

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

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DIRECTORY
OF
MINING ENTERPRISES FOR 1965

Compiled by
Robert D. Geach
Montana Bureau of Mines and Geology

with a
LIST OF ACTIVE COAL MINES, 1965

by Thomas Morgan
State Coal Mine Inspector

and a section on
THE MINERAL INDUSTRY OF MONTANA IN 1965

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
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DIRECTORY
OF
MINING ENTERPRISES FOR 1965

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 1965 and the state coal production report, by Thomas Morgan, State Coal Mine Inspector, and a report entitled The Mineral Industry of Montana in 1965, by R. W. Knostman, R. P. Collins, and W. N. Hale, 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. Knostman, Mr. Hale, and Mr. Collins 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

COLUMBIUM MINES

RAVALLI COUNTY: Hamilton, County Seat

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

GOLD, SILVER, COPPER, LEAD, ZINC MINES

BEAVERHEAD COUNTY: Dillon, County Seat

BLUE EYED ANNIE MINE	Silver,	Elkhorn district,
Operator: John McDonald and	copper,	unsurveyed,
Cleve Metcalf, Jr.,	lead	T. 4 S., R. 12 W.
Philipsburg, Montana		
Owner: John Miller,		
Polaris, Montana		
Employees: 2		
Status: Producing and developing		
BURGIE ROSA GROUP	Silver	Vipond Park
Operator: George Gluck,		district, sec. 34,
Ramsay, Montana		35, T. 1 S.,
Owner: Same as operator		R. 11 W.
Employees: 1		
Status: Developing		
CHARTER OAK MINE	Gold,	Blue Wing district,
Operator: L. B. Wilkinson,	silver,	sec. 4, T. 8 S.,
1900 Miller Ave., Burley, Idaho	lead,	R. 11 W.
Owner: Same as operator	zinc	
Status: Unknown		
CLEVE-AVON and FRANKLIN MINE	Gold,	Bryant (Hecla)
Operator: L. B. Lively,	silver	district, sec. 2,
Melrose, Montana		T. 3 S., R. 11 W.
Owner: Same as operator		
Employees: 3		
Status: Producing		

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

BEAVERHEAD COUNTY, contd.

COMET MINE Operator: Western Engineering Co., Riverton, Wyoming Owner: Roger Pierce, 521 S. Washington, Dillon, Montana Status: Inactive	Silver	Elkhorn district, sec. 22, T. 4 S., R. 12 W.
COOLIDGE MINE Operator: John Hand, Argenta, Montana Owner: Same as operator Employees: 1 Status: Produced	Gold, silver, copper, lead, zinc	Argenta district, sec. 18, T. 6 S., R. 10 W.
CROSS MINE Operator: Carl and Stanley Shafer, Dillon, Montana Owner: John Shafer and Associates, Dillon, Montana Status: Inactive	Gold, silver	Argenta district, sec. 11, T. 6 S., R. 11 W.
DIADEM GROUP (ARNOLD) MINE* Operator: Diadem Company, 618 S. Jefferson Ave., Spokane, Washington Owner: J. F. Arnold, Spokane, Washington Status: Developing	Gold, silver, copper, lead	Wisdom district, sec. 7, 18, T. 3 S., R. 14 W.
FAITHFUL MINE Owner: Helen J. Browne Estate, Box 399, Butte, Montana Status: Inactive	Gold, silver,	Vipond Park district, sec. 3, T. 2 S., R. 11 W.
GLADSTONE-ARGENTA MINE Operator: Silver King Mines, Dillon, Montana Owner: Morse, Farnsworth, et al., Dillon, Montana, and New York City Employees: 3 Status: Inactive	Gold, silver, lead	Montana district, sec. 13, T. 5 S., R. 10 W.

*Open pit or open cut.

<p>GOLDSMITH MINE Operator: Wroble Drilling Co. , Anaconda, Montana 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, Montana Owner: Mrs. Carl Meine, Dillon, Montana Status: Developing</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 Owner: Same as operator Status: Developing</p>	<p>Silver, copper</p>	<p>Utopia district, sec. 11, T. 5 S. , R. 10 W.</p>
<p>GREY JOCKEY MINE* Operator: James Arnoldi, 1506 N. Main, Butte, Montana Owner: Theodore Jacobs, Missoula, Montana Status: Producing</p>	<p>Silver</p>	<p>Vipond Park district, sec. 2, T. 2 S. , R. 11 W.</p>
<p>MAIDEN CREEK COPPER MINE Operator: Chester A. Given, Route 1, Box 44-C, Arco, Idaho 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 Owner: Ida B. Hand, Dillon, Montana Mine production: 20 t/d Employees: 3 Status: Producing</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>

*Open pit or open cut.

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

BEAVERHEAD COUNTY, contd.

<p>MIDNIGHT DUMP* Operator: Rudy Nygren, Argenta, Montana Owner: Monidah Trust Co., Butte, Montana Employees: 1 Status: Producing</p>	<p>Silver, lead</p>	<p>Argenta district, sec. 24, T. 6 S., R. 10 W.</p>
<p>NEW DEPARTURE MINE Operator: Spokane National Mines, Inc., 414 Fernwell Bldg. , Spokane, Washington Owner: Same as operator Mill capacity: 100 t/d Employees: 10 Status: Developing</p>	<p>Gold, silver, copper, lead</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 Owner: Milton E. Hayes, Dillon, Montana Employees: 2 Status: Producing</p>	<p>Silver</p>	<p>Polaris (Lost Cloud) district, sec. 28, T. 5 S., R. 12 W.</p>
<p>SILVER QUEEN MINE Operator: Silver Queen Exploration Co., Denver, Colorado Owner: Jess Roberts, Frank Actis, and Frank White, Dillon, Montana Employees: 3 Status: Developing</p>	<p>Silver</p>	<p>Jake Canyon district, sec. 17, T. 10 S., R. 7 W.</p>
<p>STORM MINE Operator: John L. Bullock, Inc., c/o Al Ward, Box 502, Sheridan, Montana Owner: Joe Roe and June Forsyth, Centennial Valley Employees: 4 Status: Producing and developing</p>	<p>Silver</p>	<p>Elkhorn district, sec. 22, T. 4 S., R. 12 W.</p>

 *Open pit or open cut.

SYLVIA MINE DUMP*	Gold, silver, lead	Argenta district, sec. 24, T. 6 S., R. 10 W.
Operator: Rudy Nygren, Argenta, Montana		
Owner: George Elder and John Collins, Dillon, Montana		
Employees: 1		
Status: Inactive		

WHITE CAP MINE	Gold, silver, copper, lead, zinc	Dickey Bridge district
Operator: George H. Henderson, Box 1032, Anaconda, Montana		
Owner: G. H. Henderson and Wm. I. Ferguson, Box 1032, Anaconda, Montana		
Status: Developing		

YELLOW BAND (SHAFER GROUP) MINE	Gold, silver	Argenta district, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 6 S., R. 11 W.
Operator: John H. Shafer, 205 W. Center, Dillon, Montana		
Owner: John H. Shafer and Associates, 205 W. Center, Dillon, Montana		
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., c/o Homer Pike, 1639 - 5th Ave. N.W., Great Falls, Montana		
Owner: Same as operator		
Employees: 2		
Status: Developing		

BROADWATER COUNTY: Townsend, County Seat

DIAMOND HILL MINE	Gold,	Park (Indian Creek) district, sec. 36, T. 7 N., R. 1 W.
Operator: Palmer Engh, Box 231, Townsend, Montana		
Owner: Same as operator		
Mill capacity: 25 t/d		
Status: Unknown		

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 Ave., St. Paul, Minnesota		
Owner: Same as operator		
Status: Developing		

*Open pit or open cut.

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

BROADWATER COUNTY, contd.

<p>NORTH STAR & BLACKHAWK MINES Operator: Roy E. Nicolls, Toston, Montana Owner: Same as operator Employees: 2 Status: Produced and 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>PIONEER MINE Operator: William Lowery, Townsend, Montana Owner: Same as operator Status: Unknown</p>	<p>Silver</p>	<p>Park (Indian Creek) district, sec. 35, T. 7 N., R. 1 W.</p>
<p>SILVER KING & QUEEN MINE Operator: Rougle and Whitney, Radersburg, Montana Owner: T. E. Carpentier and Guy Christian, 1847 Princeton, St. Paul, Minnesota Status: Producing and developing</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 Owner: Same as operator Status: Producing and developing</p>	<p>Silver</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 Owner: Same as operator Status: Producing and developing</p>	<p>Silver, zinc</p>	<p>Cedar Plains district, sec. 16, 17, 20, T. 4 N., R. 1 W.</p>
<p>VALLEY VIEW MINE Operator: Warren Schreiner, Box 665, Townsend, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Park (Indian Creek) district, sec. 24, T. 7 N., R. 1 E.</p>

CASCADE COUNTY: Great Falls, County Seat

LEXINGTON MINE

Operator: Lexington Silver-Lead
Mining Co., 621 Columbia Bldg.,
Spokane, Washington

Owner: Same as operator

Mill capacity: 125 t/d

Employees: 5

Status: Unknown

Gold,
silver,
lead,
zinc

Montana district,
sec. 28, T. 14 N.,
R. 8 E.

DEER LODGE COUNTY: Anaconda, County Seat

ALTURAS MINE

Operator: Pete Fortunati,
Philipsburg, Montana

Owner: The Anaconda Co.,
Butte, Montana

Status: Inactive

Silver

Silver Lake district,
sec. 33, T. 5 N.,
R. 13 W.

CAMERON QUARTZ LODE MINE

Operator: Norman R. Zeren and
Frank Schnell, 522 S. Warren St.,
Butte, Montana

Owner: The Anaconda Co.

Employees: 2

Status: Producing

Gold,
silver,
silica

Nellie district,
sec. 21, T. 5 N.,
R. 12 W.

CHAMPION SILVER MINE

Operator: Champion Silver Mining Co.,
411 Metals Bank Bldg.,
Butte, Montana

Owner: The Anaconda Co.,
Butte, Montana

Employees: 8

Status: Producing and developing

Gold,
silver

Oro Fino district,
sec. 28, 33,
T. 6 N., R. 8 W.

LUCKY SUNDAY MINE

Operator: Vance Whitney,
911 - 4th St., Deer Lodge, Montana

Owner: Same as operator

Status: Produced

Silver,
copper,
lead

Oro Fino district,
sec. 34, T. 6 N.,
R. 10 W.

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

DEER LODGE COUNTY, contd.

<p>MINNIE HA HA, HORSESHOE, HELENA Operator: William J. Dean, 309 S. Arizona, Butte, Montana 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>
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<p>MOUNTAIN LION MINE Operator: Vernon Wallace, Elliston, Montana Status: Unknown</p>	<p>Oro Fino district</p>
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<p>** RUBY MINE SILVER CHAIN MINE Operator: G. H. Henderson, Box 1032, Anaconda, Montana Owner: Same as operator Status: Developing</p>	<p>Silver, copper</p>	<p>Olson Gulch district, sec. 9, 10, T. 5 N., R. 12 W.</p>
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<p>SILVER KING MINE Operator: Nick Laslovich, 310 Alder, Anaconda, Montana Status: Unknown</p>	<p>Silver</p>
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<p>SILVER REEF MINE Operator: W. C. Montgomery, 1818 W. Park, Anaconda, Montana 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>
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SUNSHINE MINE
 Operator: Val A. Galle and
 Earl Foster, Anaconda, Montana
 Status: Unknown

FERGUS COUNTY: Lewistown, County Seat

<p>BIG GRASSY GROUP Operator: Blue Range Mining Co., Box 534, Lewistown, Montana Owner: L. C. Hoffman, Box 534, Lewistown, Montana Employees: 2 Status: Developing</p>	<p>Gold, silver,</p>	<p>Warm Springs district, sec. 30, 31, T. 17 N., R. 20 E.</p>
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 **See page 56.

BLACK BULL MINE Operator: G. S. Abbott, Gilt Edge Rt., Lewistown, Montana Owner: Same as operator Status: Producing and developing	Gold, silver, copper, lead, zinc	Warm Springs district, sec. 7, T. 16 N., R. 20 E.
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SHEEP MOUNTAIN MINE Operator: Lawrence Lenling, Box 74, Lewistown, Montana Owner: Same as operator Employees: 1 Status: Developing	Gold, silver, copper, lead, graphite	Judith Mountains district, sec. 4, 5, T. 16 N., R. 20 E.
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SILVER DYKE MINE * Operator: Tom Downen, 1000 W. Main, Lewistown, Montana Owner: Same as operator Status: Unknown	Gold, silver	Warm Springs district, sec. 2, T. 16 N., R. 19 E.
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FLATHEAD COUNTY: Kalispell, County Seat

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

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

GRANITE COUNTY: Philipsburg, County Seat

<p>BI-METALLIC TAILINGS* Operator: Frank Antonioli, 724 S. Western, Butte, Montana Owner: Contact Mining Co., 724 S. Western, Butte, Montana 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 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 Owner: August Buschmann Estate, Seattle, Washington 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 Owner: Same as operator Status: Produced</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 Ave., c/o R. Little, Missoula, Montana Owner: Same as operator Employees: 2 Status: Producing and developing</p>	<p>Silver, copper, lead, zinc</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: Rita Taylor, Philipsburg, Montana Status: Produced</p>		<p>Flint Creek district, SW$\frac{1}{4}$ NE$\frac{1}{4}$ sec. 19, T. 7 N., R. 13 W.</p>
<p>COMANCHE EXTENSION MINE Operator: Joe Metesh, Philipsburg, Montana Status: Produced</p>		<p>Philipsburg district, sec. 19, T. 7 N., R. 13 W.</p>

*Open pit or open cut

<p>COPPER STATE MINE Operator: Oscar Hoveland, Maxville, Montana Status: Produced</p>	<p>Copper</p>	<p>Maxville district, sec. 5, T. 8 N., R. 13 W.</p>
<p>DOLLY QUARTZ and NEW SEATTLE MINES Operator: Phil Salois and John McDonald, Philipsburg, Montana Owner: Grace Maehl and F. Collins, Philipsburg, Montana Status: Producing</p>	<p>Gold, silver, copper, silica</p>	<p>Maxville district, sec. 4, T. 8 N., R. 13 W.</p>
<p>GOLD REEF MINE Operator: Keith Rush and Associates, 2905 Harrison Ave., Butte, Montana Owner: Larry McLane, 212 Washington, Anaconda, Montana Status: Developing</p>	<p>Gold, silver</p>	<p>South Boulder district, T. 7 N., R. 13 W.</p>
<p>GRANITE TAILINGS* Operator: Frank Antonioli, 724 S. Western, Butte, Montana Owner: Contact Mining Co., 724 S. Western, Butte, Montana Status: Producing</p>	<p>Gold, silver</p>	<p>Flint Creek district</p>
<p>GWYNN TAILINGS* Operator: Ernest Mazza, Harold Kaiser, and Nick Laslovich, Philipsburg, Montana Status: Produced</p>		
<p>HOMESTEAD MINE Operator: Joe Metesh, Philipsburg, Montana Status: Produced</p>		<p>Philipsburg district, sec. 19, T. 7 N., R. 13 W.</p>
<p>HOPE TAILINGS* Operator: Frank Antonioli, 724 S. Western, Butte, Montana Owner: Contact Mining Co., 724 S. Western, Butte, Montana Status: Produced</p>	<p>Silver</p>	<p>Hope Hill district, sec. 19, T. 7 N., R. 13 W.</p>
<p>LAST CHANCE TAILINGS* Operator: William R. McLure, Box 5, Philipsburg, Montana Status: Produced</p>	<p>Copper, silica</p>	<p>Maxville district, sec. 36, T. 8 N., R. 14 W.</p>

*Open pit or open cut.

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

GRANITE COUNTY, contd.

MAXVILLE TAILINGS* Operator: James W. Young, Box 342, Philipsburg, Montana Owner: Granite County, Philipsburg, Montana Status: Producing	Gold, silver	Philipsburg district, sec. 4, T. 8 N., R. 13 W.
MICKEY MINE Operator: Eugene Garrett, Box 324, Anaconda, Montana Owner: Same as operator Employees: 1 Mill capacity: 15 t/d Status: Developing	Gold, silver	Red Lion district, sec. 22, 27, T. 6 N., R. 13 W.
MOUNTAIN BOY MINE Operator: Joe Metesh, Philipsburg, Montana Status: Unknown		Flint Creek district, sec. 19, T. 7 N., R. 13 W.
MOUNTAIN VIEW MINE Operator: Tim E. Colver, Drummond, Montana Owner: John Khor Status: Inactive	Gold	Garnet district, T. 12 N., R. 13 W.
MYERS QUARTZ CLAIM Operator: Charles Byam, Philipsburg, Montana Owner: Same as operator Employees: 2 Status: Developing	Gold, silver, copper, lead, zinc	Moose Lake district, sec. 25, T. 4 N., R. 16 W.
NANCY HANKS CLAIMS Operator: American Mining Co., 700 Securities Bldg., Seattle, Washington Owner: Same as operator Status: Developing	Gold	Garnet district, sec. 3, 4, T. 12 N., R. 14 W.

*Open pit or open cut.

<p>PARNELL GROUP Operator: P. J. Heaney, Sr., Box 130, Philipsburg, Montana Owner: P. J. and Ethel Heaney, Philipsburg, Montana Status: Developing</p>	<p>Silver, copper, lead</p>	<p>Flint Creek district, sec. 7, 8, T. 7 N., R. 13 W.</p>
<p>QUEEN MINE Operator: R. J. MacCalman, 1010 - 5th St., Deer Lodge, Montana Owner: Mrs. K. W. MacPherson, St. Helena, California Employees: 2 Status: Producing and 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 Status: Produced</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 Owner: Mr. L. R. Nesbit, Philipsburg, Montana Status: Produced</p>	<p>Gold, silver, silica</p>	<p>Flint Creek district, sec. 15, 16, T. 6 N., R. 13 W.</p>
<p>SALLY ELLEN MINE Operator: Ben Walkup, Philipsburg, Montana Owner: Walkup and Puyear, Philipsburg, Montana Employees: 2 Status: Developing</p>	<p>Silver</p>	<p>Maxville district, sec. 16, T. 8 N., R. 12 W.</p>
<p>SANDY CLAIM Operator: Susan M. Sanderson, Philipsburg, Montana Status: Produced</p>		
<p>SECOND CHANCE ORE Operator: Ben Walkup, Philipsburg, Montana Owner: Albert and Ben Walkup, Philipsburg, Montana Employees: 2 (part time) Status: Developing</p>	<p>Silver</p>	<p>Maxville district, sec. 16, T. 8 N., R. 13 W.</p>

 * Open pit or open cut.

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

GRANITE COUNTY, contd.

TRUE FISSURE GROUP

Operator: Taylor-Knapp Co.,
Box 250, Philipsburg, Montana
Gunnar S. Johnson, Manager
Owner: Same as operator
Employees: 40
Mill capacity: 120 t/d
Status: Producing and developing

Silver,
copper,
zinc,
manganese

Philipsburg district,
sec. 29, T. 7 N.,
R. 13 W.

YOUNG AMERICA MINE

Operator: James R. Hunter,
Box 421, Philipsburg, Montana
Status: Produced

Granite district,
sec. 32, T. 7 N.,
R. 13 W.

JEFFERSON COUNTY: Boulder, County Seat

AJAX MINE

Operator: Delmas Brown,
1830 Banks, Butte, Montana
Owner: Same as operator
Employees: 4
Mill capacity: 50 t/d
Status: Developing

Gold,
silver,
copper,
lead,
silica,
rare earths,
platinum

Homestake district,
sec. 6, T. 2 N.,
R. 7 W.

ALTA MINE*

Operator: Lahey Leasing Co.,
506 W. Aluminum, Butte, Montana
Owner: Alta Mines Corp.,
c/o Fred Small, Helena, Montana
Status: Produced

Gold,
silver,
copper,
lead,
zinc,
silica

Colorado (Corbin-
Wickes) district,
sec. 10, T. 7 N.,
R. 4 W.

B and G MINE

Operator: Carl Benson,
716 N. Davis St., Helena, Montana
Owner: Same as operator
Status: Producing and developing

Gold,
silver,
lead

Alhambra-Warm
Springs district,
sec. 31, T. 8 N.,
R. 2 W.

BLUEBIRD NO. 1 and 2 MINE

Operator: Maurice R. Haigh,
Box 293, Three Forks, Montana
Owner: M. R. Haigh and D. R. Reese,
Box 293, Three Forks, Montana,
and Akron, Ohio
Status: Produced and developing

Gold,
silver,
copper,
lead,
zinc

Whitehall district

*Open pit or open cut.

<p>BULLION MINE* Operator: D. M. Bullock and John Bullock, Basin, Montana Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Cataract district, sec. 13, T. 7 N., R. 6 W.</p>
<p>COMET, RUMLEY, and BULLION Operator: Shipman Mining and Exploration Co., c/o M. Shipman, Box 401, Boulder, Montana Owner: R. H. Mills, et al, Symons Bldg., Spokane, Washington Employees: 6 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>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.</p>
<p>CRYSTAL MINE Operator: Delbert Bullock and Allan J. Bullock, Basin, Montana Owner: Same as operator Status: Producing</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: Leo Bitnick, Wickes, Montana Owner: Ivor and Glen Jenkins, Russell Tintinger, and Roy Nicolls, Jefferson City, Montana Status: Unknown</p>	<p>Gold, silver, lead</p>	<p>Wickes district, sec. 1, 2, T. 7 N., R. 5 W.</p>
<p>EVA MAY TAILINGS* Operator: Thomas J. Conner, 730 - 8th Ave., Helena, Montana Status: Unknown</p>	<p>Silver, copper, zinc</p>	<p>Basin-Cataract district, sec. 21, 22, T. 7 N., R. 5 W.</p>
<p>HOPE and BULLION MINES Operator: Romerio Mining Co., Box 281, Boulder, Montana Owner: Mrs. A. K. Romerio, Torrance, California Status: Producing and developing</p>	<p>Base metals</p>	<p>Boulder (Comet) district, sec. 6, 31, T. 7 N., R. 6 W.</p>
<p>HUMBOLT MINE and BOYCE CLAIMS Operator: Mr. and Mrs. S. Boyce, R.F.D. Rt. 1, Butte, Montana Owner: Same as operator Status: Developing</p>	<p>Silver, copper</p>	<p>Homestake district, sec. 9, T. 3 N., R. 6 W.</p>

*Open pit or open cut.

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

JEFFERSON COUNTY, contd.

JIB MINE *	Gold	Basin district, sec. 15, 17, T. 6 N., R. 5 W.
Operator: Norman Rogers Co., Box 1719, Helena, Montana		
Owner: Same as operator		
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		
Owner: Charles and Lilah Schreiner, et al, 3011 Richardson, Butte, Montana		
Employees: 2		
Status: Developing		

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 St., Helena, Montana		
Owner: Paul Keller, Power Block, Helena, Montana		
Employees: 2 or 3		
Status: Developing		

MEADOW MINE	Silver	Clancy district, sec. 34, T. 9 N., R. 3 W.
Operator: Mascot Mines, Inc., Kellogg, Idaho		
Owner: Albert Haab, Clancy, Montana		
Employees: 3		
Status: Developing		

MORNING GLORY MINE	Gold, silver, lead, zinc	Cataract district, sec. 33, T. 7 N., R. 5 W.
Operator: Milton Gilmer, Boulder, Montana		
Owner: Milton Gilmer, Boulder, Montana, and Maude H. Dorweiler, W. Nebraska St., Algona, Iowa		
Employees: 2 (part time)		
Status: Produced		

*Open pit or open cut.

<p>MOSCOW MINE Operator: Jerry Banks, Route 1, Whitehall, Montana Owner: Same as operator Status: Produced</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 Operator: William Olson, Basin, Montana Owner: J. A. Poore, et al, Silver Bow Bldg., Butte, Montana Status: Produced</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 St., Butte, Montana Owner: C. E. Pew, Helena, Montana Status: Inactive</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 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>POTEE MINE Operator: Associated Mining & Metals, Inc., R. D. Potee, Vice Pres., Box 95, Clancy, Montana Owner: Same as operator Employees: 3 Mill capacity: 25 t/d Status: Developing</p>	<p>Gold, silver, molybdenum</p>	<p>Warm Springs district, sec. 18, T. 8 N., R. 2 W.</p>
<p>RUBY SILVER MINE Operator: Ruby Silver Mines, Inc., Box 3395, Butte, Montana Owner: Ruby Silver Mines, Inc., 863 First Security Bldg., Salt Lake City, Utah Employees: 8 Status: Producing and developing</p>	<p>Gold, silver, base metals</p>	<p>Lowland district, sec. 2, 11, T. 5 N., R. 7 W.</p>

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

JEFFERSON COUNTY, contd.

<p>SILVER HILL MINE Operator: Harold Guilio, Boulder, Montana 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 Owner: James Leary, 2830 Yale, Butte, Montana Employees: 2 Status: Developing</p>	<p>Gold, silver</p>	<p>Whitehall district, sec. 6, T. 2 N., R. 5 W.</p>
<p>SUNNYSIDE MINE Operator: Lester Lindquist, Box 373, Whitehall, Montana Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Cardwell district, SE$\frac{1}{4}$ sec. 13, T. 2 N., R. 4 W.</p>

JUDITH BASIN COUNTY: Stanford, County Seat

<p>GOLD BUG (WEATHERWAX) MINE Operator: W. Lehman, Box 780, Lewistown, Montana Owner: Same as operator Status: Unknown</p>	<p>Gold, silver, copper</p>	<p>Yogo district, sec. 29, T. 14 N., R. 10 E.</p>
<p>LIBERTY MINE Operator: G. V. R. McBride, Monarch, Montana Owner: Faith Mining Co., Box 1681, Helena, Montana Employees: 2 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Barker district, sec. 6, 7, 18, T. 15 N., R. 9 E.</p>
<p>MT. TOP NO. 1 THROUGH 12 Operator: Grant Canoy, 716 - 9th Ave. S.W., Great Falls, Montana Owner: Grant and Roland Canoy, and Dave Oja, Great Falls, Montana Status: Produced</p>	<p>Gold, silver, copper</p>	<p>Yogo district, sec. 2, T. 14 N., R. 9 E.</p>

JUDITH BASIN COUNTY, contd.

TIGER MINE	Gold, silver, lead	Barker district, sec. 5, 6, T. 15 N., R. 9 E.
Operator: Croff and Montague, Box 69, Monarch, Montana		
Owner: Clendennin Mines, Inc., c/o J. T. Nightengale, Boston, Massachusetts		
Employees: 2		
Status: Developing		

LEWIS AND CLARK COUNTY: Helena, County Seat

AMERICAN BOY MINE	Gold, silver, copper, lead, zinc	
Operator: Glenn Allman, White Sulphur Springs, Montana		
Owner: Same as operator		
Status: Developing		
CONSOLATION MINES	Silver	Heddleston district, sec. 21, T. 15 N., R. 6 W.
Operator: J. A. Thompson, Lincoln, Montana		
Owner: Same as operator		
Employees: 5		
Status: Unknown		
COPPER HILL MINE	Gold, silver, copper, silica	Canyon Creek district, sec. 13, 18, 19, 24, T. 11 N., R. 4 W.
Owner: G. H. Henderson, Al McVay, and Wm. Steyle, Box 1032, Anaconda, Montana		
Status: Developing		
EMMA MILLER MINE	Gold, quartz	Marysville district
Operator: Carlos Hieber, 1706 Jerome Place, Helena, Montana		
Owner: St. Louis Drumlummon Mines, Inc., St. Louis, Missouri		
Status: Inactive		
EMPIRE MINES	Gold, silver, lead	Marysville district, sec. 33, 34, T. 12 N., R. 6 W.
Operator: Jack Vandenberg, and Herbert Carver, 5 Hilmen Rd., Helena, Montana		
Owner: Same as operator and others		
Employees: 4		
Mill capacity: 300 t/d		
Status: Developing		

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

LEWIS AND CLARK COUNTY, contd.

<p>FRANKLIN MINE Operator: Helena Minerals Co., Inc., c/o C. Leirness, 1900 - 11 Ave., Helena, Montana Owner: Thomas Cruse Mining and Development Co., c/o Fergus Fay, 446 W. Lawrence, Helena, Montana Employees: 12 Mill capacity: 150 t/d Status: Producing and developing</p>	<p>Gold, silver, copper, lead</p>	<p>Tenmile (Scratch Gravel) district, sec. 11, T. 10 N., R. 4 W.</p>
<p>FREE SPEECH MINE Operator: T. L. Thompson, Box 1435, Anaconda, Montana Owner: Red Mountain Consolidated Mining Co., St. Paul, Minnesota Employees: 3 Status: Producing and developing</p>	<p>Gold, silver, lead</p>	<p>Rimini district, sec. 4, T. 8 N., R. 5 W.</p>
<p>HUMDINGER MINE* Operator: Ray W. Crumb, Avon, Montana Owner: Same as operator Mill capacity: 4 t/d Status: Unknown</p>	<p>Gold, silver, copper</p>	<p>Madison Gulch district, sec. 35, T. 13 N., R. 9 W.</p>
<p>JULIA MINE Owner: John Longmaid, 564 - 3d St., Helena, Montana Status: Inactive</p>	<p>Gold</p>	<p>Scratch Gravel district, sec. 14, T. 10 N., R. 4 W.</p>
<p>MIKE HORSE MINE Operator: The Anaconda Co., Butte, Montana Owner: Norman Rogers Mining Co., Box 1719, Helena, Montana Status: Developing</p>	<p>Silver, copper, lead, zinc</p>	<p>Heddleston district, sec. 28, T. 15 N., R. 6 W.</p>
<p>MONTE CRISTO MINE Operator: Hans Moe, Box 284, Helena, Montana Owner: Same as operator Status: Unknown</p>	<p>Gold, silver, copper, lead</p>	<p>Rimini (Vaughn) district, sec. 17, T. 8 N., R. 5 W.</p>

*Open pit or open cut.

<p>ORO FINO MINE Operator: W. R. Wade, Marysville, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver</p>	<p>Marysville district, sec. 2, T. 12 N., R. 6 W.</p>
<p>SAMBO MINE Operator: R. Hanley and P. D. Christianson, 810 Front St., Helena, Montana 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 C. Leirness, 1900 - 11 Ave., Helena, Montana Owner: C. E. Pew, et al, c/o Monida Vaughn, 937 - 11 Ave., Helena, Montana Employees: 12 Mill capacity: 150 t/d Status: Producing and developing</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, 3780 N. Montana Ave., Helena, Montana Owner: Same as operator 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

<p>SWEETGRASS MINE Operator: L. R. Hannah and Cedor Aronow, Box 792, Shelby, Montana Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Gold, silver, copper, lead</p>	<p>East Butte district, sec. 25, T. 36 N., R. 4 E.</p>
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GOLD, SILVER, COPPER, LEAD, ZINC MINES, contd.

LINCOLN COUNTY: Libby, County Seat

MONTANA MORNING MINE

<p>Operator: Missouri-Montana Mining Co., Box Y, Troy, Montana Owner: Missouri-Montana Mining Co., 10424 Manchester Road, St. Louis, Missouri, Stephen T. Burns, Pres. Status: Developing</p>	<p>Galena</p>	<p>Troy district, sec. 27, 28, T. 31 N., R. 34 W.</p>
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MADISON COUNTY: Virginia City, County Seat

BIG BERTHA MINE

<p>Operator: Fred R. Starner, Box 223, Sheridan, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver</p>	<p>Tidal Wave district, sec. 34, T. 4 S., R. 5 W.</p>
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BLACK ACE MINE

<p>Operator: Louis R. Lepp, Whitehall, Montana Owner: Lewis C. Rollins, Box 4, Waterloo, Montana 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>
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B. L. M. W. MINING CORP.

<p>Operator: Walter H. Myers, Virginia City, Montana Owner: W. H. Myers, Virginia City, and Everett Barnett, James Webster, and J. M. Leptich, Seattle, Washington Employees: 3 Status: Developing</p>	<p>Gold, silver</p>	<p>Fairweather district, sec. 26, 34, T. 6 S., R. 3 W.</p>
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CORNUCOPIA and CABIN LODE MINES

<p>Operator: Milton Pulver, Virginia City, Montana Owner: Frank E. Blair, Virginia City, Employees: 2 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Fairweather district</p>
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DICTATOR and BELLE UNION MINE Operator: Woodfold Corp. , 2041 S. W. 58 Ave. , Portland, Oregon Owner: Union Bank and Trust Co. , as exec. estate Wm. A. Clark, Helena, Montana Employees: 2 Status: Inactive	Copper	Ramshorn district, sec. 1, 12, T. 5 S. , R. 4 W.
GOLCONDA MINE Operator: Silver Peak Mining Co. , c/o Arnold Jorns, Vice Pres. , 38525 Blackhawk Dr. , Oconomowoc, Wisconsin Owner: Same as operator Employees: 2 Status: Developing	Gold	McAllister district
HAZEL MINE Owner: George Haine, Pony, Montana Status: Inactive	Silver	Potosi district
HILL CREST MINE Operator: Fred Starner, Twin Bridges, Montana Owner: Same as operator Employees: 1 Status: Producing	Gold, silver, lead	Sheridan district, T. 5 S. , R. 4 W.
LOST LODE MINE Operator: Lost Lode Mines, Inc. , Ben Williams, Virginia City, Montana Owner: John Macale, 9013 - 37 S. W. , Seattle, Washington Status: Produced	Gold, silver	
MISSOURI-McKEE and SNOWSLIDE MINES Operator: H. Denny and Elling Estate, Box 374, Sheridan, Montana Owner: Same as operator Status: Developing	Gold, silver	Washington district, N $\frac{1}{2}$ sec. 30, T. 4 S. , R. 2 W.
MORNING STAR MINE Operator: R. B. Farnsworth, 109 Willson, Bozeman, Montana Owner: Same as operator Status: Developing	Silver	Lower Hot Springs district, sec. 28, 29, T. 3 S. , R. 1 E.

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

MADISON COUNTY, contd.

<p>MOUNTAIN FLOWER MINE Operator: R. H. Rogers, Box 11, Alder, Montana Owner: Same as operator Status: Produced</p>	<p>Gold, silver</p>	<p>Williams Gulch district, sec. 5, 33, T. 6 S., R. 3 W.</p>
<p>MUELLOR MINE Operator: McLaughlin, Smith, and Nyhart, Twin Bridges, Montana Status: Unknown</p>	<p>Gold</p>	<p>McCarthy Mountain district</p>
<p>OXIDENTAL MINE Operator: Shermont Mining Co., c/o John Magnus, Twin Bridges, Montana Owner: Elling Estate, 1612 Alameda Ave., Alameda, California Employees: 2 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Sheridan district, sec. 35, 36, T. 3 S., R. 4 W.</p>
<p>PACIFIC MINE Operator: Ed Scheitlin, Virginia City, Montana Owner: Easton Pacific Co. and Riverside Mining Corp., Virginia City, Montana Employees: 3 Status: Producing</p>	<p>Gold,</p>	<p>Virginia City district, sec. 4, T. 7 S., R. 3 W.</p>
<p>RED PINE MINE Operator: Shermont Mining Co., c/o John Magnus, Twin Bridges, Montana Owner: Ruby Valley Development Co., Inc., 14503 Washington Ave. S.W., Tacoma, Washington Employees: 8 Mill capacity: 100 t/d Status: Producing and developing</p>	<p>Gold, silver</p>	<p>Sheridan district, sec. 5, T. 4 S., R. 4 W.</p>

<p>ST. LAWRENCE MINE Operator: St. Lawrence Consolidated Mines, Inc., Box 114, Virginia City, Montana Owner: E. W. Smith, Virginia City, Montana Employees: 2 Status: Producing and developing</p>	<p>Gold, silver, copper</p>	<p>Browns Gulch district, sec. 23, T. 6 S., R. 3 W.</p>
<p>SCALDED CAT MINE Operator: Emmett Clary, Pony, Montana 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 Owner: Same as operator Employees: 1 Mill capacity: 20 t/d 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 BULLION MINE Operator: Horse Creek Development Co., 1327 W. Granite, Butte, Montana Owner: Mrs. Reba Storer, 1611 - 6th St., Walkerville, Montana Status: Inactive</p>	<p>Silver</p>	<p>Mill Creek district, sec. 27, 28, T. 4 S., R. 4 W.</p>
<p>SILVER CREEK MINE Operator: Frank Ludwick, Box 178, Alder, Montana Status: Produced</p>		
<p>SILVER HILL MINE Operator: Julio Delgrosso, Box 123, Virginia City, Montana Owner: Same as operator Status: Unknown</p>	<p>Gold, silver, copper</p>	<p>Browns Gulch (Fairweather) district, sec. 33, T. 6 S., R. 3 W.</p>
<p>SKYLINE MINE Operator: Ed Kuebler, Box 273, Boulder, Montana Owner: Ed Kuebler and Harold Guilio, Boulder, Montana Status: Developing</p>	<p>Gold, silver</p>	<p>Mineral Hill-Pony district</p>

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

MADISON COUNTY, contd.

TIDAL WAVE MINE	Gold,	Tidal Wave district
Operator: McLaughlin and Smith, Twin Bridges, Montana	silver,	
Owner: J. G. McLaughlin and Sam Talbot, Twin Bridges, Montana	copper,	
Status: Developing	lead,	
	zinc	

MEAGHER COUNTY: White Sulphur Springs, County Seat

COPPER STATE GROUP	Zinc	Studhorse Creek district
Operator: Cliff Mines, Inc., c/o E. C. Ecklesdafer, 532 North Ave. W., Missoula, Montana		
Owner: O & H Mining, Butte, Montana		
Status: Unknown		

CUMBERLAND MINE	Silver,	Castle Mountain district, sec. 14, T. 8 N., R. 8 E.
Operator: Harpoon, Inc., Bokum Bldg., Box 1537, Santa Fe, New Mexico	lead,	
Owner: Harpoon, Inc. - Hoco, Inc., Box 469, White Sulphur Springs, Montana	zinc	
Employees: 16		
Status: Developing		

LUCKY DOLLAR MINE	Silver,	Castle Mountain district (unorganized), sec. 12, T. 8 N., R. 8 E.
Operator: C. K. Berg, Martinsdale, Montana	lead	
Owner: C. K. Berg and G. A. Voldseth, Martinsdale, Montana		
Status: Unknown		

YELLOWSTONE MINE	Lead,	Castle Mountain district
Operator: George Voldseth, Hamilton Mines, Inc., Martinsdale, Montana	zinc	
Status: Developing		

MINERAL COUNTY: Superior, County Seat

AMAZON-DIXIE MINE Owner: Rockcreek Silver-Lead Co., 2008 W. Riverside, Spokane, Washington J. H. Christman, Manager 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 Owner: Same as operator Status: Developing	Gold, silver, lead, barite	Cedar Creek district, sec. 17, T. 15 N., R. 26 W.
EAST COEUR D'ALENE SILVER MINE Operator: East Coeur d'Alene Silver Mines, Inc., Scott Bldg., Wallace, Idaho Owner: Same as operator Status: Developing	Silver, copper, lead, zinc	Keystone district, T. 17, 18 N., R. 26, 28 W.
GREEN MOUNTAIN MINE Operator: Dick Tunstill, Philipsburg, Montana Status: Unknown		Rock Island district, T. 20 N., R. 28 W.
KEYSTONE (PROSPERTY) MINE Operator: Fred W. Wilson and M. E. Engdahl, 1716 S. 9th West Missoula, Montana Owner: Prosperity Mines, Inc., 1716 S. 9th West, Missoula, Montana Status: Unknown	Silver, copper, lead	Keystone district, T. 18 N., R. 26 W.
MINERAL KING MINE Operator: Mineral King Mining Co., c/o Max Swanson, Secy., Dixon Block, Missoula, Montana Status: Developing	Gold, silver, copper, lead, zinc	
NANCY LEE MINE Operator: E. G. Smith, Box 505, Osburn, Idaho Owner: Nancy Lee Mines, Inc., 410 Main St., Kellogg, Idaho Employees: 18 Mill capacity: 100 t/d Status: Producing	Silver, lead, zinc	Keystone district, sec. 31, 32, T. 18 N., R. 26 W.

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

MINERAL COUNTY, contd.

REDEMPTION 1 and 2, and SILVER STREAK 1, 2, and 3

Operator: Roscoe Henderson, Box 441, Superior, Montana	Gold, silver, copper, lead	Cedar Creek district, sec. 7, T. 15 N., R. 27 W.
Owner: Same as operator		
Status: Developing		

SILVER KEYSTER MINE

Operator: Fausett & McCorkle, c/o Wallace Diamond Drill Co., Inc.	Silver, lead	Keystone district
Owner: Silver Keyster Mines, Inc., c/o Rodney Helterline, Vice Pres., West of Missoula, Missoula, Montana		
Status: Unknown		

SPITFIRE MINE

Operator: D. A. Graham, St. Regis, Montana, and Jack Howes, Paradise, Montana	Copper	Sevenmile Creek district, sec. 35, T. 19 N., R. 27 W.
Owner: D. A. Graham, St. Regis		
Employees: 2		
Status: Producing and developing		

TARBOX and MEADOW MOUNTAIN

Operator: McIssac Company, Saltese, Montana	Gold, silver, copper, lead, zinc	Saltese-St. Regis district, sec. 36, T. 20 N., R. 31 W.
Owner: Mineral King Mining Co., Dixon Block, Missoula, Montana c/o Max Swanson, Secy.		
Status: Inactive		

MISSOULA COUNTY: Missoula, County Seat

CHARCOAL MINE

Operator: Potomac-Ashby Mining Co., 532 N. Ave. West, c/o E. Ecklesdafer, Missoula, Montana	Silver, copper, lead	Ashby Creek district, NE $\frac{1}{4}$ sec. 10, T. 12 N., R. 16 W.
Owner: Esther Williams Keller, Missoula, Montana		
Employees: 4		
Status: Developing		

HIDDEN TREASURE and CAPE NOME MINE

Operator: Hera Inc., 712 Jones Bldg., Seattle, Washington	Gold, silver, copper, lead	Wallace Creek district, sec. 19, 24, T. 12 N., R. 16, 17 W.
Employees: 2		
Mill capacity: 50-75 t/d		
Status: Developing		

SUSAN MINE

Operator: Cecil Trickey, Seeley Lake, Montana	Silver, copper	Sec. 4, T. 16 N., R. 14 W.
Owner: Same as operator		
Status: Inactive		

WALDBILLIG PROPERTY

Owner: Joe Waldbillig, et al., Route 3, Miller Creek, Missoula, Montana	Copper, Molybdenum	Miller Creek district, sec. 2, T. 11 N., R. 19 W.
Status: Developing		

WARD LODGE MINE

Operator: Ward Development Corp., 321 N. Higgins Ave., Missoula, Montana	Gold, silver, copper, lead, zinc	Sec. 22, T. 11 N., R. 22 W.
Owner: Same as operator		
Status: Developing		

PARK COUNTY: Livingston, County Seat

CROWN BUTTE and MELISSA MINE

Operator: Scott Riley, Box 356, Cooke City, Montana	Gold, silver, copper, lead	New World district, unsurveyed, T. 9 S., R. 14 E.
Owner: Same as operator		
Status: Developing		

GLENGARRY CLAIMS (WHITE)

Operator: Earl Nott, Columbus, Montana	Gold, silver	New World district, sec. 12, T. 9 S., R. 14 E.
Owner: Como Mining Co., Inc., Columbus, Montana		
Mill capacity: 40 t/d		
Status: Developing		

PHILLIPS COUNTY: Malta, County Seat

LITTLE BEN MINE

Owner: Little Rockies Mining and Development Co., V. R. Gray, Mgr., Lewistown, Montana	Gold, silver	Little Rockies district, sec. 15, T. 25 N., R. 24 E.
Status: Unknown		

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

PHILLIPS COUNTY, contd.

<p>RUBY GULCH MINE* Operator: Gold Reserve Corp., Professional Bldg., Bozeman, Montana Owner: Same as operator Status: Unknown</p>	<p>Gold, silver</p>	<p>Little Rockies district, sec. 7, T. 25 N., R. 25 E.</p>
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POWELL COUNTY: Deer Lodge, County Seat

** CHAMPION TAILINGS

<p>CHARTER OAK MINE Operator: Charter Oak Mining Co., c/o J. T. Bonner, Box 566, Elliston, Montana Owner: Same as operator Mill capacity: 50 t/d Status: 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>
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<p>HARD LUCK MINE Operator: L. F. Ward, Elliston, Montana Owner: Hard Luck Mines, Elliston, Montana Status: Produced and developing</p>	<p>Silver, lead, zinc</p>	<p>Elliston district, sec. 14, 16, 17, 20, 21, T. 8 N., R. 6 W.</p>
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<p>HIDDEN HAND MINE Owner: Mrs. Fern Johnson, Route 1, Deer Lodge, Montana Status: Developing</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>
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<p>MONARCH MINE Operator: Monarch Minerals, Inc., Box 33, Helena, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Ontario district, sec. 30, 31, T. 8 N., R. 6 W.</p>
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<p>NANCY HELEN MINE Operator: Clarke J. Smith, Avon, Montana Owner: Same as operator Status: Produced and developing</p>	<p>Copper</p>	<p>Ophir district, unorganized</p>
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 * Open pit or open cut.
 ** See page 56.

<p>NEGROS MINE Operator: J. F. Hopkins, 401 N. Montana, Helena, Montana 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>PARDNER MINE Operator: Everett Adams, Helmville, Montana Status: Unknown</p>		
<p>PRICE GROUP MINE Operator: W. C. Boellard, 3705 Mesa Vista Way, Bonita, California 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>
<p>SILVER REEF MINE Operator: Silver Reef Mines, Inc., Box 211, Deer Lodge, Montana Owner: Ed C. Hughes, Spokane, Washington Employees: 5 Status: Producing</p>	<p>Silver, silica</p>	<p>Warm Spring Creek district, sec. 26, T. 11 N., R. 10 W.</p>
<p>SUNRISE MINE Operator: Enard A. Lindquist, Box 334, Elliston, Montana 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>THIRD TERM and FOURTH TERM MINE Owner: Howard L. Wells, Elliston, Montana Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Unorganized, sec. 28, T. 9 N., R. 6 W.</p>
<p>WATESECA TAILINGS* Operator: Lawrence W. Teale, Box 381, Elliston, Montana Status: Produced</p>		

*Open pit or open cut.

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

POWELL COUNTY, contd.

<p>WOLVERINE MINE Operator: Wolverine Corp. , 2711 Miles Ave. , Billings, Montana Owner: Same as operator, c/o P. L. Driscoll Employees: 2 Status: Developing</p>	<p>Silver, lead</p>	<p>Elliston district, sec. 18, 19, 20, T. 8 N. , R. 6 W.</p>
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RAVALLI COUNTY: Hamilton, County Seat

<p>COPPER CANYON MINE Owner: Copper Canyon Mining Co. , Box 77, Darby, Montana Status: Inactive</p>	<p>Gold, silver, copper</p>	<p>Mineral Point district, sec. 20, T. 3 S. , R. 22 W.</p>
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SANDERS COUNTY: Thompson Falls, County Seat

<p>BLUECREEK MINE Operator: Ke-Jo Mining Co. , Inc. , E. 27 Augusta, Spokane, Washington Owner: G. D. Kile, Grandview, Washington Status: Producing and developing</p>	<p>Silver, lead, zinc</p>	<p>Blue Creek district, sec. 3, 10, T. 27 N. , R. 34 W.</p>
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<p>HEIDELBERG MINE Operator: Heidelberg Mining Company of Montana, c/o G. A. Myers, 1001 Court St. , Pasco, Washington Owner: Same as operator Employees: 5 Mill capacity: 15 t/d Status: Developing</p>	<p>Gold, silver</p>	<p>Noxon district, SE$\frac{1}{4}$ sec. 29, NW$\frac{1}{4}$ sec. 32, T. 27 N. , R. 31 W.</p>
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<p>HOLLIDAY MINE Operator: Silver Mark Mines, Inc. , Box 197, Noxon, Montana Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Silver, copper, lead, zinc</p>	<p>Pilgrim Creek district, sec. 26, 31, T. 26 N. , R. 34 W.</p>
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<p>JACK WAITE MINE Operator: A. Tofte and Les Sanderson, Wallace, Idaho Owner: Jack Waite Mining Co. , 680 - 5th, 22d Floor, New York City Status: Unknown</p>	<p>Eagle district, W$\frac{1}{2}$ sec. 17, T. 22 N. , R. 32 W.</p>
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ROCKY CLIFF NO. 2 MINE
Owner: Austin Monk,
Marion, Montana
Status: Inactive

Silver,
copper

Thompson River
district

SILVER BOW COUNTY: Butte, County Seat

ANSELMO MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
lead,
zinc

Summit Valley (Butte)
district, NW $\frac{1}{4}$ NW $\frac{1}{4}$
sec. 13, T. 3 N.,
R. 8 W.

BADGER MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
lead,
zinc

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

BERKELEY PIT*
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
copper

Summit Valley (Butte)
district, NE $\frac{1}{4}$ NW $\frac{1}{4}$
sec. 18, T. 3 N.,
R. 7 W.

KELLY MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
copper

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

LEONARD MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
copper

Summit Valley (Butte)
district, cen. SW $\frac{1}{2}$
sec. 8, T. 3 N.,
R. 7 W.

MOUNTAIN CON MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
copper

Summit Valley (Butte)
district, NE $\frac{1}{4}$ SW $\frac{1}{4}$
sec. 12, T. 3 N.,
R. 8 W.

STEWARD MINE
Owner-Operator: The Anaconda Co.,
Butte, Montana
Status: Producing

Gold,
silver,
copper

Summit Valley (Butte)
district, NW $\frac{1}{4}$ NE $\frac{1}{4}$
sec. 13, T. 3 N.,
R. 8 W.

TUXEDO MINE*
Owner-Operator: Ed Hughes,
W. 307 - 17th, Spokane, Washington
Status: Developing

Gold,
silver,
silica

Summit Valley (Butte)
district, sec. 28,
T. 4 N., R. 9 E.

*Open pit or open cut.

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

SILVER BOW COUNTY, contd.

VAN BUTTE EXPLORATION CO. Summit Valley
Operator: Frank Benich, Pres., (Butte) district
Box 435, Butte, Montana
Status: Developing

WEED CONCENTRATOR Sec. 28, T. 4 N.,
Owner-Operator: The Anaconda Co., R. 9 E.
Butte, Montana
Mill capacity: 40,000 t/d
Status: Producing

TOOLE COUNTY: Shelby, County Seat

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

IRON MINES

BROADWATER COUNTY: Townsend, County Seat

IRON CROSS MINE* Iron ore Cedar Plains district,
Operator: R & S Iron Co., Inc., sec. 12, T. 5 N.,
Radersburg, Montana R. 1 W.
Status: Producing

MADISON COUNTY: Virginia City, County Seat

RAMSHORN MINE* Iron ore Sheridan district,
Operator: F & S Mining Co., sec. 1, T. 5 S.,
1300 Chicago, Butte, Montana R. 4 W.
Owner: Same as operator
Status: Developing

*Open pit or open cut.

MANGANESE MINES

GRANITE COUNTY: Philipsburg, County Seat

TROUT ALGONQUIN MINE

Operator: Taylor-Knapp Co.,
 G. S. Johnson, Supt.,
 Philipsburg, Montana
 Owner: Same as operator
 Mill capacity: 150 t/d
 Status: Developing

Manganese, Flint Creek district,
 silver, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30,
 copper, T. 7 N., R. 13 W.
 zinc

TRUE FISSURE, DURANGO, and MOORLIGHT MINE

Operator: Taylor-Knapp Co.,
 G. S. Johnson, Supt.,
 Philipsburg, Montana
 Owner: Same as operator
 Employees: 40
 Mill capacity: 120 t/d
 Status: Producing

Manganese, Flint Creek district,
 silver, W $\frac{1}{2}$ NW $\frac{1}{4}$ sec. 29,
 copper, T. 7 N., R. 13 W.
 zinc

THORIUM MINES

BEAVERHEAD COUNTY: Dillon, County Seat

LAST CHANCE MINE

Operator: Sawyer Petroleum Co.,
 Suite 314, 650 S. Grand Ave.,
 Los Angeles, California
 Owner: Same as operator
 Employees: 3
 Mill capacity: 20 t/d
 Status: Producing and developing

Thorium Lemhi Pass district,
 sec. 20, 28, 29,
 T. 10 S., R. 15 W.

STATE LAND LEASE*

Operator: Harvey Bell,
 Harry Katseanes,
 Tendoy, Idaho
 Owner: State of Montana
 Status: Developing

Thorium, Lemhi Pass district,
 uranium part sec. 21, 28, 16,
 T. 10 S., R. 15 W.

 *Open pit or open cut.

GOLD PLACERS

GRANITE COUNTY: Philipsburg, County Seat

<p>CONFIDENT, RADAR, CASTLE PLACER 1, and CASTLE PLACER 2 Operator: William J. Dean, 309 S. Arizona, Butte, Montana Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Granite district, sec. 22, 23, T. 6 N., R. 13 W.</p>
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<p>MASTER MINES Operator: O. Perl Smith, 745 Sherman, Denver, Colorado Owner: Same as operator Employees: 6 to 12 Mill capacity: 500 yd/d Status: Producing and developing</p>	<p>Gold</p>	<p>Gold Creek district, T. 8 N., R. 12 W.</p>
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<p>SUNSET PLACER Operator: Ben Walkup, Box 644, Philipsburg, Montana Owner: Same as operator Employees: 2 (part time) Status: Developing</p>	<p>Gold</p>	<p>Maxville district, sec. 20, 21, T. 8 N., R. 12 W.</p>
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JEFFERSON COUNTY: Boulder, County Seat

<p>FLAG PLACER Operator: H. K. Mining Corp., Box 1924, Butte, Montana Owner: Del Brown, 1830 Banks Ave., Butte, Montana Status: Unknown</p>	<p>Gold, platinum, rare earths, black sand</p>	<p>Homestake district, sec. 1, T. 2 N., R. 7 W.</p>
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<p>SKOOKUM PLACER Operator: Theodore Nyquest, Box 133, Boulder, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Comet district, sec. 12, T. 5 N., R. 6 W.</p>
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MEAGHER COUNTY: White Sulphur Springs, County Seat

<p>CAMP ROBBER PLACER Operator: E. L. Burns, Box 324, White Sulphur Springs, Montana Owner: Same as operator Status: Producing</p>	<p>Gold</p>	<p>Sec. 22, T. 9 N., R. 4 E.</p>
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MEAGHER COUNTY, contd.

LAST CHANCE PLACER Operator: Ted Bykari, Box 14, Belt, Montana Owner: Same as operator Status: Developing	Gold	Beaver district, sec. 24, T. 11 N., R. 2 E.
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MINERAL COUNTY: Superior, County Seat

OREGON CREEK PLACER Operator: Calmont Mining Co., Joe Browning, Supt., Box 656, Superior, Montana Employees: 6 Status: Producing	Gold	Oregon Creek district
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STEMWINDER PLACER Operator: George Gildersleeve, Box 565, Superior, Montana Owner: Same as operator Status: Developing	Gold	Cedar Creek district, sec. 17, T. 15 N., R. 26 W.
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MISSOULA COUNTY: Missoula, County Seat

TWIN CREEKS PLACER Operator: Victor Demin, Route 4, Missoula, Montana Owner: Same as operator Status: Developing	Gold	Sec. 26, T. 17 N., R. 24 W.
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PARK COUNTY: Livingston, County Seat

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

CHARLES PRYSE PLACER Operator: Elmer Wagner, Leggat Hotel, Butte, Montana Status: Inactive at present	Gold	Sec. 11, T. 12 N., R. 9 W.
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GOLD PLACERS, contd.

POWELL COUNTY, contd.

MASTER MINES

Gold

Gold Creek
district, T. 9 N.,
R. 11 W.

Operator: O. Perl Smith,
745 Sherman, Denver, Colorado
Owner: Same as operator
Employees: 6 to 12
Mill capacity: 500 yd/d
Status: Producing and developing

OLD SHOE NO. 1 PLACER

Gold

Finn district

Operator: A. H. Roat and Sons,
1821 S. 13th West, Missoula, Montana
Owner: Same as operator
Status: Developing

SILVER BOW COUNTY: Butte, County Seat

JANE CLAIM

Gold

Highland district,
sec. 32, T. 1 N.,
R. 7 W.

Operator: Highland Placers,
2619 Walnut St., Butte, Montana
Owner: Howard Stratton, George Richardson,
and George Hoopes, Butte, Montana
Status: Developing

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., Billings, Montana		
Owner: Interstate Products Co., c/o Charles Lester, Bozeman, Montana		

LINCOLN COUNTY: Libby, County Seat

VERMICULITE MOUNTAIN MINE*	Tremolite asbestos	Rainy Creek district, sec. 14, 15, 22, 23, T. 31 N., R. 30 W.
Operator: Zonolite Division, W. R. Grace & Co., 135 S. LaSalle St., Chicago, Illinois		
Owner: Same as operator		
Status: Producing		

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, and R. P. Jackson and R. M. Shepard, Jackson, Montana		
Owner: Same as operator		
Status: Unknown		

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		
Owner: Same as operator		
Employees: 10		
Mill capacity: 8 t/h		
Status: Producing		

* Open pit or open cut.

BENTONITE PITS

CARTER COUNTY: Ekalaka, County Seat

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

VALLEY COUNTY: Glasgow, County Seat

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

CLAY MINES AND PITS

CASCADE COUNTY: Great Falls, County Seat

ARMINGTON MINE	Fire clay	Sec. 30, T. 19 N., R. 7 E.
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Operator: Robert Smerker,
Armington, Montana
Owner: The Anaconda Co.,
25 Broadway, New York City
Status: Unknown

TREASURELITE PIT*	Clay	Sec. 13, T. 21 N., R. 3 E.
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Operator: Treasurelite, Division of
Treasure State Industrial Products, Inc.,
Box 2750, Great Falls, Montana
Owner: Same as operator
Employees: 2 to 8
Mill capacity: 100 t/d
Status: Producing

DEER LODGE COUNTY: Anaconda, County Seat

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

*Open pit or open cut.

FERGUS COUNTY: Lewistown, County Seat

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

YELLOWSTONE COUNTY: Billings, County Seat

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

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

FLUORSPAR MINES

RAVALLI COUNTY: Hamilton, County Seat

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

GYPSUM MINES

CARBON COUNTY: Red Lodge, County Seat

JAY KAY MINE Gypsum Unorganized district,
Operator: Jay Kay, Inc., NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19,
607 Garden Avenue, Billings, Montana T. 7 S., R. 24 E.
Owner: Same as operator
Status: Developing

*Open pit or open cut.

GYP SUM MINES, contd.

FERGUS COUNTY: Lewistown, County Seat

<p>HANOVER MINE Operator: Ideal Cement Co. , 420 Denver National Bldg. , Denver, Colorado Owner: Same as operator Status: Inactive</p>	<p>Gypsum</p>	<p>Sec. 22, 27, T. 16 N., R. 17 E.</p>
<p>SHOEMAKER (HEATH) MINE Operator: U. S. Gypsum Co. , Heath, Montana Owner: U. S. Gypsum Co. , 101 S. Wacker Dr. , Chicago, Illinois Employees: 73 Mill capacity: 500 t/d Status: Producing</p>	<p>Gypsum</p>	<p>Sec. 1, 2, T. 14 N. , R. 19 E.</p>

JUSITH BASIN COUNTY: Stanford, County Seat

<p>KIBBEY DEPOSITS Operator: Sunshine Mining Co. , Box 1080, Kellogg, Idaho Owner: Harry Boughton and Fred Remington, Raynesford, Montana Status: Developing</p>	<p>Gypsum</p>	<p>Neihart district, sec. 7, T. 16 N. , R. 8 E.</p>
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LIMESTONE MINES AND QUARRIES

CARBON COUNTY: Red Lodge, County Seat

<p>BIGHORN LIMESTONE CO. Owner: G. W. Sugar Co. and Holly Sugar Co. , Drawer 2508, Billings, Montana Status: Producing</p>	<p>Limestone</p>	
<p>WARREN QUARRY* Operator: Weaver Construction Co. , Box 60, Billings, Montana Owner: The Bighorn Limestone Co. , Box 5308, Denver, Colorado Employees: 20 Mill capacity: 750 t/d Status: Producing and developing</p>	<p>Limestone</p>	<p>Sec. 16, T. 5 S. , R. 25, 26 E.</p>

*Open pit or open cut.

DEER LODGE COUNTY: Anaconda, County Seat

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

TRIDENT QUARRY* Operator: Ideal Cement Co., Three Forks Portland Cement Div., 420 Denver National Bldg., Denver, Colorado Owner: Same as operator Employees: 14 Status: Producing	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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GRANITE COUNTY: Philipsburg, County Seat

LIMESTONE QUARRY* Operator: Amberson, Stach, and Vining, Box 796, Carlin, Nevada Owner: S & F Limestone, Box 796, Carlin, Nevada Status: Unknown	Limestone	T. 11 N., R. 12 W.
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SPRING GULCH QUARRY* Operator: F. H. Norborg Co., 703 Guaranty Bank Bldg., Denver, Colorado Owner: American Crystal Sugar Co., Boston Bldg., Denver, Colorado Status: Inactive	Limestone	Sec. 22, T. 11 N., R. 12 W.
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JEFFERSON COUNTY: Boulder, County Seat

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

LIMESTONE MINES AND QUARRIES, contd.

JEFFERSON COUNTY, contd.

MONTANA CITY QUARRY*	Limestone	Sec. 12, 13, T. 9 N., R. 2 W.
Operator: Permanente Cement Co., Montana City, Montana		
Owner: Kaiser Cement and Gypsum Corp., Kaiser Center, Oakland, California		
Employees: 58		
Mill capacity: 5,000 bbls/d		
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		
Owner: Same as operator		
Employees: 16		
Mill capacity: 50 t/d		
Status: Producing (dust only)		

PHOSPHATE MINES

BEAVERHEAD COUNTY: Dillon, County Seat

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

GRANITE COUNTY: Philipsburg, County Seat

DOUGLAS CREEK MINE and CONCENTRATOR		Maxville district,
Operator: Cominco American, Inc., Garrison, Montana	Phosphate	sec. 31, T. 9 N., R. 12 W.
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 Owner: Same as operator Employees: 70 Status: Producing	Phosphate	Garrison district, sec. 3, T. 10 N., R. 10 W.
BROCK MINE Operator: Cominco American, Inc., Garrison, Montana Owner: Same as operator Employees: 165 Status: Producing	Phosphate	Garrison district, sec. 21, 22, T. 10 N., R. 10 W.
GIMLET MINE Operator: Cominco American, Inc., Garrison, Montana Owner: Same as operator Status: Inactive	Phosphate	Garrison district, sec. 4, T. 10 N., R. 9 W.
JACK PINE (TROUT CREEK) MINE Operator: Russell B. Luke, 1021 E. Front St., Butte, Montana Owner: Same as operator Status: Inactive	Phosphate	Elliston district, SW $\frac{1}{4}$ sec. 35, T. 11 N., R. 7 W.
LUKE MINE Operator: Cominco American, Inc., Garrison, Montana Owner: Same as operator Status: Inactive	Phosphate	Garrison district, sec. 14, 15, T. 10 N., R. 9 W.
RELYEA MINE Operator: George Relyea, Box 85, Garrison, Montana Owner: Same as operator Status: Unknown	Phosphate	Garrison district, S $\frac{1}{2}$ sec. 12, T. 10 N., R. 10 W.

SILVER BOW COUNTY: Butte, County Seat

MAIDEN ROCK MINE Operator: Stauffer Chemical Co., Box 3146, Butte, Montana Employees: 13 Status: Producing	Phosphate	Melrose district sec. 32, T. 1 S., R. 9 W.
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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		
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		
Owner: Siskon Corporation, Box 889, Reno, Nevada		
Status: Developing		

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		
Owner: Same as operator		
Employees: 2 to 8		
Mill capacity 100 t/d		
Status: Producing		

YELLOWSTONE COUNTY: Billings, County Seat

LOCKWOOD FLATS PIT*	Expanded shale, lightweight aggregate	Sec. 31, T. 1 S., R. 27 E.
Operator: Montana Liteweight Aggregate Co., Box 3027, Billings, Montana		
Owner: Same as operator		
Employees: 2		
Status: Producing		

*Open pit or open cut.

SILICA MINES AND QUARRIES

DEER LODGE COUNTY: Anaconda, County Seat

LUKE QUARRY*

Operator: Montana Ores, Inc.,
 110 W. 3d St., Anaconda, Montana
 Owner: Russkin Mining Co.,
 83 E. Park St., Butte, Montana
 Employees: 5
 Mill capacity: 800 t/d
 Status: Producing

Metallurgical
 silica Blue Eyed Nellie
 district, NW $\frac{1}{4}$ sec.
 24, T. 5 N.,
 R. 12 W.

SNOW WHITE QUARRY*

Operator: Boggs and Davis, Inc.,
 Ione, Washington
 Owner: John J. Meloy,
 Anaconda, Montana
 Employees: 8
 Mill capacity: 750 t/d
 Status: Producing and developing

Industrial
 silica Lost Creek district,
 sec. 17, 28,
 T. 6 N., R. 11 W.

JEFFERSON COUNTY: Boulder, County Seat

BASIN QUARTZ QUARRY*

Operator: Pacific Silica Co.,
 Basin, Montana
 Owner: Union Carbide Co.,
 Portland, Oregon
 Employees: 16
 Status: Producing

Industrial
 silica Basin district,
 sec. 16, T. 6 N.,
 R. 5 W.

LAHEY SILICA QUARRY*

Operator: Benson and Bissell,
 Butte, Montana
 Owner: Ed Kyler, Boulder, Montana
 Status: Producing

Industrial
 silica W $\frac{1}{2}$ NE $\frac{1}{4}$ sec. 26,
 T. 8 N., R. 4 W.

 *Open pit or open cut.

SOIL CONDITIONERS

GOLDEN VALLEY COUNTY: Ryegate, County Seat

R. K. R. PIT*	Shell rock	Sec. 23, T. 7 N., R. 22 E.
Operator: R.K.R. Soil Amendment, Inc., Cushman, Montana		
Owner: Same as operator		
Employees: 3		
Mill capacity: 5 or 6 t/hr		
Status: Developing		

LAKE COUNTY: Polson, County Seat

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

RAVALLI COUNTY: Hamilton, County Seat

PEAT PAC, INC.,	Peat	Sec. 23, 27, 34, T. 5 N., R. 21 W.
Operator: Peat Pac, Inc., Hamilton, Montana		
Owner: Peat Pac, Inc., 910 Tribune Bldg., Salt Lake City, Utah		
Employees: 2		
Status: Producing		

STONE (BUILDING) MINES AND QUARRIES

CASCADE COUNTY: Great Falls, County Seat

KINGS HILL QUARRY*	Building stone	Sec. 21, T. 13 N., R. 8 E.
Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana		
Owner: Treasure State Industries, Inc., Box 2750, Great Falls, Montana		
Status: Developing		

*Open pit or open cut.

CASCADE COUNTY, contd.

MONARCH QUARRY*	Building	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23,
Operator: Montana Stone, Inc.,	stone	T. 15 N., R. 7 E.
Box 2750, Great Falls, Montana		
Owner: Treasure State Industries, Inc.,		
Box 2750, Great Falls, Montana		
Employees: 7		
Status: Producing and developing		

LEWIS AND CLARK COUNTY: Helena, County Seat

WOLF CREEK PICTURE STONE NO. 1 QUARRY*	Building	SE $\frac{1}{4}$ sec. 26,
Operator: Montana Stone, Inc.,	stone	T. 13 N., R. 5 W.
Box 2750, Great Falls, Montana		
Owner: Treasure State Industries, Inc.,		
Box 2750, Great Falls, Montana		
Status: Developing		

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

MISSOULA COUNTY: Missoula, County Seat

BONNER QUARRY*	Riprap	Sec. 15, T. 13 N.,
Operator: Chicago, Milwaukee, St. Paul		R. 18 W.
and Pacific Railway Co.,		
Deer Lodge, Montana		
Owner: Same as operator		
Status: Producing		

MC QUARRIE QUARRY*	Railroad	Clinton (Wallace)
Operator: Lyon Construction Co.,	ballast,	district, sec. 17,
Clinton, Montana	road metal	T. 12 N., R. 17 W.
Owner: Northern Pacific Railway Co.,		
St. Paul, Minnesota		
Employees: 20		
Mill capacity: 1,500 t/d		
Status: Producing		

*Open pit or open cut.

STONE (BUILDING) MINES AND QUARRIES, contd.

PARK COUNTY: Livingston, County Seat

MERRIAM QUARRY*	Stone
Operator: Lyon Construction Co., Clinton, Montana	
Owner: Northern Pacific Railway Co., St. Paul, Minnesota	
Status: Inactive	

STONE (ORNAMENTAL) QUARRIES

CARBON COUNTY: Red Lodge, County Seat

DEAD MAN QUARRY*	Marble	Sec. 34, T. 7 S., R. 28 E.
Operator: Montana Marblestone, Inc., Cowley, Wyoming		
Owner: Montana Marble, Inc., Box 415, Lovell, Wyoming		

FERGUS COUNTY: Lewistown, County Seat

PARADISE RANCH QUARRY*	Travertine	Sec. 13, T. 17 N., R. 17 E.
Operator: Montana Stone, Inc., Box 2750, Great Falls, Montana		
Owner: Henry Shipman, Route 3, Paradise Ranch, Lewistown, Montana		
Status: Inactive		

GALLATIN COUNTY: Bozeman, County Seat

PICTURE FLAGSTONE MINE*	Picture flagstone	Sec. 29, T. 2 N., R. 4 E.
Operator: Orië B. McElwee, Box 474, Manhattan, Montana		
Owner: Same as operator		
Employees: 2		
Status: Producing		

*Open pit or open cut.

STONE (ORNAMENTAL) QUARRIES, contd.

MADISON COUNTY: Virginia City, County Seat

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

PARK COUNTY: Livingston, County Seat

GARDINER TRAVERTINE QUARRY*	Travertine	Sec. 14, 24, T. 9 S., R. 8 E.
Operator: Livingston Marble and Granite Works, Livingston, Montana		
Owner: Same as operator		
Status: Unknown		
TRAVERTINE QUARRY*	Cut stone chips	Sec. 14, 24, T. 9 S., R. 8 E.
Operator: J. B. Ahern, Box 163, Gardiner, Montana		
Owner: Montana Travertine Quarries, Box 163, Gardiner, Montana		
Employees: 9		
Status: Producing and developing		

TALC MINES

BEAVERHEAD COUNTY: Dillon, County Seat

BANJO MINE*	Talc	SW Ruby Mountains district, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 8 S., R. 8 W.
Operator: Wallis Banning and Lester Jones, 1013 East Glendale, Dillon, Montana		
Owner: Same as operator		
Status: Inactive		

*Open pit or open cut.

TALC MINES, contd.

BEAVERHEAD COUNTY, contd.

<p>BOZO (LOBO) MINE* Operator: Norman Rogers, Box 1719, Helena, Montana Owner: American Chemet Corp., East Helena, Montana Status: Producing</p>	<p>Talc</p>	<p>Sec. 7, T. 8 S., R. 7 W.</p>
<p>CROWN-SMITH-DILLON MINE Operator: Tri-State Minerals Co., Box 227, Dillon, Montana Owner: Clyde Smith, Dillon, Montana Employees: 5 Mill capacity: 3,300 t/yr Status: Producing</p>	<p>Talc</p>	<p>Axes Creek district, sec. 23, T. 8 S., R. 8 W.</p>

MADISON COUNTY: Virginia City, County Seat

<p>BEAVERHEAD MINE* Operator: Sierra Talc and Chemical Co., Div. Cyprus Mines Corp., 1608 Huntington Dr., South Pasadena, California Owner: Same as operator Employees: 3 (intermittently) Status: Developing</p>	<p>Talc</p>	<p>Stone Creek district, sec. 11, 14, T. 7 S., R. 6 W.</p>
<p>REBISH AND IKE MINE Operator: American Chemet Corp., East Helena, Montana Owner: Same as operator Status: Inactive</p>	<p>Talc</p>	<p>Sweetwater district, sec. 7, T. 8 S., R. 6, 7 W.</p>
<p>REGAL MINE* Operator: Tri-State Minerals Co., Box 227, Dillon, Montana Owner: Same as operator Mill capacity: 500 t/yr Status: Producing</p>	<p>Talc</p>	<p>Sweetwater district, N$\frac{1}{2}$ sec. 2, T. 8 S., R. 7 W.</p>
<p>RUBY NO. 1 and NO. 2 MINE Operator: Sam Maloney and Bill Pettus, Box 174, Alder, Montana Owner: Same as operator Status: Developing</p>	<p>Talc</p>	<p>Warm Springs district, sec. 11, T. 8 S., R. 4 W.</p>

*Open pit or open cut.

TREASURE STATE MINE*	Talc	Stone Creek district, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 7 S., R. 6 W.
Operator: Tri-State Minerals Co., Box 227, Dillon, Montana		
Owner: Same as operator		
Employees: 2		
Mill capacity: 20,000 t/yr		
Status: Producing		

YELLOWSTONE (CAMERON) MINE*	Talc	Johnny Gulch district, sec. 4, T. 9 S., R. 1 W.
Operator: Sierra Talc and Chemical Co., Div. Cyprus Mines Corp., Box 370, South Pasadena, California		
Owner: Same as operator		
Employees: 9 to 18		
Status: Producing		

VERMICULITE MINES

LINCOLN COUNTY: Libby, County Seat

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

*Open pit or open cut.

DEER LODGE COUNTY: Anaconda, County Seat

RUBY MINE

Operator: Leo Powell,
208 Beaumont, Deer Lodge, Montana
Owner: C. Paul Grosenick,
9505 - 44 N.E.,
Seattle, Washington
Status: Produced

Silver

Champion district,
sec. 28, T. 6 N.,
R. 8 W.

POWELL COUNTY: Deer Lodge, County Seat

CHAMPION TAILINGS*

Operator: Leo Powell,
208 Beaumont, Deer Lodge, Montana
Owner: John D. Weidenfeller,
Missoula, Montana
Status: Producing

Silver

Deer Lodge
district, sec. 3,
T. 7 N., R. 9 W.

*Open pit or open cut.

PART 3, COAL MINES

STATE COAL MINE INSPECTOR'S ANNUAL REPORT

Coal production in Montana for the fiscal year, July 1, 1964, through June 30, 1965, with thirty mines reporting, was 360,446 tons as compared with 345,259 tons for the previous year.

There was one fatal accident in the Montana coal mines and ten lost-time injuries. The fatal accident happened at the Rocky Boy Mine, 15 miles south of Box Elder in Hill County.

There were no applicants for the Mine Foreman's examination during the year.

Several of the smaller coal mines closed during the year; included among them were the Rocky Boy Mine in Hill County, the Thiell Mine near Sidney in Richland County, Smith Coal Docks Mine in Carbon County, Canyon Mine at Giffen in Cascade County, Moon Creek Mine in Custer County, and Albrecht Mine near Bloomfield in Dawson County.

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 1964 - June 1965.

<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 Yallowizer, Decker, Montana	2	2, 267	1, 929	0	0
BLAINE Milk River mine	Lauren Sargent, Box 661, Havre, Montana	11	16, 042	2, 938	0	0
Rocky Boy mine	Ernie Friede, Box Elder, Montana	3	842	255	1	0
CARBON Brophy Coal Co.	James Brophy, Red Lodge, Montana	15	18, 316	12, 910	0	6
Roadside mine	Frank Janskovitch, Bearcreek, Montana	2	192	507	0	0
CASCADE Loveland mine	Mrs. Earl Loveland, Millegan Route, Great Falls, Montana	2	340	250	0	0
CUSTER Storm King mine	Ralph E. Bair, Box 113, Miles City, Montana	3	360	2, 005	0	0
DAWSON Peuse mine	Gordon Peuse, Lindsay, Montana	1	140	2, 000	0	0

FERGUS									
Swanson mine	William Swanson, Gilt Edge Route, Lewistown, Montana	1	300	55	0	0			
Tuss mine	C. M. Tuss, E. Evelyn St., Lewistown, Montana	1	230	300	0	0			
McCONE									
Neumiller mine	Albert Neumiller, Vida, Montana	1	40	60	0	0			
No. 1 mine	R. D. Stephenson, Circle, Montana	1	300	300	0	0			
MUSSELSHELL									
Divide mine	Victor Carlson, Roundup, Montana	3	1,328	9,492	0	0			
Forstrom mine	Victor Forstrom, Roundup, Montana	4	256	1,500	0	0			
Gildroy mine	Ralph E. Gildroy, Roundup, Montana	4	384	5,028	0	0			
Johnny's mine	Johnny Keosky, Roundup, Montana	4	2,549	1,684	0	1			
Nies mine	William Nies, Roundup, Montana	5	6,400	5,000	0	2			
P. & M. mine	Paul Megal Golden Creek Route, Roundup, Montana	2	240	2,300	0	0			
Western Coal mine	Glenn Johnson, Roundup, Montana	4	320	3,800	0	0			

Table 1. -- Production report, Montana coal mines, July 1964 - June 1965, contd.

Mines by county	Address	Ave. no. employees	Total days worked	Tonnage mined	Accidents	
					Fatal	Nonfatal
POWDER RIVER						
Coal Creek mine	John Schoonover, Box 94, Ashland, Montana	2	1,720	1,472	0	0
Two Tree mine	Antone Gali, Epsie, Montana	1	16	50	0	0
Wilson mine	J. L. Wilson, Broadus, Montana	1	30	60	0	0
RICHLAND						
Bemer mine	Neville Bemer, Culbertson, Montana	3	290	850	0	0
Coal Bank Canyon	Cyrus Lowery, Box 882 Sidney, Montana	1	120	800	0	0
Knife River Coal mine	Knife River Coal Co., Savage, Montana	14	29,898	300,000	0	1
ROSEBUD						
Foley Bros. mine	O. E. Rye, Coalstrip, Montana	3	1,067	1,000	0	0
Lame Deer mine	Lester Scott, Lame Deer, Montana	2	280	1,200	0	0
SHERIDAN						
Acme mine	M. F. Brenteson, Coalridge, Montana	4	480	2,300	0	0
Lagerquist mine	E. C. Lagerquist, R.F.D. 1, Westby, Montana	1	180	401	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-119
Albany, Oregon

THE MINERAL INDUSTRY OF MONTANA IN 1965

Preliminary Annual Report

The 1965 mineral production in Montana was estimated to be a record setting \$233 million, eclipsing the previous mark set in 1956 of \$215 million, according to a preliminary report by the Bureau of Mines, U.S. Department of the Interior. The value was \$21 million (10 percent) above the corresponding 1964 figure, and it was largely influenced by increased production from a selected group of minerals -- copper, lead, zinc, and petroleum -- which contributed 90 percent of the net increase.

Copper production was the largest since 1944, mainly due to the efficiency of the 42,000-ton-per-day copper concentrator at Butte completed in 1964. The value of copper produced was over \$80 million.

Higher grade zinc ores mined in the Butte district and processed at the Anaconda zinc concentrator largely accounted for a 57-percent increase in lead output and a 20-percent increase in zinc output over 1964 totals. Major sources of lead and zinc were the Anaconda slag-fuming operation in East Helena and the Badger State and Anselmo mines in the Butte district.

Silver produced as a byproduct of zinc ore processed at the Anaconda zinc concentrator increased slightly over the previous year but did not offset the lower silver content of copper ore from Butte district mines and reduced mining operations in Phillips and Beaverhead Counties.

Prepared by Ronald P. Collins, Economist, William N. Hale and Richard W. Knostman, Mineral Specialists, Bureau of Mines, Area VII, Albany, Oregon, December 20, 1965.

TABLE 2.- Mineral production in Montana 1/

Mineral	1964		P/1965	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays 2/	49	\$59	52	\$63
Coal (bituminous and lignite).....thousand short tons	346	925	355	949
Copper (recoverable content of ores, etc.).....do.....short tons	103,806	67,682	113,000	80,456
Gold (recoverable content of ores, etc.).....troy ounces	29,115	1,019	21,900	766
Iron ore (usable).....thousand long tons, gross weight	15	99	9	70
Lead (recoverable content of ores, etc.).....short tons	4,538	1,189	7,120	2,250
Lime.....thousand short tons	136	1,385	164	1,561
Manganese ore and concentrate.....short tons, gross weight (35 percent or more Mn)	20,264	W	W	W
Manganiferous ore and concentrate.....do..... (5 to 35 percent Mn)	3,638	W	W	W
Natural gas.....million cubic feet	25,188	1,965	27,400	2,170
Petroleum (crude).....thousand 42-gallon barrels	30,647	74,621	32,850	79,826
Sand and gravel.....thousand short tons	16,017	17,840	16,000	18,000
Silver (recoverable content of ores, etc.).....troy ounces	5,290	6,840	4,908	6,346
Stone.....thousand short tons	7,345	8,477	7,000	8,000
Zinc (recoverable content of ores, etc.).....short tons	29,059	7,904	34,870	10,112
Value of items that cannot be disclosed: Barite, cement, fluorspar, gem stones, gypsum, natural gas liquids, peat, phosphate rock, pumice (1964), talc, uranium ore (1964), vermiculite, and values indicated by symbol W.....		21,430		22,172
Total.....		211,435		232,741

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

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

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

Record high production of aluminum was reached at the Columbia Falls plant of Anaconda Aluminum Co. with the August completion of the third of four potlines scheduled to be operational by 1968.

Effort continued to be exerted in the development of the State's petroleum resources. Recovery of crude oil and natural gas increased 7 percent over that of 1964, but the impact of petroleum production provided a significant 34 percent of the State's total mineral value.

Water was injected by petroleum producers for secondary recovery of crude oil, and in other instances, saline water was disposed of by injecting it to subsurface porous and permeable formations.

Output of many nonmetal commodities fluctuated in minor ways from the previous year, but notable increases (greater than 10 percent) were made for barite, lime, phosphate rock, and talc.

Record breaking employment was indicated in monthly figures released by the Montana Employment Service. The employed work force in the nonagricultural sectors registered increases over 1964 in every month tabulated (January to October) except July; consequently, Montana ranked among the lowest in the Nation in the number of insured jobless workers. Monthly payrolls were higher than normal in the basic industries during the first 10 months, but yearend seasonal declines (end of the tourist season and the advent of winter weather) developed in the trades, services, construction, and mining sectors. However, the extent of the declines was not large, and average annual employment maintained record levels.

TABLE 3.- Estimated average monthly employment
(thousands)

	First 10 months, 1963	First 10 months, 1964	First 10 months, p/ 1965	Change 1964-65, percent
Mining.....	7.0	7.4	7.2	-3
Metal mining.....	4.1	4.8	4.5	-6
Quarrying and nonmetallic mining, including coal.....	0.9	0.9	1.0	+11
Petroleum and natural gas production.....	2.0	1.6	1.7	+6
Manufacturing.....	22.5	22.0	22.1	<u>1</u> / -5
Lumber and timber products.....	8.6	9.1	8.6	-5
Primary metals.....	3.2	3.3	3.5	+6
Petroleum refining.....	1.2	1.2	1.2	0
Contract construction.....	13.2	11.9	11.6	-3
Transportation and utilities.....	17.7	17.6	17.4	-1
All nonagricultural industries...	174.8	174.9	178.1	+2

p/ Preliminary.

1/ Less than 1 percent.

Source: Montana Labor Market, State Employment Service.

REVIEW BY MINERAL COMMODITIES

METALS

Aluminum.- Production of aluminum reached record proportions at the Columbia Falls plant of Anaconda Aluminum Co. because of additional metal from a third potline that was completed in August. The potline raised the annual ingot capacity of the plant to 100,000 tons. The firm began constructing a fourth potline, scheduled for completion in 1968 at a cost of \$25 million, that would provide an additional 35,000 tons of capacity.

Copper.- Production continued to increase as the Butte concentrator processed a larger amount of ore from Butte district mines. The output, the largest since 1944, exceeded the 1964 total by 9 percent.

The Anaconda Company continued to improve efficiency of its Butte mining operations. A 4600-level haulageway from the Mountain Con mine to the Kelley No. 1 centralized hoisting shaft was completed, and a similar haulageway from the 4200 level of the Steward mine was nearly finished. The Kelley No. 1 shaft was readied for operation by the completion of ore pockets and attendant equipment necessary for hoisting ore. The company discontinued use of trucks with capacities of less than 85 tons at the Berkeley pit. Copper recovered by precipitation from mine water percolated through leach dumps increased to about 1.6 million pounds per month. The process was described in a technical journal. ^{1/}

The Anaconda Company operated up to four drill rigs throughout the year at a low-grade copper deposit in the vicinity of the Mike Horse mine near Rogers Pass in Lewis and Clark County. A large number of claims in this area had been staked in 1964 by Anaconda and Bear Creek Mining Co.

Bear Creek staked two large blocks of claims in Sanders County following reconnaissance of the region during the summer months. Approximately 140 claims were located in the Rock Creek area north of Noxon, and 210 claims were staked in the Beaver Creek drainage between Thompson Falls and Trout Creek. Examination of the rugged terrain was aided by the use of helicopters.

As part of a continuing modernization program at the Great Falls Reduction Department, The Anaconda Company increased its copper refining capacity from 25 million to 27.5 million pounds per month by regrouping electrolytic cells and improving solution lines and solution-heating facilities.

Gold.- Output of gold, mostly a byproduct of nonferrous base-metal operations, declined 25 percent despite significant increases in copper, lead, and zinc production. Approximately 70 percent of the total was recovered from copper ore mined in the Butte district.

American Mining Co. received an Office of Minerals Exploration (OME) loan for core drilling at the Nancy Hanks, Crescent, and Granite claims in the Granite mining district of Granite County. The Federal agency was to furnish 50 percent of the \$61,880 contract value.

^{1/} Engineering and Mining Journal. Anaconda Aims at More Cement Copper. April 1965, v. 166, No. 4, pp. 84-85.

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)
1956-60 (average)...	125	12	10,456	34,273	\$1,200	4,720	\$4,272
1961.....	135	17	12,792	35,377	1,238	3,490	3,227
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 ^{2/}	105	10	15,491	21,900	766	4,908	6,346

Year	Copper		Lead		Zinc		Total value (thousands)
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	
1956-60 (average)...	87,301	\$56,853	10,585	\$2,907	38,935	\$9,493	\$74,726
1961.....	104,000	62,400	2,643	544	10,262	2,360	69,770
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	84,633
1965 ^{2/}	113,000	80,456	7,120	2,250	34,870	10,112	99,931

^{1/} Includes recoverable metal content of gravel washed (placer operations); ore milled, old tailings and old slag retreated, 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 1965 per pound of refined metal were used, as follows: Copper, \$0.356; Lead, \$0.158; Zinc, \$0.145.

TABLE 5.- Mine production of gold, silver, copper, lead, and zinc in 1965, by months, in terms of recoverable metals

Month	Gold (troy ounces)	Silver (troy ounces)	Copper (short tons)	Lead (short tons)	Zinc (short tons)
January.....	2,138	366,718	8,598	381	2,794
February....	1,648	366,699	8,513	477	2,775
March.....	1,672	365,304	9,135	489	3,042
April.....	2,026	448,640	9,452	568	3,065
May.....	1,825	419,200	9,573	685	3,246
June.....	2,048	509,789	10,340	968	3,398
July.....	1,855	414,297	9,735	901	2,940
August.....	2,065	419,229	10,288	464	2,537
September...	1,725	400,518	9,429	608	3,067
October.....	1,638	437,891	9,747	512	2,800
November....	1,630	380,015	9,125	535	2,606
December....	1,630	380,000	9,065	532	2,600
Total..	21,900	4,908,306	113,000	7,120	34,870

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 ^{1/} (thousand short tons)	Gold, lode and placer (troy ounces)	Silver, lode and placer (thousand troy ounces)
	Lode	Placer			
1956-60 (average)...	17	1	10,332	23,250	4,254
1961.....	11	1	12,635	18,391	2,765
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 p/.....	8	2	15,419	17,742	4,538

Year	Copper (short tons)	Lead (short tons)	Zinc (short tons)	Total value (thousands)
1956-60 (average)...	87,161	7,289	32,068	\$71,307
1961.....	103,788	435	1,384	65,881
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 p/.....	112,799	4,800	26,461	95,992

p/ Preliminary.

^{1/} Does not include gravel washed.

Iron Ore.- Production of iron ore, entirely from the Iron Cross mine (R & S Iron Co.) near Radersburg, Broadwater County, declined 39 percent from the 1964 total because of reduced requirements at a cement plant.

Lead.- Estimated production of lead was 57 percent above the 1964 total because of a higher average lead content of ore mined. Over 70 percent of the output was a byproduct of zinc production from the Badger State and Anselmo mines in the Butte district and from the slag-fuming operation at East Helena.

National Cylinder Gas division of Chemtron Corp. announced plans to build an oxygen-producing facility adjacent to the lead smelter and slag-fuming plant at East Helena. The new facility, expected to be completed in the fall of 1966 with a 42-ton-per-day capacity, is to supply oxygen via a pipeline for use in furnace operations at the smelter and fuming plant.

Manganese.- Shipments of manganese ore and concentrate (35 percent or more manganese) and manganiferous ore and concentrate (5 to 35 percent manganese) were made by both The Anaconda Company and Taylor-Knapp Co. Manganiferous ore and concentrate shipments were mostly by Taylor-Knapp, but small quantities of crude ore were sold by Anaconda. Taylor-Knapp mined about 60 tons of manganese ore daily, most of which was hoisted through the Cliff millsite shaft. Anaconda has not mined manganese ore since 1959, but has processed ore from stockpiles.

Silver.- Reduced production of silver from Butte district copper mines and from operations in Phillips and Beaverhead Counties accounted for most of the 7-percent drop from that of 1964. Zinc ore processed at the Anaconda zinc concentrator yielded slightly more byproduct silver than in the previous year.

Interest in locating and developing silver deposits continued despite some disappointments from projects begun in previous years. Midnight Mining Co. terminated exploration in the Hog Heaven district of Flathead County following completion of a \$50,000 drilling program conducted under an agreement with Lindy Mining Co. After completing a reexamination of its Flathead mine property, The Anaconda Company granted a long-term lease on all its holdings in the district to Waino Lindbom, lessee of the property on a year-to-year basis for a number of years. Construction of a mill and development of an open pit were planned.

In Jefferson County, Ruby Silver Mines, Inc., extracted a small quantity of ore while continuing exploration of the Ruby mine in the Lowland district. United Buffadison Mines, Ltd., discontinued work begun in 1964 at the Crystal property in the Cataract (Basin) district. Shipman Mining & Exploration Co. continued exploration and development of 68 claims in the Boulder-Basin area with work centered at the Romero mine. Mascot Mines, Inc., was granted a \$28,300 OME loan for underground work at the Meadow mine in the Clancy district; Government participation was to be 75 percent of the contract value.

In Beaverhead County, Spokane National Mines, Inc., received an OME contract for work at the New Departure mine in the Blue Wing district; the Government was to supply \$25,410 of the \$33,880 contract total. The Bunker Hill Co. leased the Hecla mine from Lively Mining Co. and began diamond drilling to determine the possible existence of ore zones peripheral to the area of past mining operations. Wayne Erickson terminated operations at the Comet mine in the Elkhorn district; he had received an OME contract in 1964 for work in the district.

The Bunker Hill Co. conducted a drilling program at the Ward mine (Ward Development Co.) in Missoula County. Production from the Champion mine, Deer Lodge County, was initiated following several years of development.

Zinc.- Processing higher grade ore at the Anaconda zinc concentrator accounted for most of the estimated 20-percent increase in zinc output from that of 1964. Dump slag, fumed at The Anaconda Company operation adjacent to the East Helena lead smelter, continued to be a major source of the metal. Most of the ore processed at the zinc concentrator was from the Badger State block-caving operation, but higher grade ore was extracted from the Anselmo mine until its closure in July. A reduction in future zinc output from the Butte district was indicated as The Anaconda Company did not undercut any new blocks of ore at the Badger State mine during the year.

Taylor-Knapp Co. completed an agreement whereby its property (Moorlight group) in the Philipsburg district would be combined with those of Contact Mining Co. (Scratch Awl mine) and Trout Mining Co. (Algonquin mine) and be operated as a single mining unit by Taylor-Knapp. A north-south 1000-level heading (elevation, 5,000 feet above sea level) to connect the three properties, begun from Taylor-Knapp's True Fissure shaft on the north portion of the unitized area, was to be used as a main haulageway for the three mines. Pumps were installed at the Algonquin shaft to dewater the mine, which had flooded since operations were terminated in 1962. Extensive exploration of the three properties, involving diamond drilling to depths of 2,000 feet below existing workings, was begun. Renovation of the idle Algonquin mill was deferred until 1966 when ore reserve evaluations would indicate the optimum capacity for the operation. Shipments of development ore were made to the Anaconda zinc concentrator and to The Bunker Hill Co. at Kellogg, Idaho.

NONMETALS

Barite.- The quantity and value of barite production were estimated to be 11 percent over the 1964 totals. Output, marketed principally as a weighting agent in oil-well-drilling mud, was mined and ground near Greenough, Missoula County, by Baroid Division, National Lead Co.

Cement.- Estimated quantity and value of cement shipments declined 8 percent from the 1964 totals.

Kaiser Cement & Gypsum Corp. added storage space for 150,000 barrels of cement at the Montana City plant. The seasonal nature of construction and demand for a wide range of types of cement in Montana, Idaho, North Dakota, and Wyoming made it necessary for the company to have more storage space for finished cement.

Clays.- Clay output was estimated to be about the same as in 1964. Miscellaneous clay and shale production accounted for most of the total. Some bentonite was dug; however, no fire clay was produced.

Fluorspar.- Roberts Mining Co. continued to produce fluorspar at its Crystal Mountain mine in Ravalli County. Metallurgical-grade fluorspar, processed by the company at a heavy-media separation mill at Darby, was shipped to industrial consumers.

Gem Stones.- The Federal Bureau of Mines estimated that production value of gem stones totaled \$77,000. Montana moss agate, collected from areas in the Yellowstone River drainage system, comprised the bulk of the value. Sapphires from Granite County and mineral specimens from Silver Bow County contributed to the value. The recreation-mining industry was organized into 19 mineral and gem societies that were served by 24 dealers.

Gypsum.- The tonnage and value of gypsum mined was less than the 1964 totals. Fergus County mines of United States Gypsum Co. (Shoemaker mine) and Ideal Cement Co. (Hanover mine) furnished the output.

Late in the year Ideal Cement Co. closed the Hanover gypsum mine; underground rock movement at the property compelled the company to close the mine for safety reasons.

Sunshine Mining Co. conducted diamond drilling and trenching exploration work on gypsum deposits in the Kibbey formation, 8 miles south of Raynesford, Judith Basin County. Late in the year the company announced plans to develop the deposit.

Lime.- Quantity and value of lime production increased 21 and 13 percent, respectively, over the 1964 figures. The Anaconda Company continued making quicklime for metallurgical use in Deer Lodge County. Elliston Lime Co. in Powell County was active until July when the plant was destroyed by fire. Sugar companies in Big Horn, Missoula, Richland, and Yellowstone Counties calcined limestone to quicklime for their own use.

Phosphate Rock.- Output and value of marketable phosphate rock advanced an estimated 14 percent over the 1964 totals. Production came from operations in Beaverhead, Granite, Powell, and Silver Bow Counties.

Consolidated Mining & Smelting Co. of Canada, Ltd., (Cominco), to meet the increasing scope of mining and exploration activities of the company in the United States, changed the name of its subsidiary from Montana Phosphate Products Co. to Cominco American, Inc.

Near full-capacity output was recorded for the Douglas Creek mine flotation plant in Granite County by Cominco American, Inc. Low-grade rock, from the Douglas Creek mine and from mines in Powell County, was upgraded at the plant to a concentrate containing over 31 percent P_2O_5 , which was shipped to fertilizer manufacturing plants at Trail and Kimberley, British Columbia, Canada. The company also shipped rock of suitable grade for processing without further beneficiation from Powell County mines.

Victor Chemical Works, Division of Stauffer Chemical Co., added facilities for making super-phosphoric acid to the elemental phosphorus plant at Silver Bow. The acid, used for fertilizer and industrial purposes, was marketed to consumers in the Rocky Mountain area, Pacific Northwest, and Western Canada.

Rocky Mountain Phosphates, Inc., continued to be involved with litigation over alleged responsibility by the company for air pollution in the Garrison area. The company, which defluorinated phosphate rock to make animal-feed products, installed gas-scrubbing facilities at the plant in Garrison to remove fluoride compounds from waste gases. Twenty-five stations were installed by the company to determine fluoride-waste material emitted to the atmosphere. The stations were set up in groups that encircled the plant at distances of $\frac{1}{2}$ mile, 1 mile, 3 miles, and 8 miles. Testing results were sent for analysis to Resources Research, Inc., a Florida firm. An injunction terminating the plant's operations was denied by court proceedings in May. However, the company was ordered to initiate a continuing-testing program to determine the amount of fluoride compounds emitted to the atmosphere from the operation and to report findings to the court and representative attorneys at 20-day intervals. The testing program was under the direction of the Industrial Development of Engineering Research Department at Montana State University.

A report prepared for Northern Pacific Railway in 1958, describing areas of minable phosphate rock and individual mines and prospects in Montana, was placed on open file at the library of the Montana College of Mineral Science and Technology. 2/

Mining and processing of phosphate rock in Montana were described. 3/ The report included descriptions of phosphate districts in the State; evaluations of resources and the potential of these districts; and descriptions of individual phosphate deposits, mines, and prospects.

Sand and Gravel and Stone.- Combined production of these commodities was estimated at 23 million tons valued at \$26 million. Requirements for the materials at highway and dam construction projects in the State remained about the same as in 1964.

American Chemet Corp. completed a plant at Sheridan to make a wide variety of stone products from a deposit of tan onyx marble and lighter colored marble. The deposit, in Dry Gorge Gulch in the Tobacco Root Mountains at an elevation of about 6,500 feet, was selectively mined from two pits. The onyx and crystalline marble were used for terrazzo, for building aggregate used in precast decorative panels, and for making roofing and garden chips. Waste fines were sold as marble whiting for use in terrazzo, plaster, and other products. Boulders were hauled separately to the plant to make split

2/ Luft, S.J. Phosphate Deposits of Montana. Northern Pacific Railway private report, 1958.

3/ Popoff, C.C., and A.L. Service. An Evaluation of the Western Phosphate Industry and Its Resources (in five parts). 2. Montana. BuMines Rept. of Inv. 6611, 1965, 146 pp.

rock for walls and fireplaces. Some of the broken stone was screened at the quarry and sold for roadstone. Black colored gabbro from another quarry in the area was marketed for decorative garden rock, building aggregate, poultry grit, and for use as a catalyst by the chemical industry.

Sulfur.- Production and shipments of high-purity elemental sulfur increased over the previous year. Montana Sulphur & Chemical Co. continued to be the sole producer; recovery was from hydrogen sulfide gas at petroleum refining operations near Billings.

Talc.- There was an estimated 12-percent increase in the quantity of talc output. Three companies accounted for the production, most of which was ground at mills in Beaverhead, Gallatin, and Lewis and Clark Counties.

Vermiculite.- There was an increase of about 8 percent in the tonnage of crude vermiculite mined by Zonolite Division, W.R. Grace & Co., at its open pit in Lincoln County. The mine continued to be the principal source of vermiculite in the Nation.

MINERAL FUELS

Coal.- Production of bituminous coal and lignite increased 9,000 tons over the 1964 output. Musselshell County was the major source of bituminous coal production; most of the lignite was mined in Richland County.

Knife River Coal Mining Co., a subsidiary of Montana Dakota Utilities Co., started an experimental tree-planting program at areas disturbed by surface mining for lignite near Savage. Several thousand trees, capable of growth in arid and semi-arid climates, were planted in May in an attempt to evaluate possibilities of growth in the area. About 10 acres of land are disturbed annually by the company in its eastern Montana strip-mining operation. The company felt the program should be started so that land-rehabilitation problems could be solved before substantial acreage was involved and so that rehabilitation could keep pace with mining operations.

The Montana University system Coal Resources Research Council was organized to stimulate growth of the State's coal industry.

Petroleum and Natural Gas.- Estimated recovery of crude oil, representing about 34 percent of the total mineral production value, was 32.9 million barrels valued at \$79.8 million, compared with 30.6 million barrels worth \$74.6 million in 1964. An estimated 60 percent of the crude oil produced came from the Williston Basin.

Marketed production of natural gas increased to 27.4 billion cubic feet from 25.2 billion cubic feet in 1964.

During the first 9 months of 1965, 387 permits were issued by the Montana Oil and Gas Conservation Commission to drill wells, compared to 229 permits issued during the comparable period in 1964. Drilling during the 9-month period totaled 361 wells; 144 yielded oil, 9 were gas discoveries, and 210 were dry.

Humble Oil & Refining Co. completed installing a refining-operations-control center, additional water control equipment, and a hydrocracking unit (the first unit of this type installed by the company in the United States) at its Billings refinery. Sumatra Gasoline Co. installed a natural gasoline plant at Melstone to recover LP gases from about 80 producing natural gas wells in the Sumatra, Stensvad, Ivanhoe Dome, and Keg Coulee fields. Propane, butane, and natural gasoline were produced at the plant which has capacity to process 6 million cubic feet of natural gas per day. Products were trucked from the plant to distributing points throughout the State.

Nine secondary recovery projects by waterflooding were started -- one each in the Ash Creek, Mosby Dome, Ragged Point, Red Creek, and Richey fields and two in the Cut Bank and Kevin-Sunburst fields. About 34 waterflooding projects were active in the State. The greatest source of injection water for projects started in 1965 was from the Madison formation; some was pumped from the third Cat Creek sand unit of the Kootenai formation. Water injected to petroleum reservoirs with initial waterflooding in 1965 varied from 1,000 to 3,000 barrels per day; depths of the reservoirs flooded varied from 1,500 to over 9,000 feet.

Seven companies received authorization to dispose of salt and brackish water to subsurface formations in the Mineral Bench, Outlook, Pondera, Ragged Point, and Weldon fields. Most of the contaminated water was injected to Lower Cretaceous sands at depths between 3,700 and 5,000 feet. Some was returned to the Madison limestone formation at depths of over 6,000 feet. An example of saline-water disposal to abandoned wells in the Williston Basin was the brine-disposal system in the Lookout Butte field of Continental Oil Co., Shell Oil Co., Pan American Petroleum Corp., and Northern Pacific Railway. The brine-disposal system utilized an abandoned well at the edge of Lookout Butte field. The well, plugged back to the Madison formation at a depth of 7,200 feet, received about 2,500 barrels of saline water daily from the operation of over 100 producing wells in the field. The Montana Oil and Gas Conservation Commission became concerned with the problem of salt or brackish water disposal in various fields in Montana. The large expense that petroleum operators incurred and the number of hearings on salt water disposal caused the Commission to review its policy regarding laws, rules, and regulations. The Commission determined that formal hearings would not be required for salt water disposal by petroleum operators; however, all other laws must be complied with regarding submitting applications and notices and receiving authorization approvals.

This report summarizes mineral industry activity in Montana in 1965 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
Calvert	I	1963
Clara (Martin)	I	1963
Crescent	I	1964
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
Virginia Gulch	I	1964

BROADWATER COUNTY

Alpha claim	I	1963
Copper Queen group	I	1964
Iron Magnet	I	1964
January	U	1963
Keating	I	1964
Kleinschmidt	I	1963
Silver Saddle	U	1964
Stabler	U	1963

CARBON COUNTY

Perc No. 14, Marie and Bob group	D	1963
Swamp Frog	I	1963

CASCADE COUNTY

Star	I	1963
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DEER LODGE COUNTY

Gold Coin	U	1963
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GRANITE COUNTY

Algonquin dump	U	1964
Bi-Metallic and Granite	P	1963
Dandy	I	1963
Gypsy Queen	I	1963
Harper	U	1964
Hobo (Hynes and Lynch)	I	1964
I - B	U	1964
Montana Laboratory	I	1964
Silver Crest	U	1964
Senate	U	1963

JEFFERSON COUNTY

Bernice (Salvail)	I	1964
Boulder	I	1964
Homestead	U	1964
Jib tailings	U	1964
Lucky Hit	I	1964
Perhaps Lode	D	1964
Poor Boy	U	1963
Union	I	1963

JUDITH BASIN COUNTY

Block P	I	1964
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SUPPLEMENTAL LIST OF MINING ENTERPRISES--contd.

LEWIS and CLARK COUNTY

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

MADISON COUNTY

Amazon	I	1964
Boulder Cobalt	I	1964
Florence	U	1964
Garnet	I	1963
German Bar placer	I	1964
Gilliam	I	1963
Gold Plate	D	1963
Green Campbell	I	1963
High Ridge	I	1964
Kearsarge	D	1963
Kelley-Massey	P	1963
Mary Ingabar	P	1963
Nichols	I	1963
Ruby	I	1963
Ruby View	U	1963
Shoemaker	I	1964
Snow White	U	1963
Strawberry Extension	I	1964
Tamarack	U	1964

MEAGHER COUNTY

Black Hawk	I	1963
Copper Duke	P	1963
Copperopolis	I	1963
Maybe	I	1963

MINERAL COUNTY

Snowbird	I	1963
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MISSOULA COUNTY

Coloma	I	1963
Eileen Marsha placer	I	1964
Ninemile	I	1964

PARK COUNTY

Republic and Black Rock	I	1963
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PHILLIPS COUNTY

Blue Rock placer	I	1963
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POWELL COUNTY

Hobby Horse	I	1963
Julia, Lilly, Copper King	I	1963
L and M placer	U	1964
Ophir	I	1963
V and G	U	1964

RAVALLI COUNTY

Hughes Creek placer	I	1964
J and I	I	1964
Larrigan placer	I	1964

SANDERS COUNTY

Bonanza Gold	I	1964
Letterman	I	1963

SILVER BOW COUNTY

Adelaid and Mat	I	1963
Little Acre placer	I	1963

STILLWATER COUNTY

Gypsum placer	I	1963
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4. Bannack
5. Beaverhead (Dark Horse) (Mulchy Creek)
6. Big Muddy
7. Blacktail
8. Bloody Dick (Beaverhead)
9. Blue Wing
10. Bryant (Hecla) (Glendale)
11. Chinatown (Armstead)
12. Dillon (Carter Creek) (Frying Pan Basin)
13. Elkhorn (Coolidge) (Wise River)
14. Horse Prairie
15. Jake Creek
16. Lost Creek (Brown's Lake) (Rock Creek)
17. Medicine Lodge
18. Monida
19. Mount Torrey
20. Niccolia
21. Nogo (Apex)
22. Pioneer
23. Polaris (Lost Cloud)
24. Ruby
25. Saginaw (Jackson)
26. Utopia (Birch Creek)
27. Vipond
28. Wisdom (Big Hole)

Blaine County, A-8

29. Bearpaw

Broadwater County, C-5

30. Confederate Gulch (Backer) (Canton) (Diamond City)
31. Deep Creek
32. Hellgate
33. Lone Mountain
34. Maple Gulch
35. Park (Hassel) (Indian Creek) (Townsend)
36. Radersburg (Cedar Plains)
37. Winston (Beaver Creek)

Carbon County, D-7

38. Clark Fork
39. Hellroaring
40. Silver Run

Cascade County, B-5

41. Nelhart (Montana)

Deer Lodge County, D-3

42. Blue Eyed Nellie (Silver Lake)
43. French Gulch
44. Georgetown (Southern Cross) (Cable)
45. Girard
46. Heber (Mill Creek)
47. Lost Creek (Dry Gulch) (Antelope Creek)
48. Oro Fino (Dry Cottonwood)

Fergus County, B-7

49. Cone Butte
50. North Moccasin (Kendall)
51. Warm Springs (Gilt Edge) (Maiden)

Flathead County, A-2

52. Hog Heaven (Flathead) (Kila)
53. Star Meadow (Lupfer)
54. Whitefish

Gallatin County, D-5

55. Eldridge
56. West Gallatin (Spring Hill)

Granite County, C-3

57. Alps (Bonita)
58. Antelope Creek
59. Combination (Henderson) (Black Pine)
60. Dunkleburg
61. Frog Pond Basin
62. Garnet (Top-o'-Deep) (First Chance)
63. Maxville (Wyman) (Gird Creek)
64. Moose Lake
65. Phillipsburg (Flint Creek) (Granite)
66. Red Lion (Cable Mountain)
67. Rock Creek
68. Rose Mountain (Gold Creek)
69. South Boulder (Princeton)
70. Welcome Creek

Jefferson County, C-4

71. Alhambra (Hot Springs) (Golconda)
72. Amazon
73. Basin (Cataract) (Comet)
74. Beaver Gulch
75. Boulder
76. Big Foot (State Creek)
77. Clancy Gulch (Lump Gulch) (Buffalo Creek)
78. Colorado (Corbin) (Gregory) (Wickes)
79. Elkhorn
80. Elk Park
81. Homestake
82. Little Pipestone
83. Lowland
84. McClellan (Mitchell Creek)
85. Montana City
86. Nez Perce
87. Pipestone
88. Whitehall (Cardwell)
89. Whitetail

Judith Basin County, B-6

90. Barker (Hughesville)
91. Running Wolf
92. Yogo

Lake County, B-2

93. Elmo (Chief Cliff)

Lewis and Clark County, B-4

94. Austin (Greenhorn)
95. Blue Cloud
96. Gould-Stemple (Fool Hen) (Poorman)
97. Heddleston (Blackfoot) (Silver)
98. Helena (Last Chance) (Springhill) (Unionville) (Owyhee)
99. Lincoln (McClellan Gulch) (Seven-up Pete Gulch) (Keep Cool Creek) (Liverpool Creek) (Stonewall Mountain)
100. Marysville (Bald Butte) (Ottawa)
101. Missouri River
102. Ophir

103. Rimini (Vaughn) (Bear Gulch)
104. Scratchgravel Hills (Grass Valley)
105. Wolf Creek (Gladstone)
106. York

Lincoln County, A-1

107. Cabinet (Fish River)
108. Libby (Snowshoe)
109. Rainy Creek
110. Sylvanite
111. Tobacco River
112. Troy (Grouse Mountain) (Calahan)
113. Wolf Creek

Madison County, D-5

114. Bismark (Wilma)
115. Cherry Creek
116. McCarthy Mountain
117. Norris (Lower Hot Springs) (Upper Hot Springs)
118. Norwegian Creek
119. Pony (Mineral Hill)
120. Potosi
121. Renova (Bone Basin) (Mayflower)
122. Rochester (Rabbit)
123. Ruby Mountains
124. Sand Creek
125. Sheridan (Mill Creek) (Brandon) (Indian Creek) (Pamshorn)
126. Silver Star (Iron Rod)
127. South Boulder (Mammoth)
128. Tidal Wave (Twin Bridges)
129. Virginia City (Summit) (Pine Grove) (Highland) (Fairweather) (Nevada) (Junction) (Alder Gulch) (Brown's Gulch) (Granite Creek) (William's Gulch) (Barton Gulch)
130. Washington (Meadow Creek) (McAllister)

Meagher County, C-6

131. Beaver (Elk Creek) (Thompson Creek)
132. Castle Mountains
133. Murray (Battle Creek)
134. Musselshell (Copperopolis)

Mineral County, B-2

135. Cedar Creek (Quartz Creek) (Trout Creek)
136. Denemora (Big Elk) (Saltese)
137. Iron Mountain (Superior)
138. Keystone
139. Packer Creek
140. Rock Island
141. St. Regis (Deer Creek) (Ward)
142. Clinton (Wallace)
143. Coloma (Potomac)
144. Copper Cliff
145. Elk Creek
146. Nine Mile Creek (Kennedy Creek)
147. Petty Creek
148. Woodman (Lolo)

Park County, D-6

149. Cowles (Haystack)
150. Crevasse

151. Emigrant (Chico)
152. Horseshoe
153. Jardine (Bear Gulch) (Sheepater)
154. New World (Cooke City) (Blackmore)

Phillips County, A-9

155. Little Rockies (Landusky) (Zortman)

Powell County, C-4

156. Big Blackfoot (Helmville)
157. Elliston (Ontario) (Nigger Hill)
158. Emery (Zosell)
159. Finn (Washington) (Jefferson, and) (Buffalo Gulches)
160. Garrison
161. Ophir (Snowshoe) (Deadwood)
162. Oro Fino (Gold Creek)
163. Pioneer
164. Racetrack (Danielsville)

Ravalli County, C-2

165. Curlew
166. Hughes Creek (Alta) (Overwich)
167. Mineral Point
168. Pleasant View
169. Slate Creek
170. Three Mile

Sanders County, B-1

171. Blue Creek (Heron)
172. Camas Prairie (Perma)
173. Plains
174. Prospect Creek
175. Revais Creek (Dixon)
176. Sleepy Creek (Belknap)
177. Silver Butte (Vermillion) (Cabinet)
178. Spring Gulch
179. Thompson River
180. Trout Creek
181. White Pine (Eagle)

Silver Bow County, D-4

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183. Butte (Summit Valley) (Lost Child)
184. Divide Creek
185. Fleeceer Mountain
186. German Gulch (Siberia)
187. Highland
188. Independence
189. Melrose (Camp Creek) (Soap Gulch)
190. Moose Creek

Stillwater County, D-7

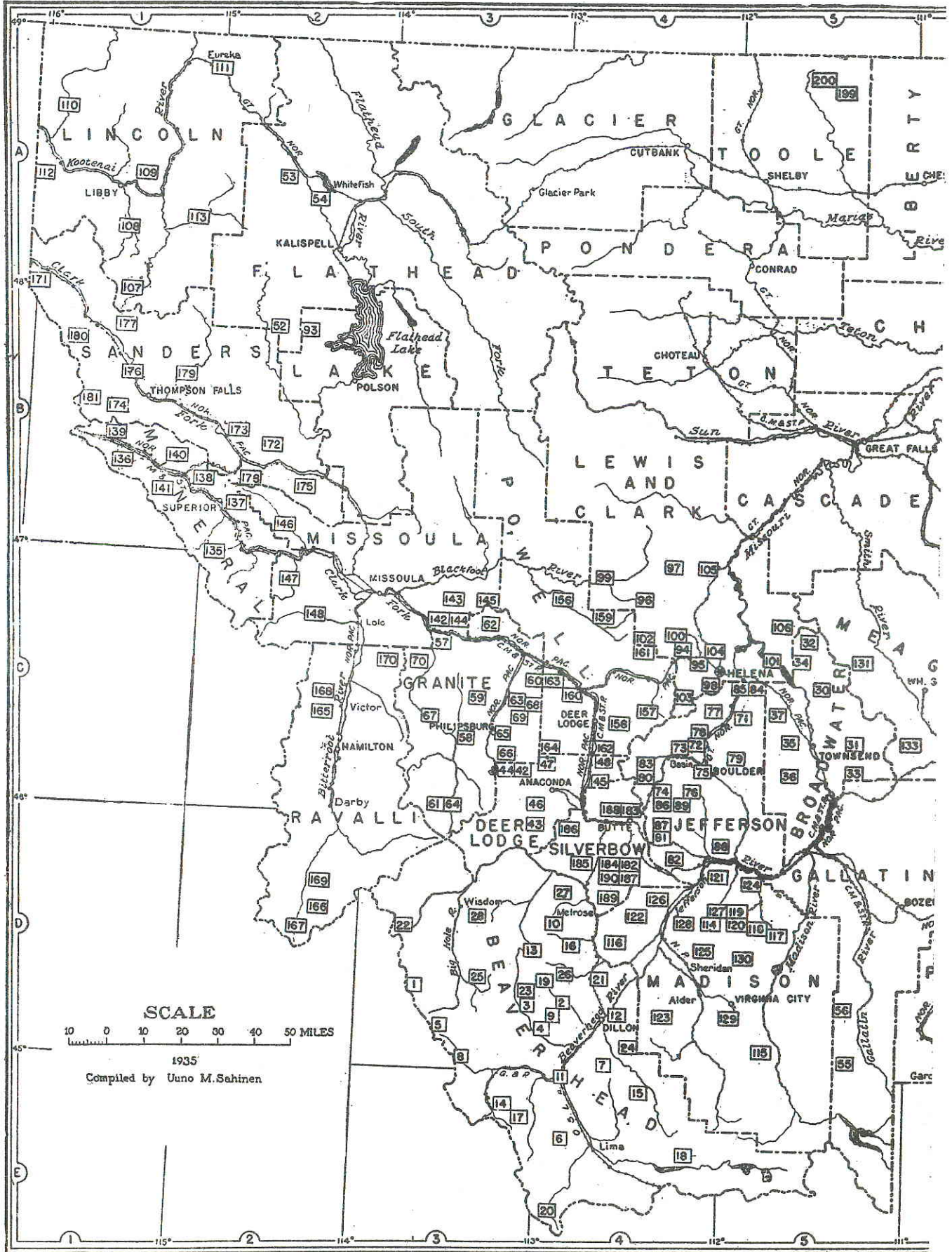
191. Nye
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Sweet Grass County, D-6

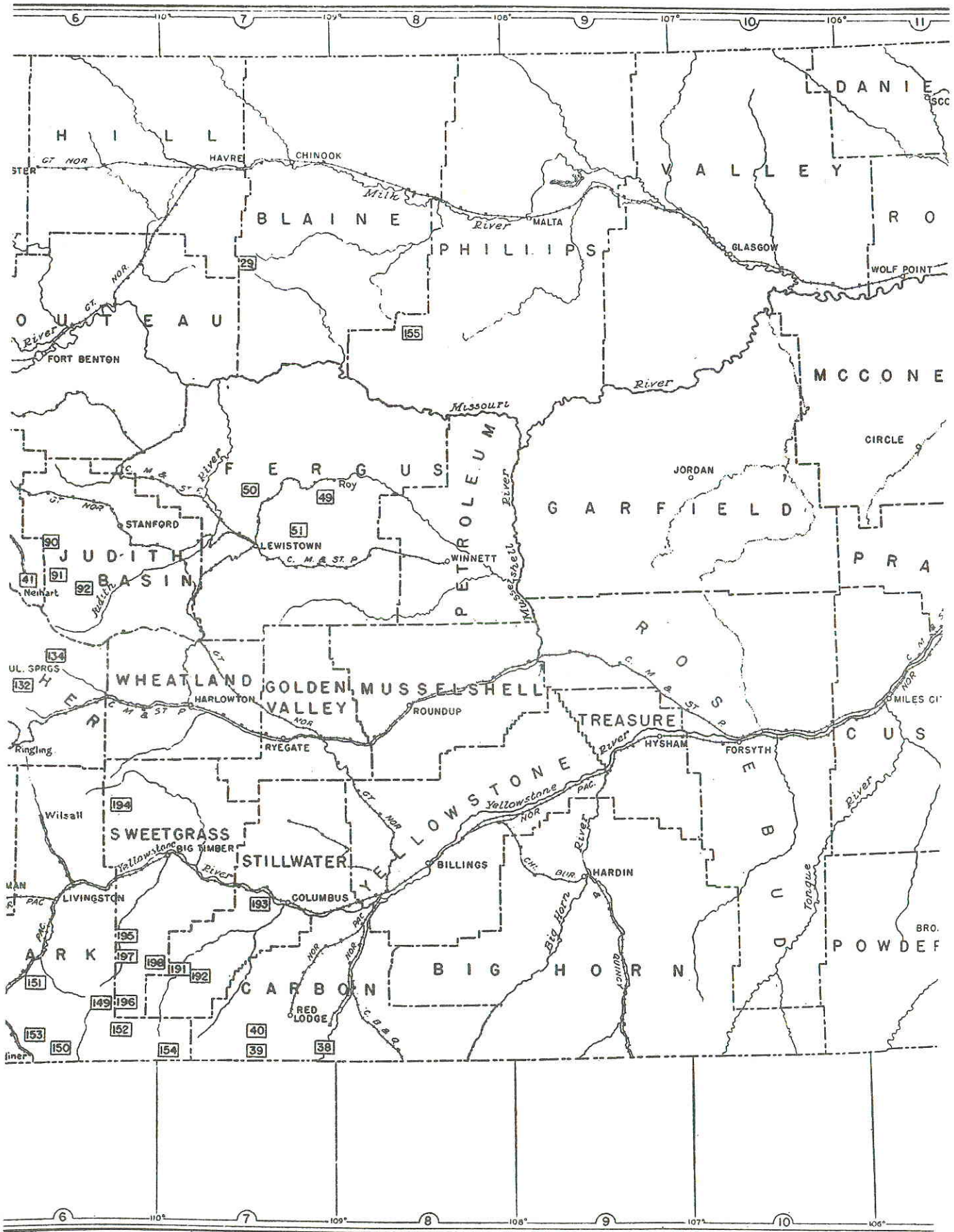
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198. West Stillwater

Toole County, A-5

199. Gold Butte
200. West Butte



MAP SHOWING DISTRIBUTION OF



MINING DISTRICTS IN MONTANA

