Poyer had com- pleted lighting seventeen loaded holes in a shallow incline shaft. While putting on his gloves the first shot fired. Investigation re- vealed one fuse had been cut short. Improper blasting proce- dure.



Both men were hit by a five ton slab falling from the roof of a slope. Both were knocked to the bottom of a 30-foot raise and covered with rock. Improper raise construction. Failure to properly support ground.

Durfee was in the act of lighting thirty-two loaded holes with lead spitter not detached from the roll. Required second man was not present. Improper blasting procedure.

While carrying a box of powder down a shaft ladder, McCloughan slipped and fell to level below where he rolled into an open ore pass. Safety rule infraction and improper safeguards.

Lighted a 23-hole round with lead spitter not removed from the roll. Required second man was not assisting. Round detonated before lighting was completed. Improper blasting procedure.

Intermittent drilling and blasting was being done under the rim of the mesa when a large 100-ton rock broke loose and fell on Mr. Thompson. Improper safeguards.

Beye was driving a Euclid scraper out of a uranium pit when the scraper went over the bank and crashed to pit bottom. Cause undetermined.

Dolores  
Dolores

Rico Argentine Mining Co.  
Rico Argentine Mining Co.

62  
29

4-15-60 Louis M. Jones  
4-15-60 Walter Davis

Mesa

Model Mining Co.

24

5-16-60 Robert E. Durfee

Hinsdale

Col-Tex Mining Inc.

37

8- 4-60 Lester L. McCloughan

Montrose

Warren Kuykendall

50

11- 4-60 Paul D. Rice

### Mines, Surface

Sau Miguel

V.C.A. Strawberry Roan

26

4- 4-60 Stanley R. Thompson

Moffat

U.C.N.C. John P. Moon

20

11-17-60 Jack R. Beye

A superintendent operating a hoist on the surface of an incline. Hoist was in the open and the operating platform was covered with ice and snow. McComber slipped and fell into the hoist. Improper safeguards and precautions.

Crushed under a 12-inch water line when the same broke loose from the rib of the Roberts Tunnel after a blast. Insufficient pipe support.

Operating a front end loader on hillside road. Loader went over the bank and Elenga jumped, resulting in his being crushed beneath loader bucket. Exact cause undetermined.

Driving dumpster down a steep hill that was slippery from recent snow. Dumpster skidded out of control and slipped over a bank, crushing Boughner. Improper safety precautions.

Driving a Euclid scraper when the same skidded sideways and turned over, crushing Claunch. Exact cause undetermined.

Hit on the head with a falling tong head. Improper safeguards and procedure.

Fremont

Seacol Inc.

57

Herbert F. McComber

12-16-60

### Projects

Park

Blue River Constructors

57

Albert H. Davies

3-14-60

Delta

Seigrist Construction Co.

43

Harold Elenga

7-16-60

Summit

Linneman Construction Co.

25

William M. Boughner

8-17-60

Routt

Z. H. & W. H. Lowdermilk  
Construction Co.

40

Joseph F. Claunch

10- 5-60

### Oil

Rio Blanco

Moab Drilling Co.

31

Joseph V. Sigurnik

4-10-60

Removing cap from pipe so that the plug could be driven farther into pipe when plug blew out, hitting Havins in head. He fell to floor fifteen feet below. No safety belt. Improper safety precautions.

Attempting to start a gasoline starter engine when it backfired, igniting gasoline spilled on McCormick. Also ignited the gasoline tank which was uncovered. Improper safeguards and carelessness.

La Plata

Halliburton Oil Well Co.

28

Buddy Havins

6-17-60

La Plata

Moran Brothers Inc.

54

Irving B. McCormick

8- 4-60

# Injury Statistics

## MINES, UNDERGROUND

Agency Causing Injury	Fatalis	Temporary Injuries	
		Loss of one day or more	
Atmosphere .....		3	
Bars—Bins—Chutes .....		3	
Belts—Conveyors—Pulleys .....		1	
Cables—Hose—Ropes .....		14	
Cars—Motors—Vehicles .....	1	85	
Chains—Gears—Sprockets .....		3	
Chemicals .....		1	
Containers .....		4	
Doors—Windows—Gates .....		2	
Drills—Drilling Equipment .....		9	
Dust and Particles .....		8	
Electricity—Elec. Equipment .....		6	
Explosives, Loading or Firing .....		4	
Falls—Floor—Ice—Snow .....		15	
Flames—Fire—Hot Substances .....		2	
Hoists—Hoisting Apparatus .....		5	
Ladders—Manways .....	1	12	
Machinery—Tools .....		70	
Materials .....		2	
Metal Objects .....		24	
Platforms—Staging—Scaffolds .....		5	
Premature or Delayed Blasts .....	2	2	
Rock—Ore—Ground .....	2	109	
Screens .....		3	
Shovels, Power .....		1	
Timber—Lumber—Poles .....		28	
Tracks .....		4	
Unclassified—Insufficient Data .....		2	
<b>Totals</b> .....	<b>6</b>	<b>427</b>	<b>433</b>
<b>Type of Injury</b>			
Burns—Shock .....		3	
Caught in or between .....		90	
Fall on same level .....		14	
Fall on different level .....	1	19	
Handling .....		89	
Inhalation—Suffocation .....		9	
Slip—Stepping on .....		26	
Striking against—Struck by .....	5	178	
Unclassified—Insufficient Data .....		4	
<b>Totals</b> .....	<b>6</b>	<b>432</b>	<b>438</b>

**INJURY STATISTICS—(Continued)**

Nature of Injury	Fatales	Temporary Injuries	
		Loss of one day or more	
Amputations .....		6	
Burns—Scalds—Shock .....		2	
Cuts—Bruises—Lacerations— Punctures .....		217	
Foreign Bodies .....		13	
Fractures .....	6	75	
Hernia .....		8	
Occupational Diseases .....		4	
Respiratory .....		6	
Strains—Sprains—Dislocations .....		126	
Nature Unknown .....		2	
		<hr/>	<hr/>
Totals .....	6	459	465

**Site of Injury**

Eyes .....		18	
Head—Face—Neck .....		34	
Trunk .....	2	129	
Upper Extremities .....		155	
Lower Extremities .....		144	
General .....	4	6	
Insufficient Data .....		1	
		<hr/>	<hr/>
Totals .....	6	487	493

**MINES, SURFACE**

**Agency Causing Injury**

Bars—Bins—Chutes .....		3
Cables—Hose—Ropes .....		5
Cars—Motors—Vehicles .....		5
Chains—Gears—Sprockets .....		2
Containers .....		3
Drills—Drilling Equipment .....		14
Dust and Particles .....		5
Electricity—Elec. Equipment .....		1
Explosives, Loading or Firing .....		1
Falls—Floor—Ice—Snow .....		14
Falling or Flying Objects .....		3
Flames—Fire—Hot Substances .....		4
Hoists—Hoisting Apparatus .....	1	
Ladders—Manways .....		2
Machinery—Tools .....	1	25
Materials .....		2

## INJURY STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more	
Metal Objects .....		28	
Platforms—Staging—Scaffolds .....		1	
Premature or Delayed Blasts .....		3	
Rock—Ore—Ground .....	1	25	
Screens .....		2	
Shovels, Power .....		1	
Timber—Lumber—Poles .....		12	
Tracks .....		6	
Unclassified—Insufficient Data .....		5	
	<hr/>	<hr/>	<hr/>
Totals .....	3	172	175
<b>Type of Injury</b>			
Burns—Shock .....		5	
Caught in or between .....		9	
Fall on same level .....	1	6	
Fall on different level .....		5	
Handling .....		46	
Inhalation—Suffocation .....		2	
Slip—Stepping on .....		18	
Striking against—Struck by .....	2	78	
Unclassified—Insufficient Data .....		3	
	<hr/>	<hr/>	<hr/>
Totals .....	3	172	175
<b>Nature of Injury</b>			
Amputations .....		3	
Burns—Scalds—Shock .....		5	
Cuts—Bruises—Lacerations— Punctures .....		61	
Foreign Bodies .....		11	
Fractures .....	3	26	
Hernia .....		4	
Respiratory .....		1	
Strains—Sprains—Dislocations .....		60	
Nature unknown .....		1	
	<hr/>	<hr/>	<hr/>
Totals .....	3	172	175
<b>Site of Injury</b>			
Eyes .....		17	
Head—Face—Neck .....	1	10	
Trunk .....		64	
Upper Extremities .....		33	
Lower Extremities .....		53	
General .....	2	1	
	<hr/>	<hr/>	<hr/>
Totals .....	3	178	181

**INJURY STATISTICS—(Continued)**

**QUARRIES**

	Fatals	Temporary Injuries Loss of one day or more
<b>Agency Causing Injury</b>		
Cars—Motors—Vehicles .....		2
Drills—Drilling Equipment .....		1
Flames—Fire—Hot Substances .....		1
Machinery—Tools .....		1
Metal Objects .....		2
Rock—Ore—Ground .....		8
Timber—Lumber—Poles .....		1
Total .....		16
<b>Type of Injury</b>		
Burns—Shock .....		1
Caught in or between .....		1
Fall on same level .....		1
Handling .....		6
Striking against—Struck by .....		7
Total .....		16
<b>Nature of Injury</b>		
Burns—Scalds—Shock .....		1
Cuts—Bruises—Lacerations— Punctures .....		8
Fractures .....		2
Strains—Sprains—Dislocations .....		6
Total .....		17
<b>Site of Injury</b>		
Head—Face—Neck .....		1
Trunk .....		8
Upper Extremities .....		4
Lower Extremities .....		4
General .....		1
Total .....		18

**MILLS—PLANTS—SMELTERS**

<b>Agency Causing Injury</b>	
Atmosphere .....	3
Bars—Bins—Chutes .....	5
Belts—Conveyors—Pulleys .....	4
Cars—Motors—Vehicles .....	2
Chemicals .....	4

### INJURY STATISTICS—(Continued)

	Fatals	Temporary Injuries Loss of one day or more
Containers .....		3
Dust and Particles .....		4
Electricity—Elec. Equipment .....		2
Falls—Floor—Ice—Snow .....		15
Flames—Fire—Hot Substances .....		4
Hoists—Hoisting Apparatus .....		1
Ladders—Manways .....		2
Machinery—Tools .....		13
Materials .....		7
Metal Objects .....		16
Platforms—Staging—Scaffolds .....		1
Rock—Ore—Ground .....		2
Timber—Lumber—Poles .....		7
Tracks .....		2
Total .....		97

#### Type of Injury

Burns—Shock .....	8
Caught in or between .....	13
Fall on same level .....	2
Fall on different level .....	13
Handling .....	18
Inhalation—Suffocation .....	11
Slip—Stepping on .....	12
Striking against—Struck by .....	21
Total .....	98

#### Nature of Injury

Burns—Scalds—Shock .....	9
Cuts—Bruises—Lacerations— Punctures .....	31
Foreign Bodies .....	5
Fractures .....	11
Hernia .....	2
Occupational Diseases .....	6
Respiratory .....	3
Strains—Sprains—Dislocations .....	31
Total .....	98

#### Site of Injury

Eyes .....	10
Head—Face—Neck .....	4
Trunk .....	38



**INJURY STATISTICS—(Continued)**

	Fatalis	Temporary Injuries Loss of one day or more
Upper Extremities .....		15
Lower Extremities .....		27
General .....		6
		<hr/>
Total .....		100

**PROJECTS**

**Agency Causing Injury**

Bars—Bins—Chutes .....		5	
Belts—Conveyors—Pulleys .....		1	
Cables—Hose—Ropes .....		8	
Cars—Motors—Vehicles .....	2	18	
Chains—Gears—Sprockets .....		2	
Chemicals .....		1	
Doors—Windows—Gates .....		1	
Drills—Drilling Equipment .....		3	
Dust and Particles .....		4	
Electricity—Elec. Equipment .....		3	
Explosives, Loading or Firing .....		1	
Falls—Floor—Ice—Snow .....		9	
Flames—Fire—Hot Substances .....		1	
Ladders—Manways .....		1	
Machinery—Tools .....	1	28	
Materials .....		7	
Metal Objects .....		17	
Platforms—Staging—Scaffolds .....		2	
Premature or Delayed Blasts .....	1		
Rock—Ore—Ground .....		20	
Shovels, Power .....		1	
Timber—Lumber—Poles .....		7	
Tongs .....		1	
Tracks .....		14	
		<hr/>	
Totals .....	4	155	<hr/> 159

**Type of Injury**

Burns—Shock .....		6	
Caught in or between .....		19	
Fall on same level .....		8	
Fall on different level .....	1	7	
Handling .....		47	
Inhalation—Suffocation .....		2	
Slip—Stepping on .....		14	
Striking against—Struck by .....	3	52	
		<hr/>	
Totals .....	4	155	<hr/> 159

## INJURY STATISTICS—(Continued)

Nature of Injury	Fatales	Temporary Injuries Loss of one day or more	
Amputations .....		3	
Burns—Scalds—Shock .....		8	
Cuts—Bruises—Lacerations— Punctures .....	2	65	
Foreign Bodies .....		8	
Fractures .....	2	36	
Hernia .....		2	
Occupational Diseases .....		2	
Respiratory .....		1	
Strains—Sprains—Dislocations .....		41	
	<hr/>	<hr/>	<hr/>
Totals .....	4	166	176
<b>Site of Injury</b>			
Eyes .....		14	
Head—Face—Neck .....	2	18	
Trunk .....		59	
Upper Extremities .....		35	
Lower Extremities .....		44	
General .....	2	3	
	<hr/>	<hr/>	<hr/>
Totals .....	4	173	177

## OIL WELLS

## Agency Causing Injury

Belts—Conveyors—Pulleys .....		1
Cables—Hose—Ropes .....		2
Cars—Motors—Vehicles .....		5
Chains—Gears—Sprockets .....		8
Containers .....		1
Derricks—Headframes .....		1
Drills—Drilling Equipment .....	1	42
Dust and Particles .....		2
Electricity—Elec. Equipment .....		1
Explosives—Transportation .....		6
Falls—Floor—Ice—Snow .....		20
Falling or Flying Objects .....		1
Flames—Fire—Hot Substances .....	1	5
Ladders—Manways .....		1
Machinery—Tools .....		25
Materials .....		4
Metal Objects .....	1	35
Platforms—Staging—Scaffolds .....		2
Rock—Ore—Ground .....		5

**INJURY STATISTICS—(Continued)**

	Fatals	Temporary Injuries Loss of one day or more	
Screens .....		1	
Timber—Lumber—Poles .....		3	
Tongs .....		14	
Tracks .....		1	
Unclassified—Insufficient Data .....		1	
Totals .....	3	187	190

**Type of Injury**

Burns—Shock .....	1	11	
Caught in or between .....		43	
Fall on same level .....		6	
Fall on different level .....		9	
Handling .....		26	
Inhalation—Suffocation .....		1	
Slip—Stepping on .....		5	
Striking against—Struck by .....	2	92	
Unclassified—Insufficient Data .....		1	
Totals .....	3	194	197

**Nature of Injury**

Amputations .....		6	
Burns—Scalds—Shock .....	1	12	
Cuts—Bruises—Lacerations— Punctures .....		111	
Foreign Bodies .....		4	
Fractures .....	2	36	
Strains—Sprains—Dislocations .....		41	
Totals .....	3	210	213

**Site of Injury**

Eyes .....		8	
Head—Face—Neck .....	2	33	
Trunk .....		51	
Upper Extremities .....		68	
Lower Extremities .....		50	
General .....	1		
Totals .....	3	210	213

## Men Employed

Employment in Colorado's mineral industry showed a slight increase in 1960 over 1959. There were 14,905 men employed, or a gain of 101 over last year. There were fifteen more individual mining operations in 1960 which indicates some more development and prospecting activity. Actual employment in underground mining diminished by ninety-one men, which indicates again that as men were laid off in the larger operations they immediately began operations on their own property or lease. Employment in surface mining and oil drilling activity increased some, with a reduction indicated in project labor or State and Federal projects. Continued high costs of operation with fixed mineral prices were responsible again for below-normal activity in base metal mining.

	Mines		Mills, Plants, Smelters		Quarries & Pits		*Placers	Projects	Oil Wells	Totals		
	No.	Men	No.	Men	No.	Men	No.	Men	Men	Men		
District 1..	98	405	29	359	35	232	20	293	5	231	1,270	2,790
District 2..	46	229	3	105	14	176	3	235	3	197	295	1,237
District 3..	41	1,556	10	1,660	11	57	2	195	12	714	920	5,102
District 4..	422	3,030	24	1,565	3	15	3	208	18	493	465	5,776
Totals	607	5,220	66	3,689	63	480	28	931	38	1,635	2,950	14,905

\*Sand & Gravel employment included with placer operations

### TOTAL MEN EMPLOYED

	Underground	Surface	Oil Wells	Totals
District 1.....	359	1,161	1,270	2,790
District 2.....	297	645	295	1,237
District 3.....	1,854	2,328	920	5,102
District 4.....	2,297	3,014	465	5,776
Totals .....	4,807	7,148	2,950	14,905

### MEN EMPLOYED IN

Gold, Silver, Copper, Lead, Zinc	Molybdenum	Uranium	Oil Wells	Other	Total
950	1,900	5,000	2,950	4,105	14,905

### DIVISION OF OPERATIONS

Base and Precious Metal Mines.....	40
Uranium Mines .....	485
Other Mines .....	82

## First Aid Training

Six hundred fifty-two men in Colorado's mineral industry were trained in first aid during 1960.

# Inspections

An increase in the number of mining operations and a slight decrease in the number of oil well drilling operations resulted in a net gain of twenty-one mineral operations or a total of 964 properties and oil wells inspected in 1960. Better access roads and a part-time transfer of a District 3 inspector to District No. 4 was responsible for an increase of 210 more inspections in 1960 or a total of 1,482 complete inspections and reports. Properties where safety conditions were sub-standard were inspected several times and all properties were inspected at least once during the year. Better than an average of 1.5 inspections were made each working day by each inspector.

## INSPECTIONS

Made By

1960	District 1	District 2	District 3	District 4	Total
	Blake	Theobald	Doyle & Keating	Ray & Pakka	
January .....	10	12	27	44	93
February .....	16	7	19	45	87
March .....	23	0	29	35	87
April .....	29	24	13	49	115
May .....	15	0	40	62	117
June .....	48	8	59	101	216
July .....	23	12	50	53	138
August .....	24	0	56	65	145
September .....	40	0	16	69	125
October .....	29	9	43	66	147
November .....	28	5	17	52	102
December .....	41	5	9	55	110
Totals .....	326	82	378	696	1,482

District	Mines	Mills	Pits & Quarries	Placers	Oil & Gas	Projects			Total
		Plants Smelters		& Bogs	Wells, Plants	Road	Tunnel	Dam	
1	137	52	49	4	60	20	4	....	326
2	41	3	24	3	7	3	1	....	82
3	92	50	32	5	127	14	48	10	378
4	567	41	4	4	45	31	....	4	696
Totals	837	146	109	16	239	68	53	14	1,482

## Information Reports

Six hundred ten Information Reports on as many separate mining operations were filed in the Bureau of Mines office by the inspectors in 1960. These reports are kept as a permanent public record on all mining properties in the State, and they give such information as the name of the operator, name of listed owner, a description of the underground workings, size of the vein, geological formation, type of timbering, surface installations, and other pertinent information concerning the operation.

### INFORMATION REPORTS

Made By

1960	District 1	District 2	District 3	District 4	Total
	Blake	Theobald	Doyle & Keating	Ray & Pakka	
January .....	1	0	1	33	35
February .....	0	0	1	49	50
March .....	4	0	6	20	30
April .....	1	0	0	11	12
May .....	2	0	3	25	30
June .....	10	0	8	37	55
July .....	2	0	12	41	55
August .....	5	28	1	51	85
September .....	23	19	1	35	78
October .....	1	0	9	40	50
November .....	0	0	2	45	47
December .....	27	10	1	45	83
Totals .....	76	57	45	432	610

Mines	Mills Plants	Smel- ters	Pits & Quarries	Placers & Bogs	Oil & Gas Wells,	Projects			Total
	Plants				Plants	Road	Tunnel	Dam	
District 1....	36	6	21	10	3	....	....	....	76
District 2....	34	9	12	1	....	....	1	....	57
District 3....	19	7	1	2	10	3	1	2	45
District 4....	395	17	5	2	6	4	....	3	432
Totals ....	484	39	39	15	19	7	2	5	610

# Mineral Operations by County in Colorado

## ADAMS COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Englewood	Adams County	Cooley Gravel Co., 6101 Lowell Blvd., Denver 11	Sand, Gravel, Gold	Plant
Inland	Derby	Boise Cascade Sand & Gravel Co., 7620 Madison St., Derby	Sand, Gravel, Gold	Plant
Plant Nos. 8, 10 & 11	Denver	Brannan Sand & Gravel Co., 4800 Brighton Blvd., Denver 16	Sand, Gravel, Gold	Plant
Pit No. 1	Denver	Brannan Sand & Gravel Co., 4800 Brighton Blvd., Denver 16	Sand, Gravel	Plant
Portable No. 219 at	Denver	Brannan Sand & Gravel Co., 4800 Brighton Blvd., Denver 16	Sand, Gravel	Plant

## ARAPAHOE COUNTY

Littleton Plant	Littleton	Cooley Gravel Co., 6101 Lowell Blvd., Denver 11	Sand, Gravel	Plant
North Plant	Arapahoe County	Cooley Gravel Co., 6101 Lowell Blvd., Denver 11	Sand, Gravel, Gold, Silver	Plant
Portable No. 3	Arapahoe County	Brannan Sand & Gravel Co., 4800 Brighton Blvd., Denver 16	Sand, Gravel	Plant

## BOULDER COUNTY

Beaver Lake	Beaver Dam Lake	Beaver Lake Peat Co., 2902 6th St., Boulder	Peat	Peat Bog
Blue Bird	Grand Island	Ruchman Mining & Land Co., 1941 Tyler Road, Boulder	Silver, Gold, Lead, Copper	Mine
Blue Stone Lode	Grand Island	R. E. Clarida & W. L. Stephenson, 3120 W. Arizona, Denver 19	Silver, Lead, Copper	Mine
Brodies St. Vein	Lyons	Sterling Stone Quarries, Box 124, Lyons	Stone	Quarry
Burlington	Jamestown	Allied Chemical Corp., General Chemical Division, Box 228, Boulder	Fluorspar	Mine
Caribou	Caribou	Colorado Fertilizer Co., 3100 Walnut, Boulder	Peat	Peat Bog
Carroll Gore	Beach Hill	Loukenen Bros. Stone Co., Box 865, Lyons	Stone	Quarry
Cash	Gold Hill	Utex Exploration Co., Sallina Star Route, Boulder	Gold	Mine
Comstock	Caribou	Pandora Metals, Inc., 1555 Dayton St. Aurora	Silver	Mine
Emmett	Jamestown	Williamson Mining Co., Box 431, Boulder	Fluorspar	Mine
Fair Day	Jamestown	La Salle Mining Co., Box 217, Grand Junction	Uranium	Mine
Ford	Nederland	E. J. & R. M. Ford, 2137 Pine St., Boulder	Gold, Tungsten	Mine

## BOULDER COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Gladstone	Jamestown	Elliot Goldstein, 310 So. 40th St., Boulder	Fluorspar	Mine
Golden Age	Castle Gulch	Smuggler View, 1240 First Nat'l Bank Bldg., Omaha 2, Nebraska	Gold	Mine
Harms Peat Bog	Ward	W. F. Harms, Ward	Peat	Peat Bog
Loukenen Bros. Quarry	Beach Hill	Loukenen Bros. Stone Co., Box 865, Lyons	Stone	Quarry
McCall	Lyons	John Fittis, Box 686, Lyons	Stone	Quarry
McConnel	Lyons	Jacobson & Lyons Stone Co., Lyons	Stone	Quarry
Marion	Sugar Loaf Road	Earl G. Sweeney, 1061 Grant St., Boulder	Thorium	Mill
Noland	Lyons	Sterling Contracting Co., Box 759, Ft. Collins	Stone	Quarry
Pit Nos. 1 & 2	Eldorado Springs	Eldorado Clay Co., Rte. 1, Box 759, Golden	Clay	Mine
Rex	Summerville	Utex Exploration Co., Salina Star Route, Boulder	Gold, Silver	Mine
Sisk	Hall Gulch	Ehibeta Corp., c/o Kenneth M. Droney, 4575 S. Lincoln St., Englewood	Uranium	Mine
Spicer	Rocky Flats	Colorado Brick Co., Box 727, Longmont	Clay	Mine
Tungsten	Grand Island	Tungsten Mining Co., 420 Pine St., Boulder	Tungsten	Mine
Valmont	Valmont	Allied Chemical Corp., General Chemical Division, Box 228, Boulder	Fluorspar	Plant
Victoria	Summerville	Utex Exploration Co., Salina Star Route, Boulder	Gold, Silver	Mine
Victory	Jamestown	Elliot Goldstein, 310 So. 40th St., Boulder	Uranium	Mine
Colorado Granite Grit Mill	Salida	Colorado Granite Grits, Inc., Box 426, Salida	Granite	Plant
Crystal Placer	Ute Trail	Salida Granite Co., Salida	Granite	Quarry
Gold Eagle	Salida	Anschutz Drilling Co., 1411 Mile High Center, Denver	Gold, Silver, Lead, Copper, Zinc	Mine
Homestake	Ute Trail	M. & S. Inc., Box 691, Salida	Feldspar	Quarry
Monarch Lime Quarry & Plant	Monarch Pass	Colorado Fuel & Iron Corp., Box 316, Pueblo	Limestone	Quarry & Plant
Rock King	Ute Trail	Harvey Moyer, Box 671, Salida	Beryl, Mica, Feldspar	Quarry
Shannon Last Chance	Chalk Creek	Colorado Granite Grits, Inc., Box 426, Salida	Granite	Quarry
Sitting Bull	Chalk Creek	Fred M. Wadman, D.M.F. Co. Inc., 833 E. Platte Avenue, Colorado Springs	Lead, Silver	Mine
Western Feldspar Mill	Salida	Western Feldspar Milling Co., Box 671, Salida	Feldspar	Mill

## CHAFFEE COUNTY

Colorado Granite Grit Mill	Salida	Colorado Granite Grits, Inc., Box 426, Salida	Granite	Plant
Crystal Placer	Ute Trail	Salida Granite Co., Salida	Granite	Quarry
Gold Eagle	Salida	Anschutz Drilling Co., 1411 Mile High Center, Denver	Gold, Silver, Lead, Copper, Zinc	Mine
Homestake	Ute Trail	M. & S. Inc., Box 691, Salida	Feldspar	Quarry
Monarch Lime Quarry & Plant	Monarch Pass	Colorado Fuel & Iron Corp., Box 316, Pueblo	Limestone	Quarry & Plant
Rock King	Ute Trail	Harvey Moyer, Box 671, Salida	Beryl, Mica, Feldspar	Quarry
Shannon Last Chance	Chalk Creek	Colorado Granite Grits, Inc., Box 426, Salida	Granite	Quarry
Sitting Bull	Chalk Creek	Fred M. Wadman, D.M.F. Co. Inc., 833 E. Platte Avenue, Colorado Springs	Lead, Silver	Mine
Western Feldspar Mill	Salida	Western Feldspar Milling Co., Box 671, Salida	Feldspar	Mill



CLEAR CREEK COUNTY

Alma Lincoln	Spanish Bar	Alma Lincoln Mining Co., Idaho Springs	Tourist	Mine
Argo Tunnel	Idaho Springs	Fall River Exploration & Mining Co., Idaho Springs	Base Metals	Mine
Ashtand	Virginia Canyon	Larson, Young & Kingery, Box 716, Idaho Springs	Gold, Silver, Lead	Mine
Bald Eagle	Virginia Canyon	Bald Eagle Mining Co., Box 554, Idaho Springs	Gold, Lead, Copper, Zinc	Mine
Booth & Smith	Georgetown	Booth & Smith Sand & Gravel Co., Georgetown	Sand, Gravel	Plant
Burleigh Tunnel	Silver Plume	Silver Plume Mining Co., Georgetown	Silver, Lead, Zinc	Mine
Centennial	Virginia Canyon	Anthony V. Madonna, 1899 Allison, Lakewood	Gold	Mine
Central or Big Five	Idaho Springs	Clear Creek Mining Co., 1727 Boulder St., Denver	Gold, Silver, Lead, Copper	Mine
Diamond	Silver Plume	Silver Plume Mining Co., Georgetown	Silver, Lead, Zinc	Mine
Dixie	Ute Creek	Vicon Inc., Exchange National Bank Bldg., Colorado Springs	Gold, Silver	Mine
Drummond	Lawson	Drummond Mines, c/o J. B. Traynor, 512 Skyline Drive, Ft. Collins	Gold, Silver, Lead, Zinc, Copper	Mine
Franklin	Gilson Gulch	Franklin Silver Age Mining Co., c/o A. E. Burns, Wilson, Kansas	Silver, Lead, Copper	Mine
Freighter's Friend	Gilson Gulch	Freighter's Friend Mines, Box 356, Idaho Springs	Gold, Silver, Lead	Mine
Front Range Mill	Dumont	Front Range Mines, Inc., Box 704, Idaho Springs	Gold, Silver, Lead, Zinc, Copper	Mine
Grover	Beaver Brook Canyon	Reilly, Linquist & Grover, Evergreen	Beryl	Mine
Hall Tunnel	Georgetown	Harvey L. Tedrow, Olin Hotel, Denver 2	Gold, Silver, Lead, Zinc	Mine
Humboldt Tunnel No. 3	Ute Creek	Cascade Mining Corp., Idaho Springs	Gold	Mine
King Cyrus Nos. 1 & 2	Spanish Bar	Richard E. Mackey, 15 So. Yukon St., Lakewood	Tourist	Mine
Lone Star No. 6	Clear Creek	Lyle B. McNulty, 7505 Clay St., Westminster	Uranium	Mine
Lucania	Virginia Canyon	Lone Star Mining Co., Box 6, Idaho Springs	Base Metals	Mine
Mackey	West Trail Creek	Harvey L. Tedrow, Olin Hotel, Denver 2	Base Metals	Mill
Marshall Tunnel	Georgetown	R. E. Mackey, 15 So. Yukon, Lakewood	Gold, Silver, Lead, Zinc	Mine
Mill Creek-Eagle	Dumont	Elchinger, Morse & Roberts, Box 636, Idaho Springs	Base Metals	Mine
Monarch	Lawson	Charles Coleman, 1931 Lincoln, West Chicago 14	Gold, Silver	Mine

## CLEAR CREEK COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Princess	Lawson	Frank J. Moskal, 4216 West 25th Place, Chicago 23, Illinois	Gold, Silver, Lead	Mine
Roote Ranch	Gilson Gulch	Lee Morgan & Associates, Box 873, Idaho Springs	Uranium	Mine
Rusty Shovel, Black	Trail Creek	Abrahamson & Anderson, Lawson	Gold	Mine
Squirrel	Floyd Hill			
Silver Spoon	Station	Fred Garula, 1763 Williams St., Denver 18	Gold, Silver	Mine
Whitewater	Idaho Springs	Whitewater Sand & Gravel Co., Box 1751, Grand Junction	Sand, Gravel	Plant

## COSTILLA COUNTY

Scoria	Mesita	Colorado Aggregates, Inc., Mesita	Volcanic Scoria	Quarry
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## CUSTER COUNTY

Buckeye-Holt	Ophir Creek	Eisenhour & Decker, Wetmore	Gold	Mine
Lodge Pole No. 1	Ophir Creek	Charles & Lyman Akin, Wetmore	Gold	Mine
Tomboy	Ophir	Charles & Lyman Akin, Wetmore	Gold	Mine
Virginia & Blue Lode	Hardscrabble	Joe and Charles Tomsick, Westcliffe	Silver	Mine

## DELTA COUNTY

Smith Ford Dam	Crawford	Bud King Construction Co., Missoula, Montana		Dam
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## DENVER COUNTY

Denver Works	Denver	Allied Chemical Corp., General Chemical Division, Box 4040 So. Denver Station, Denver	Sulphuric Acid	Plant
Globe Plant	Globeville	American Smelting & Refining Co., 495 East 51st Avenue, Denver 16	Cadmium	Smelter

## DOLORES COUNTY

Barlow Claims Nos. 1, 2, 3, 4, 5, 6	Barlow Creek	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Eushwacker	Barlow Creek	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Fritz Erickson Mining Co.	Barlow Creek	Fritz Erickson Mining Co., Dove Creek		Drilling, Exploration
Jack Wech	Silver Creek	Jack Wech, Cortez		Drilling
Mountain Springs	Rico	Rico Argentine Mining Co., Rico	Iron, Silver, Lead, Zinc	Mine
Ramco Acid Plant	Rico	Rico Argentine Mining Co., Rico	Sulphuric Acid	Mine
Rico Mill	Rico	Rico Argentine Mining Co., Rico	Iron, Lead, Zinc	Plant
Rosebud Group	Silver Creek	Brown & Johnson, Box 102, Dolores	Gold, Silver, Copper	Mill
St. Louis	Rico	Jones & Hannigan, Rico	Gold	Mine
St. Louis Tunnel	Rico	Rico Argentine Mining Co., Rico	Lead, Iron, Zinc, Pyrites	Mine

**DOUGLAS COUNTY**

Hogback Nos. 2 & 3	Waterton	Robinson Brick & Tile Co., 500 So. Santa Fe, Denver 23	Clay	.....	Mine
Ringenberg	Littleton	Denver Brick & Pipe Co., Box 2329, Denver	Clay	.....	Mine
Stevens Ranch	Castle Rock	Stroud Whisenhunt, Castle Rock	Clay	.....	Mine
Strohl	Parker	Stroud Whisenhunt, Castle Rock	Clay	.....	Mine
Dotsero	Dotsero	Lava Products Co., Box 309, Glenwood Springs	Chnders	.....	Quarry
Eagle Mill	Gilman	Empire Zinc Co., Gilman	Lead, Zinc	.....	Mill
Eagle Mine	Gilman	Empire Zinc Co., Gilman	Gold, Silver, Lead, Zinc	.....	Mine
Roaring Fork	Glenwood Springs	E. H. Bone, Route 1, Carbondale	Pumice	.....	Quarry

**EAGLE COUNTY**

**EL PASO COUNTY**

Castle	Colorado Springs	Castle Concrete Co., Box 2462, Colorado Springs	Limestone, Sand	.....	Quarry
Lennox Breed	Colorado Springs	Colorado Materials Co., Box 183, Colorado Springs	Aggregate	.....	Quarry
Rampart Range	Colorado Springs	Arthur Nichols, Lytle Star Route, Colorado Springs		.....	
Springss Silica	Colorado Springs	Paul Nixon, Pike View, Colorado Springs	Limestone	.....	Quarry
	Colorado Springs	Wm. Eskeldson, 815 N. Pleasant Avenue, Colorado Springs	Silica Sand	.....	Quarry

**FREMONT COUNTY**

Beryllium Oxide	Florence	Antero Beryllium Corp., 201 S. Robinson, Florence	Beryllium Oxide	.....	Mill
Bootjack	Howard	Bootstrap, Inc., Salida	Gold, Copper	.....	Mine
Burnito	Canon City	Ray Sturbaum, 225 Main St., Canon City	Ganister	.....	Quarry
Calotte	Howard	Colorado Limestone Co., Howard	Limestone	.....	Quarry
Canon Dolomite	Canon City	Colorado Fuel & Iron Corp., Pueblo	Dolomite	.....	Quarry
Coaldale	Coaldale	Flibreboard Paper Products Co., Box 269, Florence	Gypsum	.....	Quarry
Cotter Corp. Mine & Mill	Canon City	Cotter Corp., Box 751, Canon City	Uranium	.....	Mine & Mill
Flint	Wilson Creek	Ralph Pierce, 108 Pennsylvania St., Canon City	Clay	.....	Mine
Garden Park	Garden Park	John R. Beaton, 730 Main St., Canon City	Uranium	.....	Mine
Horney Ganister	Temple Canyon	Ralph Pierce, 108 Pennsylvania St., Canon City	Silica	.....	Quarry
I. & E.	Salt Canyon	Wm. R. Irvin, 345 So. Cottonwood, Canon City	Clay	.....	Mine
Joan	Tallahassee	Seacof, Inc., 326 Main St., Canon City	Uranium	.....	Mine
Last Chance	Tallahassee	Gunnison Mining Co., Box 539, Gunnison	Uranium	.....	Mine
Lawson	Wetmore	Ralph Pierce, 108 Pennsylvania St., Canon City	Clay	.....	Mine

## FREMONT COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Mica Lode	Royal Gorge Park	Lockhart & Ellis, Canon City	Quartz	Quarry
Phantom Canyon	Beaver Creek Road	George Stroup, Elizabeth & Field Street, Canon City	Clay	Mine
Picnic Tree	Tallahassee	Smaller Mining Co., Box 768, Canon City	Uranium	Mine
Portland Plant & Quarry	Portland	Ideal Cement Co., Portland	Limestone	Plant & Quarry
Salt Canyon	Salt Canyon	Ralph Pierce, 108 Pennsylvania St., Canon City	Clay	Mine
Snooper-Dickson	Tallahassee	Melvin J. Wallace, 105 E. Stanley, Canon City	Uranium	Mine
Taylor Gulch	Taylor Gulch	Frank H. Norberg Co., 703 Guaranty Bank Bldg., Denver	Limestone	Quarry
Thorn No. 1	Tallahassee	Melvin J. Wallace, 105 E. Stanley, Canon City	Uranium	Mine
Williams	Tallahassee	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Williams Pit	Tallahassee	Logan Shelhamer, 849 S. 7th St., Canon City	Uranium	Mine
Yellow King Nos. 1 & 2	Canon City	Gunnison Mining Co., Box 539, Gunnison George & Emma Lou Stultz, 514 Rudd Avenue, Canon City	Uranium Stone	Mine Quarry

## GARFIELD COUNTY

Glenwood Springs Lime Quarry	Glenwood Springs	Frank H. Norberg Co., 703 Guaranty Bank Bldg., Denver	Limestone	Quarry
Rifle Mill	Rifle	Union Carbide Nuclear Co., Rifle	Uranium, Vanadium	Mill
Rifle Mine	Rifle Creek	Union Carbide Nuclear Co., Rifle	Uranium, Vanadium	Mine

## GILPIN COUNTY

Bob Tail Tunnel	Black Hawk	Gus Bakos & Robert Hollenback, Black Hawk	Tourist	Mine
Clark Wilson	Black Hawk	Max Goodwin, 3295 W. Alaska Pl., Denver 19	Gold	Placer
Colorado Peat Inc.	Black Hawk	Colorado Peat Inc., Route 2, Box 79, Golden	Peat	Peat Bog
Couch	Black Hawk	Stancel Couch, 1226 So. Everglade, Santa Anna, California	Gold, Tourist	Placer
Fanny	Black Hawk	Cliff Esterday, La Moille, Illinois	Gold, Silver	Mine
Flores Luck	Missouri Gulch	Earl & Allen Smith, Evergreen	Gold	Placer
Glory Hole	Central City	Glory Hole, Inc., Central City	Base Metals	Mill
Gold Nugget	Bay State	Wm. G. Spitts, 329 So. Pearl St., Denver	Gold, Tourist	Placer
Gold Rock, Rotechfeld and Pocahontas	Silver Lake	Paul J. James, 1010 Grand Ave., So. San Francisco, California	Gold	Mine
Golden Gilpin	Black Hawk	Roberts & Morse, Route 1, Evergreen	Base Metals	Mine

Grizzley Hayes & Wheeler	Vermillion Central City	Crow & Mann, Rollinsville Hayes & Wheeler Syndicate, 4755 Newton St., Denver 21	Quartz	Quarry
Huddleson (Toll Gate) Indian Girl	Black Hawk Lake Gulch	Mike McNulty, Black Hawk Smerdel, Thompson & Klarich, 1263 Marion St., Denver 18	Gold, Silver, Lead, Copper, Zinc Tourist	Mine Mine
La Crosse	Nevadaville	Ruth Mining & Drilling Co., Inc., 8607 E. Colfax, Denver	Gold	Mine
Little Colonel	Black Hawk	Glory Hole Inc., Central City Black Hawk Trading Post, Black Hawk	Gold, Silver, Lead, Zinc	Mine
Marjorie	Black Hawk	Arizona Morning Star Mines, Box 156, Idaho Springs	Tourist	Mine
Morning Star (Lost Gold)	Gilson Gulch	Art Portinier, Idaho Springs	Base Metal Gold	Mill Mine
Nellie Bell	Central City Miners Gulch	Paye Tyson, Central City Lee Morgan & Associates, Box 873, Idaho Springs	Tourist	Mine
Philadelphia	Freeman Gulch	Chas. A. Slusher, Rte. 2, Box 413, Arvada	Uranium	Mine
Rudolph Ranch Secret Mine	Black Hawk Central City	Gus Rudolph, Black Hawk R. H. Owens, 600 W. 10th, Amarillo, Texas	Gold, Silver, Lead Peat	Mine Peat Bog
Snooks Tunnel Vanderbilt Lode (Diamond Lil)	Perigo Central City	Bee Vee Mines, Box 135, Rollinsville	Gold Gold	Mine Mine
Velvet Valley Rainbow	Hawk Eye	Central Gold Mine & Mining Mu- seum, Box 161, Central City	Gold, Silver, Copper, Tourist	Mine
We-Got-Em	Silver Lake	Lokes & Carnival, 1463 King St., Denver 4	Gold	Mine
White House	Mosquito Gulch	Garrick & Allison, Box 104, Moun- tain City, Nevada	Gold, Silver, Copper	Mine
Wilma Zacher	Apex Black Hawk	White House Mining Co., 7820 Niagara, Derby Nye Mathews, Inc., Black Hawk Ralph Zacher, Black Hawk	Gold Molybdenum Gold	Mine Mine Placer
Moffat Tunnel Shaft	West Portal	Board of Water Commissioners, 144 W. Colfax Ave., Denver		Water Tunnel
Atlas	Crested Butte	Silver Crest Mining & Milling Co., Box 351, Crested Butte	Gold, Silver, Lead	Mill
Baxter & Skyline	Washington Gulch	Silver Crest Mining & Milling Co., Box 351, Crested Butte	Gold, Silver	Mine
Bell View	East River	Joe Powell, Box 563, Crested Butte	Gold, Silver, Lead, Zinc, Copper	Mine
Big Red	White Pine	John Carey, Salida	Uranium	Mine
Endeavor Mine (Old Climax)	Cement Creek	Cotter Corp., Box 751, Canon City Donald A. Hall, Box 495, Gunnison	Silver, Lead	Mine

**GRAND COUNTY**

**GUNNISON COUNTY**

## GUNNISON COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Forest Queen	Goile Creek	John H. Hahn, Crested Butte	Gold, Silver, Lead, Zinc	Mine
Gold Links	Gold Creek	M. J. Kraft, 630 So. Hawthorne Ave., Boulder	Gold, Silver, Lead, Copper, Zinc	Mine
Gray Jeep Climax	Iola	Lakewood Mining Co., Box 495, Gunnison	Uranium, Thorium	Mine
Gunnison Uranium Mill	Gunnison	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mill
Hot Rock	Tincup	Hugh Corrigan, Tincup	Silver, Lead	Mine
Keystone	Crested Butte	American Smelting & Refining Co., Crested Butte	Base Metals	Mine
Marble	Marble	Colotex Stone Co., Box 401, Glenwood Springs	Marble	Quarry
Micawber	Elk Basin	Standard Metals Co., 264 S. 4th East, Moab, Utah	Silver, Gold, Lead, Copper, Zinc	Mine
Micawber Mill	Elk Basin	Standard Metals Co., 264 S. 4th East, Moab, Utah	Lead, Zinc, Copper	Mill
Mountain Fern	Eyre Creek	Ben Flick, Bill Wright, Clair Chase, Ohio City, Colorado	Lead, Silver	Mine
Paonia Dam	Muddy Creek	Bud King Const. Co., Missoula, Montana		Dam
Silver Chief	Scofield Park	Silver Chief Group, Box 515, Paonia	Base Metals	Mine
Silver Spruce	Rustlers Gulch	Joe Powell, Box 563, Crested Butte	Gold, Silver, Lead, Copper	Mine
Stearns Roger Tunnel	Powderhorn	Stearns Roger Mfg. Co., 660 Bank, Denver	Prospect	Tunnel
X-10-U-8	Tincup	John Lambertson, Box 567, Gunnison	Silver, Lead, Zinc	Mine

## HINSDALE COUNTY

Blue Ribbon	Hanson Creek	Reither, Waffensmith & Stake, 6905 W. Colfax Ave., Denver	Silver, Copper	Mine
Frank Hough	Hanson Creek	Golden Cycle Corp., Box 86, Colorado Springs	Silver, Copper	Mine
Pelican	Hanson Creek	Col-Tex Minerals Co., Inc., Lake City	Gold, Silver, Lead, Zinc	Mine
Pelican Mill	Hanson Creek	Col-Tex Minerals Co., Inc., Lake City	Gold, Silver, Lead, Zinc, Copper	Mill

## JEFFERSON COUNTY

Aggregates, Inc.	Golden	Aggregates, Inc., 2120 So. Ash St., Denver 22	Aggregate	Plant
Ascension	Golden	Yellow Queen Uranium Co., 2027 E. Virginia Ave., Denver 9	Uranium	Mine
Beryl Ores	Arvada	Beryl Ores Co., Box 105, Rte. 1, Arvada	Beryl, Mica	Plant
Black Silica	Golden	Denver Fire Clay Co., 3303 Blake St., Denver	Clay	Mine
Caldwell	Plainview	Denver Brick & Pipe Co., 4501 Fox St., Denver	Clay	Mine

Cervi Lease	Golden	Arthur A. Cervi, 979 Miller St., Lakewood	Uranium	Mine
Church	Rocky Flats	Wesley D. Conda, Box 110, Rte. 1, Boulder	Clay	Mine
Foot Hills	Idledale	Cotter Corp., Box 751, Canon City	Uranium	Mine
Green Mountain	Golden	George W. Parfet Estate, Inc., Box 226, Golden	Clay	Mine
Happy Easter	Tincup	Thomas A. Easter, Box 201, Idaho Springs	Tourist	Mine
Harvey	Rocky Flats	John L. Harvey, 2970 Zenobia St., Denver 12	Clay	Mine
Kilgrove & Atchison	Jefferson County	Kilgrove & Atchison Const. & Paving Co., Box 7773, Lakewood	Gravel	Plant
Lakewood Pit	Golden	Lakewood Brick & Tile Co., 1325 Jay St., Lakewood	Clay	Mine
Lariat	Waterton	Robinson Brick & Tile Co., 500 So. Santa Fe, Denver	Clay	Mine
Leyden	Golden	George Lindsey, 1930 Forest St., Denver	Clay	Mine
Lindsey Buff Clay	Golden	Lakewood Brick & Tile Co., 1325 Jay St., Lakewood	Clay	Mine
Lindsey Red Clay	Golden	Lakewood Brick & Tile Co., 1325 Jay St., Lakewood	Clay	Mine
Little Brother	Golden	H. & G. Mining Co., 6301 Lee, Arvada	Uranium	Mine
Mena Shaft	Ralston Creek	Joseph W. Walsh, 4325 Montview Blvd., Denver 7	Uranium	Mine
Morrison West Side No. 1	Morrison	Morrison Stone Co., Ltd., Rte. 3, Box 367, Golden	Stone	Quarry
Motes	East Tincup	Robert J. Miller, 611 1st St., Golden	Tourist	Mine
Mt. Carbon	Morrison	Duane Bruno, 929 E. Ellsworth Ave., Denver	Shale	Mine
Nare	Golden	L. D. Ohman, 800 Bonnie Brae, Denver 9	Uranium	Mine
North Chieftain	Denver	Robinson Brick & Tile Co., 500 So. Santa Fe, Denver	Clay	Mine
North Golden	Golden	Denver Fire Clay Co., 3303 Blake St., Denver	Clay	Mine
Plant at Pit No. 11	Jefferson County	Branan Sand & Gravel Co., 4800 Brighton Blvd., Denver	Sand, Gravel	Plant
Quarries, Inc.	Golden	Quarries, Inc., 5075 Cody St., Arvada	Aggregate	Quarry
Quatman	Idledale	Cotter Corp., Box 751, Canon City	Uranium	Mine
Ramstetter	Golden	Garney Bennetts, Rt. 1, Box 759, Golden	Clay	Mine
Red Clay	Plainview	Colorado Brick Co., Longmont	Clay	Mine
Rlg No. 1	Golden	Denver Brick & Pipe Co., 4501 Fox St., Denver	Drilling	Mine
Rlo Grande	Jefferson County	Rlo Grande Gravel Co., 123 Santa Fe, Denver	Sand, Gravel	Plant
Rockwell	Golden	Geo. W. Parfet, Box 226, Golden	Clay	Mine
Rocky Flats	Rocky Flats	Great Western Aggregates, Inc., 806 Boston Bldg., Denver	Aggregate	Quarry
Rubey	Golden	Rubey Clay Co., Box 226, Golden	Clay	Mine
Saunders Lease	Idledale	Cotter Corp., Box 751, Canon City	Uranium	Mine
Schwartzwalder	Ralston Creek	Denver Golden Corp., 1820 1st Nat'l Bank Bldg., Denver	Uranium	Mine

## JEFFERSON COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Seven Devils	Waterton	Continental Materials Corp., Box 1550, Grand Junction	Uranium	Mine
South Chieftain	Golden	Robinson Brick & Tile Co., 500 So. Santa Fe, Denver	Clay	Mine
State	Rocky Flats	Colorado Brick Co., Longmont	Clay	Mine
Strainland No. 2	Plainview	Denver Brick & Pipe Co., 4501 Fox St., Denver	Clay	Mine
Table Mountain	N. Table Mountain	Aggregates, Inc., 2120 So. Ash St., Denver	Sand, Gravel	Plant
Tau Plastics	Golden	Table Mountain, Inc., 2680 Youngfield, Denver 15	Clay	Mine
Two Brothers	Golden	G. C. Bennetts, Box 759, Rte. 1, Golden	Clay	Mine

## LAKE COUNTY

Arkansas Valley Smelter	Leadville	American Smelting & Refining Co., 495 E. 51st, Denver 16	Lead, Zinc	Smelter
Baldtown	Leadville	Harry Nylene, 116 Hunter Road, Leadville	Gold	Placer
Ceresco Ridge	Climax	Boyles Bros. Drilling Co., 1321 So. Main St., Salt Lake City, Utah	Molybdenum	Drilling
Climax Mill	Climax	American Metals Climax, Inc., Climax	Molybdenum	Mill
Climax Mine	Climax	American Metals Climax, Inc., Climax	Molybdenum	Mine
Crushing & Screening Plant	Kokomo	C. Ryan & Son, 6001 McIntyre, Golden	Molybdenum, Sand, Gravel	Plant
Gordon	Twin Lakes	Denzel A. Hatch, Twin Lakes	Gold, Lead, Silver	Mine
Mt. Elbert Peat Moss	Hayden Ranch	Clarence Reiff & Dave Rice	Peat Moss	Peat Bog
Rattlin Jack	Johnny Hill	Kremmlin	Gold, Silver, Lead, Zinc	Mine
Yak Tunnel	Leadville	Rattling Jack Partnership, 512½ E. 7th St., Leadville	Gold, Silver, Lead	Mine
		American Smelting & Refining Co., 495 E. 51st Avenue, Denver 16	Gold, Silver, Lead	Mine

## LA PLATA COUNTY

Bessie G	Heffernan Gulch	La Plata Gold Corp., 708 Majestic Bldg., Denver	Gold, Silver	Mine
Comstock	La Plata Canyon	John Montonati, 683 4th Ave., Durango	Gold, Silver	Mine
Eleanora	La Plata Canyon	Crater Lake Mining Co., Strater Hotel, Durango	Gold, Silver, Lead, Zinc, Copper	Mine
Marcy-Shenandoah	Beaver Mesa	Marcy-Shenandoah, Inc., Durango	Base Metals	Mine
Mars	La Plata Canyon	Ralph Jason, Box 96, Compton, California	Lead, Copper	Mine
Neglected	Gains Gulch	Gus Winhouse, 711 4th Avenue, Durango	Gold, Silver, Lead	Mine



Muldoon	La Plata Mountains	Hernan Todeski, Durango	Silver	Mine
Sarah G	Hermosa	Charles C. Goulding, Box 1542, Durango	Gold	Mine
Silver State Smelting & Refining Co.	Durango	Lindsay Becker, 2200 Crest View Drive, Durango	Gold, Lead, Zinc, Copper	Smelter
V. C. A. Mill	Durango	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mill
Wildcat	La Plata-Spencer Creek	Ralph Jason, Box 96, Compton, California	Silver	Mine

**LARIMER COUNTY**

Berthoud Stone Quarries	Carter Lake	Colorado Stone Co., 1635 N. Main St., Longmont	Stone	Quarry
Boettcher Plant	La Porte	Ideal Cement Co., Box 579, Ft. Collins	Limestone	Plant
Boettcher Quarry	La Porte	Ideal Cement Co., Box 579, Ft. Collins	Limestone	Quarry
Big Boulder	Crystal Mountain	W. R. & Helen S. Allphin, Box 292, Jamestown	Beryl	Mine
Chance	Masonville	Weaver Stone Quarries, 759 So. York St., Denver	Stone	Quarry
Colorado Stone	Beach Hill	Colorado Stone Co., 1635 N. Main St., Longmont	Stone	Quarry
Corral Pole Nos. 1, 2	Crystal Mountain	Arthur Johnson, 625 Mathews, Ft. Collins	Beryl, Mica	Mine
Fudge	Beach Hill	Fudge Stone Cutting Co., Box 275, Lyons	Stone	Quarry
Giant Crystal	Drake	Pematite Mining & Beryllium Co., Box 694, Windsor	Beryl, Mica	Mine
Goodwin	Payne Ranch	Ernest W. Munroe, Rte. 2, Box 273, Ft. Collins	Gypsum	Quarry
Hide Above Lode	Storm Mountain	National Beryl & Mining Corp., Box 1348, Estes Park	Beryl, Mica	Mine
Jacobson & Lyons	Beach Hill	Jacobson & Lyons Stone Co., Box C, Lyons	Stone	Quarry
Jolex	Columbine	Jolex Mica Co., Box 575, Ft. Collins	Mica	Mill
Kistler	Carter Lake	Jacobson Lyons Stone Co., Inc., Box C, Lyons	Stone	Quarry
Langston	Columbine	Jolex Mica Co., Box 575, Ft. Collins	Beryl, Mica	Mine
Lavender	Masonville	Buckhorn Quarries, Loveland	Stone	Quarry
Lodge Pole	Crystal Mountain	Young & Johnson, 395 Grape St., Denver 20	Beryl, Mica	Mine
Loveland	Loveland	U. S. Gypsum Co., Estes Park Rte., Loveland	Gypsum	Quarry
Masonville	Masonville	Gus Feher, Estes Park Rte., Loveland	Stone	Quarry
Mineon Berthoud Plant	Berthoud	Mineral Concentrates & Chemical Co., 1430 First Nat'l Bank Bldg., Denver 2	Beryllium Oxide	Plant
Mineon Loveland Plant	Loveland	Mineral Concentrates & Chemical Co., 1430 First Nat'l Bank Bldg., Denver 2	Beryllium Oxide	Plant

## LARAMIE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Mt. Olympus No. 2	Poudre Canyon	Lucky Oscar Mica Co., 1636 Garfield, Loveland	Beryl, Mica	Mine
Munroe	Payne Ranch	Ernest W. Munroe, Rte. 2, Box 273, Ft. Collins	Gypsum	Plant
Ohline Quarry	Beach Hill	Arthur Ohline, Lyons	Stone	Quarry
Poudre Canyon	Loveland	Lucky Oscar Mica Co., 1636 Garfield, Loveland	Mica	Mill
Rex	Owl Canyon	Frank H. Norberg Co., 703 Guaranty Bank Bldg., Denver	Limestone	Quarry
Silica Beryl	Crystal Mountain	Young & Johnson, 395 Grape St., Denver 20	Beryl, Mica	Mine
Somac Nos. 1, 2	Carter Lake	Somac Stone Quarries, 1729 12th Ave., Greeley	Stone	Quarry
Spears	Beach Hill	B. H. Spears, Box 874, Lyons	Stone	Quarry
Sprague	Carter Lake	Berthoud Pink Stone Co., Rte. 2, Box 99A, Berthoud	Stone	Quarry
Sterling Sand & Gravel	North Taft Hill Road	Sterling Sand & Gravel Co., Box 759, Ft. Collins	Sand, Gravel	Plant
Thodave	Crystal Mountain	H. L. Mattox & Sons, 17195 W. 8th Pl., Golden	Beryl, Mica	Mine
Weaver	Masonville	Weaver Stone Quarries, 759 So. York St., Denver	Stone	Quarry
Whitewater	Loveland	Whitewater Sand & Gravel Co., Box 1751, Grand Junction	Gravel	Plant
Wilson	Beach Hill	Bill Wilson Stone Co., 932 Arapahoe St., Boulder	Stone	Quarry
Yo-Jo No. 15	Crystal Mountain	Young & Johnson, 395 Grape St., Denver	Beryl, Mica	Mine
Santa Fe	Starkville	Scott Mining Co., Starkville	Clay	Mine

## LAS ANIMAS COUNTY

## MESA COUNTY

Arrowhead No. 12	Calamity Mesa	Ira Adamson, 226-29 Road, Grand Junction	Uranium, Vanadium	Mine
Arrowhead No. 20	Calamity Mesa	Rex Sterry, Rte. 1, Grand Junction	Uranium, Vanadium	Mine
Black Mama No. 3	Tenderfoot Mesa	Robert London & Hugo Johnson, Box 217, Naturita	Uranium, Vanadium	Mine
Blue Ribbon No. 2	Calamity Mesa	Calvin Ficklin, Box 1861, Grand Junction	Uranium, Vanadium	Mine
Century Tunnel	Beaver Mesa	Rex Sterry, Rte. 1, Grand Junction	Uranium, Vanadium	Mine
Cherokee Shaft	Beaver Mesa	Argo Mining Co., Box 1698, Grand Junction	Uranium, Vanadium	Mine
Climax Uranium Mill	Grand Junction	Beaver Mesa Uranium Co., 1129 Colo. Ave., Grand Junction	Uranium, Vanadium	Mine
Crawford, James B.	Dolores River	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mill
		James B. Crawford, Rox 521, Norwood	Uranium, Vanadium	Drilling

Crow's Nest No. 2	Outlaw Mesa	Delmer Cason, 470 Dyke Road, Grand Junction	Uranium, Vanadium	Mine
Depression No. 5	Gateway	Eugene W. Bonner, Grand Junction	Uranium, Vanadium	Mine
Elizabeth Nos. 10, 17	Blue Mesa	George Liverman, 2236 Orchard Ave., Grand Junction	Uranium, Vanadium	Mine
Government No. 1	Outlaw Mesa	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
Government No. 1-A	Outlaw Mesa	E. E. Lewis, 823 Winters Ave., Grand Junction	Uranium, Vanadium	Mine
Government No. 3	Outlaw Mesa	H. L. Arbogast, 234-31.3 Road, Grand Junction	Uranium, Vanadium	Mine
Government No. 4	Outlaw Mesa	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
Hubbard & Packrat	Beaver Mesa	Ployd Smith, Box 236, Grand Junction	Uranium, Vanadium	Mine
		Dean Nicholson, Box 1272, Grand Junction	Uranium, Vanadium	Mine
		New Idria Mining Co., Box 311, Grand Junction	Uranium, Vanadium	Mine
		Joe Pitts, 330 W. Mesa Ave., Grand Junction	Uranium, Vanadium	Mine
Junction Brick & Supply	Grand Junction	Junction Brick & Supply Co., 2400 N. 17th, Grand Junction	Brick, Tile	Mine
Karnis Incline	Beaver Mesa	Ed Knizley, 274-27 Road, Grand Junction	Uranium, Vanadium	Mine
La Sal	Beaver Mesa	Flanders Mining Co., Box 861, Grand Junction	Uranium, Vanadium	Mine
Liberty Bell	Tenderfoot Mesa	GenPac Mining, Box 861, Grand Junction	Uranium, Vanadium	Mine
Lippoth & Wein	Several Counties	E. E. Lewis, 823 Winters Ave., Grand Junction	Uranium, Vanadium	Mine
Loma Rock Quarry	Loma	Lippoth & Wein Drilling Co., Box 502, Grand Junction	Stone	Drilling Quarry
Lumsden Nos. 2, 6	Beaver Mesa	Edward Green, Buena Vista	Uranium, Vanadium	Mine
Mineral Channel No. 3	Outlaw Mesa	Ralph Hickman, Rte. 1, Grand Junction	Uranium, Vanadium	Mine
Mesa Nos. 5, 8	Outlaw Mesa	Ralph Foster & Sons, 1217 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine
Mitchell Drilling	Ball Canyon and Four Corners	H. L. Arbogast, 234-31.3 Road, Grand Junction	Uranium, Vanadium	Mine
National Lead Co., Inc.	Grand Junction	Herbert Foster, 1217 Colorado Ave., Grand Junction	Uranium, Vanadium	Mine
New Verde	Calamity Mesa	John Mitchell & Son, 516 Lilac Lane, Grand Junction	A.E.C. Research Program	Drilling
O'Connell Drilling	Four Corners	National Lead Co., Inc., Box 1849, Grand Junction	Uranium, Vanadium	Mine
O'Kan	Tenderfoot Mesa	Star Mining Co., Box 291, Grand Junction	Uranium, Vanadium	Drilling
October Adit	Beaver Mesa	O'Connell Drilling Co., Box 2165, Casper, Wyo.	Uranium, Vanadium	Mine
Outlaw No. 8	Outlaw Mesa	Dale Dunkel, 2728 F Road, Grand Junction	Uranium, Vanadium	Mine
		O. E. Jonson, Box 294, Dove Creek	Uranium, Vanadium	Mine
		Harold Sargeant, Box 1562, Grand Junction	Uranium, Vanadium	Mine

## MESA COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Protector	Tenderfoot Mesa	Phil Bunker Mining Co., Box 227, Nucla	Uranium, Vanadium	Mine
Rajah No. 30	Beaver Mesa	Model Mining Co., Box 1105, Grand Junction	Uranium, Vanadium	Mine
Rajah Nos. 63 & 68	Beaver Mesa	Beaver Mesa Uranium Co., Box 567, Grand Junction	Uranium, Vanadium	Mine
Ronnie No. 1	Outlaw Mesa	Cleo Fears, Box 1901, Grand Junction	Uranium, Vanadium	Mine
Sprague & Henwood	Four Corners	Sprague & Henwood, 2472 Highway 6, Grand Junction	Uranium, Vanadium	Core Drilling
Sunspot (Thundercloud)	Beaver Mesa	Ed Horn, Box 743, Rifle	Uranium, Vanadium	Mine
Thornton Tunnel	Beaver Mesa	Charles W. Woodard & Co., 2909 Highway 50, Grand Junction	Uranium, Vanadium	Mine
Trojan No. 20	Outlaw Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Whitewater Sand & Gravel	Grand Junction	Whitewater Sand & Gravel Co., So. 10th St., Grand Junction	Sand, Gravel	Plant

## MINERAL COUNTY

Amethyst & Commodore	West Willow Creek	Outlet Mining Co., Box 11, Creede	Gold, Silver, Lead	Mine
Emperius Mill	Creede	Emperius Mining Co., Creede	Silver, Lead, Zinc	Mine
Jackpot	King Solomon	Emperius Mining Co., Creede	Silver, Lead, Zinc	Mill
Monon	Creede	H. & B. Const. Co., Creede	Silver, Lead, Zinc	Mine
Phoenix	East Willow Creek	Monon Mining Co., Creede	Silver, Lead, Zinc	Mine

## MOFFAT COUNTY

Maybell Mill	Maybell	Trace Elements Corp., Maybell	Uranium	Mill
Maybell Mine	Maybell	Trace Elements Corp., Maybell	Uranium	Mine
Trace Elements Pits	Maybell	Trace Elements Corp., Maybell	Uranium	Mine

## MONTEZUMA COUNTY

Blue Eagle	Cross Canyon	Elree Young, Segro Rte., Dove Creek	Uranium, Vanadium	Mine
Brownville	East Mancos River	Gene Crawford, 223 N. Ash St., Cortez	Gold, Silver	Mine
Discovery Level (Red Arrow)	East Mancos River	First Nat'l Oil & Minerals Co., Box 205, Mancos	Gold, Silver	Mine
Gold Run Nos. 1, 2, 3, 4	Madden Peak	Wesley Potts, Mancos	Gold, Silver	Mine
Hazel-Lu	Ross Mountain	John & Albert Lyen, 3025 E. 6th Ave., Durango	Gold	Mine
Ripple Placer & Baby Bear	Dolores Rim	Ripple & Baby Bear Mining Co., Box 75, Rico	Gold, Silver	Placer
Sexton Bros.	Highway 160	Sexton Bros. Drilling Co., Box 506, Cortez	Rotary Drilling	
Twin Canyon Group	Twin Canyon	Wesley Potts, Mancos	Gold	Mine

MONTROSE COUNTY

Adak (Wildhorse, Colorado)	Dolores Rim	Reed, Bellisle & Reed, Box 325, Uravan	Uranium, Vanadium	Mine
All Stars	Spring Creek Mesa		Uranium, Vanadium	Mine
American Eagle	Little Gyp Valley	Lark L. Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Anna May No. 1	Monogram Bench	Lowell & Patrick Thompson, Box 34, Naturita	Uranium, Vanadium	Mine
Aztec & Black Tom	Monogram Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Baby Fawn	Bill Canyon	C. N. Athey, Box 156, Naturita	Uranium, Vanadium	Mine
Baby Ruth	Buff Canyon	Githo Reed, Naturita	Uranium, Vanadium	Mine
Betty Jean	Martin Mesa	S. V. Brown, Box 224, Naturita	Uranium, Vanadium	Mine
Betty Jean No. 2	Martin Mesa	Stanley Reed, Box 325, Uravan	Uranium, Vanadium	Mine
Big Chief	Rock Creek	David Pace, Gateway	Uranium, Vanadium	Mine
Big Dick	Dolores Rim	Woodrow Gripe, Naturita	Uranium, Vanadium	Mine
Big Mitt	Atkinson Mesa	Blake, Powers & Stocklase, Box 400, Uravan	Uranium, Vanadium	Mine
Bill Batey	Monogram Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Bitter Creek	Long Park	Ben Brito, Box 626, Delta	Uranium, Vanadium	Mine
Bitter Creek No. 300	Bitter Creek	Loren Jack Jewell, Box 271, Uravan	Uranium, Vanadium	Mine
Blackburn Extension	Long Park	Loren Jack Jewell, Box 271, Uravan	Uranium, Vanadium	Mine
Black Diana	Long Park	Lowell Staats, Box 327, Nucla	Uranium, Vanadium	Mine
Black Rock	Atkinson Mesa	Russell E. Mayfield, Box 536, Nucla	Uranium, Vanadium	Mine
Bliss	Long Park	Reed Brothers, Box 273, Naturita	Uranium, Vanadium	Mine
Blue Bell	Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Bobtail	Monogram Bench	Blake, Powers & Stocklase, Box 91, Uravan	Uranium, Vanadium	Mine
Bowen	Atkinson Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Boyles Bros.	Several Counties	Golden Cycle Corp., Box 86, Colorado Springs	Uranium, Vanadium	Mine
Buckhorn	Carpenter Ridge	Boyles Bros. Drilling Co., 1321 So. Main St., Salt Lake City, Utah	Uranium, Vanadium	Drilling
Buck Shot	Club Mesa	O. F. Smart, Box 296, Naturita	Uranium, Vanadium	Mine
Barro Point	Wedding Bell	Blake, Powers & Stocklase, Box 91, Uravan	Uranium, Vanadium	Mine
Butterfly	Eagle Canyon	Frank Fidel, 1801 N. 4th, Grand Junction	Uranium, Vanadium	Mine
Cannon No. 7	Martin Mesa	Homer Woods, Uravan	Uranium, Vanadium	Mine
Canopus & Sirius	Monogram Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Capella	Monogram Mesa	Joe Weaver, Box 393, Uravan	Uranium, Vanadium	Mine
Cliff Davelier	Atkinson Mesa	Union Carbide Nuclear Company, Uravan	Uranium, Vanadium	Mine
Club No. 2	Club Mesa	Glen Gardner, Box 202, Naturita	Uranium, Vanadium	Mine
Club Group	Club Mesa	John W. Brinkley, Box 234, Uravan	Uranium, Vanadium	Mine
Club Mine	Club Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Club Sandwich	Dolores Rim	Lippoth & Wein Drilling Co., Box 502, Grand Junction	Uranium, Vanadium	Mine
Colorado	Long Park	Woodrow E. Gripe, Box 225, Naturita	Uranium, Vanadium	Mine
Commodore	Club Mesa	Roy Franklin, Box 911, Uravan	Uranium, Vanadium	Mine
Cripple Creek South	Middle Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
		Raymond R. King, Box 353, Uravan	Uranium, Vanadium	Mine

## MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Cripple Creek No. 2	Long Park	Albert Nickerson, 515 So. Junction Ave., Montrose	Uranium, Vanadium	Mine
Deer Shaft	Monogram Mesa	Stanley Kuykendall, Box 195, Naturita	Uranium, Vanadium	Mine
Diana	Rachelor Draw	Joe R. Nelson, Box 512, Nucla	Uranium, Vanadium	Mine
Doagey No. 2	Monogram Mesa	C. N. Athey, Box 156, Naturita	Uranium, Vanadium	Mine
Donald L.	Long Park	Glen Shipley, Box 284, Uravan	Uranium, Vanadium	Mine
Donna K.	Middle Long Park	Homer Woods, Uravan	Uranium, Vanadium	Mine
Dorothy Jean No. 1 & Uranus	Monogram Bench	Art Thompson, Box 193, Nucla	Uranium, Vanadium	Mine
Duchess Nos. 2, 3	Martin Mesa	Carl D. Tucker, Box 461, Grand Valley	Uranium, Vanadium	Mine
Duggan Adit	East Paradox	A. E. David, 1160 Belford Ave., Grand Junction	Uranium, Vanadium	Mine
Dusty	Long Park	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
Dusty No. 2	Long Park	Art Thompson, Box 501, Uravan	Uranium, Vanadium	Mine
Equinox	Dolores Rim	Harvey Holt, Naturita	Uranium, Vanadium	Mine
Eureka	Carpenter Ridge	Reed, Belisle & Reed, Box 325, Naturita	Uranium, Vanadium	Mine
Eva	La Sal Creek	Naturita Corp. of America, Durango	Uranium, Vanadium	Mine
Evening Star	Lion Creek	Wright & Rinderle, Grand Junction	Uranium, Vanadium	Mine
Eula Belle	Mesa Creek	D. E. McQuade, Box O, Naturita	Uranium, Vanadium	Mine
Fairy Queen	Eagle Basin	De Var Shumway & Dade, 215 Landsdown Drive, Grand Junction	Uranium, Vanadium	Mine
Fawn Springs No. 5	Upper Bull Canyon	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Fawn Springs Nos. 4, 10	Upper Bull Canyon	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Fawn Springs Nos. 7, 13	Upper Bull Canyon	Joe Cole, Box 274, Naturita	Uranium, Vanadium	Mine
Fawn Springs No. 15	Bull Canyon	Workman Bros., Box 296, Uravan	Uranium, Vanadium	Mine
Fawn Springs Nos. 9, 12, 21, 11, 18	Upper Bull Canyon	Workman Bros., Box 296, Uravan	Uranium, Vanadium	Mine
Firecracker Nos. 1, 2, 3	Long Park	Ed Horn, Box 743, Rifle	Uranium, Vanadium	Mine
First National Bank	Long Park	Clark & Harris, Box 728, Nucla	Uranium, Vanadium	Mine
Florence Nellie	Long Park	Address Bros., Box 338, Norwood	Uranium, Vanadium	Mine
Fossil	Bull Canyon	Barnes Bros., Box 156, Nucla	Uranium, Vanadium	Mine
Fox	Dolores Rim	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Friday	Long Park	Jerry Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Gilbert	Bull Canyon	Delbert Burbridge, Box 187, Nucla	Uranium, Vanadium	Mine
Great Western	Long Park	Russell Mayfield, Box 596, Nucla	Uranium, Vanadium	Mine
Green Back	Monogram Bench	O'Bryant & Powell, Box 441, Uravan	Uranium, Vanadium	Mine
		Ben Zimmerman, 2940 1/2 F. Road, Grand Junction	Uranium, Vanadium	Mine
		Brewer & Herring, Box 104, Nucla	Uranium, Vanadium	Mine
		Emmons & Herring, Box 161, Naturita	Uranium, Vanadium	Mine
		Monogram Bench-Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine

Groundhog	Middle Long Park	Loyd Alexander, Box 311, Naturita	Uranium, Vanadium	Mine
Guadacanal	Middle Long Park	La Verne Ray, Box 256, Uravan	Uranium, Vanadium	Mine
Happy Thought	Monogram Bench	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Henry Clay	Middle Long Park	Roy Franklin, Box 911, Uravan	Uranium, Vanadium	Mine
Hidden Basin	Long Park	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Honeymoon	Long Park	Silver Lane Mining Co, Pueblo	Uranium, Vanadium	Mine
Hummer	Monogram Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Joe	Dolores Rim	Lowell Staats, Box 337, Nucla	Uranium, Vanadium	Mine
Joe Dandy	Monogram Mesa	Douglas Cleghorn, Box 502, Uravan	Uranium, Vanadium	Mine
Johnson & Youvan	Club Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Just Right	Colorado Plateau	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
La Salle	Club Mesa	Johnson & Youvan, Naturita	Drilling	Mine
Little Alice	Bull Canyon	Dan Kelly, Rte. 4, Grand Junction	Uranium, Vanadium	Mine
	Club Mesa	James Galvean, Box 474, Nucla	Uranium, Vanadium	Mine
	Wild Steer Canyon	La Salle Mining Co., Box 92, Uravan	Uranium, Vanadium	Mine
Little Basin	Spring Creek Mesa	Delbert Barker, Box 263, Nucla	Uranium, Vanadium	Mine
Little Buckhorn	Carpenter Flats	J. W. Bloks, Box 207, Uravan	Uranium, Vanadium	Mine
		K. A. O. Mining Co., 2679B $\frac{1}{2}$ Road, Grand Junction	Uranium, Vanadium	Mine
Little Dick	Dolores Rim	Delbert Burbridge, Box 263, Nucla	Uranium, Vanadium	Mine
Long Park No. 1	Long Park	Wm. R. Pierce, Box 338, Nucla	Uranium, Vanadium	Mine
Long Park No. 2	Long Park	Russell Mayfield, Box 222, Nucla	Uranium, Vanadium	Mine
Long Park Nos. 3, 4	Long Park	Marion Trone, Box 376, Uravan	Uranium, Vanadium	Mine
Long Park No. 6	Long Park	Calvin C. Sanders, Box 431, Nucla	Uranium, Vanadium	Mine
Long Park No. 9 & Fourth	National Bank			
Lower Oversight	Middle Long Park	Russell Mayfield, Box 222, Nucla	Uranium, Vanadium	Mine
Lucky Boy	Monogram Mesa	Calvin C. Sanders, Box 431, Nucla	Uranium, Vanadium	Mine
Lucky Dog	Monogram Mesa	Lowell Staats, Box 337, Nucla	Uranium, Vanadium	Mine
M. J. No. 1, Mineral Joe	Atkinson Mesa	Peter Franks, Nucla	Uranium, Vanadium	Mine
	Monogram Mesa	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
M. L.-23 No. 2, Mineral Lease	Monogram Mesa	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
MacPherson Drilling	Long Park	J. Livingston, Box 293, Uravan	Uranium, Vanadium	Mine
Maeggie C.	Colorado Plateau	Morrison & Davis, Box 195, Nucla	Uranium, Vanadium	Mine
Margie	Middle Long Park	MacPherson Drilling Co., 325 N. Townsend, Montrose	Core Drilling	
Marjorie Ann	Saucer Basin	Carl Holder, Box 399, Dove Creek	Uranium, Vanadium	Mine
	Lion Creek	Cliff Ream & Homer Woods, Uravan	Uranium, Vanadium	Mine
		Moores & Kelly, Rte. 4, Grand Junction	Uranium, Vanadium	Mine
Mary Ann & Dorothy Jean No. 2	Monogram Bench	De Var Shumway & John Dade, 215 Landstown Dr., Grand Junction	Uranium, Vanadium	Mine
Maude	La Sal Creek	T. S. Wolverton, Box 284, Dove Creek	Uranium, Vanadium	Mine
		Ernest Berry, Box 237, Naturita	Uranium, Vanadium	Mine

## MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Media	Long Park	Luther Brickey, Naturita	Uranium, Vanadium	Mine
Merry Widow	Eagle Canyon	Paul Smith & Oran Thompson, Box 391, Nucla	Uranium, Vanadium	Mine
Mesa	Bull Canyon	Harvey Holt, Box 232, Norwood	Uranium, Vanadium	Mine
Mill No. 1 & J. M.	Club Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Mill No. 2 & Govt. Block 3-4	Club Mesa	Javernick & Borgenson, Box 408, Uravan	Uranium, Vanadium	Mine
Mineral Joe No. 2	Monogram Mesa	Fred Richards & Son, Box 384, Nucla	Uranium, Vanadium	Mine
		Floyd Smith, Box 343, Naturita		
		E. E. Lewis, Inc., Box 1481, Grand Junction		
Mineral Joe No. 11	East Paradox	Climax Uranium Co., Box 1901, Grand Junction	Uranium, Vanadium	Mine
Monogram	Monogram Bench	Cole & Bond, Box 56, Uravan	Uranium, Vanadium	Mine
Mucker	Long Park	Albert Nickerson, 515 So. Junction Ave., Montrose	Uranium, Vanadium	Mine
New Bernard & Carleton	Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
New Cliff Dweller	Atkinson Mesa	Paul Smith & Oran Thompson, Box 293, Nucla	Uranium, Vanadium	Mine
New Firebird	Middle Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
New Good Hope	Eagle Basin	Russell Mayfield, Box 222, Nucla	Uranium, Vanadium	Mine
New Happy	Long Park	R. C. Williams, Nucla	Uranium, Vanadium	Mine
New Moonbeam	Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
North Hummer	Monogram Mesa	Lowell Staats, Box 331, Nucla	Uranium, Vanadium	Mine
North Star	Dolores Rim	Jerry Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Nil No. 2	East Paradox	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Nucla Group	Atkinson Mesa	Woodrow Gripe, Naturita	Uranium, Vanadium	Mine
Opera Box	Monogram Hill	C. N. Athey, Box 156, Naturita	Uranium, Vanadium	Mine
Ophir	Dolores Rim	Cecil Bunker, Nucla	Uranium, Vanadium	Mine
Oregon	Dolores Rim	Reed, Belisle & Reed, Box 325, Naturita	Uranium, Vanadium	Mine
Over-site	Monogram Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Paddy No. 4	Bull Canyon	Robert P. Carber, Nucla	Uranium, Vanadium	Mine
Paradox Nos. 5, 6	Monogram Mesa	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Paradox D.	Monogram Mesa	Booth Eckman, Box 127, Nucla	Uranium, Vanadium	Mine
Pay Day, Point Empire	Martin Mesa	Cliff Carter, Box 251, Uravan	Uranium, Vanadium	Mine
Peanut No. 1	Upper Bull Canyon	Ed S. Smith, Box 285, Naturita	Uranium, Vanadium	Mine
Peanut No. 2	Upper Bull Canyon	Gerald Clifford Randolph, Naturita	Uranium, Vanadium	Mine
Peanut Nos. 3, 4	Upper Bull Canyon	Louis P. Giggini, 2998 F Road, Grand Junction	Uranium, Vanadium	Mine
Peggy Nos. 1, 2	Saucer Basin	A. C. Rinderle, 404 Sherman Drive, Grand Junction	Uranium, Vanadium	Mine
Phonograph	Long Park	Norman Morrison, Nucla	Uranium, Vanadium	Mine
Picket Corral No. 2	Bull Canyon	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
		Don & Keith Andrews, Box 87, Nucla	Uranium, Vanadium	Mine
Pluto	Monogram Mesa	Cole & Bond, Box 397, Nucla	Uranium, Vanadium	Mine
Production	Long Park	O'Bryant & Powell, Box 124, Uravan	Uranium, Vanadium	Mine



R. A. M.	Club Mesa	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Radium Hills	Bull Canyon	E. E. Lewis, Box 1481, Grand Junction	Uranium, Vanadium	Mine
Radium Queen No. 13	Carpenter Ridge	Cecil Crandall, Redvale		
Rajah	Rock Creek	Carl L. Nichols, Box 382, Fruita		
Rattlesnake & Sesmo	Long Park	Githon Reed, Naturita		
Raven & Pearl Walker	Saucer Basin	Woodrow Gripe, Naturita	Uranium, Vanadium	Mine
Red Bird	Carpenter Ridge	Art Thompson, Box 501, Uravan	Uranium, Vanadium	Mine
Red Bird No. 2	Carpenter Ridge	Marion Trone, Uravan	Uranium, Vanadium	Mine
Red Flag	Bull Canyon	Clair Albano, Box 522, Nucla	Uranium, Vanadium	Mine
Red Rock No. 5	Martin Mesa	O. E. Smart, Box 296, Nucla	Uranium, Vanadium	Mine
Red Sox	Dolores Rim	Cecil Bunker, Nucla	Uranium, Vanadium	Mine
Riegel	Monogram Bench	Clayton Ages, Nucla	Uranium, Vanadium	Mine
Renegade	Atkinson Mesa	Reed & Arnold, Box 298, Naturita	Uranium, Vanadium	Mine
Rim Rock	Wedding Bell	Red Rock Mining Co., Box 233, Naturita	Uranium, Vanadium	Mine
Rim Rock No. 2	Wedding Bell	Frank Elder, Nucla	Uranium, Vanadium	Mine
Rim Rock No. 3	Wedding Bell	Boo Weaver, Box 393, Nucla	Uranium, Vanadium	Mine
Rim Rock No. 5	Wedding Bell	Rex Uravan Co., Farmington, New Mexico	Uranium, Vanadium	Mine
Rim Rock Blues Nos. 2, 5	Bull Canyon	J. C. Southerland, Naturita	Uranium, Vanadium	Mine
Rim Rock Blues Nos. 6, 9, 12, 14	Bull Canyon	Ed. Johannsen, Box 117, Nucla	Uranium, Vanadium	Mine
Rim Rock Blues No. 17	Bull Canyon	Harold Price, Box 74, Nucla	Uranium, Vanadium	Mine
Roy H. Quinn	Four Corners	Jones & Jones, Box 183, Naturita	Uranium, Vanadium	Mine
Ruth Bellon	Atkinson Mesa	Adolphus Moore, Box H, Naturita	Uranium, Vanadium	Mine
St. Patrick	Long Park	Robert E. Severs, Box 843, Uravan	Uranium, Vanadium	Mine
San Miguel No. 10	Hieroglyphic Canyon	John Hicks, Box 207, Uravan		
Sandy	Dolores Rim	Wm. & Grant Burnett, 179 Rain-bow Drive, Grand Junction		
September Morn	Bull Canyon	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Mine
Shamrock	Club Mesa	Roy H. Quinn Drilling Co., Box 195, Naturita	Uranium, Vanadium	Drilling
Sphinx	Long Park	Cole & Bond, Box 397, Nucla	Uranium, Vanadium	Mine
Star No. 3	Spring Creek Mesa	Nelson & Klingensmith, Box 875, Uravan	Uranium, Vanadium	Mine
Star No. 6	Spring Creek Mesa	Wm. Eriek, Box 663, Nucla	Uranium, Vanadium	Mine
Starlight No. 7	Bull Canyon	Douglas Cleghorn, Box 502, Uravan	Uranium, Vanadium	Mine
Sunbeam	Long Park	Wm. G. Jewell, Box 125, Redrock	Uranium, Vanadium	Mine
Sunflower	Middle Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
T. N. T. No. 3, M.L. No. 15	Long Park	Jerry Mayfield, Box 222, Naturita	Uranium, Vanadium	Mine
Three Jacks	La Sal Creek	Nelson & Klingensmith, Box 875, Uravan	Uranium, Vanadium	Mine
		Eugene M. Barnes, Box 235, Uravan	Uranium, Vanadium	Mine
		Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
		Reed & Arnold, Box 298, Naturita	Uranium, Vanadium	Mine
		Dale Souther, Redvale	Uranium, Vanadium	Mine
		Clarence Neilson, Box 875, Uravan	Uranium, Vanadium	Mine
		Ben Brito, Box 626, Delta	Uranium, Vanadium	Mine
		Golden Cycle Corp., Colorado Springs	Uranium, Vanadium	Mine
		Ernest Berry, Box 237, Grand Junction	Uranium, Vanadium	Mine

### MONTROSE COUNTY—Continued

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Thunderbolt	East Paradox	Walt Burnett, Box 386, Nucla	Uranium, Vanadium	Mine
Townhouse	Dolores Rim	Cole & Bond, Box 397, Nucla	Uranium, Vanadium	Mine
Tripod Group	Long Park	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Uravan Plant				
U.C.N.C. Mill	Uravan	Union Carbide Nuclear Co., Uravan	Uranium, Vanadium	Plant
Uranium Girl	La Sal Creek	Donald Dale, 707 W. 7th, Cortez	Uranium, Vanadium	Mine
Uranus	Monogram Bench	Carl Tucker, Grand Valley	Uranium, Vanadium	Mine
Uravan No. 2	Long Park	J. W. Emmons, Box 161, Naturita	Uranium, Vanadium	Mine
Vaden View	Wild Steer Canyon			
Valentine	Long Park	Delbert Barker, Box 263, Nucla	Uranium, Vanadium	Mine
Valley View Group	Carpenter Ridge	Lark Washburn, Box 750, Uravan	Uranium, Vanadium	Mine
Van Group	Paradox Valley	Carl Nichols, Box 382, Fruita	Uranium, Vanadium	Mine
Vanadate	Long Park	Luther Bricker, Box 151, Naturita	Uranium, Vanadium	Mine
Vanadium King	Long Park	Delbert Barker, Box 263, Nucla	Uranium, Vanadium	Mine
Virgin	Long Park	Lawrence Ross, Placerville	Uranium, Vanadium	Mine
Wedge	Lion Creek	Delbert Barker, Nucla	Uranium, Vanadium	Mine
		De Var Shumway, 215 Landsdown, Grand Junction		
Whang Doodle	Wild Steer Canyon			
Whitney Shaft	Long Park	Delbert Barker, Box 263, Nucla	Uranium, Vanadium	Mine
Worcester	Dolores Rim	De Var Shumway, 215 Landsdown, Grand Junction	Uranium, Vanadium	Mine
Yip Yip Group & Two High	Wray Mesa	Worcester Mines, Box 844, Uravan	Uranium, Vanadium	Mine
		Carl Nichols, Box 382, Fruita	Uranium, Vanadium	Mine
<b>OURAY COUNTY</b>				
American Nettle	Gold Hill	W. R. Nichols & O. C. Baker, 508 Main, Montrose	Gold, Silver, Lead, Copper	Mine
Atlas	Sheffels	Idarado Mining Co., Ouray	Base Metals	Mine
Bachelor	Dexter Creek	Bay City Mining & Milling Co., Inc., 1550 Clarkson St., Denver	Silver, Lead, Zinc	Mine
Camp Bird	Ouray	Camp Bird Colorado, Inc., First Nat'l Bank Bldg., Denver	Gold, Silver, Lead, Copper, Zinc	Mine
Edna Nos. 1-6	Ironton Park	St. Germain Foundation, Ouray	Lead, Zinc	Mine
Francis No. 2 (Ruby Trust)	Sheffels			
Francis Mill	Sheffels	Francis Consolidated Mining & Development Co., Box 6, Ouray	Base Metals	Mine
Idarado	Red Mountain	Francis Consolidated Mining & Development Co., Box 6, Ouray	Base Metals	Mill
		Idarado Mining Co., Ouray	Gold, Silver, Lead, Copper, Zinc	Mine
Keno	Brown Mountain	C. & C. Minin <sup>o</sup> Co., 402 Ouray Ave., Grand Junction	Gold, Silver, Lead	Mine
Little Balm of Gilead	Ouray	Karl K. Orvis, Ridgeway	Silver, Lead, Zinc	Mine
Mineral Farm	Ouray	M. W. Waldrum, Box 526, Ouray	Silver, Lead, Zinc, Tourist	Mine
Monarch	Poughkeepsie Gulch			
		Ouray Uranium Co., Box 992, Moab, Utah	Gold, Silver, Lead, Copper, Zinc	Mine
Rouville	Red Mountain	Ernest Hoffman, Box 388, Silverton	Gold, Silver, Lead, Copper	Mine

Wewlesl	Diamond Creek	Warren Kaykendall, Box 195, Naturita	Gold, Silver, Lead, Copper, Zinc	Mine
<b>PARK COUNTY</b>				
Anna Placer	Alma	Blalock Const. Co., Box 353, Pauls Valley, Oklahoma	Gold	Placer
Ber No. 14	Colo. Springs	George McCall, 1004 Skyway Blvd., Colorado Springs	Beryl	Mine
Betty	Guffey	D.M.F. Co., Inc., 833 E. Platte Ave., Colorado Springs	Gold, Lead, Zinc, Copper	Mine
Boomer	Badger Flats	U. S. Beryllium Co., Bondurant Bldg., Pueblo	Beryl	Mine
E. & P. Placer	Alma	Evans-Parker Oil Co., Rte. 1, Dewey, Oklahoma	Gold	Placer
Hoosier	Hoosier Pass	Mazzoce Const. Co., Box 1298, Colorado Springs	Water Tunnel	
J Shaft	Lake George	Minerva Oil Co., 1129 Colorado Ave., Grand Junction	Beryl	Mine
J. S.	Badger Flats	C. Y. W. Y. D. Mining Co., Lake George	Beryl	Mine
Redskin	Lake George	U. S. Beryllium Co., Bondurant Bldg., Pueblo	Beryl	Mine
Roberts Tunnel (East Portal)	Grant	Blue River Constructors, Box 5, Grant		Water Tunnel

**PITKIN COUNTY**

Montezuma	Montezuma Basin	Montezuma Industries, Inc., Box 175, Aspen	Gold, Silver, Lead, Copper, Zinc	Mine
Pitkin Iron Mine	Iron Mountain	Pitkin Iron Corp., Box 217, Carbon-dale	Iron	Mine
Star No. 1	Independence Pass	Charles Howie, 2612 No. 7th St., Grand Junction	Silver, Lead	Mine
Woody Creek	Woody Creek	Morrison Knudsen Co., Inc., Box 217, Carbon-dale	Iron	Crusher
<b>PUEBLO COUNTY</b>				
Chamblin	Pueblo	Standard Fire Brick Co., 26th & Santa Fe, Pueblo	Clay	Mine
Kathryn	Turkey Creek	Cotter Corp., Canon City	Uranium	Mine
Nellie Helen	Stone City	Arthur L. Wands, Stone City	Clay	Mine
Numbers 2, 5	Stone City	General Refractories Co., 721 W. 3d St., Pueblo	Clay	Mine
Open Pit Mine	Stone City	General Refractories Co., 721 W. 3d St., Pueblo	Clay	Mine
Rock Creek	Rock Creek	Raymond Moore, Rye Standard Fire Brick Co., 26th & Santa Fe, Pueblo	Clay	Mine

**RIO BLANCO COUNTY**

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Butterfly	Uranium Peak	Lyle Francis, Box 577, Meeker	Uranium	Mine
Coal Creek No. 1	Meeker	Wm. Moulton & Wm. Meese, Box 226, Rifle	Uranium	Mine
Columbine No. 1	Uranium Peak	Devereaux Bros., Box 373, Meeker	Uranium	Mine
Midnight	Uranium Peak	J & H Mining Co., Box 643, Meeker	Uranium	Mine
Shylo No. 2	Meeker	John & Robert Dade, Green River, Utah	Uranium	Mine

**RIO GRANDE COUNTY**

Reynolds Tunnel	Summitville	John Rigg, 1500 E. 7th Ave., Denver	Gold, Silver, Copper	Mine
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**ROUTT COUNTY**

McCoy Cinder Pit	McCoy	McCoy Aggregate Co., McCoy	Volcanic Scoria	Quarry
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**SAGUACHE COUNTY**

Antoro	Bonanza	American Industrial Leasing Co., Superior Mines Division, Box 127, Salida		
Copperhead	Mineral Hot Springs	Gendev Mining Corp., 1014 Zodak Drive, Colorado Springs	Silver, Lead, Zinc	Mine
East	Cochetopa Creek	Gunnison Mining Co., Box 539, Gunnison	Gold, Silver, Copper	Smelter
Embargo	Del Norte	Monon Leasing Co., Creede	Uranium	Mine
Essie	Raleigh Gulch	Rico Mining Co., 1536 So. Stuart St., Denver 19	Silver, Lead, Zinc	Mine
Marine Lode	Raleigh Gulch	Tom Amer, Villa Grove	Gold, Lead, Silver	Mine
New Lookout	Harry Creek	Gibraltarr Minerals Co., Box 114, Gunnison	Gold, Lead, Silver, Copper, Zinc	Mine
Pitch Tunnel	Indian Creek	Pinnacle Exploration, Inc., Box 598, Gunnison	Uranium	Mine
Rawley No. 12	Bonanza	American Industrial Leasing Co., Superior Mines Division, Box 127, Salida	Uranium	Mine
T No. 2	Cochetopa Creek	Gunnison Mining Co., Box 539, Gunnison	Silver, Lead, Zinc	Mine
Thornburg	Cochetopa Creek	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
Turquoise Lode	Villa Grove	Villa Grove Turquoise Co., Box 171, Villa Grove	Turquoise	Quarry
Warwick	Bonanza	Joseph D. Blunt, 829 Macon Ave., Canon City	Silver, Lead, Zinc	Mine
West Mine	Cochetopa Creek	Gunnison Mining Co., Box 539, Gunnison	Uranium	Mine
American Tunnel	Gladstone	Standard Metals Co., 264 So. 4th St., Moab, Utah	Gold, Silver, Lead, Copper, Zinc	Mine

**SAN JUAN COUNTY**

Auburn Group	Eureka	C. A. McLelland, Box 442, Silverton	Base Metals	Mine
Blackhawk	Cement Creek	Leo Searle, Box 541, Silverton	Base Metals	Mine
Burbank Tunnel	Ice Lake	Denver Golden Corp., Box 517, Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Clear Lake	Clear Lake	Leo Searle, Box 541, Silverton	Base Metals	Mine
Columbus Group	Animas Forks	Jack Dieck, Box 151, Delta	Gold, Silver, Lead, Copper, Zinc	Mine
Elk Group	Elk Park	Gaddis Mining Co., 1500 Mile High Center, Denver	Uranium	Mine
Greysill Group	Hermosa Creek	Vanadium Corp. of America, Durango	Uranium, Vanadium	Mine
Katy	King Solomon	Odie Cross, Box 391, Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Lackawanna Mill	Silverton	T. A. Denny, Box 427, Silverton	Lead, Zinc, Copper	Mine
Little Dora	Silverton	Fall River Exploration & Mining Co., Box 32, Idaho Springs	Gold, Silver, Lead, Copper, Zinc	Mine
Little Giant	Silverton	Howard Bowles & Kenneth Wagner, Box 457, Silverton	Base Metals	Mine
Little Ida	California Gulch	Warren Kuykendall, Naturita	Base Metals	Mine
Little Rabbit Placer	Lime Creek	Lloyd Pavish, Lake City	Gold, Silver	Placer
Longfellow	Red Mountain	Halliburton Oil Producing Co., 2915 Hallasen Blvd., Oklahoma City, Oklahoma	Silver, Lead	Mine
Mill Cleanups	Howardsville	Delbert McCluskey, 117 So. 9th St., Grand Junction	Gold, Silver, Lead, Copper, Zinc	Mine
Osceola	Howardsville Gulch	T. A. Denny, Box 372, Silverton	Base Metals	Mine
Pride Mill	Cunningham	Fall River Exploration & Mining Co., Box 32, Idaho Springs	Gold, Silver, Lead, Copper, Zinc	Mine
Queen Anne	Cement Creek	Robert B. Daniel, 2682 Grand Junction Road, Grand Junction	Base Metals	Mine
Ralubow (Richardson Group)	Anvil Mountain	Frank Richardson, Box 546, Ouray	Gold, Silver, Lead, Copper, Zinc	Mine
Richardson No. 1 (Brooklyn)	Anvil Mountain	Frank Richardson, Box 546, Ouray	Gold, Silver, Lead, Copper, Zinc	Mine
Shenandoah (Mayflower)	Silverton	Standard Metals Co., 264 So. 4th St., Moab, Utah	Gold, Silver, Lead, Copper, Zinc	Mine & Mill
Silver Wing	Animas Canyon	Robert London, Box 217, Naturita	Base Metals	Mine
Standard Mill	Silverton	Standard Metals Co., 264 So. 4th St., Moab, Utah	Gold, Silver, Lead, Copper, Zinc	Mill
Sultan Tunnel	Silverton	Fall River Exploration & Mining Co., Box 32, Idaho Springs	Gold, Silver, Lead, Copper, Zinc	Mill
Sunburst (Katy Group)	King Solomon	Sipe-Silverton Associates, Inc., Silverton	Gold, Silver, Lead, Copper, Zinc	Mine
Terry Tunnel	Eureka Creek	Standard Metals Co., 264 So. 4th St., Moab, Utah	Base Metals	Mine
			Base Metals	Mine

## SAN MIGUEL COUNTY

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Al	Hastings Mesa	Albert Granger, 1301 Main St., Montrose	Gold, Silver	Mine
Andrus	Ingram Basin	East Ridge Mining Co., 633 S. Shatto Place, Los Angeles, California	Base Metals	Mine
April No. 1	Slick Rock	Lyle Francis, Grand Junction	Uranium, Vanadium	Mine
Atlas & Clara	Trout Lake	John Montonati, 683 4th Ave., Durango	Silver, Lead	Mine
Bachelor	Bachelor Draw	Bachelor Mines, Dove Creek	Uranium, Vanadium	Mine
Bean No. 3	Slick Rock	Marvin Randolph, Dove Creek	Uranium, Vanadium	Mine
Bean Patch Incline	Slick Rock	Dulaney Mining Co., 1st Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Bean Patch Incline No. 3	Slick Rock	Dulaney Mining Co., 1st Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Bob Falcon Incline	Egnar	Joe Gomez, Box 23, Egnar	Uranium, Vanadium	Mine
Bog Iron Pit	Old Ophir	A. L. Campbell, 212 Petroleum Bldg., Grand Junction	Bog Iron	Mine
Buckhorn	Bean Patch	Charles E. Davis, Slick Rock	Uranium, Vanadium	Mine
Burro Nos. 1, 2, 5	San Miguel	Oscar Blixt, Box 192, Telluride	Gold	Mine
Burro Nos. 3, 5, 7	Slick Rock	Harold Foss, Slick Rock	Uranium, Vanadium	Mine
Burro Point	Wedding Bell	Frank Fedel, 1801 N. 14th, Grand Junction	Uranium, Vanadium	Mine
Brasier Bros.	Norwood	Brasier Bros. Const. Co., Norwood	Uranium, Vanadium	Drilling
Carnation	Gypsum Valley	Lowell Staats, Box 337, Nucla	Uranium, Vanadium	Mine
Chilli No. 5	Hamm Bench	Virgil Nidiffer, Rte. 1, Grand Junction	Uranium, Vanadium	Mine
Cow Girl	Slick Rock	Ed Horn, Box 743, Rifle	Uranium, Vanadium	Mine
Deluxe	Horse Range	Davis Mining Co., Dove Creek	Uranium, Vanadium	Mine
Deremo	Egnar	E. J. Johannissen & Elwood Kelly, Box 117, Nucla	Uranium, Vanadium	Mine
Double Buck	Mule Shoe Bend	Union Carbide Nuclear Co., Dove Creek	Uranium, Vanadium	Mine
Falcon	Slick Rock	Leo Matley, Dove Creek	Uranium, Vanadium	Mine
Fall Creek	Fall Creek	Joe Gomez, Box 23, Egnar	Uranium, Vanadium	Mine
Fall Creek Quarry	Fall Creek	Vanadium Corp. of America, Durango	Vanadium	Mine
Firefly No. 3	Slick Rock	Garruth Mining & Development Co., Ridgeway	Stone	Quarry
Florence Group	Bean Patch	Joe Gomez, Box 23, Egnar	Uranium, Vanadium	Mine
Fraction	Slick Rock	Charles E. Davis, Slick Rock	Uranium, Vanadium	Mine
Frenchie Point	Slick Rock	W. D. Tripp, Box 291, Dove Creek	Uranium, Vanadium	Mine
Garibaldi-San Bernardo	Matterhorn	Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
Governor No. 2	Bishop Canyon	Hugh Thomas, Ophir	Gold, Silver, Lead, Copper, Zinc	Mine
Groundhog Dump	Wedding Bell	Joe Dowd, Jr., Moab, Utah	Uranium, Vanadium	Mine
Hangover	Slick Rock	Rex Holland, Box 243, Naturita	Uranium, Vanadium	Mine
Hawk No. 2	Egnar	Burwell Mining Co., Egnar	Uranium, Vanadium	Mine
Himes Drilling	Gypsum Valley	Burwell Mining Co., Egnar	Uranium, Vanadium	Mine
		Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
		Himes Drilling Co., 2870 Uniweep, Grand Junction	Uranium, Vanadium	Drilling

Horseshoe No. 5	Horseshoe Bend	Jack Milling, Egnar	Uranium, Vanadium	Mine
Hotz Incline (Summit Group)	Slick Rock	Don Tripp, Box 291, Dove Creek	Uranium, Vanadium	Mine
Jack Knife No. 3	Wedding Bell	Dan Johnson, 1211 S. 5th, Grand Junction	Uranium, Vanadium	Mine
King No. 2	Slick Rock	Gerald Randolph, Box 333, Naturita	Uranium, Vanadium	Mine
King No. 4	Slick Rock	Earl Holz, Slick Rock	Uranium, Vanadium	Mine
King Shaft Fraction	Egnar	Chas. Pickens, Box 246, Mancos	Uranium, Vanadium	Mine
Latricia	Slick Rock	Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
Little Jimmie	Valley View Draw	Golden Cycle Corp., Colorado Springs	Uranium, Vanadium	Mine
Lone Star Nos. 1, 2	Dolores River	Jesse Crawford, Box 138, Yellow Jacket	Uranium, Vanadium	Mine
Lucky Day	Bridge	Little Jimmie Mining & Leasing Co., Telluride	Gold, Silver	Mine
Lucky J	Bull Canyon	K. S. Gurwell, Cortez	Uranium, Vanadium	Mine
Magpie	Gypsum Valley	Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
Mainstreet No. 2	Wedding Bell	James Thomas, Box 164, Green River, Utah	Uranium, Vanadium	Mine
Marne	Spud Patch	Brasler Bros. Const. Co., Norwood	Uranium, Vanadium	Mine
Mary Jane Group	Hamm Canyon	Golden Cycle Corp., Colorado Springs	Uranium, Vanadium	Mine
May Nos. 2, 3	Slick Rock	Wm. Hardin, Redvale	Uranium, Vanadium	Mine
Middle Group	Slick Rock	Dan Sheek & James Turner, Box 234, Naturita	Uranium, Vanadium	Mine
New Uncle Sam	Gypsum Valley	O. W. Woodward, 2061 So. Broadway, Grand Junction	Uranium, Vanadium	Mine
North Slope	Haden Peak	E. E. Lewis, Inc., Box 1481, Grand Junction	Uranium, Vanadium	Mine
Norther Nos. 5, 6	Horse Range	Watters Lease, Cortez	Gold, Silver, Lead, Copper, Zinc	Mine
Northern Light	Slick Rock	Jesse Crawford, Redvale	Uranium, Vanadium	Mine
Paper Ore Body	Slick Rock	North Slope Mining Co., Rte. 2, Montrose	Uranium, Vanadium	Mine
Pandora	Telluride	E. D. Johannsen, Nucla	Uranium, Vanadium	Mine
Pandora Mill	Telluride	Wm. Barnett, Box 305, Dove Creek	Gold, Silver, Lead, Copper, Zinc	Mine
Parrot Drift	Mule Shoe Bend	Glenn D. Kimball, Rte. 1, Ignacio	Uranium, Vanadium	Mine
Penalgal Group	Spud Patch	E. E. Lewis, Inc., Box 1481, Grand Junction	Uranium, Vanadium	Mine
Pioneer	Egnar	Idarado Mining Co., Ouray	Uranium, Vanadium	Mine
Pitch Fork No. 1	Gyp Valley	Idarado Mining Co., Ouray	Gold, Silver, Lead, Copper, Zinc	Mine
		Idarado Mining Co., Ouray	Gold, Silver, Lead, Copper, Zinc	Mill
		Wm. Burwell, Egnar	Uranium, Vanadium	Mine
		Clyde Sanchez Mining Co., Box 314, Dove Creek	Uranium, Vanadium	Mine
		Wm. Burwell, Egnar	Uranium, Vanadium	Mine
		Howard Hollen, 2928 Highway 50, Grand Junction	Uranium, Vanadium	Mine
		Rudakel Mining Co., Box 157, Naturita	Uranium, Vanadium	Mine
		Willis Kelly, Redvale	Uranium, Vanadium	Mine

Name of Property	Location	Operators Name and Address	Product	Kind of Property
Pond	Gypsum Valley	W. H. Hardin, Redvale		
		E. D. Etzler, c/o Basin Station, Redvale		
Porcupine	Wild Boy Lake	Benson, Benson & Timmerman, Telluride	Uranium, Vanadium	Mine
Prospectors Fortune	Island Mesa	Ruth C. Roberts, Egnar	Silver, Lead	Mine
Radium No. 5	Slick Rock	Dulaney Mining Co., First Nat'l Bank Bldg., Grand Junction	Uranium, Vanadium	Mine
Red Horse and Rainy Day	Hamm Bench	Harold Price, Box 74, Nucla	Uranium, Vanadium	Mine
Red Rock	Mineral Mountain		Uranium, Vanadium	Mine
Roy Lee	Mule Shoe Bend	American Eagle Leasing Co., Box 343, Norwood	Uranium, Vanadium	Mine
S. B. No. 9 Group	Egnar	Rockwell Mining Co., Dove Creek	Uranium Vanadium	Mine
S. K. Rim	Slick Rock	Trenton Davis, Box 412, Dove Creek	Uranium, Vanadium	Mine
Sage No. 11	Bishop Canyon	Earl Hotz, Slick Rock	Uranium, Vanadium	Mine
St. Louis Tunnel-Alta	Turkey Creek	Chas. Pickens, Box 246, Mancos	Uranium, Vanadium	Mine
		Uranium Shares Inc., Box 53, Egnar	Uranium, Vanadium	Mine
		Silver Mountain Mining Co., 5202 Roland Road, Peoria, Illinois		
		Keith & Chas. Benson, H. C. Timmerman, Telluride	Silver, Lead	Mine
San Juan	Matterhorn	Dan F. Hunter, Box 125, Telluride	Gold, Lead, Zinc, Copper	Mine
Slick Rock Concentrator	Slick Rock	Union Carbide Nuclear Co., Slick Rock	Uranium, Vanadium	Mine
Special Session	Elk Creek Basin	Fred Sellan, Grand Junction	Gold, Silver	Plant
Strawberry Roan	Bishop Canyon	Tom Thompson, Box 65, Egnar	Uranium, Vanadium	Mine
Sunday No. 2	Gypsum Valley	Leslie Thompson, Ridgeway	Uranium, Vanadium	Mine
Summit Incline Fraction	Slick Rock	King Koenig, Box 33, Egnar	Uranium, Vanadium	Mine
Tiny (Discovery Cut)	Gyp Valley	W. D. Tripp, Box 291, Dove Creek	Uranium, Vanadium	Mine
Two Bars	Gyp Valley	W. H. Hardin, Redvale	Uranium, Vanadium	Mine
Vanadium Queen	McIntyre Canyon	W. H. Hardin, Redvale	Uranium, Vanadium	Mine
		Carl L. Nichols & Carl Weaver, Box 382, Fruita	Uranium, Vanadium	Mine
Veta Mad & Veta Glad	Slick Rock	Hotz & Pickens, Mancos		
		O. C. Brown, c/o Gayno Mining Co., Montrose	Uranium, Vanadium	Mine
Warren Placer	Alta Mine Dump	Benson, Benson & Timmerman, Box 544, Telluride	Gold, Silver, Lead, Copper	Placer
West End	Wedding Bell	David Pace, Naturita	Uranium, Vanadium	Mine
Wilmarth	Gypsum Valley	Jesse Crawford, Yellow Jacket	Uranium, Vanadium	Mine
Windswept	Gypsum Valley	W. H. Hardin, Redvale	Uranium, Vanadium	Mine

### SUMMIT COUNTY

Alliance	Gibson Hill	R. C. Moffitt, Box 338, Breckenridge	Gold, Silver, Lead	Mine
Blue River Placer	Breckenridge	Blue Beach Mining Co., Breckenridge		Placer
Buffers Lake	Climax	Boyles Bros. Drilling Co., 1321 S. Main St., Salt Lake City, Utah	Gold	Core Drilling
Dillion Dam Diversion Tunnel	Dillion	F. H. Linneman, Inc., 1300 Harlan St., Denver		Water Tunnel
Fannie Placer	Breckenridge	Aura Lee Engineering Co., Box 385, Breckenridge	Gold	Placer



Gagen Tunnel	Kokomo	Golden Hill Mines, 1808 19th St., Golden	Gold	Mine
Galena Gulch Placer	Galena Gulch	Wiedmer & Langely, Box 187, Breckenridge	Gold	Placer Mine
Iron Mass Group	Breckenridge	Melvin E. Teltett, Breckenridge	Gold, Silver, Lead, Zinc	Water Tunnel
McCullough Tunnel	McCullough Gulch	John W. Brown Const. Co., 5700 N. Broadway, Denver	Gold	Placer
Montezuma Shaft	Loveland Pass	Blue River Constructors, Dillon, Breckenridge	Sand, Gravel	Water Tunnel
Ophir Placer	Dillon	Blue River Constructors, Dillon	Gold, Silver, Lead, Zinc	Mine
Roberts Tunnel	Ryan Crushing & Screening	C. Ryan & Son, Box 378, Climax	Lead, Zinc	Mine
Shoe Basin	Montezuma	Montezuma Mining & Oil, Inc., Montezuma	Gold, Silver, Lead, Zinc	Mine
Teller Basin Mill	Montezuma	Montezuma Mining & Oil, Inc., Montezuma	Gold, Silver, Lead, Zinc	Mine
Washington	Breckenridge	R. J. Webb & Mike Vinson, Box 365, Breckenridge	Gold	Mine

**TELLER COUNTY**

Ajax	Battle Mountain	Golden Cycle Corp., Box 127, Cripple Creek	Gold	Mine
Alpen Meadow Bog	Gillette	Alpen Meadows, Inc., Box 1074, Colorado Springs	Peat	Peat Bog
Black Cloud	Divide	Herb Cristler, Lake George	Quartz	Quarry
Carlton Mill	Victor	Golden Cycle Corp., Box 127, Cripple Creek	Gold, Silver	Mill
Deadwood	Cripple Creek	Deadwood Leasing Co., Box 156, Cripple Creek	Gold	Mine
El Paso	Beacon Hill	El Paso Gold Tours, Inc., Box 155, Cripple Creek	Gold, Tourist	Mine
Grace Greenwood	Cripple Creek	Pfeiffer & Co., Box 245, Cripple Creek	Gold	Mine
Little May	Bacon Hill	John & Earl Robush, Cripple Creek	Gold	Mine
Molly Kathleen	Tenderfoot Hill	Black Diamond Mining Co., Box 798, Cripple Creek	Gold, Tourist	Mine
Pikes Peak	Guffey Road	Al Harre, Woodland Park	Granite	Quarry
Theresa Shaft	Victor	United Gold Mines, Box 86, Colorado Springs	Gold	Mine

**WELD COUNTY**

Commander	Greeley	Sterling Contracting Co., Rte. 3, Box 560, Ft. Collins	Base Material	Plant
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**HIGHWAYS & PROJECTS**

County	Location	Operators Name & Address	Project
Routt	Rabbit Ears Pass	Amis Const. Co., 1647 Exchange Avenue, Oklahoma City, Oklahoma	Highway
Mesa	Mesa County	Beard, Wallace, 2041 N. 8th St., Grand Junction	Construction

## HIGHWAYS &amp; PROJECTS—Continued

County	Location	Operators Name & Address	Project
Clear Creek	Idaho Springs	Colorado Constructors, Inc., 725 W. 39th Ave., Denver	Twin Tunnels Road Construction
Mineral	Wagon Wheel Gap & Creede		
Gunnison	From Cochetopa Creek 5 miles toward Gunnison		Highway
Gunnison	Monarch Pass to Sargents		Oiling Highway Construction
Montrose	Black Canyon		Highway
Archuleta	Arboles, north, east and west		Road Construction
Mesa	Gateway to Uruvan		Highway
San Miguel	Placerville toward Dallas	Corn Construction Co., Box 1501, Grand Junction	Re-oiling Highway
Mesa	Four Corners		Highway
Montrose	North of Grand Junction		Highway
Montrose	Black Canyon to top of Terso	J. P. Elliott & Co., Box 201, Pueblo	Highway
Gunnison	Highway 114, West Pass Creek & East Creek between Saguache & Gunnison		Highway
La Plata	Between Ignacio & Mayfield	Gardner Const. Co., Box 1751, Grand Junction	Highway
San Miguel	Placerville to Dallas	W. A. Hamilton Const. Co., Gallup, New Mexico	Road
La Plata	Highway 160 from Bayfield	Harrison Const. Co., Box 1181, Englewood	Re-surfacing
Montezuma	Northeast of Bayfield		Highway
Montezuma	Near Mancos, Four Corners		Highway
Archuleta	Navajo Dam	H. & S. Gravel Co., Inc., Platteville	Road
Boulder	So. St. Vrain	Hopkins Const. Co., 1340 So. Lipan, Denver	Highway
Moffat	Between Craig & Maybell	C. L. Hubner Co., 4473 E. Evans, Denver	Highway
Grand and Jackson	19 miles west of Craig		Highway
Grand and Jackson	Highways 40 & 14 between Kremmling & Heron		Highway
Fremont	10 miles north of Parkdale	Hunt Const. Co., Steamboat Springs	Highway
El Paso	Colo. Project S 0037		Highway
Jefferson	Turkey Creek	H. E. Lowdermilk, 1950 W. Dartmouth, Denver	Highway
Boulder	Peaceful Valley		Highway
Lake	Climax		Construction
Summit	Between Green Mt. Dam & Dillon		Highway
Custer	Between Silver Cliff & Wetmore		Highway
Delta	Southeast of Crawford on north approach to Black Canyon		Highway
Montrose	Four Corners Area	C. E. Mills Const. Co., Rte. 2, Box 231, Montrose	Road

Montezuma	Cortez	Nielson Inc., Dolores	Construction
Dolores	From Dolores north in San Miguel & South		Road
Dolores, Montezuma	Between Stoner & Dolores	Northwestern Engineering Co., 6001 Colo. Blvd., Denver 16	Highway
Montezuma	Around Cortez		Road
La Plata	South, 4 miles		Road
La Plata	Durango		Road
Mesa	From Grand Junction	Pioneer Const. Co., Pueblo	Highway
El Paso	Highway 115, 10 miles south of Colorado Springs		Highway
Montezuma	Mancos, East & West	Charley Pender Const. Co., Cortez	Road
Routt	Between McCoy & Toponas	E. J. Rippey & Sons, New Castle	Highway
Gunnison	Cebolla Creek to top of 9 mile hill		Road
Garfield	Road to quarry, 2 miles west of Glenwood Springs		Road
Mesa	Grand Junction east 5 miles	Schmidt Const. Co., Box 53, Whitewater	Highway
Delta	12 miles northwest of Cedaredge	Siegrist Const. Co., 7000 York St., Denver 29	Road Building Highway
Jackson	Kings Canyon		Highway
Weld	Highways in Weld County		Highway
Dolores	Near Cahone	Smith & Lucas, Box 157, Colorado Springs	Highway
Dolores	2 miles west of Dove Creek, 5 miles toward Bgnar		Highway
Delta	From Cedaredge toward Grand Mesa		Highway
San Miguel	Top of Slick Rock Hill toward Bgnar		Highway
Montrose	East of Crawford		Highway
Jefferson	Turkey Creek	Sterling Paving Co., Box 759, Ft. Collins	Highway
Grand	Winter Park	J. A. Toblin Const. Co., 5700 N. Broadway, Denver	Highway







MINERAL PRODUCTION IN THE STATE OF COLORADO

Main data table with columns: Year, Lead, Silver, Copper, Zinc, Uranium, Vanadium, Tungsten, Molybdenum, Magnesite, Beryl, Beryllium, Tin, Iron, Fluorspar, Limestone, Dolomite, Clay, Silica, Gypsum, Alabaster, Feldspar, Mica, Vermiculite, Perlite, Slate, Sand & Gravel, Calcite, Pumice, Scoria, Leam, Perl, Soil Conditioner, Asph, Lignite, Coal, Petroleum, Miscellaneous, Total, Year. Includes sub-tables for 1910-1911 and 1912-1913.

NOTES
The accompanying production tables have been compiled from the annual reports of the Colorado Bureau of Mines and show the dollar value for various mineral classifications as reported each year.
Many combinations of minerals have been reported in the annual reports but they show tables all similar minerals have been grouped together into thirty classifications. These classifications, together with the similar minerals included, are listed below.
1. COAL
2. BITUMENS
3. COPPER
4. LEAD
5. ZINC
6. URANIUM
7. VANADIUM
8. TUNGSTEN
9. MOLYBDENUM
10. MANGANESE
11. BERYL, BERYLLIUM: Beryl - Beryllium
12. TIN
13. IRON: Sulphur - Yellow - Bag Iron
14. FLUORSPAR
15. LIMESTONE, DOLOMITE: Limestone & Dolomite - Limestone - Dolomite
16. CLAY: Clay, Brick, Fire Clay - Clay - Fire Clay
17. SILICA: Silica - Silica Sand - Silica Rock
18. GYPSUM, ALABASTER: Gypsum - Alabaster
19. FELDSPAR, MICA, VERMICULITE, PERLITE: Feldspar, Mica, Beryl - Feldspar - Feldspar, Mica - Scrap Mica - Feldspar, Mica, Gypsum
20. VERMICULITE, PERLITE: Vermiculite - Perlite
21. STONE: Sandstone - Building Stone - Crushed Rock, Rio Rancho - Cement - Marble - Granite - Dimensional
22. SAND & GRAVEL: Sand - Building Sand - Sand & Gravel
23. VOLCANIC ASH, PEPPER, SCORIA: Volcanic Ash - Peat - Scoria - Vermiculite, Scoria
24. LIMESTONE SOIL CONDITIONER: Limestone - Soil Conditioner - Peat
25. ASBESTOS: Asbestos - Vermiculite - Perlite - Vermiculite - Perlite - Vermiculite - Perlite - Vermiculite - Perlite
26. CLAY: Ceramic - Plastic
27. FERTILIZERS: Fertilizers - Composts
28. NATURAL GAS: Gas - Dry Ice
29. PETROLEUM: Crude Oil
30. MISCELLANEOUS: Scrap Steel - Limestone, Lignite, Sand - Scrap Metal - Miscellaneous Metals - Miscellaneous
Figures for the earliest years were taken from data compiled by the United States Geological Survey. In 1925 the work of collecting production data was transferred to the United States Bureau of Mines and from that year through 1963 the information used in the annual reports was secured from the U. S. B. M. Beginning with 1964 and including the annual report for 1965, production data on Lead, Silver, Copper, Zinc and Uranium from the United States Bureau of Mines but statistics on other minerals produced in the State were compiled by the Colorado Bureau of Mines. Since that time all production for the State as shown in the annual reports has been collected and compiled by the State Bureau of Mines.
FOOTNOTES:
1. Annual Report shows 23,600,421 pounds, value estimated @ \$1.00 per pound.
2. Annual Report shows 60,000 tons, value estimated @ \$20.00 per ton.
3. Annual Report shows 2,802,352 tons, value estimated @ \$1.00 per ton on recovery ratio of previous year.
4. Production of vanadium and vanadium recovered by Federal Government.
5. Production taken from U. S. D. I. Mineral Yearbook, an annual report prepared by the Colorado Bureau of Mines.
6. Uranium mining and processing with vanadium by product estimated value to State.
7. Figure includes real production.

Summary table with columns: Year, Lead, Silver, Copper, Zinc, Uranium, Vanadium, Tungsten, Molybdenum, Magnesite, Beryl, Beryllium, Tin, Iron, Fluorspar, Limestone, Dolomite, Clay, Silica, Gypsum, Alabaster, Feldspar, Mica, Vermiculite, Perlite, Slate, Sand & Gravel, Calcite, Pumice, Scoria, Leam, Perl, Soil Conditioner, Asph, Lignite, Coal, Petroleum, Miscellaneous, Total, Year.







