

STATE OF MONTANA

Tim Babcock, *Governor*

BUREAU OF MINES AND GEOLOGY

E. G. Koch, *Director*

BULLETIN 58

April, 1967

**DIRECTORY OF MINING ENTERPRISES
FOR 1966**

with a section on

THE MINERAL INDUSTRY OF MONTANA IN 1966

STATE OF MONTANA
BUREAU OF MINES AND GEOLOGY
E. G. Koch, Director

BULLETIN 58

DIRECTORY
OF
MINING ENTERPRISES FOR 1966

Compiled by

Robert D. Geach
Montana Bureau of Mines and Geology

with a

LIST OF ACTIVE COAL MINES, 1966

by Thomas Morgan
State Coal Mine Inspector

and a section on

THE MINERAL INDUSTRY OF MONTANA IN 1966

by

Ronald P. Collins, William N. Hale, and Richard W. Knostman
U. S. Department of the Interior, Bureau of Mines



MONTANA COLLEGE OF MINERAL SCIENCE AND TECHNOLOGY
Butte, Montana
April 1967

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DIRECTORY
OF
MINING ENTERPRISES FOR 1966

by

Robert D. Geach

INTRODUCTION

Each year Bureau geologists visit many mining properties in Montana in addition to work on their regular field projects. As it is not possible to visit in person all properties in the state during the year, information is requested from Montana mine operators and owners relating to their mining activities. The responses to this canvassing and personal interviews are then compiled and published annually in our Directory of Mining Enterprises.

Mining enterprises are listed systematically in categories in the main body of the Directory, either under Metal Mines or under Nonmetal Mines, Pits, and Quarries. In order, these categories are kind of ore or mineral produced; county in which the mine is situated; and the name of the mine. Additional information includes location of the property based on legal subdivisions of land survey; type of ore mined; mining district in which the property is situated; number of employees; mill capacity, if any; operator's name and address; owner's name and address; and yearly status, i. e., whether the property produced ore during the year, is still producing, ore was developed without any production, or remained totally inactive. To facilitate looking up a mining enterprise, an index of mines, mine owners, and operators is included at the back of the Directory.

The Directory also contains a list of presently inactive mines. The list is not a complete one, as it is not possible to list all such mining properties in Montana in a publication this size. For this reason, the list is a compilation of only those properties that have undergone development work or have produced ore within recent years but were inactive for a period of more than one year. Mines inactive for a period of three consecutive years are dropped entirely from the Directory

The rest of the Directory contains a list of Montana coal mines active in 1966 and the state coal production report, by Thomas Morgan, State Coal Mine Inspector, and a report entitled The Mineral Industry of Montana in 1966, by R. P. Collins, W. N. Hale, and R. W. Knostman, of the Bureau of Mines, U.S. Department of the Interior, Region I.

The author wishes to thank the many Montana mine owners and operators for allowing information on their activities to be published. Special acknowledgment is due Mr. Morgan and Mr. Collins, Mr. Hale, and Mr. Knostman for their part in this publication.

Every effort has been made to publish exact and complete information. The fact that a property is listed in the Directory, however, is not to be regarded as an endorsement of the property by the Montana Bureau of Mines and Geology. Conversely, if a property is omitted from the Directory, the omission is not to be taken as questioning its value or future. Such omissions are known to occur, but most are traceable to failure by the last known operator to respond to repeated requests for necessary information. Nevertheless, in most such cases, the missing data have been supplied from the best sources available.

If any additional facts or corrections can be provided, please submit such information to the Montana Bureau of Mines and Geology, Butte, Montana. Your help is needed to keep this yearly publication as authoritative as possible.

The abbreviations used throughout the Directory are: sec., section; T., township; R., range; and t/d, tons per day.

PART 1, METAL MINES

ANTIMONY MINES

SANDERS COUNTY: Thompson Falls, County Seat

BABBIT MINE	Stibnite	Prospect Creek district, sec. 17, T. 21 N., R. 31 W.
Operator: Knute Kirkeberg, Box 396, Thompson Falls, Montana 59873		
Owner: Same as operator		
Status: Produced		

CHROME MINES

STILLWATER COUNTY: Columbus, County Seat

MOUAT MINE	Chrome ore	Nye district, sec. 20, 21, 28, 29, 30, T. 5 S., R. 15 E.
Operator: Monte Vista Co., Box 1084, Billings, Montana 59101		
Owner: Same as operator		
Status: Developing		

COLUMBIUM MINES

RAVALLI COUNTY: Hamilton, County Seat

RYE CREEK PROSPECT	Columbium, rare earths	Rye Creek district, sec. 29, T. 3 N., R. 20 W.
Operator: J. T. Abbey and M. Wilson, Box 47, Darby, Montana 59829		
Owner: Same as operator		
Status: Unknown		

GOLD, SILVER, COPPER, LEAD, ZINC MINES

BEAVERHEAD COUNTY: Dillon, County Seat

BLUE EYED ANNIE MINE	Silver, copper, lead	Elkhorn district, unsurveyed, T. 4 S., R. 12 W.
Operator: John McDonald and Cleve Metcalf, Jr., Philipsburg, Montana 59858		
Owner: John Miller, Polaris, Montana 59746		
Status: Produced		

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

BEAVERHEAD COUNTY, contd.

<p>BURGIE ROSA GROUP Operator: Vipond Mining Co., Box 63, Billings, Montana 59101 Owner: George Gluck, Ramsay, Montana 59748 Employees: 1 Status: Developing</p>	<p>Silver</p>	<p>Vipond Park district, sec. 34, 35, T. 1 S., R. 11 W.</p>
<p>CAPITOL MINE* Operator: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane, Washington 99201 Owner: Lee James, Polaris, Montana 59746 Employees: 4 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Argenta district, sec. 5, T. 6 S., R. 10 W.</p>
<p>CHARTER OAK MINE Operator: L. V. Wilkinson, 1900 Miller Avenue, Burley, Idaho 83318 Owner: Same as operator Employees: 1 Status: Inactive</p>	<p>Gold, silver, lead, zinc</p>	<p>Blue Wing district, sec. 4, T. 8 S., R. 11 W.</p>
<p>CLEVE-AVON and FRANKLIN MINE Operator: L. B. Lively, Melrose, Montana 59743 Owner: Same as operator Employees: 3 Status: Producing</p>	<p>Gold, silver</p>	<p>Bryant (Hecla) district, sec. 2, T. 3 S., R. 11 W.</p>
<p>COOLIDGE MINE Operator: John Hand, Argenta Route, Dillon, Montana 59725 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Elkhorn district, sec. 22, T. 4 S., R. 12 W.</p>

 *Open pit.

<p>DIADEM GROUP (ARNOLD) MINE* Operator: Diadem Co. , 618 S. Jefferson Ave. , Spokane, Washington 99204 Owner: J. F. Arnold, Spokane, Washington 99204 Status: Developing</p>	<p>Gold, silver, copper, lead</p>	<p>Wisdom district, sec. 7, 18, T. 3 S. , R. 14 W.</p>
<p>FAITHFUL MINE* Owner: Helen J. Browne Estate, Box 399, Butte, Montana 59701 Status: Inactive</p>	<p>Gold, silver</p>	<p>Vipond Park district, sec. 3, T. 2 S. , R. 11 W.</p>
<p>GLADSTONE-ARGENTA MINE Operator: Silver King Mines, Inc. , Dillon, Montana 59725 Owner: Morse, Farnsworth, et al. , Dillon, Montana and New York City Employees: 3 Status: Inactive</p>	<p>Gold, silver, lead</p>	<p>Montana district, sec. 13, T. 5 S. , R. 10 W.</p>
<p>GOLDSMITH MINE Operator: Wroble Drilling Co. , Anaconda, Montana 59711 Owner: Goldsmith Mining Corp. Status: Producing</p>	<p>Silver, lead, zinc</p>	<p>Argenta district, NW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 30, T. 6 S. , R. 10 W.</p>
<p>GRAYBIRD NO. 1 MINE* Operator: Glenn Shafer, Argenta Route, Dillon, Montana 59725 Owner: Mrs. Carl Meine, Dillon, Montana 59725 Status: Unknown</p>	<p>Silver, lead</p>	<p>Argenta district, sec. 29, T. 6 N. , R. 10 W.</p>
<p>GREENSTONE MINE Operator: Carl Kennedy, Dillon, Montana 59725 Owner: Same as operator Status: Developing</p>	<p>Silver, copper</p>	<p>Utopia district, sec. 11, T. 5 S. , R. 10 W.</p>

 *Open pit.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

BEAVERHEAD COUNTY, contd.

<p>GREY JOCKEY MINE* Operator: Omer H. Boeh, 2121 Locust, Butte, Montana 59701 and W. B. Hussman, 1900 Hamburg, Anaconda, Montana 59711 Owner: Theodore Jacobs, Missoula, Montana 59801 Status: Produced</p>	<p>Silver</p>	<p>Vipond Park district, sec. 2, T. 2 S., R. 11 W.</p>
<p>LEADVILLE MINE Operator: Vipond Mining Co., Box 63, Billings, Montana 59101 Owner: Art Semsak and Julius Jackelini, Butte, Montana 59701 Status: Developing</p>	<p>Silver</p>	<p>Vipond Park district, sec. 34, T. 1 S., R. 11 W.</p>
<p>MAIDEN CREEK COPPER MINE Operator: Chester A. Given, Route 1, Box 44-C, Arco, Idaho 83213 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Silver, copper</p>	<p>Chinatown district, sec. 23, T. 11 S., R. 13 W.</p>
<p>MAULDEN (HAND) MINE Operator: Hand Mines, 30 S. Arizona St., Dillon, Montana 59725 Owner: Ida B. Hand, Dillon, Montana 59725 Employees: 6 Status: Produced</p>	<p>Gold, silver, lead</p>	<p>Argenta district, NW$\frac{1}{4}$ NW$\frac{1}{4}$ sec. 29, T. 6 S., R. 10 W.</p>
<p>MIDNIGHT DUMP* Operator: Rudy Nygren, Argenta Route, Dillon, Montana 59725 Owner: Monidah Trust Co., Butte, Montana 59701 Employees: 1 Status: Unknown</p>	<p>Silver, lead</p>	<p>Argenta district, sec. 24, T. 6 S., R. 10 W.</p>

 *Open pit or open cut.

<p>NEW DEPARTURE MINE Operator: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane, Washington 99201 Owner: Same as operator Employees: 10 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Blue Wing district, NW$\frac{1}{4}$ NW$\frac{1}{4}$ sec. 26, T. 7 S., R. 11 W.</p>
<p>POLARIS MINE* Operator: Lee M. James, Polaris, Montana 59746 Owner: Milton E. Hayes, Dillon, Montana 59725 Employees: 2 Status: Producing and developing</p>	<p>Silver</p>	<p>Polaris (Lost Cloud) district, sec. 28, T. 5 S., R. 12 W.</p>
<p>QUEEN OF THE HILLS, 1, 2, 3, and 4 Operator: Otis Redwine and R. Gennett, 80 E. Park St., Butte, Montana 59701 Owner: Same as operator Status: Developing</p>	<p>Gold, silver, lead</p>	<p>Vipond Park district, sec. 10, T. 2 S., R. 11 W.</p>
<p>SILVER BUCKLE GROUP* Operator: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane, Washington 99201 Status: Produced</p>	<p>Silver, lead</p>	<p>Blue Wing district, sec. 28, T. 7 S., R. 11 W.</p>
<p>SILVER QUEEN MINE Operator: Silver Queen Exploration Co., Denver, Colorado 80201 Owner: Jess Roberts, Frank Actis, and Frank White, Dillon, Montana 59725 Employees: 3 Status: Developed</p>	<p>Silver</p>	<p>Jake Canyon district, sec. 17, T. 10 S., R. 7 W.</p>
<p>STORM MINE Owner: J. W. Roe, Grant Star Route, Dillon, Montana 59725, and June Forsythe, 122 S. Washington, Dillon, Montana 59725 Employees: 4 Status: Inactive</p>	<p>Silver</p>	<p>Elkhorn district, sec. 22, T. 4 S., R. 12 W.</p>

 *Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

BEAVERHEAD COUNTY, contd.

YELLOW BAND (SHAFFER GROUP) MINE	Gold silver	Argenta district, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 6 S., R. 11 W.
Operator: John Shafer, 205 W. Center, Dillon, Montana 59725		
Owner: John Shafer and Associates, Dillon, Montana 59725		
Status: Produced		

BLAINE COUNTY: Chinook, County Seat

LINDA MINE	Silver, lead	Bearpaw Mountains district, sec. 19, T. 29 N., R. 19 E.
Operator: Bearpaw Development Co., Homer Pike, Secy., 1639 Fifth Avenue NW., Great Falls, Montana 59401		
Owner: Same as operator		
Employees: 2		
Status: Developing		

BROADWATER COUNTY: Townsend, County Seat

BONANZA MINE	Silver lead	
Operator: William M. Hanlon, Winston, Montana 59647		
Owner: O. P. Chisholm, Helena, Montana 59601		
Employees: 2		
Status: Produced		
GOLD BUG and MARY ROSE MINE	Gold, silver, copper, lead	Cedar Plains district, sec. 18, T. 6 N., R. 1 E.
Operator: T. E. Carpentier, 1847 Princeton Avenue, St. Paul, Minnesota 55105		
Owner: Same as operator		
Status: Developing		
JEANETTE MINE	Gold, silver, lead	Winston district
Owner: Harold Hogan, 1243 N. 160th Street Seattle, Washington 98133		
Status: Inactive		

<p>JO DANDY MINE Operator: M. J. Livingston, Box 343, Boulder, Montana 59632 Owner: Kinley Enterprises, Round Hill Road, Greenwich, Connecticut 06830 Employees: 10 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Radersburg district, sec. 28, T. 5 N., R. 1 W.</p>
<p>KLEINSCHMIDT MINE Operator: Finley Company, Austin, Texas 78700 Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Winston district, sec. 3, T. 7 N., R. 1 W.</p>
<p>NORTH STAR & BLACKHAWK MINES Operator: Roy E. Nicolls, Toston, Montana 59643 Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Gold, silver, lead, zinc oxide</p>	<p>Cedar Plains (Radersburg) district, sec. 16, 17, 20, T. 4 N., R. 1 W.</p>
<p>RUBY SILVER MINE Operator: Clarence R. Oliphant, White Sulphur Springs, Montana 59645 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Radersburg district, sec. 33, T. 5 N., R. 1 W.</p>
<p>SILVER KING & QUEEN MINE Operator: Rougle and Whitney, Radersburg, Montana 59641 Owner: T. E. Carpentier and Guy Christian, 1847 Princeton, St. Paul, Minnesota 55105 Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Park (Indian Creek) district, sec. 18, T. 6 N., R. 1 W.</p>
<p>SILVER STAR MINE Operator: Roy E. Nicolls, Toston, Montana 59643 Owner: Same as operator Status: Developing</p>	<p>Silver zinc oxide</p>	<p>Cedar Plains district, sec. 16, T. 4 N., R. 1 W.</p>
<p>SUMMIT (OLD SUMMIT) MINE Operator: Roy E. Nicolls, Toston, Montana 59643 Owner: Same as operator Status: Developing</p>	<p>Silver lead, zinc oxide</p>	<p>Cedar Plains district, sec. 16, 17, 20, T. 4 N., R. 1 W.</p>

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

BROADWATER COUNTY, contd.

VALLEY VIEW MINE*	Gold, silver, lead, zinc	Park (Indian Creek) district, sec. 24, T. 7 N., R. 1 E.
Operator: Warren Schreiner, Box 665, Townsend Montana 59644		
Owner: Same as operator		
Status: Developing		

CASCADE COUNTY: Great Falls, County Seat

HIDDEN TREASURE MINE (see page 62)		
LEONARD MINE	Gold, copper, silver, lead, zinc	Neihart district
Operator: Sandman and Trachyr, Lewistown, Montana 59457		
Owner: Paul V'Dovic, Neihart, Montana 59456		
Status: Inactive		

LEXINGTON MINE	Gold, silver, lead, zinc	Montana district, sec. 28, T. 14 N., R. 8 E.
Operator: Lexington Silver-Lead Mining Co., 621 Columbia Bldg., Spokane, Washington 99200		
Owner: Same as operator		
Employees: 5		
Status: Developing		

MOULTON-BROADWATER MINE	Silver, lead, zinc	Neihart district
Operator: Pete J. Antonioli, 1001 W. Gold, Butte, Montana 59701		
Owner: Same as operator		
Status: Developing		

DEER LODGE COUNTY: Anaconda, County Seat

CAMERON QUARTZ LODGE MINE	Gold, silver, silica	Nellie district, sec. 21, T. 5 N., R. 12 W.
Operator: Norman R. Zeren and Frank Schnell, 522 S. Warren St., Butte, Montana 59701		
Owner: The Anaconda Co., Butte, Montana 59701		
Status: Unknown		

*Open pit or open cut.

<p>CHAMPION SILVER MINE Operator: Champion Silver Mining Co., 411 Metals Bank Bldg., Butte, Montana 59701 Owner: The Anaconda Co., Butte, Montana 59701 Employees: 8 Status: Produced</p>	<p>Gold, silver</p>	<p>Oro Fino district, sec. 28, 33, T. 6 N., R. 8 W.</p>
<p>LUCKY SUNDAY MINE Operator: Vance Whitney, 911 - 4th St., Deer Lodge, Montana 59722 Owner: Same as operator Status: Produced</p>	<p>Silver, copper, lead</p>	<p>Oro Fino district, sec. 34, T. 6 N., R. 10 W.</p>
<p>MINNIE HA HA, HORSESHOE, HELENA Operator: William J. Dean and Son, 309 S. Arizona, Butte, Montana 59701 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Georgetown district, sec. 9, T. 5 N., R. 13 W.</p>
<p>RUBY MINE Operator: Leo Powell, 208 Beaumont, Deer Lodge, Montana 59722 Owner: C. Paul Grosenick, 9505 - 44th NE, Seattle Washington 99115 Status: Produced</p>	<p>Silver</p>	<p>Champion district, sec. 28, T. 6 N., R. 8 W.</p>
<p>SILVER REEF MINE Operator: W. C. Montgomery, 1818 W. Park, Anaconda, Montana 59711 Owner: Same as operator Status: Producing and developing</p>	<p>Gold, silver</p>	<p>Silver Lake district, sec. 22, T. 5 N., R. 13 W.</p>
<p><u>FERGUS COUNTY</u>: Lewistown, County Seat</p>		
<p>BARNES-KING and KENDALL MINE Operator: K-D Mining Co., E. 15 Walton Avenue., Spokane, Washington 99207 Owner: Mrs. Margharite McLean, c/o Walter H. Ringer, Rt. 1, Wayzata, Minnesota 55391 Status: Inactive</p>	<p>Gold</p>	<p>North Moccasin district, sec. 32, T. 18 N., R. 18 E.</p>

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

FERGUS COUNTY, contd.

<p>BIG GRASSY GROUP Operator: Blue Range Mining Co. , Box 534, Lewistown, Montana 59457 Owner: L. C. Hoffman, Box 534 Lewistown, Montana 59457 Employees: 2 Status: Developing</p>	<p>Gold, silver</p>	<p>Warm Springs district, sec. 30, 31, T. 17 N. , R. 20 E.</p>
<p>BLACK BULL MINE** Operator: G. S. Abbott, Gilt Edge Route, Lewistown, Montana 59457 Owner: Same as operator Status: Producing and developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Warm Springs district, sec. 7, T. 16 N. , R. 20 E.</p>
<p>SHEEP MOUNTAIN MINE Operator: Lawrence Lenling, Box 74, Lewistown, Montana 59457 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver, copper, lead, graphite</p>	<p>Judith Mountains district, sec. 4, 5, T. 16 N. , R. 20 E.</p>
<p>SILVER DYKE MINE* Operator: Tom Downen, 1000 W. Main, Lewistown, Montana 59457 Owner: Same as operator Status: Inactive</p>	<p>Gold, silver</p>	<p>Warm Springs district, sec. 2, T. 16 N. , R. 19 E.</p>
<p>WAR EAGLE MINE** Operator: Harry Abbott, Lewistown, Montana 59457 Owner: Burr Estate, Lewistown, Montana 59457 Status: Producing and developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Warm Springs district, sec. 7, T. 16 N. , R. 20 E.</p>

 *Open pit or open cut.

**Open cut and underground.

FLATHEAD COUNTY: Kalispell, County Seat

OLE MINE Operator: Dan Grant, 267 - 2d Avenue E. N. , Kalispell, Montana 59901 Owner: Northern Pacific Railway Co. , St. Paul, Minnesota 55101 Status: Developing	Gold, silver, copper	Hog Heaven district, sec. 18, T. 25 N. , R. 23 W.
SANKO CREEK MINE** Operator: Marion Fishel, 742 - 6th Avenue W. , Kalispell, Montana 59901 Owner: Same as operator Status: Producing and developing	Gold, silver, copper	Star Meadows district, NW $\frac{1}{4}$ sec. 29, T. 31 N. , R. 24 W.
WEST FLATHEAD MINE Operator: Waino Lindbom, 1545 $\frac{1}{2}$ - 7th Avenue W. , Kalispell, Montana 59901 Owner: The Anaconda Co. , Butte, Montana 59701 Employees: 8 Status: Producing and developing	Silver, lead	Hog Heaven district, sec. 17, T. 25 N. , R. 23 W.

GALLATIN COUNTY: Bozeman, County Seat

SUNSHINE MINE Operator: Ernest Wehren and Frank McHenry, Bozeman, Montana 59715 Status: Produced	Gold, silver, lead, zinc	Highlight Basin district, sec. 31, T. 3 S. , R. 6 E.
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GRANITE COUNTY: Philipsburg, County Seat

ALGONQUIN MINE (CLIFF MILL SITE) Operator: Taylor-Knapp Co. , Philipsburg, Montana 59858 Employees: 8 Status: Producing and developing	Silver, copper, zinc, manganese	Philipsburg district, sec. 31, T. 7 N. , R. 13 W.
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*Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

GRANITE COUNTY, contd.

<p>BI-METALLIC TAILINGS* Operator: Frank Antonioli, 724 S. Western, Butte, Montana 59701 Owner: Contact Mining Co., 724 S. Western, Butte, Montana 59701 Status: Producing</p>	<p>Gold, silver</p>	<p>Flint Creek district</p>
<p>BLACK PINE DUMP* Operator: John C. Bork, 519 W. Porphyry, Butte, Montana 59701 Owner: Same as operator Employees: 2 Status: Producing</p>	<p>Gold, silver, copper, tungsten</p>	<p>Flint Creek district, sec. 16, T. 8 N., R. 14 W.</p>
<p>BLACK PINE TAILINGS* Operator: Ben Walkup, Philipsburg, Montana 59858 Owner: August Buschmann Estate, Seattle, Washington 98100 Status: Producing</p>	<p>Gold, silver</p>	<p>Black Pine district, sec. 16, T. 8 N., R. 14 W.</p>
<p>BLACK TAIL NO. 1 and MINNIE LEE 2 & 3 MINES Operator: L. A. Sherrill, 744 E. Mercury, Butte, Montana 59701 Owner: Same as operator Status: Unknown</p>	<p>Silver, copper</p>	<p>Silver Hill district, W$\frac{1}{2}$ sec. 1, E$\frac{1}{2}$ sec. 2, T. 4 N., R. 14 W.</p>
<p>BROOKLYN MINE** Operator: Black and White Mining Co., 4207 - 21st Avenue, c/o Roger F. Little, Missoula, Montana 59801 Owner: Same as operator Employees: 2 Status: Developing and produced</p>	<p>Silver, copper, lead, zinc, bismuth</p>	<p>Boulder Creek district, SW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 4, 5, T. 7 N., R. 12 W.</p>
<p>CADGIE TAYLOR Operator: Joe Metesh, Philipsburg, Montana 59858 Status: Produced</p>		<p>Flint Creek district, SW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 19, T. 7 N., R. 13 W.</p>

* Open cut or open pit.

** Open cut and underground.

<p>COMANCHE EXTENSION MINE Operator: Ben Walkup, Philipsburg, Montana 59858 Owner: William F. Flynn, Anaconda, Montana 59711 Employees: 2 Status: Producing</p>	<p>Silver, silica</p>	<p>Flint Creek district, sec. 19, T. 7 N., R. 13 W.</p>
<p>DOLLY QUARTZ and NEW SEATTLE MINES</p>		
<p>Operator: Phil Salois and John McDonald, Philipsburg, Montana 59858 Owner: Grace Maehl and F. Collins, Philipsburg, Montana 59858 Status: Inactive</p>	<p>Gold, silver, copper, silica</p>	<p>Maxville district, sec. 4, T. 8 N., R. 13 W.</p>
<p>GOLD REEF MINE</p>		
<p>Operator: Keith Rush and Associates, 2905 Harrison Avenue, Butte, Montana 59701 Owner: Larry McLane, 212 Washington, Anaconda, Montana 59711 Status: Developing</p>	<p>Gold, silver</p>	<p>South Boulder district, T. 7 N., R. 13 W.</p>
<p>GRANITE TAILINGS*</p>		
<p>Operator: Frank Antonioli, 724 S. Western, Butte, Montana 59701 Owner: Contact Mining Co., 724 S. Western, Butte, Montana 59701 Status: Producing</p>	<p>Gold, silver</p>	<p>Flint Creek district</p>
<p>GWYNN TAILINGS*</p>		
<p>Operator: Calvin Mazza, Ben Gwynn, and Nick Laslovich, Philipsburg, Montana 59858 Status: Produced</p>		
<p>HOMESTEAD MINE</p>		
<p>Operator: Joe Metesh, Philipsburg, Montana 59858 Status: Unknown</p>		<p>Philipsburg district, sec. 19, T. 7 N., R. 13 W.</p>
<p>HOPE TAILINGS*</p>		
<p>Operator: Frank Antonioli, 724 S. Western, Butte, Montana 59701 Owner: Contact Mining Co., 724 S. Western, Butte, Montana 59701 Status: Produced</p>	<p>Silver</p>	<p>Hope Hill district, sec. 19, T. 7 N., R. 13 W.</p>

*Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

GRANITE COUNTY, contd.

<p>HORNET & PEACOCK MINE Operator: E. C. Ecklesdafer, 532 North Avenue W., Missoula, Montana 59801 Owner: Peacock Mines, Inc., 532 North Avenue W., Missoula, Montana 59801 Status: Inactive</p>	<p>Silver, copper</p>	<p>Princeton district</p>
<p>LAST CHANCE TAILINGS* Operator: William R. McLure, Box 5, Philipsburg, Montana 59858 Status: Produced</p>	<p>Copper, silica</p>	<p>Maxville district, sec. 36, T. 8 N., R. 14 W.</p>
<p>LYCOMING MINE Operator: Joe Metesh, Philipsburg, Montana 59858 Status: Produced</p>		<p>Philipsburg district, sec. 17, T. 7 N., R. 13 W.</p>
<p>MAXVILLE TAILINGS* Operator: James W. Young, Box 342, Philipsburg, Montana 59858 Owner: Granite County, Philipsburg, Montana 59858 Status: Producing</p>	<p>Gold, silver</p>	<p>Philipsburg district, sec. 4, T. 8 N., R. 13 W.</p>
<p>MEN FIVE MINE Operator: David Eccleston, Anaconda, Montana 59711 Status: Produced</p>		
<p>MICKEY MINE Operator: Eugene Garrett, Box 324, Anaconda, Montana 59711 Owner: Same as operator Employees: 1 Mill capacity: 15 t/d Status: Developing</p>	<p>Gold, silver</p>	<p>Red Lion district, sec. 22, 27, T. 6 N., R. 13 W.</p>
<p>MOONLIGHT MINE Operator: John C. Bork, 519 W. Porphyry, Butte, Montana 59701 Status: Developing</p>	<p>Gold, silver, copper, lead, phosphate</p>	<p>Princeton district, T. 8 N., R. 12 W.</p>

*Open pit or open cut.

<p>MYERS QUARTZ CLAIM Operator: Charles Byam, Philipsburg, Montana 59858 Owner: Same as operator Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Moose Lake district, sec. 25, T. 4 N., R. 16 W.</p>
<p>NANCY HANKS CLAIMS Operator: American Mining Co., 700 Securities Bldg., Seattle, Washington 98101 Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Garnet district, sec. 3, 4, T. 12 N., R. 14 W.</p>
<p>PARNELL GROUP MINE Operator: P. J. Heaney, Sr., Box 130, Philipsburg, Montana 59858 Owner: P. J. and Ethel Heaney, Box 130, Philipsburg, Montana 59858 Employees: 2 Status: Developing</p>	<p>Silver, copper, lead</p>	<p>Flint Creek district, sec. 7, 8, T. 7 N., R. 13 W.</p>
<p>POTOSI MINE Operator: Joe Metesh, Philipsburg, Montana 59858</p>	<p>Silver, copper</p>	<p>Gold Creek district, unsurveyed, T. 8 N., R. 12 W.</p>
<p>QUEEN MINE** Operator: R. J. MacCalman, 1010 - 5th Street, Deer Lodge, Montana 59722 Owner: Mrs. K. W. MacPherson, St. Helena, California 94574 Employees: 2 Status: Developing</p>	<p>Silver</p>	<p>Boulder district, SW$\frac{1}{4}$ sec. 33, T. 8 N., R. 12 W.</p>
<p>ROYAL MINE Operator: Dick Tunstill, Box 434, Philipsburg, Montana 59858 Status: Inactive</p>	<p>Gold</p>	<p>South Boulder (Princeton) district, unsurveyed, T. 8 N., R. 12 W.</p>
<p>RUMSEY TAILINGS* Operator: Dick Tunstill, Box 434, Philipsburg, Montana 59858 Owner: L. R. Nesbit, Philipsburg, Montana 59858 Status: Produced</p>	<p>Gold, silver, silica</p>	<p>Flint Creek district, sec. 15, 16, T. 6 N., R. 13 W.</p>

*Open pit or open cut.

**Open cut and underground.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

GRANITE COUNTY, contd.

<p>SALLY ELLEN MINE Operator: Ben Walkup, Philipsburg, Montana 59858 Owner: Walkup and Puyear, Philipsburg, Montana 59858 Employees: 2 Status: Developing</p>	<p>Silver</p>	<p>Maxville district, sec. 16, T. 8 N., R. 12 W.</p>
<p>SAM GATY MINE* Operator: Ben Walkup, Philipsburg, Montana 59858 Employees: 2 Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Flint Creek district, sec. 25, T. 7 N., R. 14 W.</p>
<p>SCRATCH ALL MINE Operator: Taylor-Knapp Co., Philipsburg, Montana 59858 Employees: 11 Status: Producing and developing</p>	<p>Silver, zinc, manganese oxide</p>	<p>Philipsburg district, sec. 30, T. 7 N., R. 13 W.</p>
<p>SECOND CHANCE ORE* Operator: Ben Walkup, Philipsburg, Montana 59858 Owner: Albert and Ben Walkup, Philipsburg, Montana 59858 Employees: 2 Status: Developing</p>	<p>Silver</p>	<p>Maxville district, sec. 16, T. 8 N., R. 13 W.</p>
<p>TRUE FISSURE and MOORLIGHT MINE Operator: Taylor-Knapp Co., Philipsburg, Montana 59858 Owner: Same as operator Employees: 32 Status: Producing and developing</p>	<p>Silver, copper, zinc, manganese</p>	<p>Flint Creek district, W$\frac{1}{2}$ NW$\frac{1}{4}$ sec. 29, T. 7 N., R. 13 W.</p>

JEFFERSON COUNTY: Boulder, County Seat

<p>AJAX MINE Operator: Delmas Brown, 1830 Banks, Butte, Montana 59701 Owner: Same as operator Employees: 4 Mill capacity: 50 t/d Status: Inactive</p>	<p>Gold, silver, copper, lead, silica, rare earths, platinum</p>	<p>Homestake district, sec. 6, T. 2 N., R. 7 W.</p>
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*Open pit or open cut.

ALTA MINE*	Gold, silver, copper, lead, zinc, silica	Colorado (Corbin- Wickes) district, sec. 10, T. 7 N., R. 4 W.
Operator: Lahey Leasing Co., 506 W. Aluminum, Butte, Montana 59701		
Owner: Alta Mines Corp., c/o Fred Small, Helena, Montana 59601		
Status: Produced		
B and G MINE	Gold, silver, lead	Alhambra-Warm Springs district, sec. 31, T. 8 N., R. 2 W.
Operator: Carl Benson, 716 N. Davis Street, Helena, Montana 59601		
Owner: Same as operator		
Status: Unknown		
BERTHA TAILINGS (see page 62)		
BLUEBIRD NO. 1 and 2 MINE	Gold, silver, copper, lead, zinc	Whitehall district
Operator: Maurice R. Haigh, Box 293, Three Forks, Montana 59752		
Owner: M. R. Haigh and D. R. Reese, Box 293, Three Forks, Montana 59752		
Status: Unknown		
BULLION MINE*	Gold, silver, lead, zinc	Cataract district, sec. 13, T. 7 N., R. 6 W.
Operator: D. M. Bullock and John Bullock, Basin, Montana 59631		
Status: Developing		
CARLSON PROSPECT (NORTH BOULDER GROUP)		
Owner: Albert F. Carlson, Box 108, Basin, Montana 59631	Gold, silver, copper, lead, zinc	Alta Gulch- Bernice district sec. 13, 14, T. 6 N., R. 7 W.
Status: Developing		
COMET, RUMLEY, and BULLION MINE	Gold, silver, copper, lead, zinc	Comet district, sec. 34, 35, 36, T. 7 N., R. 5 W.; sec. 1, T. 6 N., R. 5 W.; sec. 6, T. 6 N., R. 4 W.
Operator: Shipman Mining and Exploration Co., c/o Mark Shipman, Box 72, Boulder, Montana 59632		
Owner: R. H. Mills, et al, Symons Bldg., Spokane, Washington 99204		
Employees: 6		
Status: Produced		

*Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

JEFFERSON COUNTY, contd.

<p>CRYSTAL MINE Operator: Delbert and A. J. Bullock, Basin, Montana 59631 Owner: Same as operator Status: Producing and developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Cataract (Basin) district, sec. 20, T. 7 N., R. 5 W.</p>
<p>EDELWEISS MINE Operator: Inar and Henning Norgaard, Box 544, Helena, Montana 59601 Owner: Ivor and Glen Jenkins, Russell Tintinger, and Roy E. Nicolls Jefferson City, Montana 59638 Status: Developing</p>	<p>Gold, silver, lead</p>	<p>Wickes district, sec. 1, 2, T. 7 N., R. 5 W.</p>
<p>ELKHORN MINE Operator: Development Operating Corp., Box 14, Boulder, Montana 59632 Owner: Mrs. D. C. Walker, Chas. S. Youlden, and Anker Henningsen, Butte, Montana 59701, and Victoria, British Columbia Employees: 12 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Elkhorn district, Sec. 9, 11, 14, 15, 16, 22, 27, 33, 34, T. 6 N., R. 3 W.</p>
<p>EVA MAY TAILINGS* Operator: Thomas J. Conner, 1419 Winnie, Helena, Montana 59601 Owner: Neuberg Bros. & Sloan, Inc., Casper, Wyoming 82601 Status: Producing</p>	<p>Silver, copper, zinc</p>	<p>Basin-Cataract district, sec. 21, 22, T. 7 N., R. 5 W.</p>
<p>GOLDEN ASSETS MINE* Operator: Fred K. Madison, 1302 W. Geysler, Livingston, Montana 59047 Owner: Same as operator Employees: 1 Mill capacity: -- Status: Producing and developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Golconda district, sec. 29, T. 7 N., R. 5 W.</p>

 *Open pit or open cut.

JIB MINE*	Gold	Basin district, sec. 17, 18, T. 6 N., R. 5 W.
Operator: Norman Rogers Co., Box 1719, Helena, Montana 59601		
Owner: Sylvanite, Inc., 43 E. Broadway Butte, Montana 59701		
Status: Inactive		
KING SOLOMON MINE*	Silver	Clancy district, sec. 6, 7, T. 8 N., R. 3 W.
Operator: Norman Peura, John Saari, and J. Reilly, Jefferson City, Montana 59638		
Owner: Robert L. and Barbara M. Marks, Clancy, Montana 59634		
Status: Produced		
KLONDYKE MINE	Gold, copper	Elkhorn district, sec. 11, T. 6 N., R. 3 W.
Operator: Klondyke Gold Mines, Inc., c/o Wade V. Lewis, Boulder, Montana 59632		
Owner: Charles and Lilah Schreiner, et al, 3011 Richardson, Butte, Montana 59701		
Employees: 2		
Status: Developing and produced		
LIVERPOOL DUMP (see page 62)		
MAMMOTH MINE*	Silver, lead	Corbin district, sec. 35, T. 8 N., R. 4 W.
Operator: Norman Peura, John Saari, and J. Reilly, Jefferson City, Montana 59638		
Owner: Florence, Harry, and Robert LeBeau, Inglewood, California 90306 and Ed Kyler, Boulder, Montana 59632		
Status: Produced		
MAY and LITTLE SALLIE MINE	Gold, silver, copper, lead, zinc	Colorado (Katy Gulch) district, sec. 1, T. 7 N., R. 5 W.
Operator: John K. Saari, 305 Clancy Street, Helena, Montana 59601		
Owner: Paul Keller, Power Block, Helena, Montana 59601		
Employees: 2 or 3		
Status: Developing		
MEADOW MINE	Silver	Clancy district, sec. 34, T. 9 N., R. 3 W.
Operator: Mascot Mines, Inc., Box 544, Helena, Montana 59601		
Owner: Albert Haab, Clancy, Montana 59634		
Employees: 3		
Status: Developing		

*Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

JEFFERSON COUNTY, contd.

<p>MORNING GLORY MINE Operator: Milton Gilmer, Boulder, Montana 59632 Owner: Milton Gilmer, Boulder, Montana, and M. H. Dorweiler, W. Nebraska Street, Algona, Iowa 50511 Status: Inactive</p>	<p>Gold, silver, lead, zinc</p>	<p>Cataract district, sec. 33, T. 7 N., R. 5 W.</p>
<p>MOSCOW MINE Operator: Jerry K. Banks, Route 1, Whitehall, Montana 59759 Owner: Same as operator Status: Inactive</p>	<p>Silver, copper, Silica</p>	<p>Pipestone district, SE$\frac{1}{4}$ sec. 16, T. 1 N.; R. 6 W.</p>
<p>MT. THOMPSON MINE Owner: James A. Poore, Jr., et al, Silver Bow Bldg., Butte, Montana 59701 Status: Inactive</p>	<p>Gold, silver, silica</p>	<p>Cataract district, sec. 34, T. 7 N., R. 5 W.</p>
<p>NELLIE GRANT MINE Operator: Barmont Mines, Inc., 2624 Edwards Street, Butte, Montana 59701 Owner: C. E. Pew, Helena, Montana 59601 Status: Produced</p>	<p>Gold, silver, lead, zinc</p>	<p>Clancy (Lump Gulch) district, sec. 14, T. 8 N., R. 5 W.</p>
<p>NEW BALD EAGLE MINE* Operator: William Mulcahy, Box 21, Butte, Montana 59701 Owner: Same as operator Status: Developing</p>	<p>Gold, silver, lead</p>	<p>Big Foot district, sec. 16, T. 4 N., R. 5 W.</p>
<p>NEW YORK DUMP* Operator: Shipman Mining and Exploration Co., c/o Mark K. Shipman, Box 72, Boulder, Montana 59632 Owner: Same as operator Employees: 2 Status: Produced</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Comet district, sec. 6, T. 6 N., R. 4 W.</p>

 *Open pit or open cut.

<p>PETERSON DUMP Operator: Helena Minerals Co., Inc., 1900 - 11th Avenue, Helena, Montana 59601 Owner: John Peterson, Jefferson City (Corbin), Montana 59638 Status: Sampling</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Colorado district</p>
<p>POTEE MINE Operator: Associated Mining & Metals, Inc., R. D. Potee, Vice-Pres., Box 95, Clancy, Montana 59634 Owner: Same as operator Employees: 3 Status: Unknown</p>	<p>Gold, silver, molybdenum</p>	<p>Warm Springs district, sec. 18, T. 8 N., R. 2 W.</p>
<p>RUBY SILVER MINE Operator: Frank Benich, 814 Waukesha, Butte, Montana 59701 Owner: Ruby Silver Mines, Inc., 863 First Security Bldg., Salt Lake City, Utah 84111 Employees: 8 Status: Developing</p>	<p>Gold, silver, base metals</p>	<p>Lowland district, sec. 2, 11, T. 5 N., R. 7 W.</p>
<p>RUMLEY DUMP Operator: Harold J. Giulio, Boulder, Montana 59632 Status: Produced</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Comet district, sec. 36, T. 7 N., R. 5 W.</p>
<p>SILVER HILL MINE Operator: Harold Giulio, Boulder, Montana 59632 Status: Produced</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Cataract district, sec. 36, T. 7 N., R. 5 W.</p>
<p>SILVER QUEEN MINE Operator: James Leary, Wm. Eagan, and Wm. Bette, Butte, Montana 59701 Owner: James Leary, 2830 Yale, Butte, Montana 59701 Employees: 2 Status: Developing</p>	<p>Gold, silver</p>	<p>Whitehall district, sec. 6, T. 2 N., R. 5 W.</p>
<p>SOUTH VIEW MINE (see page 62)</p>		

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

JEFFERSON COUNTY, contd.

<p>SUNNYSIDE MINE Operator: Lester Lindquist, Box 373, Whitehall, Montana 59759 Owner: Same as operator Employees: 1 Status: Inactive</p>	<p>Gold, silver</p>	<p>Cardwell district, SE$\frac{1}{4}$ sec. 13, T. 2 N., R. 4 W.</p>
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JUDITH BASIN COUNTY: Stanford, County Seat

<p>LIBERTY MINE Operator: G. V. R. McBride, Monarch, Montana 59463 Owner: Faith Mining Co., Box 1681, Helena, Montana 59601 Employees: 2 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Barker district, sec. 6, 7, 18, T. 15 N., R. 9 E.</p>
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<p>TIGER MINE Operator: Croff and Montague, Box 69, Monarch, Montana 59463 Owner: Clendennin Mines, Inc., c/o J. T. Nightengale, Boston, Massachusetts 02100 Employees: 2 Status: Developing</p>	<p>Gold, silver, lead</p>	<p>Barker district, sec. 5, 6, T. 15 N., R. 9 E.</p>
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LEWIS AND CLARK COUNTY: Helena, County Seat

<p>AMERICAN BOY MINE Operator: Glenn Allman, White Sulphur Springs, Montana 59645 Owner: Same as operator Status: Unknown</p>	<p>Gold, silver, copper, lead, zinc</p>	
<p>CONSOLATION MINES Operator: J. A. Thompson, Lincoln, Montana 59639 Owner: Same as operator Employees: 5 Status: Produced and developing</p>	<p>Silver, copper</p>	<p>Heddeleston district, sec. 21, T. 15 N., R. 6 W.</p>

<p>COPPER BOWL** Operator: Clarence J. Erickson, Box 253, Lincoln, Montana 59639 Owner: Same as operator Employees: 4 part time Status: Developing</p>	<p>Copper</p>	<p>Heddeleston district, sec. 30, R. 6 W.</p>
<p>DRUMLUMMON TAILINGS Operator: Carlos Hieber, 1035-12 Ave., Helena, Montana 59601 Owner: St. Louis Drumlummon Mines, Inc., St. Louis, Missouri 63100 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Marysville district, S$\frac{1}{2}$ sec. 36, T. 12 N., R. 6 W.</p>
<p>EMMA MILLER MINE Operator: Carlos Hieber, 1035 - 12th Avenue, Helena, Montana 59601 Owner: St. Louis Drumlummon Mines, Inc., St. Louis, Missouri 63100 Status: Sampling</p>	<p>Gold, quartz</p>	<p>Marysville district</p>
<p>EMPIRE MINES Operator: Jack Vandenberg and Herbert Carver, 5 Hilmen Rd., Helena, Montana 59601 Owner: Same as operator and others Mill capacity: 300 t/d Status: Unknown</p>	<p>Gold, silver, lead</p>	<p>Marysville district, sec. 33, 34, T. 12 N., R. 6 W.</p>
<p>FRANKLIN MINE Operator: Helena Minerals Co., Inc., c/o Chester Leirness, 1900 - 11th Avenue, Helena, Montana 59601 Owner: Thomas Cruse Mining and Development Co., c/o Fergus Fay, 446 W. Lawrence, Helena, Montana 59601 Mill capacity: 100 t/d Status: Produced</p>	<p>Gold, silver, copper, lead</p>	<p>Tennile (Scratch Gravel) district, sec. 11, T. 10 N., R. 4 W.</p>
<p>FREE SPEECH MINE Operator: T. L. Thompson, Box 1435, Anaconda, Montana 59711 Owner: Red Mountain Consolidated Mining Co., St. Paul, Minnesota 55100 Status: Unknown</p>	<p>Gold, silver, lead</p>	<p>Rimini district, sec. 4, T. 8 N., R. 5 W.</p>

**Open cut and underground.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

LEWIS AND CLARK COUNTY, contd.

<p>MIKE HORSE MINE Operator: The Anaconda Co., Butte, Montana 59701 Owner: Norman Rogers Mining Co., Box 1719, Helena, Montana 59601 Status: Inactive</p>	<p>Silver, copper, lead, zinc</p>	<p>Heddeleston district, sec. 28, T. 15 N., R. 6 W.</p>
<p>MONTE CRISTO MINE; NICK and DICK MINE (see page 62)</p>		
<p>ORO FINO MINE Operator: W. R. Wade, Marysville, Montana 59640 Owner: Same as operator Status: Developing</p>	<p>Gold, silver, molybdenum</p>	<p>Marysville district, sec. 2, T. 12 N., R. 6 W.</p>
<p>SAMBO MINE Operator: R. T. Hanley and P. D. Christianson, 810 Front St., Helena, Montana 59601 Owner: Same as operator Employees: 3 Status: Developing</p>	<p>Silver, copper, lead</p>	<p>Rimini district, sec. 35, 36, T. 9 N., R. 5 W.</p>
<p>SAM GATY MINE Operator: Helena Minerals Co., Inc., c/o Chester Leirness, 1900 - 11th Avenue, Helena, Montana 59601 Owner: C. E. Pew, et al, c/o Monida Vaughn, 937 - 11th Avenue, Helena, Montana 59601 Mill capacity: 100 t/d Status: Producing</p>	<p>Gold, silver, copper, lead</p>	<p>Tenmile district, sec. 11, T. 10 N., R. 4 W.</p>
<p>STEMPLE GOLD MINE Operator: Vern C. Knopf, 1621 Cannon Street, Helena, Montana 59601 Owner: Same as operator Employees: 3 Status: Developing</p>	<p>Gold, silver</p>	<p>Stemple Pass district, sec. 10, T. 13 N., R. 7 W.</p>

LIBERTY COUNTY: Chester, County Seat

SWEETGRASS MINE

Operator: L. R. Hannah and
Cedor Aronow, Box 792,
Shelby, Montana 59474

Owner: Same as operator
Employees: 2
Status: Developing

Gold,
silver,
copper,
lead

East Butte district,
sec. 25, T. 36 N.,
R. 4 E.

LINCOLN COUNTY: Libby, County Seat

BIG EIGHT MINE

Operator: Dick Tunstill,
Philipsburg, Montana 59858
Status: Producing

Silver,
lead,
zinc

Callahan Creek
district, sec. 19,
T. 31 N., R. 34 W.

BLACK DIAMOND MINE

Operator: W. E. Rankin,
Troy, Montana 59935
Owner: Same as operator
Status: Sampling

Gold,
silver,
copper,
lead

MEMORY MINES (BI-METALLIC)

Operator: B. F. Thomas,
3104 W. 17th Avenue,
Spokane, Washington 99204
Owner: P. A. Barnes, J. C. Redeker,
and B. F. Thomas, Spokane,
Washington 99200
Status: Sampling

Gold,
silver,
lead

Libby district,
sec. 24, T. 30 N.,
R. 34 W.

MONTANA MORNING MINE

Operator: Missouri-Montana Mining Co.,
Box Y, Troy, Montana 59935
Owner: Missouri-Montana Mining Co.,
10424 Manchester Road,
St. Louis, Missouri 63122
Stephen T. Burns, Pres.
Status: Inactive

Galena

Troy district,
sec. 27, 28,
T. 31 N., R. 34 W.

MADISON COUNTY: Virginia City, County Seat

ANTELOPE MINE

Operator: John Ward,
Sheridan, Montana 59749
Status: Produced

Pony district

BEDFORD MINE (see page 62)

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

MADISON COUNTY, contd.

<p>BESSIE & GOLDEN WAVE MINE Operator: W. G. Forbes, Pony, Montana 59747 Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper, tungsten</p>	<p>Mineral Hill district</p>
<p>BIG BERTHA MINE Operator: Fred R. Starner, Box 223, Sheridan, Montana 59749 Owner: Same as operator Status: Inactive</p>	<p>Gold, silver</p>	<p>Tidal Wave district, sec. 34, T. 4 S., R. 5 W.</p>
<p>BINS MINE Operator: M&MCO, Inc., Roy Martin, Box 292, Sheridan, Montana 59749 Owner: Goldstream Mining Co., 375 N. 750 East, Orem, Utah 84057 Employees: 10 Status: Developing</p>	<p>Gold, silver</p>	<p>California Creek (Tobacco Root Range) district, sec. 5, T. 5 S., R. 3 W.</p>
<p>BLACK ACE MINE Operator: Louis R. Lepp, Whitehall, Montana 59759 Owner: Lewis C. Rollins, Box 4, Waterloo, Montana 59757 Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Tidal Wave district, NW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 34, T. 3 S., R. 5 W.</p>
<p>CASTLE BLUE DUMP Operator: Norman Rogers, Helena, Montana 59601 Status: Sampling</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Sheridan district</p>
<p>COPPER MINT GROUP* Operator: Lester Lindquist, Box 373, Whitehall, Montana 59759 Status: Developing</p>		
<p>CORNUCOPIA and CABIN LODGE MINES Operator: Milton Pulver, Virginia City, Montana 59755 Owner: Frank E. Blair, Virginia City, Montana 59755 Employees: 2 Status: Produced</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Fairweather district, sec. 27, T. 6 S., R. 3 W.</p>

*Open pit or open cut.

<p>DICTATOR and BELLE UNION MINE Operator: Woodfold Corporation, 2041 SW 58th Avenue, Portland, Oregon 97221 Owner: Union Bank and Trust Co. , as exec. estate Wm. A. Clark, Helena, Montana 59601 Status: Inactive</p>	Copper	<p>Ramshorn district, sec. 1, 12, T. 5 S. , R. 4 W.</p>
<p>GOLCONDA MINE Operator: Kenneth McCollum, Ennis, Montana 59729 Owner: Silver Peak Mining Corp. , Box 336, Ennis, Montana 59729 Employees: 3 Status: Produced and developing</p>	Gold, silver	Norris district
<p>HILL CREST MINE Operator: Fred Starner, Twin Bridges, Montana 59754 Owner: Same as operator Status: Inactive</p>	Gold, silver, lead	<p>Sheridan district, T. 5 S. , R. 4 W.</p>
<p>HILL TOP MINE Operator: Ed Scheitlin, Virginia City, Montana 59755 Status: Inactive</p>	Gold, silver, copper, lead, zinc	Virginia City district
<p>JACK RABBIT MINE (see page 63) KEARSARGE MINE Operator: Virgil Smith, Virginia City, Montana 59755 Owner: Joe Millard and Virgil Smith Employees: 4 Status: Developing</p>	Gold	<p>Sec. 23, T. 7 S. , R. 3 W.</p>
<p>LOST LODE MINE Operator: Lost Lode Mines, Inc. , c/o Ben H. Williams, Virginia City, Montana 59755 Owner: John Macale, 9013 - 37th SW, Seattle, Washington 98126 Status: Inactive</p>	Gold, silver	

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

MADISON COUNTY, contd.

MIDNIGHT MINE		Cardwell district
Operator: Lee R. Stoddard, Whitehall, Montana 59759		
Owner: Lee R. Stoddard and Charles Weber, Whitehall, Montana		
Status: Developing		
MISSOURI-McKEE MINE	Gold, silver	Washington district, N $\frac{1}{2}$ sec. 30, T. 4 S., R. 2 W.
Operator: H. Denny and Milt Hunt, Sheridan, Montana 59749		
Status: Unknown		
MORNING STAR MINE	Silver, zinc	Lower Hot Springs district, sec. 28, 29, T. 3 S., R. 1 E.
Operator: R. B. Farnsworth, 109 Willson, Bozeman, Montana 59715		
Owner: Same as operator		
Employees: 2		
Status: Developing		
MOUNTAIN FLOWER MINE	Gold, silver	Williams Gulch district, sec. 5, 33, T. 6 S., R. 3 W.
Operator: R. H. Rogers, Box 11, Alder, Montana 59710		
Owner: Same as operator		
Status: Developing		
NELLIE BLY GROUP	Gold	Fairweather district, T. 7 S., R. 3 W.
Operator: Janus Mining Co., Virginia City, Montana 59755		
Status: Developing and producing		
PACIFIC MINE*	Gold	Virginia City district, sec. 4, T. 7 S., R. 3 W.
Operator: Ed Scheitlin, Virginia City, Montana 59755		
Owner: Easton Pacific Co. and Riverside Mining Corp. Virginia City, Montana 59755		
Employees: 3		
Status: Producing		

RED PINE MINE (see page 63)

*Open pit or open cut.

<p>ST. LAWRENCE MINE Operator: St. Lawrence Consolidated Mines, Inc., Box 114, Virginia City, Montana 59755 Owner: M. E. Smith, Virginia City, Montana 59755 Employees: 4 Status: Developing and produced</p>	<p>Gold, silver, copper</p>	<p>Browns Gulch district, sec. 32, T. 6 S., R. 3 W.</p>
<p>SCALDED CAT MINE Operator: Emmett Clary, Box 132, Pony, Montana 59747 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Mineral Hill district, sec. 14, T. 2 S., R. 3 W.</p>
<p>SHORT SHIFT MINE Operator: John Layton, 3104 Busch, Butte, Montana 59701 Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Rabbit district, SE$\frac{1}{4}$ sec. 6, T. 2 S., R. 7 W.</p>
<p>SILVER BAR MINE Owner: Silver Bar Mining Corp., Lester Houser, 1405 Broadwater Ave., Billings, Montana 59101 Status: Inactive</p>	<p>Silver, lead</p>	
<p>SILVER BULLION MINE Operator: Horse Creek Development Co., 1327 W. Granite, Butte, Montana 59701 Owner: Mrs. Reba Storer, 1611 - 6th St., Walkerville, Montana 59701 Status: Inactive</p>	<p>Silver</p>	<p>Mill Creek district, sec. 27, 28, T. 4 S., R. 4 W.</p>
<p>SKYLINE MINE Operator: Ed Kuebler, Box 273, Boulder, Montana 59632 Owner: Ed Kuebler and Harold Giulio, Boulder, Montana 59632 Status: Developing</p>	<p>Gold, silver</p>	<p>Mineral Hill-Pony district</p>

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

MADISON COUNTY, contd.

<p>SMUGGLER MINE Operator: M&MCO, Inc., c/o Roy Martin, Box 292, Sheridan, Montana 59749 Owner: Goldstream Mining Co., 375 N. 750th East, Orem, Utah 84057 Status: Developing</p>	<p>Gold, silver</p>	<p>Mill Creek (Tobacco Root range) district</p>
<p>SOUTH FORK MINE Operator: Frank Sinerius, Sheridan, Montana 59749 Owner: Largey Estate, Butte, Montana 59701 Status: Inactive</p>	<p>Sulfides</p>	<p>Sheridan district</p>
<p>SURPRISE MINE Operator: A. J. Myrhow, Sheridan, Montana 59749 Status: Produced</p>		<p>Renova district, T. 1 S., R. 4 W.</p>
<p>WHITE PINE MINE Operator: Fred Box, Pony, Montana 59747 Owner: Norma and Hester Carmin and Oleta Box, Pony, Montana 59747 Employees: 1 Status: Produced and developing</p>	<p>Gold, silver</p>	<p>Mineral Hill district, sec. 9, T. 2 S., R. 3 W.</p>

MEAGHER COUNTY: White Sulphur Springs, County Seat

<p>CUMBERLAND MINE Operator: Harpoon, Inc., Bokum Bldg., Box 1537, Santa Fe, New Mexico 87501 Owner: Harpoon, Inc. -Hoco, Inc., Box 469, White Sulphur Springs, Montana 59645 Status: Produced</p>	<p>Silver, lead, zinc</p>	<p>Castle Mountain district, sec. 14, T. 8 N., R. 8 E.</p>
<p>YELLOWSTONE MINE Operator: George Voldseth, Hamilton Mines, Inc., Martinsdale, Montana 59053 Employees: 3 Status: Producing and developing</p>	<p>Lead, zinc</p>	<p>Castle Mountain district</p>

MINERAL COUNTY: Superior, County Seat

AMAZON-DIXIE MINE Owner: Rockcreek Silver-Lead Co. , J. H. Christman, Manager, 2008 W. Riverside, Spokane, Washington 99200 Status: Developing	Copper, lead, zinc	Saltese district, sec. 4, 5, T. 19 N. , R. 32 W.
BONANZA GROUP Operator: G. M. Gildersleeve, Box 565, Superior, Montana 59872 Owner: Same as operator Status: Developing	Gold, silver, lead, barite	Cedar Creek district, sec. 17, T. 15 N. , R. 26 W.
BULORING MINE Operator: Charles F. Buls, Saltese, Montana 59867 Status: Produced	Gold, silver, copper, lead	Saltese-St. Regis district
EAST COEUR D'ALENE SILVER MINE Operator: East Coeur d'Alene Silver Mines, Inc. , Scott Building, Wallace, Idaho 83873 Owner: Same as operator Status: Developing	Silver, copper, lead, zinc	Keystone district, T. 17, 18 N. , R. 26, 28 W.
MINERAL KING MINE Operator: Mineral King Mining Co. , c/o Max Swanson, Dixon Bldg. , Missoula, Montana 59801 Status: Inactive	Gold, silver, copper, lead, zinc	Saltese-St. Regis district, sec. 36, T. 20 N. , R. 31 W.
NANCY LEE MINE Operator: E. G. Smith, Box 505, Osburn, Idaho 83849 Owner: Nancy Lee Mines, Inc. , 410 Main Street, Kellogg, Idaho 83837 Employees: 18 Mill capacity: 100 t/d Status: Producing and developing	Silver, lead, zinc	Keystone district, sec. 31, 32, T. 18 N. , R. 26 W.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

MINERAL COUNTY, contd.

<p>PROSPERITY MINE Operator: Par-D Mining and Development Co. , c/o Rodney L. Helterline, 1920 Trail Street, Missoula, Montana 59801 Owner: Prosperity Mines, Inc. , 1716 S. 9th W. , Missoula, Montana 59801 Employees: 3 Status: Produced and developing</p>	<p>Silver, copper, lead, zinc</p>	<p>Keystone district, T. 18 N. , R. 26 W.</p>
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<p>SPITFIRE MINE Operator: Jack Howes, Paradise, Montana 59856 Owner: Donald A. Graham, St. Regis, Montana 59866 Employees: 2 Status: Developing</p>	<p>Copper</p>	<p>Sevenmile Creek district, sec. 35, T. 19 N. , R. 27 W.</p>
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<p>TARBOX and MEADOW MOUNTAIN MINE Owner: Mineral King Mining Co. , c/o Max Swanson, Dixon Bldg. , Missoula, Montana 59801 Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Saltese-St. Regis district, sec. 36, T. 20 N. , R. 31 W.</p>
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MISSOULA COUNTY: Missoula, County Seat

<p>BLUE LODGE MINE Operator: Robert Montelius, Box 122, John Sheets, and Ralph Miltuer, Clinton, Montana 59825 Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Clinton district, sec. 13, 24, T. 12 N. , R. 17 W.</p>
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COPPER HILL MINE
 Operator: Giant Lode Mining Co. ,
 Missoula, Montana 59801
 Status: Produced

HIDDEN TREASURE-CAPE NOME MINE

Operator: Silver Ledge, Inc.,
Box 56, Clinton, Montana 59825
Owner: Hera, Inc., Box 40,
Missoula, Montana 59801
Employees: 4
Status: Developing

Wallace Creek
district, sec. 19,
24, T. 12 N.,
R. 16, 17 W.

SILVER STREAK MINE

Operator: Gerald L. Richards,
Clinton, Montana 59825
Owner: Louis A. Richards and
Gerald L. Richards,
Clinton, Montana 59825
Status: Produced and developing

Gold,
silver,
copper,
lead,
zinc,
antimony

Clinton district

SUSAN MINE*

Operator: Cecil Trickey,
Seeley Lake, Montana 59868
Owner: Same as operator
Status: Inactive

Silver,
copper

Sec. 4, T. 16 N.,
R. 14 W.

WALDBILLIG PROPERTY*

Operator: Waldbillig Bros., Joe & O. R.,
Route 3, Miller Creek,
Missoula, Montana 59801
Owner: Same as operator
Status: Developing

Silver,
copper,
molybdenum

Miller Creek
district, sec. 1, 2,
T. 11 N.,
R. 19 W.

WARD LODE MINE

Operator: Ward Development Corp.,
321 N. Higgins Avenue,
Missoula, Montana 59801
Owner: Same as operator
Employees: 3
Status: Developing

Gold,
silver,
copper,
lead,
zinc

Sec. 22, T. 11 N.,
R. 22 W.

* Open pit or open cut.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

PARK COUNTY: Livingston, County Seat

<p>CROWN BUTTE and MELISSA MINE* Operator: Bear Creek Mining Co. , Scott Riley, Box 356, Cooke City, Montana 59020 Owner: Kennecott Mining Co. , Bear Creek Mining Co. , Box 8, Dishman Branch, E. 7621 Sprague Ave. , Spokane, Washington 99213 Status: Developing</p>	<p>Gold, silver, copper, lead</p>	<p>New World district, unsurveyed, T. 9 S. , R. 14 E.</p>
<p>GLENGARRY CLAIMS (WHITE)* Operator: Earl Nott, Cooke City, Montana 59021 Owner: Como Mining Co. , Columbus, Montana 59019 Employees: 1 Status: Developing</p>	<p>Gold, silver, copper</p>	<p>New World district, sec. 12, T. 9 S. , R. 14 E.</p>

POWELL COUNTY: Deer Lodge, County Seat

<p>CHAMPION TAILINGS* Operator: Leo Powell, 208 Beaumont, Deer Lodge, Montana 59722 Status: Produced</p>	<p>Silver</p>	<p>Deer Lodge district, sec. 3, T. 7 N. , R. 9 W.</p>
<p>CHARTER OAK MINE Operator: Charter Oak Mining Co. , c/o J. T. Bonner, Box 566, Elliston, Montana 59728 Owner: Same as operator Mill capacity: 50 t/d Status: Produced and developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Negro Hill district, NW$\frac{1}{4}$ SE$\frac{1}{4}$ sec. 36, T. 9 N. ; R. 7 W.</p>
<p>COPPER HILL and DAN NO. 1 MINE** Operator: Harold G. Nelson, Sr. , Greenough, Montana 59836; and Giant Lode Mining Co. , Lincoln, Montana 59639 Owner: Harold G. Nelson, Sr. , Greenough, Montana 59836 Employees: 3 Mill capacity: 250 t/mo Status: Developing and producing</p>	<p>Gold, silver, copper, iron</p>	<p>Elk Creek district (Powell and Granite Counties) sec. 5, 6, 7, 8, T. 12 N. , R. 13 W.</p>

*Open pit or open cut: **Open cut and underground.

<p>HARD LUCK MINE Operator: L. F. Ward, Elliston, Montana 59728 Owner: Hard Luck Mines, Elliston, Montana Status: Unknown</p>	<p>Silver, lead, zinc</p>	<p>Elliston district, sec. 14, 16, 17, 20, 21, T. 8 N., R. 6 W.</p>
<p>HIDDEN HAND MINE Operator: Kenneth and Charles Cunningham, Garrison, Montana 59731 Owner: Mrs. Fern Johnson, Route 1, Deer Lodge, Montana 59722 Status: Produced</p>	<p>Gold, silver, lead, zinc</p>	<p>Zosell (Emery) district, NW$\frac{1}{4}$ SW$\frac{1}{4}$ sec. 2, T. 7 N., R. 8 W.</p>
<p>KIRBY MINE Operator: A. D. Lightfoot, Deer Lodge, Montana 59722 Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Emery district, sec. 10, T. 7 N., R. 8 W.</p>
<p>MONARCH MINE Operator: Monarch Minerals, Inc., D. L. Jones, Gen. Mgr., Box 33, Helena, Montana 59601 Owner: Same as operator Employees: 3 Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Ontario district, sec. 30, 31, T. 8 N., R. 6 W.</p>
<p>NANCY HELEN MINE Operator: Clarke J. Smith, Avon, Montana 59713 Owner: Same as operator Status: Inactive</p>	<p>Copper</p>	<p>Ophir district, sec. 19, T. 11 N., R. 7 W.</p>
<p>NEGROS MINE Operator: J. F. Hopkins, 401 N. Montana, Helena, Montana 59601 Owner: Same as operator Status: Producing</p>	<p>Gold, silver, lead</p>	<p>Negro Hill district, SE$\frac{1}{4}$ SW$\frac{1}{4}$ sec. 36, T. 9 N., R. 7 W.</p>
<p>PRICE GROUP MINE** Operator: W. C. Boellard, 3705 Mesa Vista Way, Bonita, California 92002 Owner: Same as operator Employees: 3 (part time) Status: Developing</p>	<p>Gold, silver</p>	<p>Ophir district, NE$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 29, T. 11 N., R. 7 W.</p>

 **Open cut and underground.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

POWELL COUNTY, contd.

<p>SILVER REEF MINE Operator: Silver Reef Mines, Inc., Box 211, Deer Lodge, Montana 59722 Owner: Ed C. Hughes, Spokane, Washington 99200 Employees: 5 Status: Developing</p>	<p>Silver, silica</p>	<p>Warm Springs Creek district, sec. 26, T. 11 N., R. 10 W.</p>
<p>SUNRISE MINE Operator: Enard A. Lindquist, Box 334, Elliston, Montana 59728 Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Silver, lead</p>	<p>Negro Hill district, sec. 12, T. 8 N., R. 7 W.</p>
<p>WOLVERINE MINE Operator: Wolverine Corp., c/o P. L. Driscoll, 2711 Miles Avenue, Billings, Montana 59101 Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Silver, lead</p>	<p>Elliston district, sec. 18, 19, 20, T. 8 N., R. 6 W.</p>

SANDERS COUNTY: Thompson Falls, County Seat

<p>BLUECREEK MINE Operator: Ke-Jo Mining, Inc., E. 27 Augusta, Spokane, Washington 99205 Owner: G. D. Kile, Grandview, Washington 98930 Employees: 5 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Blue Creek district, sec. 3, 10, T. 27 N., R. 34 W.</p>
<p>BROKEN HILL MINE Operator: Joe Williams, Star Route, Clark Fork, Idaho 83811 Owner: J. P. and William Swann and Ruth Goddard, 24th Street, Spokane, Washington 99200 Employees: 2 Status: Producing</p>	<p>Gold, silver, lead, zinc</p>	<p>Heron district, sec. 10, T. 27 N., R. 34 W.</p>

EDDY CREEK MINE

Operator: The State Mining Co.,
Wesley W. Stearns, Box 141,
Plains, Montana 59859
Owner: Same as operator
Employees: 2 to 4
Status: Developing

Eddy Creek
district, unsurveyed

GOPHER HOLE MINE

Operator: J. C. Brooks and
Arthur and Ralph Dettwiler,
Star Route, Clark Fork, Idaho 83811
Owner: Same as operator
Status: Developing

Gold,
silver,
lead,
zinc

Blue Creek district,
sec. 10, T. 27 N.,
R. 34 W.

HEIDELBERG MINE

Operator: Heidelberg Mining Company
of Montana, c/o G. A. Myers,
1001 Court Street, Pasco,
Washington 99301
Owner: Same as operator
Employees: 5
Status: Developing

Gold,
silver

Noxon district,
SE $\frac{1}{4}$ sec. 29,
NW $\frac{1}{4}$ sec. 32,
T. 27 N., R. 31 W.

HOLLIDAY MINE

Operator: Silver Mark Mines, Inc.,
Box 197, Noxon, Montana 59853
Owner: Same as operator
Employees: 2
Status: Developing

Silver,
copper,
lead,
zinc

Pilgrim Creek
district, sec. 26,
31, T. 26 N.,
R. 34 W.

JACK WAITE MINE

Operator: Al Tofte and Les Sanderson,
1925 Burke Rd., Wallace, Idaho 83873
Owner: Jack Waite Mining Co., 680 Fifth,
22d Floor, New York City 10019
Status: Developing

Eagle district,
W $\frac{1}{2}$ sec. 17,
T. 22 N., R. 32 W.

SILVER BOW COUNTY: Butte, County Seat

BADGER MINE

Owner-Operator: The Anaconda Co.,
Butte, Montana 59701
Status: Produced

Gold,
silver,
lead,
zinc

Summit Valley (Butte)
district, NE $\frac{1}{4}$ NE $\frac{1}{4}$
sec. 7, T. 3 N.,
R. 7 W.

GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

SILVER COUNTY, contd.

BERKELEY PIT*	Gold, silver, copper	Summit Valley (Butte) district, NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T. 3 N., R. 7 W.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Status: Producing		
KELLEY MINE	Gold, silver, copper	Summit Valley (Butte) district, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 3 N., R. 7 W.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Status: Producing		
LEONARD MINE	Gold, silver, copper	Summit Valley (Butte) district, cen. SW $\frac{1}{2}$ sec. 8, T. 3 N., R. 7 W.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Status: Producing		
MOUNTAIN CON MINE	Gold, silver, copper	Summit Valley (Butte) district, NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 3 N., R. 8 W.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Status: Producing		
STEWARD MINE	Gold, silver, copper	Summit Valley (Butte) district, NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 3 N., R. 8 W.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Status: Producing		
TUXEDO MINE*	Gold, silver, silica	Summit Valley (Butte) district, sec. 28, T. 4 N., R. 9 E.
Operator: Ed C. Hughes, W. 307 - 17th, Spokane, Washington 99203 Owner: Same as operator Status: Inactive		
VAN BUTTE EXPLORATION CO.		Summit Valley (Butte) district
Operator: Frank Benich, Box 435, Butte, Montana 59701 Status: Developing		
WEED CONCENTRATOR		Sec. 28, T. 4 N., R. 9 E.
Owner-Operator: The Anaconda Co., Butte, Montana 59701 Mill capacity: 40,000 t/d Status: Producing		

*Open pit or open cut.

TOOLE COUNTY: Shelby, County Seat

GOLD BUTTE MINE	Gold	Gold Butte district, T. 36 N., R. 3 E.
Operator: Ham Mining Co., c/o L. R. Hannah, Box 255, Shelby, Montana 59474		
Owner: Same as operator		
Employees: 2 (summer)		
Status: Developing		

IRON MINES

BROADWATER COUNTY: Townsend, County Seat

IRON CROSS MINE*	Iron ore	Cedar Plains district, sec. 12, T. 5 N., R. 1 W.
Operator: R & S Iron Co., Inc., Radersburg, Montana 59641		
Owner: John M. Ralls and Arthur W. Sitton, Radersburg, Montana 59641		
Status: Producing		

MANGANESE MINES

GRANITE COUNTY: Philipsburg, County Seat

CLIFF MILL SITE (ALGONQUIN) MINE (see page 63)		
TRUE FISSURE MINE	Manganese	Flint Creek district, W $\frac{1}{2}$ NW $\frac{1}{4}$ sec. 29, T. 7 N., R. 13 W.
Operator: Taylor-Knapp Co., Donald S. Johnson, Mgr., Box 250, Philipsburg, Montana 59858		
Owner: Same as operator		
Employees: 77		
Mill capacity: 125 t/d		
Status: Producing		

THORIUM MINES

BEAVERHEAD COUNTY: Dillon, County Seat

LAST CHANCE MINE	Thorium	Lemhi Pass district, sec. 20, 28, 29, T. 10 S., R. 15 W.
Operator: Sawyer Petroleum Co., Suite 314, 650 S. Grand Avenue, Los Angeles, California 90008		
Owner: Same as operator		
Status: Developing		

*Open pit or open cut.

TUNGSTEN MINES

BEAVERHEAD COUNTY: Dillon, County Seat

CALVERT HILL PIT* Operator: Minerals Engineering Co. Status: Developing	Tungsten, scheelite	Wise River district, sec. 12, T. 1 N., R. 12 W.
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DEER LODGE COUNTY: Anaconda, County Seat

OLD BONANZA MINE Operator: Tri-City Concrete Products, Inc., Anaconda, Montana 59711 Employees: 6 Status: Producing	Tungsten, scheelite	Silver Lake district, sec. 21, 22, T. 5 N., R. 13 W.
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SILVER BOW COUNTY: Butte, County Seat

OVERLOOK MINE** Operator: George Sharak, Sr., 132 W. Granite, Butte, Montana 59701 Owner: Same as operator Employees: 3 (part time) Status: Producing and developing	Scheelite, gold, silver, copper	Highland district, sec. 22, 23, 26, 27, 28, T. 1 N., R. 7 W.
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GOLD PLACERS

BROADWATER COUNTY: Townsend, County Seat

PLACER MINE Operator: L. J. Eichs, Townsend, Montana 59644 Status: Producing	Gold	Indian Creek district, sec. 6, T. 6 N., R. 1 E.
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GRANITE COUNTY: Philipsburg, County Seat

CONFIDENT, RADAR, CASTLE PLACER 1, and CASTLE PLACER 2 Operator: William J. Dean and Son, 309 S. Arizona, Butte, Montana 59701 Owner: Same as operator Employees: 1 Status: Developing	Gold, silver	Granite district, sec. 22, 23, T. 6 N., R. 13 W.
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 *Open pit or open cut.

**Open cut and underground.

GOLD PLACERS, contd.

MINERAL COUNTY: Superior, County Seat

<p>OREGON CREEK PLACER Operator: Calmont Mining Co., Joe Browning, Supt., Box 656, Superior, Montana 59872 Status: Inactive</p>	<p>Gold</p>	<p>Oregon Creek district</p>
<p>STEMWINDER PLACER* Operator: George Gildersleeve, Box 565, Superior, Montana 59872 Owner: Same as operator Status: Producing</p>	<p>Gold</p>	<p>Cedar Creek district, sec. 17, T. 15 N., R. 26 W.</p>

MISSOULA COUNTY: Missoula, County Seat

<p>La CHAMBRE PLACER* Operator: J. T. LaChambre, Heron, Montana 59844 Owner: Same as operator Status: Inactive</p>	<p>Gold</p>	<p>Ninemile district, sec. 24, T. 17 N., R. 24 W.</p>
<p>TWIN CREEKS PLACER* Operator: Victor Demin, Route 4, Missoula, Montana 59801 Owner: Same as operator Status: Produced</p>	<p>Gold</p>	<p>Sec. 26, T. 17 N., R. 24 W.</p>

PARK COUNTY: Livingston, County Seat

<p>W. M. CLAYTON PLACER Operator: W. J. Clayton, Box 54, Pray, Montana 59065 Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Emigrant district, sec. 29, T. 6 S., R. 9 E.</p>
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POWELL COUNTY: Deer Lodge, County Seat

<p>JEFFERSON CREEK PLACER Operator: Elmer Wagner, Box 294, Avon, Montana 59713 Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Finn district, sec. 11, T. 12 N., R. 9 W.</p>
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 *Open pit or open cut.

MASTER PLACER	Gold	Gold Creek district, T. 9 N., R. 11 W.
Operator: O. Perl Smith, 745 Sherman, Denver , Colorado 80203		
Owner: Same as operator		
Employees: 6 to 12		
Status: Developing		

OLD SHOE NO. 1 PLACER*	Gold	Finn district
Operator: A. H. Roat and Sons, Box 266, Alberton, Montana 59820		
Owner: Same as operator		
Status: Developing		

SILVER BOW COUNTY: Butte, County Seat

JANE CLAIM PLACER*	Gold	Highland district, sec. 32, T. 1 N., R. 7 W.
Operator: Highland Placers, 2619 Walnut Street, Butte, Montana 59701		
Owner: Howard Stratton, George Richardson, and George Hoopes, Butte, Montana 59701		
Status: Developing		

*Open pit or open cut.

PART 2, NONMETAL MINES, PITS

AND QUARRIES

ASBESTOS MINES

GALLATIN COUNTY: Bozeman, County Seat

KARST MINE*	Anthophyllite asbestos	Karst Kamp district, sec. 36, T. 5 S., R. 4 E.
Operator: Galaxy Mining Co., Box 63, Billings, Montana 59101		
Owner: Interstate Products Co., c/o Doyle S. Potts, Melrose, Montana 59715		
Status: Developing		

BARITE MINES

BEAVERHEAD COUNTY: Dillon, County Seat

LUCKY JIM BEAM GROUP MINE	Barite	Jackson district, sec. 25, 26, T. 4 S., R. 14 W.
Operator: Lee R. Stoddard, Whitehall, Montana 59759 and R. P. Jackson and R. M. Shepard, Jackson, Montana 59736		
Owner: Same as operator		
Status: Developing		

MISSOULA COUNTY: Missoula, County Seat

ELK CREEK MINE	Barite	Elk Creek district, sec. 15, T. 13 N., R. 24 W.
Operator: National Lead Co., Box 392, Missoula, Montana 59801		
Owner: Same as operator		
Employees: 10		
Mill capacity: 50 t/d		
Status: Inactive		

BENTONITE PITS

AMERICAN COLLOID COMPANY PIT*	Bentonite	
Operator: American Colloid Co., 5100 Suffield Court, Skokie, Illinois 60076		
Status: Developing		

*Open pit or open cut.

ARCHER-DANIELS-MIDLAND PIT* Bentonite
Operator: Archer-Daniels-Midland Co.,
733 Marquette Avenue,
Minneapolis, Minnesota 55402
Status: Inactive

BLAINE COUNTY: Chinook, County Seat

PETER KIEWIT SONS' PIT* Bentonite
Operator: Peter Kiewit Sons' Co.,
Box 724, Sheridan Wyoming 82801
Owner: State of Montana and others
Status: Developing

REED & PARKS PIT* Bentonite Sec. 16, T. 33 N.,
Operator: Robert J. Reed and R. 22 E.
H. A. Parks, Harlem, Montana
59526
Owner: Same as operator
Status: Inactive

CARBON COUNTY: Red Lodge, County Seat

CARBON SERIES PIT* Bentonite T. 8 S., R. 26 E.
Operator: Wyo-Ben Productions, Inc.,
Box 1979, Billings, Montana 59101
Owner: Same as operator
Employees: 35
Mill capacity: 720 t/d
Status: Developing

CARTER COUNTY: Ekalaka, County Seat

VARIOUS OPEN PITS* Bentonite T. 9 S., R. 58,
Operator: National Lead Co., 59 E.
Baroid Division, Box 1675,
Houston, Texas 77000
Owner: Same as operator
Status: Producing

JUDITH BASIN COUNTY: Stanford, County Seat

RALPH MODIC PIT Bentonite Sec. 14, 24, 25, 36,
Operator: Ralph Modic, T. 17 N., R. 11 E.;
Harlem, Montana 59526 sec. 6, T. 16 N.,
R. 12 E.; sec. 7, 8,
9, 10, 13, 35,
----- T. 17 N., R. 11 E.

*Open pit or open cut.

BENTONITE PITS, contd.

PHILLIPS COUNTY: Malta, County Seat

HANSON PIT* Bentonite Phillips and Valley
Operator: Leslie Hanson, Counties
626 Fifth Avenue N.,
Glasgow, Montana 59230
Status: Developing

LITTLE ROCK NO. 1 PIT* Bentonite
Operator: Lloyd Knudsen,
Malta, Montana 59057
Owner: Jerad Welch,
Zortman, Montana 59546
Employees: 1
Status: Producing

ROSEBUD COUNTY: Forsyth, County Seat

HALLETT MINERALS PIT* Bentonite
Operator: Hallett Minerals,
Vananda, Montana 59230
Owner: Hallett Minerals,
Box 7024, Duluth, Minnesota 55807
Employees: 8
Status: Developing

VALLEY COUNTY: Glasgow, County Seat

BRAZIL CREEK PIT* Bentonite T. 28 N., R. 37 E.
Operator: Brazil Creek Bentonite Co.,
Box 926, Glasgow, Montana 59230
Owner: Same as operator
Status: Developing

CLAY MINES AND PITS

CASCADE COUNTY: Great Falls, County Seat

TREASURELITE PIT* Clay Sec. 13, T. 21 N.,
Operator: Treasurelite, Division of R. 3 E.
Treasure State Industrial Products, Inc.,
Box 2750, Great Falls, Montana 59401
Owner: Same as operator
Employees: 2 to 8
Mill capacity: 5 yd/hr
Status: Produced

*Open pit or open cut.

DEER LODGE COUNTY: Anaconda, County Seat

PLACER FIRE CLAY MINE*	Clay	Sec. 34, T. 5 N., R. 11 W.
Operator: Harold Snow, Box 1155, Anaconda, Montana 59711		
Owner: Same as operator		
Status: Inactive		

FERGUS COUNTY: Lewistown, County Seat

BEAVER CREEK and LEWISTOWN PITS*	Brick clay	Sec. 15, T. 15 N., R. 18 E.
Operator: Lewistown Brick and Tile Co., Box 573, Lewistown, Montana 59457		
Owner: Same as operator		
Status: Unknown		

YELLOWSTONE COUNTY: Billings, County Seat

BENT CLAY PIT*	Clay	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 1 N., R. 26 E.
Operator: The Lovell Clay Products Co., 1312 Lockwood Road, Billings, Montana 59101		
Owner: Same as operator		
Status: Unknown		

BUFF CLAY PIT*	Clay	Sec. 20, T. 1 S., R. 26 E.
Operator: The Lovell Clay Products Co., 1312 Lockwood Road, Billings, Montana 59101		
Owner: Same as operator		
Status: Unknown		

FLUORSPAR MINES

RAVALLI COUNTY: Hamilton, County Seat

CRYSTAL MOUNTAIN MINE*	Fluorspar	
Operator: Roberts Mining Co., Box 365, Darby, Montana 59829		
Employees: Up to 25		
Status: Produced (summer only)		

*Open pit or open cut.

GYPSUM MINES

CARBON COUNTY: Red Lodge, County Seat

<p>DAISY MINE Operator: Bridger Gypsum Co., Box 63, Billings, Montana 59101 Owner: Bridger Mercantile Co., Minneapolis, Minnesota 55400 Status: Producing Operator's remark: Produces agricultural gypsum as a soil conditioner to correct alkaline conditions.</p>	<p>Agricultural gypsum</p>	<p>Sec. 20, T. 7 S., R. 24 E.</p>
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<p>JAY KAY MINE* Operator: Jay Kay, Inc., 607 Garden Avenue, Billings, Montana 59101 Owner: Same as operator Status: Developing</p>	<p>Gypsum</p>	<p>NE$\frac{1}{4}$ SE$\frac{1}{4}$ sec. 19, T. 7 S.; R. 24 E.</p>
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FERGUS COUNTY: Lewistown, County Seat

<p>HANOVER MINE Operator: Ideal Cement Co., 420 Denver National Bldg., Denver, Colorado 80202 Owner: Same as operator Status: Inactive</p>	<p>Gypsum</p>	<p>Sec. 22, 27, T. 16 N., R. 17 E.</p>
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<p>SHOEMAKER (HEATH) MINE Operator: U.S. Gypsum Co., Heath, Montana 59449 Owner: U.S. Gypsum Co., 101 S. Wacker Drive, Chicago, Illinois 60606 Employees: 48 Mill capacity: 500 t/d Status: Producing</p>	<p>Gypsum</p>	<p>Sec. 1, 2, T. 14 N., R. 19 E.</p>
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JUDITH BASIN COUNTY: Stanford, County Seat

<p>KIBBEY DEPOSITS* Operator: Sunshine Mining Co., Box 1080, Kellogg, Idaho 83837 Owner: Harry Boughton and Fred Remington, Raynesford, Montana 59469 Status: Produced</p>	<p>Gypsum</p>	<p>Neihart district, sec. 7, T. 16 N., R. 8 E.</p>
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 *Open pit or open cut.

LIMESTONE MINES AND QUARRIES

CARBON COUNTY: Red Lodge, County Seat

WARREN QUARRY*	Limestone	Sec. 16, T. 5 S., R. 25, 26 E.
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Operator: Big Horn Calcium Co.,
Box 118, Frannie, Wyoming 82423
Owner: The Big Horn Limestone Co.,
Box 5308, Denver, Colorado 80200
Employees: 20
Status: Producing

DEER LODGE COUNTY: Anaconda, County Seat

BROWNS QUARRY*	Limestone	Sec. 23, T. 5 N., R. 12 W.
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Operator: The Anaconda Co.,
Butte, Montana 59701
Owner: Same as operator
Status: Producing

GALLATIN COUNTY: Bozeman, County Seat

TRIDENT QUARRY*	Limestone	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 2 N., R. 2 E.; and sec. 9, 10.
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Operator: Ideal Cement Co.,
420 Denver National Bldg.,
Denver, Colorado 80202
Owner: Same as operator
Employees: 12
Status: Producing

GRANITE COUNTY: Philipsburg, County Seat

SPRING GULCH QUARRY*	Limestone	Sec. 22, T. 11 N., R. 12 W.
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Operator: F. H. Norborg Co.,
703 Guaranty Bank Building,
Denver, Colorado 80202
Owner: American Crystal Sugar Co.,
Boston Building, Denver, Colorado 80202
Status: Inactive

*Open pit or open cut.

LIMESTONE MINES AND QUARRIES, contd.

JEFFERSON COUNTY: Boulder, County Seat

McCLELLAN QUARRY*	Limestone	McClellan district, sec. 7, T. 9 N., R. 3 W.
Operator: Maronick Construction Co., Inc., East Helena, Montana 59635		
Owner: E. P. Maronick, Pres., East Helena, Montana 59635		
Employees: 5		
Mill capacity: 100 t/hr		
Status: Producing		

MONTANA CITY QUARRY*	Limestone	Sec. 12, 13, T. 9 N., R. 2 W.
Operator: Permanente Cement Co., Montana City, Montana 59744		
Owner: Kaiser Cement and Gypsum Corp., Kaiser Center, Oakland, California 94600		
Employees: 58		
Mill capacity: 250 t/hr		
Status: Producing		

POWELL COUNTY: Deer Lodge, County Seat

ELLISTON QUARRY*	Limestone	Sec. 5, 6, T. 9 N., R. 6 W.
Operator: Elliston Lime Co., Box 149, Deer Lodge, Montana 59722		
Owner: Same as operator		
Status: Inactive		

PHOSPHATE MINES

BEAVERHEAD COUNTY: Dillon, County Seat

CANYON CREEK and EAST LaMARCHE MINES	Phosphate	Melrose district, sec. 5, 6, 7, 30, 31, 32, T. 1, 2 S., R. 9 W.
Operator: Stauffer Chemical Co., Box 3146, Butte, Montana 59701		
Employees: 119		
Status: Producing		

GRANITE COUNTY: Philipsburg, County Seat

DOUGLAS CREEK MINE and CONCENTRATOR	Phosphate	Maxville district, sec. 31, T. 9 N., R. 12 W.
Operator: Cominco American, Inc., Garrison, Montana 59731		
Owner: Same as operator		
Employees: 140		
Status: Producing		

*Open pit or open cut.

POWELL COUNTY: Deer Lodge, County Seat

ANDERSON MINE

Operator: Cominco American, Inc.,
Garrison, Montana 59731
Owner: Same as operator
Status: Producing

Phosphate Garrison district,
sec. 3, T. 10 N.,
R. 10 W.

BROCK MINE

Operator: Cominco American, Inc.,
Garrison, Montana 59731
Owner: Same as operator
Employees: 235
Status: Producing

Phosphate Garrison district,
sec. 21, 22,
T. 10 N., R. 10 W.

JACK PINE (TROUT CREEK) MINE**

Operator: Russell B. Luke
2102 E. Broadway Ave., Apt. M.,
Mesa, Arizona 85201
Owner: Same as operator
Status: Developing

Phosphate Elliston district,
SW $\frac{1}{4}$ sec. 35,
T. 11 N., R. 7 W.

PIKES PEAK LEASE

Operator: R. M. Parson Co.,
617 W. 7th Street,
Los Angeles, California 90017
Status: Developing

Phosphate Pikes Peak Creek
district, sec. 5,
8, 9, T. 8 N.,
R. 11 W.; sec. 32,
T. 9 N., R. 11 W.

WARM SPRINGS CREEK (BISHOP) MINE

Operator: Cominco American, Inc.,
Garrison, Montana 59731
Status: Produced

Phosphate Warm Springs Creek
district, sec. 19,
T. 10 N., R. 9 W.

SILVER BOW COUNTY: Butte, County Seat

MAIDEN ROCK MINE

Operator: Stauffer Chemical Co.,
Box 3146, Butte, Montana 59701
Employees: 13
Status: Producing

Phosphate Melrose district,
sec. 32, T. 1 S.,
R. 9 W.

**Open cut and underground.

SAPPHIRE MINES

GRANITE COUNTY: Philipsburg, County Seat

AMERICAN SAPPHIRE GEM MINE*	Sapphire	West Fork Rock Creek, T. 6 N., R. 16 W.
Operator: William and Helena Eaton, Box 26, Philipsburg, Montana 59858		
Owner: Same as operator		
Status: Producing and developing		

JUDITH BASIN COUNTY: Stanford, County Seat

YOGO SAPPHIRE MINE*	Sapphire	Yogo district, sec. 19, 20, 21, 22, 23, 24, T. 13 N., R. 11 E.
Operator: Montana Sapphires, Inc., Billings, Montana 59101		
Owner: Siskon Corporation, Box 889, Reno, Nevada 89504		
Status: Unknown		

SHALE PITS

CASCADE COUNTY: Great Falls, County Seat

TREASURELITE PIT*	Shale, clay	Sec. 13, T. 21 N., R. 3 E.
Operator: Treasurelite, Div. of Treasure State Industrial Products, Inc., Box 2750 Great Falls, Montana 59401		
Owner: Same as operator		
Status: Producing		

GALLATIN COUNTY: Bozeman, County Seat

KANTA PIT*	Expanded shale	Sec. 13, T. 2 N., R. 2 E.
Operator: Kanta Products, Inc., Box 96, Three Forks, Montana 59752		
Owner: Same as operator		
Employees: 1		
Status: Produced		

*Open pit or open cut.

SILICA MINES AND QUARRIES

DEER LODGE COUNTY: Anaconda, County Seat

<p>LUKE QUARRY*</p> <p>Operator: Montana Ores, Inc., 110 W. 3d St., Anaconda, Montana 59711</p> <p>Owner: Russkin Mining Co., 83 E. Park Street, Butte, Montana 59701</p> <p>Status: Unknown</p>	<p>Metallurgical silica</p>	<p>Blue Eyed Nellie district, NW$\frac{1}{4}$ sec. 24, T. 5 N., R. 12 W.</p>
<p>SNOW WHITE QUARRY*</p> <p>Operator: Boggs and Davis, Inc., Ione, Washington 99139</p> <p>Owner: John J. Meloy, Anaconda, Montana 59711</p> <p>Status: Inactive</p>	<p>Industrial silica</p>	<p>Lost Creek district, sec. 17, 28, T. 6 N., R. 11 W.</p>

JEFFERSON COUNTY: Boulder, County Seat

<p>BASIN QUARTZ QUARRY*</p> <p>Operator: Pacific Silica Co., Basin, Montana 59631</p> <p>Owner: Union Carbide Co., Portland, Oregon 97200</p> <p>Employees: 16</p> <p>Status: Producing</p>	<p>Industrial silica</p>	<p>Basin district, sec. 16, T. 6 N., R. 5 W.</p>
<p>LAHEY SILICA QUARRY*</p> <p>Operator: Benson and Bissell, Butte, Montana 59701</p> <p>Owner: Ed Kyler, Boulder, Montana 59632</p> <p>Status: Inactive</p>	<p>Industrial silica</p>	<p>W$\frac{1}{2}$ NE$\frac{1}{4}$ sec. 26, T. 8 N., R. 4 W.</p>

BEAVERHEAD COUNTY: Dillon, County Seat

<p>CANYON CREEK QUARRY*</p> <p>Operator: Industrial Chemical, Div. of Stauffer Chemical Co., Box 3146, Butte, Montana 59701</p> <p>Status: Producing</p>	<p>Silica</p>	<p>Melrose district, sec. 32, T. 1 S., R. 9 W.</p>
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*Open pit or open cut.

SOIL CONDITIONERS

BEAVERHEAD COUNTY: Dillon, County Seat

PEAT LEASE Peat Sec. 16, 20,
Operator: Keystone Development Co., T. 4 S., R. 16 W.
John M. Peart, Pres.,
Box 2285, Salt Lake City, Utah 84110
Status: Producing

GOLDEN VALLEY COUNTY: Ryegate, County Seat

R.K.R. PIT* Shell rock Sec. 23, T. 7 N.,
Operator: R.K.R. Soil Amendment, R. 22 E.
Inc., Cushman, Montana 59023
Owner: Same as operator
Status: Unknown

LAKE COUNTY: Polson, County Seat

HOWARD W. MARTIN PEAT* Peat Sec. 16, 17,
Operator: Martin's Peat & Potting T. 24 N., R. 17 W.
Soils, Swan Lake, Montana 59911
Owner: Howard W. Martin,
Swan Lake, Montana 59911
Employees: 1
Status: Producing

RAVALLI COUNTY: Hamilton, County Seat

PEAT PACK, INC., Peat Sec. 23, 27, 34,
Operator: Peat Pac, Inc., T. 5 N., R. 21 W.
Hamilton, Montana 59840
Owner: Peat Pac, Inc., 910 Tribune Bldg.,
Salt Lake City, Utah 84100
Status: Unknown

*Open pit or open cut.

STONE (BUILDING) MINES AND QUARRIES

CASCADE COUNTY: Great Falls, County Seat

<p>KINGS HILL QUARRY* Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana 59401 Owner: Treasure State Industries, Inc., Box 2750, Great Falls, Montana 59401 Status: Inactive</p>	<p>Building stone</p>	<p>Sec. 21, T. 13 N., R. 8 E.</p>
<p>MONARCH QUARRY* Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana 59401 Owner: Treasure State Industries, Inc., Box 2750, Great Falls, Montana 59401 Employees: 5 Status: Producing</p>	<p>Building stone</p>	<p>SE$\frac{1}{4}$ SE$\frac{1}{4}$ sec. 23, T. 15 N., R. 7 E.</p>

FLATHEAD COUNTY: Kalispell, County Seat

<p>FLATHEAD SUNSET QUARRY* Operator: Henry Lozeau, 535 Ford, Missoula, Montana 59801 Owner: Same as operator Status: Developing</p>	<p>Building stone, pozzolan, volcanic ash</p>	<p>Sec. 24, T. 25 N., R. 24 W.; sec. 34, T. 25 N., R. 24 W.</p>
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LEWIS AND CLARK COUNTY: Helena, County Seat

<p>WOLF CREEK PICTURE STONE NO. 1 QUARRY* Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana 59401 Owner: Treasure State Industries, Inc., Box 2750, Great Falls, Montana 59401 Status: Inactive</p>	<p>Building stone</p>	<p>SE$\frac{1}{4}$ sec. 26, T. 13 N., R. 5 W.</p>
<p>WOLF CREEK PICTURE STONE NO. 3 and SIEBEN QUARRY* Owner: Treasure State Industries, Inc., Box 2750, Great Falls, Montana 59401 Status: Inactive</p>	<p>Building stone</p>	<p>SW$\frac{1}{4}$ sec. 26, T. 13 N., R. 5 W.</p>

 *Open pit or open cut.

STONE (BUILDING) MINES AND QUARRIES, contd.

MISSOULA COUNTY: Missoula, County Seat

<p>BONNER QUARRY*</p> <p>Operator: Chicago, Milwaukee, St. Paul, and Pacific Railway Co., Deer Lodge, Montana 59722</p> <p>Owner: Same as operator</p> <p>Status: Inactive</p>	<p>Riprap</p>	<p>Sec. 15, T. 13 N., R. 18 W.</p>
<p>McQUARRIE QUARRY*</p> <p>Operator: Lyon Construction Co., Clinton, Montana 59825</p> <p>Owner: Northern Pacific Railway Co., St. Paul, Minnesota 55101</p> <p>Employees: 20</p> <p>Mill capacity: 1,500 t/d</p> <p>Status: Producing</p>	<p>Railroad ballast, road metal</p>	<p>Clinton (Wallace) district, sec. 17, T. 12 N., R. 17 W.</p>

STONE (ORNAMENTAL) QUARRIES

FERGUS COUNTY: Lewistown, County Seat

<p>PARADISE RANCH QUARRY*</p> <p>Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana 59401</p> <p>Owner: Harry Shipman, Route 3, Paradise Ranch, Lewistown, Montana 59457</p> <p>Status: Inactive</p>	<p>Travertine</p>	<p>Sec. 13, T. 17 N., R. 17 E.</p>
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GALLATIN COUNTY: Bozeman, County Seat

<p>PICTURE FLAGSTONE QUARRY*</p> <p>Operator: Orie B. McElwee, Box 474, Manhattan, Montana 59741</p> <p>Owner: Same as operator</p> <p>Employees: 2</p> <p>Status: Producing</p>	<p>Picture flagstone</p>	<p>Sec. 29, T. 2 N., R. 4 E.</p>
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*Open pit or open cut.

MADISON COUNTY: Virginia City, County Seat

MARY WILLIAMS QUARRY*	Marble	
Operator: American Chemet Corp., East Helena, Montana 59635		
Status: Inactive		
WHITE ANGEL QUARRY*	Onyx marble	Tidal Wave district, sec. 27, T. 3 S., R. 5 W.
Operator: Norman Rogers, Box 1719, Helena, Montana 59601		
Owner: American Chemet Corp., East Helena, Montana 59635		
Employees: 4		
Status: Producing		

PARK COUNTY: Livingston, County Seat

TRAVERTINE QUARRY*	Cut stone, rubble building stone	Sec. 14, 24, T. 9 S., R. 8 E.
Operator: J. B. Ahern, Box 25, Gardiner, Montana 59030		
Owner: Montana Travertine Quarries, Box 25, Gardiner, Montana 59030		
Employees: 9		
Status: Producing		

TALC MINES

BEAVERHEAD COUNTY: Dillon, County Seat

BOZO (LOBO) MINE	Talc	Sec. 7, T. 8 S., R. 7 W.
Operator: Norman Rogers, Box 1719, Helena, Montana 59601		
Owner: American Chemet Corp., East Helena, Montana 59635		
Status: Inactive		
CRESCENT MINE	Talc	
Operator: Tri-State Minerals Co., Box 227, Dillon, Montana 59725		
Status: Developing		

*Open pit or open cut.

TALC MINES, contd.

BEAVERHEAD COUNTY, contd.

CROWN-SMITH-DILLON MINE*	Talc	Axes Creek
Operator: Tri-State Minerals Co., Box 227, Dillon, Montana 59725		district, sec. 23, T. 8 S., R. 8 W.
Owner: Clyde Smith, Dillon, Montana 59725		
Employees: 3 (part time)		
Status: Produced		

MADISON COUNTY: Virginia City, County Seat

BEAVERHEAD MINE*	Talc	Stone Creek district,
Operator: United Sierra Div. - Cyprus Mines Corp., 101 Oakland Street, Trenton, New Jersey 08618		sec. 11, 14, T. 7 S., R. 6 W.
Owner: Same as operator		
Employees: 3		
Status: Developing		

REGAL MINE*	Talc	Sweetwater district,
Operator: Tri-State Minerals Co., Box 227, Dillon, Montana 59725		N $\frac{1}{2}$ sec. 2, T. 8 S., R. 7 W.
Owner: Same as operator		
Employees: 1 (part time)		
Status: Produced		

RUBY NO. 1 and NO. 2 MINE	Talc	Warm Springs
Operator: Sam Maloney and William Pettus, Box 174, Alder, Montana 59710		district, sec. 11, T. 8 S., R. 4 W.
Owner: Same as operator		
Status: Developing		

SNOW CAP MINE*	Talc	
Owner: William M. Cocanougher, Twin Bridges, Montana 59754		
Status: Developing		

*Open pit or open cut.

TREASURE STATE MINE*	Talc	Stone Creek
Operator: Tri-State Minerals Co. , Box 227, Dillon, Montana 59725		district, NE $\frac{1}{4}$ NE $\frac{1}{4}$
Owner: Same as operator		sec. 15, T. 7 S. ,
Employees: 3 (part time)		R. 6 W.
Status: Produced		

YELLOWSTONE (CAMERON) MINE*	Talc	Johnny Gulch
Operator: United Sierra Division, Cyprus Mines Corp. , 101 Oakland Street, Trenton, New Jersey 08618		district, sec. 4,
Employees: 9 to 18		T. 9 S. , R. 1 W.
Status: Producing		

VERMICULITE MINES

LINCOLN COUNTY: Libby, County Seat

VERMICULITE MOUNTAIN MINE*	Vermiculite	Rainy Creek
Operator: Zonolite Division, W. R. Grace and Co. , 135 S. LaSalle Street, Chicago, Illinois 60603		district, sec. 14,
Owner: Same as operator		15, 22, 23,
Employees: 130		T. 31 N. , R. 30 W.
Mill capacity: 3,000 t/d		
Status: Producing		

Open pit or open cut.

CASCADE COUNTY: Great Falls, County Seat

HIDDEN TREASURE MINE Operator: Arthur Schaub, Neihart, Montana 59456 Status: Produced	Silver, lead	Neihart district, sec. 32, T. 14 N., R. 8 E.
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JEFFERSON COUNTY: Boulder, County Seat

BERTHA TAILINGS Operator: R. J. Shute, A. Shute, and Norman Peura, Jefferson City, Montana 59638 Status: Producing	Silver, copper, lead	Colorado district, sec. 2, 3, T. 7 N., R. 4 W.
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LIVERPOOL DUMP* Operator: Louis Peura, Clancy, Montana 59634 Status: Producing	Silver, lead	
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SOUTH VIEW Operator: Charles Weber, Whitehall, Montana 59759 Status: Produced	Gold, silver, lead	St. Paul Gulch district, SE $\frac{1}{4}$ sec. 24, T. 2 N., R. 4 W.
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LEWIS AND CLARK COUNTY: Helena, County Seat

MONTE CHRISTO MINE Operator: Hans Mo, Box 284, Helena, Montana 59601 Owner: Same as operator Status: Produced	Gold, silver, copper, lead	Rimini (Vaughn) district, sec. 17, T. 8 N., R. 5 W.
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NICK AND DICK MINE Operator: Percy Goodwin, Canyon Ferry Route, Helena, Montana 59601 Owner: Same as operator Status: Producing	Silver, lead	
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MADISON COUNTY: Virginia City, County Seat

BEDFORD MINE* Operator: M. H. Cline, 3701 Sherman Avenue, Butte, Montana 59701 Owner: Frank Blair, Virginia City, Montana 59755 Status: Produced	Silver, lead	Ramshorn Creek district, T. 4 S., R. 3 W.
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*Open pit or open cut.

MADISON COUNTY, contd.

JACK RABBIT MINE Operator: McLaughlin, Smith, and Nyhart, Twin Bridges, Montana 59754 Status: Producing	Silver, lead	McCartney Mountain district
RED PINE MINE Operator: Shermont Mining Co. , c/o John Magnus, Twin Bridges, Montana 59754 Owner: Ruby Valley Development Co. , Inc. , 14503 Washington Avenue, SW. , Tacoma, Washington 98498 Employees: 8 Mill capacity: 100 t/d Status: Producing	Gold, silver	Sheridan district, sec. 5, T. 4 S. , R. 4 W.

GRANITE COUNTY: Philipsburg, County Seat

CLIFF MILL SITE (ALGONQUIN) MINE Operator: Taylor-Knapp Co. , Philipsburg, Montana 59858 Employees: 8 Status: Producing and developing	Manganese	Philipsburg district, sec. 31, T. 7 N. , R. 13 W.
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PART 3, COAL MINES

STATE COAL MINE INSPECTOR 'S ANNUAL REPORT

Coal production in the State of Montana for the fiscal year, July 1, 1965, through June 30, 1966, twenty-seven mines reporting, was 405,190 tons as compared with 360,446 tons for the previous year.

There was one fatal accident in the Montana coal mines and ten lost-time injuries during the last fiscal year. The fatal accident happened at the Brophy mine, 5 miles east of Red Lodge in Carbon County. The employee was crushed between the coal rib and a loading machine while backing the machine away from the face.

Four employees from the Brophy coal mine took the examination for fire boss in June.

The Divide Coal Company purchased the Gildroy coal mine, in Musselshell County, dismantled the equipment and used it at the Divide mine.

The Coal Bank Canyon mine did not produce any coal during the last year.

The Square Deal Coal Company purchased the Forstrom coal mine and operated it during the previous year.

Some of the active coal mines and a few of the old abandoned mines are now being used as fallout shelters. As there was some question of the old mines being suitable and safe for this purpose, each of these was inspected. It is my opinion that they would be suitable and safe in case of an emergency. Any community is fortunate to have any underground mines that could be used as fallout shelters.

There were 99 inspections of coal mines and eight check inspections during the last year.

The Montana-Dakota Utilities Company has one active steam generating plant at Sidney and this unit used more than 80 percent of all the coal produced in Montana. This company also has steam generating plants at Baker, Miles City, and Glendive. These units are inactive and are held as standby emergency stations.

Peak employment in the coal mines during World War I was noted when 4,736 men were employed in the coal mines. Peak production was noted during World War II when production was 4,920,000 tons of coal.

The Montana University System Research Council is interested in the reclamation of strip-mined coal land, and a conference was held in Helena on August 23, 1966, regarding strip mining. A proposal for voluntary reclamation of land disturbed by strip mining for coal was presented at this meeting.

Production statistics and a list of the coal mines in Montana will be found on the following pages.

S/Thomas Morgan
State Coal Mine Inspector

TABLE 1. --Production report, Montana coal mines, July 1965 - June 1966.

<u>Mines by county</u>	<u>Address</u>	<u>Ave. no. employees</u>	<u>Total days worked</u>	<u>Tonnage mined</u>	<u>Accidents</u>	
					<u>Fatal</u>	<u>Nonfatal</u>
BIG HORN Tongue River Coal Co.	Henry Yellowizer, Decker, Montana 59025	2	96	1,298	0	0
BLAINE Milk River mine	Lauren Sargent, Box 661, Havre, Montana 59501	7	137	4,160	0	0
CARBON Brophy Coal Co.	James Brophy, Red Lodge, Montana 59068	40	188	49,036	1	9
Roadside mine	Frank Janskovitch, Bearcreek, Montana 59007	2	86	365	0	0
CUSTER Storm King mine	Ralph E. Bair, Box 113, Miles City, Montana 59301	3	93	1,980	0	0
DAWSON Peuse mine	Gordon Peuse, Lindsay, Montana 59339	1	60	768	0	0
FERGUS Swanson mine	William Swanson, Gilt Edge Route, Lewistown, Montana 59457	1	20	50	0	0
Tuss mine	C. M. Tuss, E. Evelyn Street, Lewistown, Montana 59457	2	25	600	0	0

McCONE									
Neumiller mine	1	Albert Neumiller, Vida, Montana 59274	10	60	0	0			
No. 1 mine	2	R. D. Stephenson, Circle, Montana 59215	64	315	0	0			
MUSSELSHELL									
Divide mine	7	Victor Carlson, Roundup, Montana 59072	93	11,510	0	0			
Forstrom mine	5	Square Deal Coal Co., Roundup, Montana 59072	81	2,025	0	0			
Gildroy mine	4	Divide Coal Co., Roundup, Montana 59072	27	1,100	0	0			
Johnny's mine	4	Johnny Keosky, Roundup, Montana 59072	148	1,554	0	1			
Nies mine	7	William Nies, Roundup, Montana 59072	160	4,600	0	0			
P. & M. mine	3	Paul Megal, Golden Creek Route, Roundup, Montana 59072	106	4,000	0	0			
Square Deal Coal Co.	10	Virgil Cross, Roundup, Montana 59072	142	10,783	0	0			
Western Coal mine	5	Glenn Johnson, Roundup, Montana 59072	150	4,300	0	0			

TABLE 1.--Production report, Montana coal mines, July 1965 - June 1966, contd.

<u>Mines by county</u>	<u>Address</u>	<u>Ave. no. employees</u>	<u>Total days worked</u>	<u>Tonnage mined</u>	<u>Accidents</u>	
					<u>Fatal</u>	<u>Nonfatal</u>
POWDER RIVER Coal Creek mine	John Schoonover, Box 94, Ashland, Montana 59003	3	83	1,226	0	0
Two Tree mine	Antone Gali, Epsie, Montana 59325	2	8	40	0	0
Wilson mine	J. L. Wilson, Broadus, Montana 59317	3	10	50	0	0
RICHLAND Bemer mine	Neville Bemer, Culbertson, Montana 59218	3	85	740	0	0
Knife River Coal mine	Knife River Coal Co., Savage, Montana 59262	15	200	300,000	0	0
ROSEBUD Foley Bros. mine	O. E. Rye, Colstrip, Montana 59323	3	125	1,150	0	0
Lame Deer mine	Lester Scott, Lame Deer, Montana 59043	3	106	1,250	0	0
SHERIDAN Acme mine	M. F. Brenteson, Coalridge, Montana 59216	4	112	1,891	0	0
Lagerquist mine	E. C. Lagerquist, R.F.D. 1, Westby, Montana 59275	1	18	339	0	0



MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES



Stewart L. Udall, Secretary

Walter R. Hibbard Jr., Director

Area VII Mineral Resource Office
Mark L. Wright, Area Director

Albany Office of Mineral Resources
A.J. Kauffman, Jr., Chief

Area Report B-123
Albany, Oregon

THE MINERAL INDUSTRY OF MONTANA IN 1966

Preliminary Annual Report

The 1966 value of Montana's mineral production was estimated at \$247 million, according to a preliminary report by the Bureau of Mines, U.S. Department of the Interior, setting a record for the second consecutive year. Average annual growth was 8 percent during the last 2 record-setting years. The ratio of combined copper and petroleum values to the total value has grown steadily -- 67 percent in 1964, 71 percent in 1965, and 73 percent in 1966.

Copper output was valued at \$94 million. The Anaconda Company, in response to persistent industrial demands, strove to expand facilities that would increase the copper supply. The firm announced that the copper mill at Anaconda, idle since 1964, had been reactivated; that the Butte concentrator was to be enlarged by 1967 to recover additional copper from acid-soluble ores; and that a sixth converter was to be added to the Anaconda copper smelter where the fifth was already under construction.

Anaconda Aluminum Co. announced that a fifth potline was to be built at its Columbia Falls smelter after construction underway on the fourth was finished in 1968. The additions were planned to add 70,000 tons to the plant's rated annual capacity.

Prepared by Ronald P. Collins, Economist, William N. Hale and Richard W. Knostman, Mineral Specialists, Bureau of Mines, Area VII, Albany, Oregon, December 15, 1966.

TABLE 2. - Mineral production in Montana 1/

Mineral	1965		P/ 1966	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays 2/	76	\$98	78	\$100
Coal (bituminous and lignite)	364	1,050	425	1,224
Copper (recoverable content of ores, etc.)	115,489	81,766	130,319	93,830
Gold (recoverable content of ores, etc.)	22,772	797	23,602	826
Iron ore (usable)	9	71	11	87
Lead (recoverable content of ores, etc.)	6,981	2,178	4,480	1,344
Lime	159	1,512	196	1,800
Manganese ore and concentrate	23,621	W	W	W
(35 percent or more Mn)				
Manganiferous ore and concentrate	1,968	W	1,199	19
(5 to 35 percent Mn)				
Natural gas	28,105	2,305	31,600	2,623
Petroleum (crude)	32,778	79,624	35,405	87,906
Sand and gravel	12,048	13,587	13,000	13,600
Silver (recoverable content of ores, etc.)	5,207	6,753	4,889	6,321
Stone	5,512	5,971	6,000	6,000
Zinc (recoverable content of ores, etc.)	33,786	9,866	28,641	8,306
Value of items that cannot be disclosed: Barite, cement, fluorspar, gem stones, gypsum, natural gas liquids, peat, phosphate rock, talc, uranium ore (1966), vermiculite, and values indicated by symbol W	XX	r/22,601	XX	23,324
Total	XX	r/228,159	XX	247,310

P/ Preliminary. r/ Revised. W Withheld to avoid disclosing individual company confidential data.

XX Not applicable.

1/ Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

2/ Excludes bentonite; included with "Value of items that cannot be disclosed."

Lead and zinc production and value decreased because of reduced output from the Badger State mine and the slag-fuming plant at East Helena; nevertheless, the combined production value of the two metals amounted to nearly \$10 million.

Lower silver content in copper ore and reduced silver-bearing zinc ore production accounted for a decline in silver output.

The petroleum industry experienced significant growth. Output increased 8 percent, and the estimated value of crude petroleum advanced 10 percent, reaching nearly \$88 million.

Estimated production of phosphate rock, lime, cement, and talc showed strong growth trends. Output and value of sand, gravel, and stone remained about the same as the 1965 totals.

According to monthly reports issued by the Montana State Employment Service, industrial employment averaged 6,000 more workers than in 1965. Total nonfarm employment reached crests each month that exceeded the respective monthly figures of the previous year. A record total employment for 1 month was reached in July when 195,000 wage earners were recorded. Normal postsummer declines caused by seasonal factors occurred in many sectors, but the adjusted levels were higher than usual. Increased employment was evidenced in Government, construction, manufacturing, and service industries. Serious shortages of qualified workers were reported in logging, metal mining, and trade industries.

TABLE 3.- Estimated average monthly employment

(Thousands)

	First 10 months, 1964	First 10 months, 1965	First 10 months, p/ 1966	Change 1965-66, percent
Mining.....	7.6	7.3	7.4	+1.4
Metal mining.....	4.8	4.5	4.8	+6.7
Quarrying and nonmetallic mining, including coal.....	1.0	1.0	1.1	+10.0
Petroleum and natural gas production.....	1.8	1.8	1.5	-16.7
Manufacturing.....	21.4	22.0	22.8	+3.6
Lumber and timber products.....	8.4	8.7	9.2	+5.7
Primary metals.....	3.3	3.5	3.8	+8.6
Petroleum refining.....	1.2	1.0	1.0	0
Contract construction.....	11.5	11.9	12.2	+2.5
Transportation and utilities.....	17.4	17.6	17.8	+1.1
All nonagricultural industries...	176.1	179.5	184.8	+3.0

p/ Preliminary.

Source: Montana Labor Market, State Employment Service.

REVIEW BY MINERAL COMMODITIES

METALS

Aluminum.- The first full year's operation of three potlines at the Columbia Falls plant of Anaconda Aluminum Co. resulted in a record aluminum production; the third potline had been completed in August 1965. Construction continued on a fourth potline, scheduled for completion in July 1968, and plans to add a fifth potline were announced. Completion of the fourth and fifth potlines was to add 70,000 tons to the existing annual capacity of 100,000 tons.

Copper.- Production increased more than 10 percent over that of 1965 as The Anaconda Company continued efforts to expand and modernize copper-producing facilities in the State. The firm reactivated the East Mill at the Anaconda Reduction Works at Anaconda, Deer Lodge County, which had been idled and partially dismantled when all copper milling activities were switched to the Butte concentrator late in 1964. Vein ore from the Butte Hill mines (Mountain Con, Leonard, and Steward) was shipped to the Anaconda concentrator beginning in February, but Berkeley pit ore continued to be processed at the nearby Butte concentrator. Recovery of copper from precipitates increased to over 10,000 tons compared with 7,800 tons in 1965.

Anaconda continued programs designed to modernize mining, haulage, and hoisting systems at its Butte Hill mines. A pipeline distribution system was being installed to transport tailings for mine fill from the Butte concentrator to the Kelley mine where a suitable product was to be prepared and distributed to the 2000 level of the Leonard mine, the 3000 level of the Steward mine, and the 4200 level of the Mountain Con mine. Completion of the Kelley No. 2 shaft was planned for early in 1967 to replace the High Ore as the pump shaft for all Butte Hill mines. Planned expansions of the Berkeley pit were to impinge the High Ore shaft.

Construction of an addition to the Butte concentrator, designed to increase recovery by treating acid-soluble ores not amenable to standard flotation procedures, was to be completed early in 1967.

Copper-smelting capacity at the Anaconda Reduction Works was being expanded by the addition of a fifth converter, and the firm announced plans to add a sixth unit. Installation of the two converters was to raise the operation's annual anode-producing capacity by 50 percent. The new furnaces were to be housed in a 105-foot extension of the old converter building. The building was being equipped with a 100-ton overhead crane, and a new fan system was to be installed to maintain good environmental conditions in the working area.

A study of the Pacific Northwest copper, lead, and zinc industries, prepared by the Bureau of Mines for the Bonneville Power Administration, was published. 1/

1/ Knostman, Richard W., and Gary A. Kingston. Copper, Lead, and Zinc Industries in the Pacific Northwest. Bonneville Power Administration Pacific Northwest Economic Base Study for Power Markets, v. 2, Pt. 7C, 1966, 139 pp.

TABLE 4.- Mine production of gold, silver, copper, lead, and zinc, in terms of recoverable metals ^{1/}

Year	Mines producing		Material sold or treated ^{2/} (thousand short tons)	Gold (lode and placer)		Silver (lode and placer)	
	Lode	Placer		Troy ounces	Value (thousands)	Troy ounces (thousands)	Value (thousands)
1957-61 (average)...	122	14	11,108	33,724	\$1,180	3,941	\$3,581
1962.....	107	5	11,835	24,387	854	4,561	4,948
1963.....	117	8	9,506	18,520	648	4,242	5,426
1964.....	110	8	14,872	29,115	1,019	5,290	6,840
1965.....	121	11	15,634	22,772	797	5,207	6,733
1966 ^{3/}	120	10	17,827	23,602	826	4,889	6,321

Year	Copper		Lead		Zinc		Total value (thousands)
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	
1957-61 (average)...	88,816	\$52,941	7,386	\$1,846	26,884	\$6,101	\$65,648
1962.....	94,021	57,917	6,121	1,126	37,678	8,666	73,511
1963.....	79,762	49,133	5,000	1,080	32,941	7,576	63,864
1964.....	103,806	67,682	4,538	1,189	29,059	7,904	84,634
1965.....	115,489	81,766	6,981	2,178	33,786	9,866	101,340
1966 ^{3/}	130,319	93,830	4,480	1,344	28,641	8,306	110,627

^{1/} Includes recoverable metal content of gravel washed (placer operations); ore milled, old tailings and old slag re-treated, copper precipitates and ore shipped to smelters during the calendar year indicated. Owing to rounding, individual items may not add to totals shown.

^{2/} Does not include gravel washed.

^{3/} Preliminary figures. Gold value calculated at U.S. Treasury buying price of \$35 a troy ounce, and silver at a preliminary average price of \$1.293 a troy ounce. In calculating production values for copper, lead, and zinc, preliminary average prices in 1966 per pound of refined metal were used, as follows: Copper, \$0.36; Lead, \$0.15; Zinc, \$0.145.

Gold.- Production of gold rose nearly 4 percent because of increased recovery from copper ore, offsetting decreased output from zinc ore produced at Butte mines by The Anaconda Company. Approximately 85 percent of the State total originated in the Butte district.

Placer output from four operations totaled 423 ounces compared with 171 ounces in 1965. The largest production came from the Lachambre placers and the Twin Creek placer in Missoula County.

Iron Ore.- Production of iron ore, entirely by R & S Iron Co. from the Iron Cross mine near Radersburg, increased because of greater requirements at a Gallatin County cement plant.

Lead.- Production of lead was 36 percent lower than in 1965 because of curtailed output from the Badger State block-caving operation at Butte and from the slag-fuming plant at East Helena. Although the amount of ore processed was reduced about 10 percent, production from the Badger State mine was down primarily because of a lower lead content of the ore mined. The fuming plant processed smaller quantities of old slag, accumulated during prior operations at the adjacent American Smelting and Refining Company lead smelter; however, increased lead smelter operations provided larger tonnages of hot slag for fuming.

Most of the lead not produced by The Anaconda Company at Butte or East Helena came from the Nancy Lee mine (E.G. Smith), Mineral County, and from the Maulden mine (Ida B. Hand), Beaverhead County.

A large new \$1.5-million sintering machine was being installed at the East Helena lead smelter to replace nine Dwight-Lloyd units formerly used. A new building, requiring 500 tons of steel, was to house the facility.

Manganese.- Shipments of manganese ore and concentrate (35 percent or more manganese) dropped sharply because of reduced sales of stockpiled nodules by The Anaconda Company. Taylor-Knapp Co. shipments of manganese concentrate were slightly below those of 1965. Taylor-Knapp was the sole shipper of manganese ore and concentrate (5 to 35 percent manganese); the ore originated from the firm's Philipsburg operation.

The outlook for ferromanganese, silicomanganese, and other ferroalloys was surveyed by the Federal Bureau of Mines for the Bonneville Power Administration. 2/

Silver.- Silver production declined approximately 5 percent from the 1965 level because of reduced output from Butte copper and zinc mines and from smaller operations in other parts of the State. Silver recovered from copper ores declined despite more ore being processed than in the previous year. A drop in zinc ore output also contributed to the decrease.

2/ Kingston, Gary A., and Robert A. Miller. Alloy Metals Outlook in the Pacific Northwest States. Bonneville Power Administration Pacific Northwest Economic Base Study for Power Markets, v. 2, Pt. 7D, 1966, 76 pp.

TABLE 5.- Mine production of gold, silver, copper, lead, and zinc in 1966, by months, in terms of recoverable metals

Month	Gold (troy ounces)	Silver (troy ounces)	Copper (short tons)	Lead (short tons)	Zinc (short tons)
January.....	1,854	385,245	10,080	350	2,339
February.....	1,713	354,307	9,627	343	2,303
March.....	1,595	415,932	11,334	325	2,602
April.....	2,063	382,673	12,490	338	2,396
May.....	2,379	421,014	12,557	371	2,286
June.....	2,095	386,423	11,432	338	2,403
July.....	1,935	388,706	10,762	368	2,407
August.....	2,259	496,863	11,837	428	2,738
September....	2,028	407,990	9,833	419	2,625
October.....	1,961	415,564	10,249	400	2,222
November.....	1,860	417,100	10,059	400	2,160
December.....	1,860	417,100	10,059	400	2,160
Total.....	23,602	4,888,917	130,319	4,480	28,641
Value.....	\$826,070	\$6,321,370	\$93,829,680	\$1,344,000	\$8,305,890

TABLE 6.- Mine production of gold, silver, copper, lead, and zinc in Silver Bow County, in terms of recoverable metals

Year	Mines producing		Material sold or treated <u>1/</u> (thousand short tons)	Gold, lode and placer (troy ounces)	Silver, lode and placer (thousand troy ounces)
	Lode	Placer			
1957-61 (average)..	15	1	10,980	20,702	3,453
1962.....	9	1	11,654	17,657	4,027
1963.....	10	2	9,346	14,287	3,951
1964.....	10	-	14,694	20,999	4,614
1965.....	8	2	15,462	18,420	4,790
1966 p/.....	7	-	17,700	20,084	4,610

Year	Copper (short tons)	Lead (short tons)	Zinc (short tons)	Total value (thousands)
1957-61 (average)..	88,660	4,378	19,669	\$62,256
1962.....	93,845	4,319	28,636	70,176
1963.....	79,636	3,185	24,140	60,850
1964.....	103,600	2,678	20,239	80,455
1965.....	115,279	4,594	25,629	97,373
1966 p/.....	130,127	3,003	27,985	109,371

p/ Preliminary.

1/ Does not include gravel washed.

The increasing industrial demand and the dwindling U.S. Treasury silver stocks prompted considerable interest in silver-bearing properties. Exploration and development activities were reported in Beaverhead, Jefferson, Lewis and Clark, Madison, Mineral, and Sanders Counties. The Office of Minerals Exploration signed a \$66,200 agreement with Carroll R. Stewart to explore the Florence mine near Neihart. The Government was to supply 75 percent of the contract value.

Thorium.- Sawyer Petroleum Co. and Union Pacific Railroad Co. signed an agreement to pursue development, mining, and marketing of Sawyer's thorium and rare earth deposits in the Lemhi Pass area of Beaverhead County. Initially, Union Pacific planned to complete market and engineering feasibility studies. The Union Pacific agreement covered 64 mining claims and did not affect a 1965 contract under which Lemhi Minerals Co. was to process ore from a 100-acre segment of Sawyer's property in a mill at Baker, Idaho.

Zinc.- Production of zinc declined about 15 percent largely because of reduced output from Anaconda operations at the Badger State mine in the Butte district and at the slag-fuming plant adjacent to the American Smelting and Refining Company at East Helena. Zinc production from the Badger State mine was to be terminated for economic reasons early in 1967 after all existing undercut cave blocks were mined.

Despite the bleak outlook for zinc production at Butte, the future of slab zinc production in the State was greatly improved by the availability of foreign concentrates. Anaconda began producing slab zinc in September at a reactivated electrolytic plant at Anaconda after signing an agreement to smelt 9,000 to 10,000 tons of concentrates produced annually by Pine Point Mines, Ltd., a subsidiary of Cominco of Canada, Ltd., at Pine Point, Northwest Territories, Canada. Reopening the plant required rehabilitating ore-roasting facilities and four electrolytic units that had been idle since January 1961.

NONMETALS

Barite.- Tonnage and value of ground barite, from crude material mined in previous years, were estimated to be 20 percent lower than the 1965 totals. Output of ground barite by Baroid Division, National Lead Co., processed at a plant near Greenough, Missoula County, was marketed as a weighting agent in oil-well-drilling mud.

Crude barite from the Elk Creek mine, closed by the company in December 1965, was processed from stockpiles until November at the grinding plant. The operation reportedly was not competitive with alternate sources in domestic markets, and after repairing machinery, the grinding plant was to be dismantled and shipped to another location.

Cement.- Quantity and value of portland cement shipments increased 21 and 17 percent, respectively, over the 1965 totals. Production was by Kaiser Cement & Gypsum Corp. at Montana City and by Ideal Cement Co. at Trident.

Clays.- Output of common clays and shales for use in making building products remained about the same as in 1965. Bentonite production, used as a lining to prevent seepage from irrigation canals and as an oil-well-drilling mud, declined from the 1965 figure. No fire clay was dug.

Fluorspar.- Output of fluorspar by Roberts Mining Co. from the Crystal Mountain mine was trucked 26 miles to the company heavy-media separation mill at Darby for processing. Metallurgical-grade fluorspar from the milling operation was shipped to industrial consumers.

Gypsum.- Estimated production of crude gypsum was less than the 1965 output. The Shoemaker mine, Fergus County, owned by United States Gypsum Co., was the sole marketing source.

Sunshine Mining Co. mined gypsum from deposits near Raynesford, Judith Basin County. Some of the output was shipped for testing purposes, but none was sold. The rest was stockpiled at the mine site.

Lime.- Lime output increased an estimated 23 percent over the 1965 total. The Anaconda Company made quicklime in Deer Lodge County for metallurgical use at its own operations. Sugar companies calcined limestone to quicklime for use in sugar refining in Big Horn, Missoula, Richland, and Yellowstone Counties. The Elliston Lime Co. plant at Elliston, destroyed by a fire in 1965, was inactive.

Big Horn Calcium Co. announced that a kiln and hydrator for manufacturing primary open-market lime would be installed at its limestone quarrying operation near Warren. Lime from the plant, with scheduled capacity of 200 to 250 tons per day, was to be marketed in Montana and neighboring States for construction, chemical, and other industrial purposes. The company continued supplying coarse limestone to sugar-beet refineries at Worland and Lovell, Wyo., and at Billings, Hardin, and Sidney. Limestone whiting from the company crushing operation was sold for asphalt filler and as a livestock-feed additive.

Phosphate.- Estimated output and value of marketable phosphate rock advanced 9 and 4 percent, respectively, over the 1965 totals. Production came from operations in Beaverhead, Granite, Powell, and Silver Bow Counties.

Rocky Mountain Phosphates, Inc., operating a phosphate-rock defluorinating plant at Garrison, continued to be involved with litigation over alleged responsibility by the company for air pollution at Garrison. On April 3, a district court at Bozeman awarded seven Garrison area ranchers \$123,283 after a trial in which the ranchers claimed both their livestock and their land were damaged by the plant's fluoride emissions.

The future of the phosphate industry in Montana was reviewed in October at an industrial seminar at Butte. The meeting, designed to stimulate interstate cooperation on western phosphate production and processing, was sponsored by the Montana Bureau of Mines and Geology and the State Planning Board.

Sand and Gravel and Stone.- Combined output of sand and gravel and stone was estimated at 19 million tons valued at \$19.6 million. Increased requirements for the materials in highway construction offset a slight decline at dam construction projects in the State.

Sulfur.- Output of high-purity elemental sulfur by the sole producer, Montana Sulphur & Chemical Co., remained about the same as in 1965. The sulfur-recovery plant at Billings removed sulfur from hydrogen sulfide gas byproducts obtained from oil-refining operations of Continental Oil Co. and Humble Oil & Refining Co.

Talc.- Quantity and value of talc output increased 26 and 17 percent, respectively, compared with 1965 figures. Three companies accounted for the output, most of which was ground at mills in Beaverhead, Gallatin, and Lewis and Clark Counties. Some was shipped to out-of-State grinding plants.

Chas. Pfizer & Co., Inc., Minerals, Pigments, and Metals Division, acquired the Tri-State Minerals Co. talc mining and processing operations in Beaverhead County. Additional milling, screening, and materials-handling facilities were installed by the company at the Beaverhead County talc mining and milling complex.

Snow Cap Corp. was granted a charter from the State to mine, mill, and market talc. The corporation planned to construct a grinding plant at Twin Bridges, Madison County.

Vermiculite.- The quantity of crude vermiculite mined increased 3 percent over the 1965 total. The State's sole producer, Zonolite Division, W.R. Grace & Co., continued to be the principal domestic source of vermiculite from an open pit near Libby, Lincoln County.

MINERAL FUELS

Coal.- Output of bituminous coal and lignite was estimated at 425,000 tons, compared with 364,000 tons in 1965. Musselshell County continued to be the leading source of bituminous coal; mines in Richland County were the major sources of lignite, which was used in the Montana Dakota Utilities Co. steam-electric generating plant at Sidney.

Construction began in May at Billings on the Montana Power Co. coal-fired electric generating plant. The source of lignite coal for the operation was to be the Colstrip mine, about 100 miles east of Billings. At peak operation, the steam generator was designed to consume about 100 tons of coal per hour, or about 1 million tons annually. In its first year of operation, scheduled for 1968, company officials estimated that $2\frac{1}{2}$ trainloads of coal would be brought into Billings each week to fuel the steam-electric plant.

The State Land Board adopted leasing procedures whereby coal operators in the State were required to restore stripped areas and spoil banks to a condition in keeping with the concept of best beneficial use.

An auction was held in May offering 171,498 acres of coal-mining leases on State-owned land. Coal leases were offered for a maximum of 10 years on lands in Big Horn, Rosebud, Treasure, Custer, Powder River, Fallon, Richland, Prairie, Wibaux, and Dawson Counties.

Petroleum and Natural Gas.- Estimated recovery of crude oil reached an alltime high of 35.4 million barrels valued at \$87.9 million, compared with 32.8 million barrels valued at \$79.6 million in 1965. An estimated 60 percent of the crude oil produced came from the Williston Basin. A publication described exploratory and development practices and other aspects of the petroleum industry at oilfields in the Basin. 3/

3/ Hamke, J.R., L.C. Marchant, and C.Q. Cupps. Oilfields in the Williston Basin in Montana, North Dakota, and South Dakota. BuMines Bull. 629, 1966, 487 pp.

Withdrawals of natural gas increased to 31.6 billion cubic feet valued at \$2.6 million, compared with 28.1 billion cubic feet valued at \$2.3 million in 1965.

During the first 10 months of 1966, 422 permits were issued by the Montana Oil and Gas Conservation Commission to drill wells, compared with 450 permits issued during the same period in 1965. Exploratory and development drilling during the 10-month period totaled 474 wells; 207 were oil producers, 8 were gas discoveries, and 259 were dry holes.

This report summarizes mineral industry activity in Montana in 1966 and contains preliminary production data for the year as estimated from company monthly and quarterly production canvasses, smelter receipt reports, and information contained in industry publications.

SUPPLEMENTAL LIST OF MINING ENTERPRISES

This list includes mining enterprises that have been inactive for three or more years or that have not returned our questionnaires. The abbreviations used to describe their former status are A, active; D, developing; I, inactive; P, producing; and U, unknown.

BEAVERHEAD COUNTY

Amaranth	I	1964
Banjo	I	1965
Clara (Martin)	I	1963
Ermont	I	1964
Hendricks	I	1963
Idanha	U	1963
Jumper No. 1 & 2	I	1963
Knight	U	1963
Quartz Hill tailings	U	1963
Sweeney	I	1963
Sylvia dump	I	1965
Virginia Gulch	I	1964

BLAINE COUNTY

Rocky Boy coal mine	I	1966
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BROADWATER COUNTY

Alpha claim	I	1963
Copper Queen	I	1964
Diamond Hill	U	1965
Iron Magnet	I	1964
January	U	1963
Keating	I	1964
Pioneer	U	1965
Silver Saddle	U	1964
Stabler	U	1963

CARBON COUNTY

Dead Man quarry	U	1965
Perc No. 14	D	1963
Swamp Frog	I	1963

CASCADE COUNTY

Armington	U	1965
Loveland coal mine	I	1966
Star	I	1963

DEER LODGE COUNTY

Alturas	I	1965
Gold Coin	U	1963
Mountain Lion	U	1965
Silver Chain	D	1965

GRANITE COUNTY

Copper State	P	1965
Dandy	I	1963
Gypsy Queen	I	1963
Harper	U	1964
Hobo	I	1964
I - B	U	1964
Limestone quarry	U	1965
Sandy claim	P	1965
Senate	U	1963
Silver Crest	U	1964
Mountain Boy	U	1965
Mountain View	I	1965
Young America	P	1965

JEFFERSON COUNTY

Bernice (Salvail)	I	1964
Boulder	I	1964
Flag placer	U	1965
Humbolt and Boyce	D	1965
Lucky Hit	I	1964
Perhaps Lode	D	1964
Poor Boy	U	1963
Union	I	1963

JUDITH BASIN COUNTY

Block P	I	1964
Gold Bug (Weatherwax)	U	1965
Mt. Top	P	1965

Supplemental list of mining enterprises--contd.

LEWIS AND CLARK COUNTY

Bald Mountain I 1964
 Gold Dollar U 1964
 Humdinger U 1965
 Silver Cross U 1963
 Woodrow Wilson I 1963

MADISON COUNTY

Boulder Cobalt I 1964
 German Bar placer I 1964
 Gilliam I 1963
 Gold Plate D 1963
 Green Campbell I 1963
 Hazel I 1965
 High Ridge I 1964
 Kelley-Massey P 1963
 Mary Ingabar P 1963
 Muellor U 1965
 Nichols I 1963
 Oxidental D 1965
 Ramshorn D 1965
 Ruby I 1963
 Ruby View U 1963
 Silver Creek P 1965
 Strawberry Extension I 1964
 Tamarack U 1964

MEAGHER COUNTY

Copper Duke P 1963
 Copperopolis I 1963
 Lucky Dollar U 1965
 Maybe I 1963

MINERAL COUNTY

Green Mountain U 1965
 Redemption & Silver
 Streak D 1965
 Silver Keyster U 1965
 Snowbird I 1963

MISSOULA COUNTY

Coloma I 1963
 Eileen Marsha placer I 1964
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