

STATE OF MONTANA

Tim Babcock, *Governor*

BUREAU OF MINES AND GEOLOGY


E. G. Koch, *Director*

BULLETIN 25

January, 1962

DIRECTORY OF KNOWN MINING ENTERPRISES
1961

with a section on
THE MINERAL INDUSTRY OF MONTANA
1961



MONTANA BUREAU
of
MINES AND GEOLOGY

Butte, Montana

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DIRECTORY OF KNOWN
MINING ENTERPRISES, 1961

Compiled by

Frank A. Crowley
Montana Bureau of Mines and Geology

with

LIST OF ACTIVE COAL MINES, 1961

By Thomas Morgan
State Coal Mine Inspector

And Section on

THE MINERAL INDUSTRY OF MONTANA IN 1961

By F. B. Fulkerson and G. A. Kingston
U. S. Department of the Interior, Bureau of Mines



MONTANA SCHOOL OF MINES
Butte, Montana
January 1962



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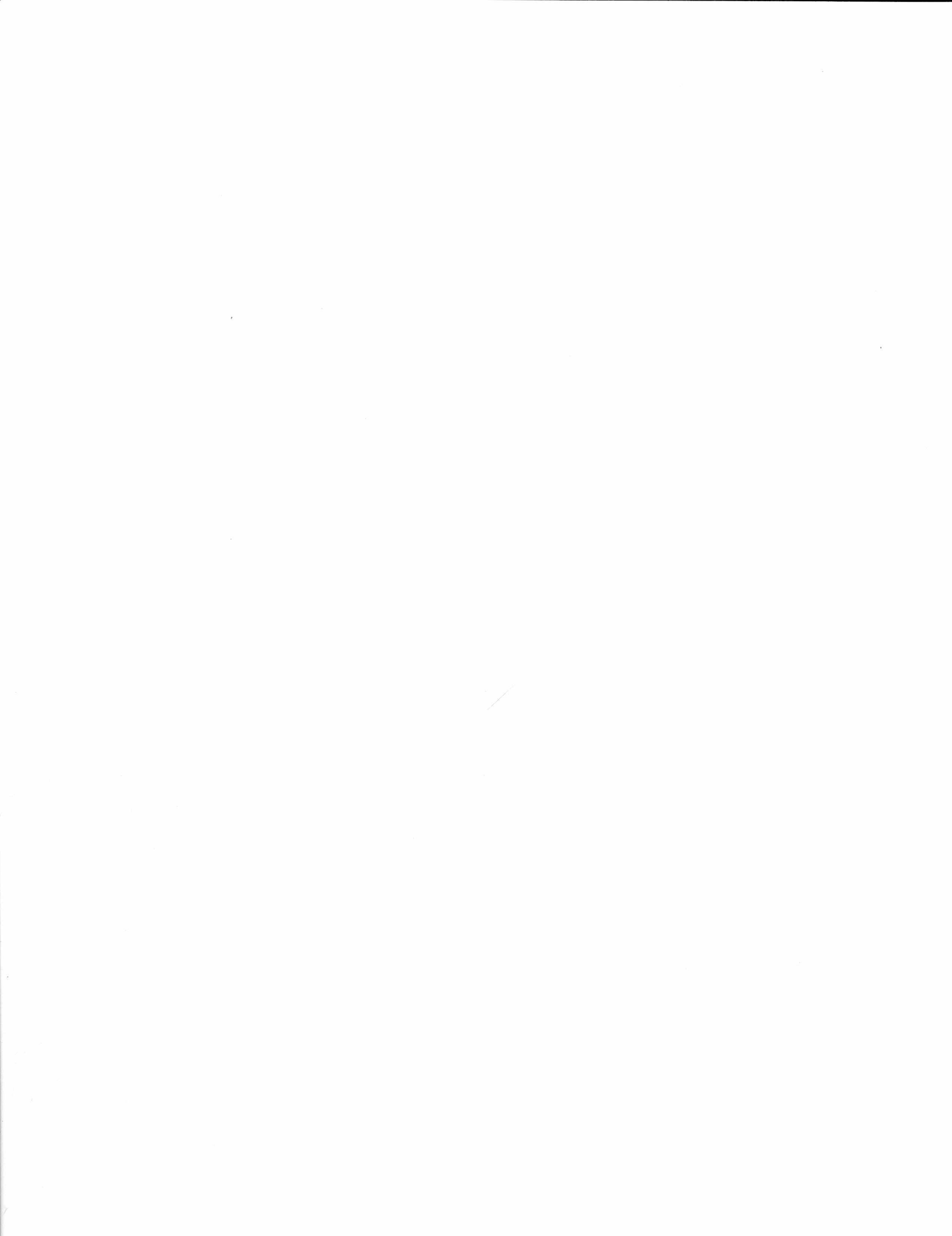
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D I R E C T O R Y O F K N O W N
M I N I N G E N T E R P R I S E S , 1 9 6 1

Compiled by
Frank A. Crowley

INTRODUCTION

To keep abreast of the mining activity in Montana during 1961, the Montana Bureau of Mines and Geology has once again compiled this list of known mining enterprises active during 1961. Those of you who received previous listings for the years 1953 through 1957 will note a change in the arrangement of listings. The mines are listed alphabetically under counties and the location by section, township, range, and mining district has been given for those mines whose exact location is known to us. A map of Montana showing the different mining districts is included which will facilitate finding the area of a mine location.

Every possible effort has been made to have the information exact and complete. The inclusion of a property in the directory, however, is in no sense an endorsement of it, and responsibility for statements made rests with the person who furnished the data, and not with the Bureau of Mines and Geology. Correspondingly, omission of the property is not to be construed as a reflection on the merits of the property itself. Such omissions as occur are traceable to the failure of the last known operator to respond to repeated requests for necessary information. Nevertheless, in almost all such cases the missing data has been supplied from the most reliable sources available.

A special list of companies, which are inactive, idle, or dormant, has been added. Needless to say, it would be impossible to list all such companies in Montana. Therefore, in this bulletin the list will include those companies that have not returned our questionnaires or companies inactive for three or more years.

If any of you can provide us with the necessary additional information, or note a change in status of a mine, please forward such information. We strive to keep this yearly publication as up to date as possible, but we need your help.

The abbreviations used throughout this directory are as follows:
sec. - section; T. - township; R. - range; t/d - tons per day.

BEAVERHEAD
County Seat: Dillon

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>AMARANTH MINE Operator: George V. Elder, Box 14, Dillon, Montana Owner: G. V. Elder and A. V. Elder, Box 14, Dillon, Montana Status: Developing</p>	Lead, silver	Argenta district, sec. 29, T. 6 S., R. 10 W.
<p>AMAZON MINE Operator: Al Ward, Dillon, Montana Owner: R. A. Malesich, Dillon, Montana Status: Producing</p>	Copper	Stone Creek district,
<p>BANNACK MINE Operator: Spokane National Mines, Inc., Field Office, Bannack, Montana Owner: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane Washington Mill capacity: 100 t/d Employees: 16 Status: Producing</p>	Gold	Bannack district, NW $\frac{1}{4}$ sec. 8, T. 8 S., R. 11 W.
<p>BLACKSTONE MINE Operator: W. H. Olson, Box 87, Melrose, Montana Owner: Same as operator Status: Inactive</p>	Manganese oxide	Bryant district, sec. 29, T. 2 S., R. 9 W.
<p>BOAZ MINE Operator: James B. Shaffer, 207 W. Center St., Dillon, Montana Owner: Same as operator Status: Producing</p>	Gold	Montana Mining district
<p>CALVERT MINE Operator: Minerals Engineering Co., Box 94, Glen, Montana Owner: Same as operator Mill capacity: 750 t/d Employees: 50 Status: Producing</p>	Tungsten	Wise River district, sec. 12, T. 1 N., R. 12 W.

BEAVERHEAD, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>CANYON CREEK PHOSPHATE MINE Operator: Victor Chemical Works, Division of Stauffer Chemical Co., Henry F. Johnson, Supt., Box 1966, Butte, Montana Owner: Victor Chemical Works, Rothe Weigel, Pres., 155 N. Wacker Dr., Chicago, Ill. Status: Producing and developing</p>	<p>Phosphate rock</p>	<p>Canyon Creek district, sec. 6, T. 2 S., R. 9 W.</p>
<p>CARTER CREEK MINE Operator: Carter Creek Holdings Corp., c/o North American Holdings Ltd., Suite 800, 1420 Sherbrooke St. West, Montreal 25, Quebec, Canada Owner: North American Utilities Corp., et al, Dillon, Montana Status: Inactive</p>	<p>Iron Ore</p>	<p>Carter Creek district, secs. 3, 9, 10, T. 8 S., R. 7 W,</p>
<p>CHARTER OAK MINE Operator: Kelly Herr, Box 368, Dillon, Montana Owner: F. E. Herr, Box 368, Dillon, Montana Status: Developing</p>	<p>Gold, silver, copper, lead</p>	<p>Blue Wing district, SW$\frac{1}{4}$NE$\frac{1}{4}$ sec. 4, T. 8 S., R. 11 W.</p>
<p>CLEVE MINE Operator: Lively Mining Co., Box 96, Melrose, Montana Owner: Conway Estate, c/o Mrs. A. French, 114 Reeder St., Dillon, Montana Employees: 2 Status: Producing</p>	<p>Gold, silver, silica</p>	<p>Bryant (Hecla) district, sec. 1, T. 3 S., R. 11 W.</p>
<p>COMET MINE Operator: H. L. Patterson and Roger Pierce, 509 Kentucky Ave., Dillon, Montana Owner: Same as operator Employees: 1 Status: Producing and developing</p>	<p>Gold, silver, lead, copper</p>	<p>Elk Horn district sec. 26, T. 4 S., R. 12 W.</p>

BEAVERHEAD, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
CROSS MINE Operator: Lee Smith and Ray E. Riley, 645 Kentucky, Dillon, Montana Status: Producing	Gold, silver	
CROWN-SMITH-DILLON MINE Operator: Tri-State Minerals, Dillon, Montana Owner: Clyde Smith, Dillon, Montana Mill capacity: 24,000 t/y. Employees: 37 Status: Producing and developing	Talc	Axes Creek district, sec. 23, T. 8 S., R. 8 W.
DIADEM GROUP MINE Operator: Diadem Co., 618 S. Jefferson Ave., Spokane 4, Washington Owner: J. F. Arnold (Co-owner), Wisdom, Montana Employees: 7 (Part time) Status: Developing	Gold, silver, lead, copper	Pioneer district, sec. 7 & 18, T. 2 S., R. 14 W.
FAITHFUL MINE Operator: Harold A. Braham, 939 Waukesha St., Butte, Montana Owner: Helen J. Browne Estate, Box 399, Butte, Montana Employees: 3 Status: Developing	Gold, silver	Vipond district
GOB MINE Operator: Sodak Uranium and Mining Co., Inc., c/o Clyde Boyle, 60 St. Charles, Rapid City, South Dakota Owner: Same as operator Status: Inactive	Manganese oxide	Apex unorganized district, N $\frac{1}{2}$ sec. 16, T. 5 S., R. 10 W.
GRAY JOCKEY MINE Operator: Rex F. Henningsen, 941 W. Woolman, Butte, Montana Owner: Jacobs Estate, First National Bank, Missoula, Montana Employees: 5 Status: Producing	Silver, gold, silica	Vipond district, secs. 2, 3, T. 2 S., R. 11 W.

BEAVERHEAD, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>HECLA MINE Operator: L. B. Lively, Melrose, Montana Owner: Conway Estate, c/o Mrs. A. French, 114 Reeder St., Dillon, Montana Status: Producing</p>	<p>Gold, silver</p>	<p>Bryant Hecla dis- trict, sec. 2, T. 3 S., R. 11 W.</p>
<p>HENDRICKS MINE Operator: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane 1, Washington Owner: Same as operator Mill capacity: 200 t/d Employees: 11 Status: Producing and developing</p>	<p>Gold</p>	<p>Blue Wing district, sec. 6, T. 8 S., R. 11 W.</p>
<p>JACK MINE Operator: Robert L. Curry, 524 N. Washington St., Dillon, Montana Owner: H. C. Russell, 1711 Perkins Lane, Seattle 99, Washington Status: Inactive</p>	<p>Lead, gold, silver</p>	<p>Argenta district,</p>
<p>JACKSON MINE Operator: Noel Jackson, Jackson, Montana Owner: Same as operator Status: Developing</p>	<p>Silver, lead</p>	<p>Miner district</p>
<p>LAST CHANCE MINE Operator: Techmanix Corp., 76 West 6th South, Salt Lake City, Utah Owner: Sawyer Petroleum Co., 650 So. Grand Ave., Los Angeles, California Employees: 3 Status: Developing</p>	<p>Thorium</p>	<p>Frying Pan Creek district, secs. 20, 28, 29, T. 10 S., R. 15 W.</p>
<p>MAULDEN MINE Operator: Hand Mines, 30 S. Arizona St., Dillon Montana Owner: Ida B. Hand, Dillon, Montana Employees: 3 Status: Producing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Argenta district, NW$\frac{1}{4}$NW$\frac{1}{4}$ sec. 29, T. 6 S., R. 10 W.</p>

BEAVERHEAD, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>MAY DAY MINE Operator: Rudy Nygren, Argenta Star Route, Dillon Montana Owner: John Thulsen, 606 S. Merriam St., Miles City Montana Status: Developing</p>	<p>Gold, lead, silver</p>	<p>Argenta district, sec. 7, T. 6 S., R. 10 W.</p>
<p>MOOSE HORN MINE Operator: Moose Horn Mining Co., c/o Arden Griffith, Franklin, Idaho Owner: Same as operator Status: Developing</p>	<p>Iron ore</p>	<p>Wisdom district, secs. 19, 20, T. 3 S., R. 17 W.</p>
<p>NEW DEPARTURE MINE Operator: Spokane National Mines, Inc. and Sunset Mines, Inc., 414 Fernwell Bldg., Spokane 1, Washington Owner: Spokane National Mines, Inc., 414 Fernwell Bldg., Spokane, Washington Mill capacity: 150 t/d Employees: 30 Status: Producing</p>	<p>Gold, silver, lead, copper, zinc</p>	<p>Blue Wing district, NW$\frac{1}{4}$NW$\frac{1}{4}$ sec. 26, T. 7 S., R. 11 W.</p>
<p>POLARIS MINE Operator: Hand Mines, 30 S. Arizona St., Dillon, Montana Owner: Milton E. Hayes, Dillon Montana Mill capacity: 125 t/d Employees: 3 Status: Producing</p>	<p>Silver</p>	<p>Polaris (Lost Cloud) district, sec. 28, T. 5 S., R. 12 W.</p>
<p>QUARTZ HILL TAILINGS Operator: Alf C. Kremer, 1149 Antimony St., Butte, Montana Owner: Quartz Hill Mining Co., Employees: 4 Status: Producing</p>	<p>Silver, silica</p>	<p>Quartz Hill dis- trict, sec. 25, T. 1 S., R. 11 W.</p>
<p>SPARKLE MINE Operator: E. R. Sloan, 520 W. Silver, Butte, Montana Owner: Same as operator Status: Unknown</p>	<p>Mica</p>	<p>11 miles SE of Dillon</p>

BEAVERHEAD, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>YELLOW BAND (SHAFER GROUP) MINE Operator: John H. Shafer, 207 W. Center St., Dillon, Montana Owner: John H. Shafer & Associates, 207 W. Center St., Dillon, Montana Status: Producing and developing</p>	<p>Gold, silver</p>	<p>Argenta district, SE$\frac{1}{4}$SE$\frac{1}{4}$ sec. 2, T. 6 S., R. 11 W.</p>
<p>WHITE LIME GROUP MINE Operator: Rudy Nygren, Argenta Star Route, Dillon, Montana Owner: Same as operator Status: Developing</p>	<p>Limestone</p>	<p>Argenta district, sec. 17, T. 6 S., R. 10 W.</p>

Note: The Redwing and Liberty Mines were also productive in 1961 but other information is not available.

BLAINE COUNTY
 County Seat: Chinook

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>LINDA MINE Operator: Bear Paw Develop- ment Co., c/o Homer Pike, 1639 - 5th Ave. N.W., Great Falls, Montana Owner: Bear Paw Development Co., 1639 - 5th Ave. N.W., Great Falls, Montana Employees: 2 Status: Developing</p>	<p>Lead, silver</p>	<p>Bear Paw Mountains, sec. 19, T. 29 N., R. 19 E.</p>

BROADWATER COUNTY
 County Seat: Townsend

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>COPPER QUEEN MINE Operator: Wayne Miller and J. C. Forkner, Radersburg, Montana Owner: John J., Elmer, and Louisa Rothfus, Butte, Montana Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Cedar Plains (Radersburg) dis- trict, NE$\frac{1}{4}$ sec. 9, T. 5 N., R. 1 W.</p>

BROADWATER, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
CUSTER HYANTHA MINE Operator: Custer Hyantha Mines, Box 194, Winston, Montana Status: Inactive	Lead, zinc	2 miles south of Winston
EAST PACIFIC MINE Operator: East Pacific Co., Box 655, Helena, Montana Owner: Minmont Co., c/o R. Kurth, Great Falls, Montana Employees: 4 Status: Developing	Gold, silver, lead, zinc	Winston district, sec. 26, 27, T. 8 N., R. 1 W.
ERICKSON #1, 2, 3, MINE Operator: William Zimmerman, Townsend, Montana Owner: Same as operator Status: Developing	Gold, silver, lead	Hassel district
GOLD BUG & MARY ROSE MINE Operator: Multiform Mining & Exploration Co., 1847 Prince- ton Ave., St. Paul, Minnesota Owner: Same as operator, T. E. Carpentier, Pres. Status: Developing	Gold, silver, copper, lead, zinc	Cedar Plains district, sec. 18, T. 6 N., R. 1 E.
GREEN & WADDEL PLACER Operator: Indian Creek Mining Co., Pudget Sound Bank Bldg., Tacoma, Washington Owner: Green & Waddel, Town- send, Montana Status: Inactive	Gold	Indian Creek district, sec. 32, T. 7 N., R. 1 E.
IRON CROSS (IRON DUKE) MINE Operator: Ralls & Harris Bros., Box 114, Radersburg, Montana Owner: Same as operator Status: Producing	Iron ores	Cedar Plains (Raders- burg) district, sec. 12, T. 5 N., R. 1 W.
JANUARY MINE Operator: Arthur Hogan, Winston, Montana Owner: G. E. O'Neill, Helena, Montana Status: Producing	Gold, silver, copper, lead, zinc	Winston district, sec. 26, 27, T. 8 S., N., R. 1 W.

BROADWATER, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>KLEINSCHMIDT MINE Operator: George Relyea, Box 85, Garrison, Montana Owner: Minmont Mining Co., c/o R. Kurth, Great Falls Montana Status: Inactive</p>	<p>Gold, silver, lead, copper, zinc</p>	<p>Beaver Creek (Winston) district, NW$\frac{1}{4}$SE$\frac{1}{4}$ sec. 3, T. 8 N., R. 1 W.</p>
<p>MARIETTA MINE Operator: Northern Milling Co., Box 361, Townsend, Montana Owner: Harry Anders, Al Dance and Northern Milling Co., Townsend, Montana Mill capacity: 200 t/d Employees: 25 Status: Producing and developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Park (Indian Creek) district, sec. 15, T. 7 N., R. 1 W.</p>
<p>PALMER ENGH PLACER Operator: A. J. Cheff, 10054 W. Marginal Way, Seattle, Washington Owner: Palmer Engh, Townsend, Montana Employees: 7 Status: unknown</p>	<p>Gold</p>	<p>Indian Creek dis- trict, sec. 1, T. 6 N., R. 1 W., and sec. 36, T. 7 N., R. 1 W.</p>
<p>SILVER SADDLE MINE Operator: Harold R. Hogan, 1207 - 9th St., Helena Montana Owner: Same as operator Status: Developing</p>	<p>Gold, lead, zinc</p>	<p>Beaver Creek (Winston) district</p>
<p>VALLEY VIEW MINE Operator: Warren Schreiner, Box 390, Townsend, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, lead, zinc, copper</p>	<p>Park district, sec. 24, T. 7 N., R. 1 E.</p>

CARTER COUNTY
County Seat: Ekalaka

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
VARIOUS OPEN PITS Operator: National Lead Co., Baroid Division, P. O. Box 1675, Houston 1, Texas Owner: Same as operator Status: Inactive	Bentonite	T. 9 S., R. 58 and 59 E.

CARBON COUNTY
County Seat: Red Lodge

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
BICE MINE Operator: Hidden Splendor Mining Co., Box 487, Lovell, Wyoming Owner: Bice Mining Co., Loren Bice, Pres., Billings, Montana Employees: 6 Status: Unknown	Uranium	Pryor Mountains district, secs. 4, 7, 8, 9, T. 8 S., R. 27 E.
FRAN #2 AND FRAN #3 MINE Operator: Planet Exploration Corp., Box 474, Lovell, Wyo. Owner: Same as operator Status: Developing	Uranium	Pryor Mountains district, sec. 7, T. 9 S., R. 28 E.
SANDRA MINE Operator: Midland Mining Co., C. M. Hauptman, Pres., 207 Hedden Bldg., Billings, Montana Owner: Same as operator Status: Inactive	Uranium	Pryor Mountains district, NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 9 S., R. 27 E.
SWAMP FROG MINE Operator: Prytana Mining Co., Box 775, Forsyth, Montana or Box 861, Grand Junction, Colo. Owner: Dean-Stoick-Balboa, Forsyth, Montana Status: Producing and developing	Uranium	Pryor Mountains district, sec. 21, T. 9 S., R. 27 E.
WARREN QUARRY MINE Operator: Weaver Construction Co., P. O. Box 60, Billings, Montana Owner: The Bighorn Limestone Co., P. O. Box 5308, Denver, Colo. Mill capacity: 750 t/d Employees: 20 Status: Producing	Limestone	T. 8 S., R. 25 and 26 E.

CASCADE COUNTY
County Seat: Great Falls

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>ARMINGTON MINE Operator: Robert Smerker, Armington, Montana Owner: The Anaconda Co., 25 Broadway, New York 4, N. Y. Mill capacity: 15 t/d Employees: 2 Status: Producing</p>	Fire clay	
<p>BIG BEN MINE Operator: American Metal Climax, Inc., Neihart, Montana Owner: Frank Mansikka and Dean V. Goings, Neihart, Montana Employees: 10 Status: Developing</p>	Molybdenum	Neihart district, T. 14 N., R. 8 E.
<p>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: Developing</p>	Gold, silver, lead, zinc	Montana (Neihart) district, sec. 28, T. 14 N., R. 8 E.
<p>STAR MINES Operator: Lewis B. Stark, Neihart, Montana Owner: Same as operator Mill capacity: 50-75 t/d Status: Inactive</p>	Silver, lead, zinc	Montana (Neihart) district, secs. 29, 30, T. 14 N., R. 8 E.
<p>TREASURELITE SHALE MINE Operator: Treasurelite Divi- sion of Industrial Products Inc., Great Falls, Montana Owner: Same as operator Mill capacity: 200 t/d Employees: 3-8 Status: Producing</p>	Expanded shale (light- weight aggregate)	Sec. 13, T. 21 N., R. 3 E.

DEER LODGE COUNTY
County Seat: Anaconda

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
BROWNS QUARRY Operator: The Anaconda Co., Butte, Montana Status: Producing	Metallurgical limestone	Sec. 23, T. 5 N., R. 12 W.
CAMERON QUARTZ LODE Operator: Thomas M. Moe, West of Anaconda, Montana Owner: The Anaconda Co., Hennessy Bldg., Butte, Montana Status: Developing	Silver, gold, silica	Nelly district, sec. 21, T. 5 N., R. 12 W.,
CHAMPION MINE Operator: Ray Kalstead, Deer Lodge, Montana Owner: The Anaconda Co., Butte, Montana Status: Producing	Gold, silver	Oro Fino (Dry Cotton- wood) district, secs. 28 & 33, T. 6 N., R. 8 W.
4-SOME MINE Operator: 4-Some Mining Co., Wm. J. Fenner, 1613 Ogden Ave., Anaconda, Montana Owner: Same as operator Status: Inactive	Tungsten	Olson Gulch district, sec. 15, T. 15 N., R. 12 W.
GOLD COIN MINE Operator: David B. Kinerk, Cable Road, Anaconda, Montana Owner: H. H. Hoben, 3 H Ranch, Philipsburg, Montana Mill capacity: 30 t/d Employees: 3 Status: Producing	Gold	Georgetown district, sec. 21, T. 5 N., R. 13 W.
PLACES FIRE CLAY MINE Operator: Harold Snow, Box 1155, Anaconda, Montana Owner: Same as operator Status: Producing	Clay	Sec. 34, T. 5 N., R. 11 W.
SILVER REEF MINE Operator: None Owner: Robert H. Montgomery, Box 432, Anaconda, Montana	Gold, silver	Silver Lake district, sec. 22, T. 5 N., R. 13 W.

Note: Silver Chain Mine also produced, but information not available.

FERGUS COUNTY
County Seat: Lewistown

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
BLACK BULL MINE Operator: Granville S. Abbott, Giltedge, Montana Owner: Same as operator Status: Unknown	Gold, silver, lead, copper, zinc	Warm Springs (Virgin Gulch) district, sec. 7, T. 16 N., R. 20 E.
BEAVER CREEK AND LEWISTOWN PITS Operator: Lewistown Brick & Tile Co., P. O. Box 573, Lewistown, Montana Owner: Same as operator Status: Producing	Brick clay	
HANOVER MINE Operator: Ideal Cement Co., 601 Denver National Bldg., Denver 2, Colorado Owner: Same as operator Employees: 12 Status: Producing	Gypsum	Secs. 22, 27, T. 16 N., R. 17 E.
SHOEMAKER (HEATH) MINE Operator: U. S. Gypsum Co., Heath, Montana Owner: U. S. Gypsum Co., 300 W. Adams, Chicago 6, Illinois Mill capacity: 400 t/d Employees: 10 Status: Producing	Gypsum	Secs. 1, 2, T. 14 N., R. 19 E.

FLATHEAD COUNTY
County Seat: Kalispell

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
FLATHEAD MINE Operator: Waino Lindbom, 1545 $\frac{1}{2}$ -7th Ave. West, Kalispell, Montana Owner: The Anaconda Co., Hennessy Bldg., Butte, Montana Employees: 4 Status: Producing	Silver, lead	Hog Heaven district, sec. 17, T. 25 N., R. 23 W.
O. F. MARTIN MINE Operator: O. F. Martin, Box 514, Hot Springs, Montana Owner: Northern Pacific Rail- way Co., St. Paul, Minnesota Employees: 2 Status: Developing	Gold, silver, lead, zinc, copper	Hog Heaven district, SE $\frac{1}{4}$ sec. 20, T. 25 N., R. 23 W.

GALLATIN COUNTY
County Seat: Bozeman

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>THUMPER LODE #1 Operator: Ames Mining Inc., Box 64, Bozeman, Montana Owner: Same as operator Status: Producing</p>	Mica	Sec. 30, T. 4 S., R. 5 E.
<p>TRIDENT QUARRY Operator: Ideal Cement Co., Three Forks Portland Cement Div., V. T. Williams, 620 Denver National Bank Bldg., Denver, Colorado Owner: Same as operator Status: Producing</p>	Limestone	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 3 N., R. 2 E.

GRANITE COUNTY
County Seat: Philipsburg

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>BI-METALLIC MINE Operator: Trout Mining Co., Philipsburg, Montana Owner: Contact Mining Co., 524 S. Washington, Butte Montana Status: Developing</p>	Manganese carbonate, silver, lead, zinc	Flint Creek district, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec, 32, T. 7 N., R. 13 W.
<p>BLACK PINE DUMP MINE Operator: John C. Bork, 519 W. Porphyry, Butte, Montana Owner: Same as operator Employees: 2 Status: Producing</p>	Gold, silver, copper, tungsten	Flint Creek district
<p>BROOKLYN MINE Operator: American Exploration & Mining Co., 2300 Russ Bldg., San Francisco, California Owner: Black & White Mining Co., c/o Roger Little, Pres., 2316 Cloverdale Drive, Missoula, Montana Status: Developing</p>	Silver, copper, lead, zinc	Boulder (South Boulder) district, SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T. 7 N., R. 12 W.

GRANITE, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>CLIMAX (MARONEY) MINE Operator: Montana Climax Corp., Box 421, Philipsburg, Montana Owner: James A. Poore, Jr., 1200 W. Platinum, Butte, Montana Employees: 5 Status: Producing and developing</p>	<p>Silver, copper, manganese oxide</p>	<p>Flint Creek (Philipsburg) SE$\frac{1}{4}$NE$\frac{1}{4}$ sec. 30, T. 7 N., R. 11 W.</p>
<p>DANDY MINE Operator: J. D. Hollowell, Drummond, Montana Owner: Louis Imhof, 785 Park Ave., New York 21, N. Y.</p>	<p>Gold, silver, zinc</p>	<p>Garnet-Elk Creek (Philipsburg) district, secs. 1, 2, T. 12 N., R. 14 W.</p>
<p>GOLD KING MINE Operator: H. B. Kaiser, Philipsburg, Montana Owner: Edward H, Robert, Walter, and H. B. Kaiser, and George Jenkins Employees: 4 Status: Producing and developing</p>	<p>Gold</p>	<p>Unorganized district, sec. 35, T. 8 N., R. 13 W.</p>
<p>GYPSY QUEEN MINE Operator: Gypsy Queen Mining Co., c/o Harley L. Pitman, Deer Lodge, Montana Owner: Same as operator Status: Inactive</p>	<p>Tungsten</p>	<p>Unorganized district, secs. 1, 2, 11, 12, T. 7 N., R. 12 W.</p>
<p>HARPER & LEWIS MINE Operator: Montana Climax Corp., Box 421, Philipsburg, Montana Owner: August Buschmann, Seattle, Washington Status: Producing and developing</p>	<p>Gold, silver, copper, tungsten, lead</p>	<p>Flint Creek (Philipsburg)</p>
<p>JACKIE MARIE (SPOKANE) MINE Operator: Jackie Marie Mining Co., Drummond, Montana Owner: Charles & George Grant, P. O. Box 485, Gresham, Oregon Status: Developing</p>	<p>Gold</p>	<p>Garnet district</p>

GRANITE, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
M. & T. MINE Operator: Walter Benz Philipsburg, Montana Owner: Lindquist and Lahood, Box 373, Whitehall, Montana Status: Unknown	Silver, lead, copper, zinc	Moose Lake district
MICKY MINE Operator: Garrett Mining & Milling Co., c/o Eugene Garrett, Box 324, Anaconda Montana Owner: Eugene Garrett, Anaconda Montana, and Violet O'Donnell, Spokane, Washington Mill capacity: 15 t/d Employees: 1 Status: Developing	Gold, bismuth, manganese	Red Lion district, secs. 22, 27, 28, T. 6 N., R. 13 W.
MONTANA TONAPAH MINE Operator: Treasure State Uranium Corp., 1301 Porphyry St., Butte, Montana Status: Producing	Gold	Princeton district
MYSTERY MINE Operator: Phil Salois, Box 812, Philipsburg, Montana Owner: Same as operator Status: Inactive	Manganese oxide	Flint Creek (Philipsburg) district, NW $\frac{1}{4}$ sec. 30, T. 7 N., R. 13 W.
NON-PAREIL MINE Operator: R. J. MacCalman, 1010 - 5th St., Deer Lodge, Montana Owner: Non-Pareil Mining Co., C. H. Bielenberg, Sec.-Treas., 801 Milwaukee, Deer Lodge, Montana Status: Inactive	Silver, lead	Boulder (South Boulder) district, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 8 N., R. 12 W.
RUMSEY TAILINGS Operator: Dick Tunstill, Philipsburg, Montana Owner: Dr. Nesbit, Guam Mill capacity: 60 t/d Status: Producing Employees: 2	Silica, silver, gold	Secs. 15, 16, T. 6 N., R. 13 W.

GRANITE, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
SUNDAY MINE Operator: R. J. MacCalman, 1010 - 5th St., Deer Lodge, Montana Owner: R. W. Marshall, New York, and A. V. Corry, Butte, Montana Status: Developing	Gold	Boulder district, SW $\frac{1}{4}$ sec. 27, T. 8 N., R. 12 W.
SUNSET (PLACER) MINE Operator: Ben Walkup, Box 644, Philipsburg, Montana Owner: Same as operator Status: Developing	Gold	Maxville district, T. 8 N., R. 12 W.
TROUT ALGONQUIN MINE Operator: Trout Mining Co., C. A. McKinley, Gen. Mgr., Philipsburg, Montana Owner: Trout Mining Co., Chas. A. R. Lambly, Pres., 233 Broadway, New York 7, New York Status: Producing and developing	Manganese oxide, gold, manganese carbonate, silver, copper, lead, zinc	Flint Creek (Philipsburg) district, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 7 N., R. 13 .
TRUE FISSURE, DURANGO & MOORLIGHT GROUP Operator: Taylor-Knapp Co., c/o Don Johnson, Box FF, Philipsburg, Montana Owner: Same as operator Mill capacity: 120 t/d Employees: 33 Status: Producing	Gold, lead, silver, zinc, manganese oxide, Manganese carbonate	Flint Creek (Philipsburg) district, W $\frac{1}{2}$ NW $\frac{1}{4}$ sec. 29, T. 7 N., R. 13 W.

Note: The following mines are reported as being productive in 1961, but detailed information not available: Cudgie Taylor, Granite Mountain Dump and Tailings, Jefferson Tailings, Maxville Tailings, Minnie Lee, Moose Lake Tailings, Moose Trail, Mountain Boy, New Seattle Dump, and Potosi Lode.

JEFFERSON COUNTY
County Seat: Boulder

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>AJAX MINE Operator: Delmas Brown, 1830 Banks, Butte, Montana Owner: Same as operator Mill capacity: 50 t/d Status: Developing</p>	<p>Gold, silver, lead, copper, silica</p>	<p>Homestake district, sec. 6, T. 3 N., R. 7 W.</p>
<p>ALTA MINE Operator: Lahey Leasing Co., 506 W. Aluminum, Butte, Montana Owner: Alta Mines Corp., c/o Fred Small, Helena, Montana Status: Producing</p>	<p>Gold, silver, copper, zinc, lead, silica</p>	<p>Colorado (Corbin- Wickes) district, sec. 10, T. 7 N., R. 4 W.</p>
<p>BERNICE (SALVAIL) MINE Operator: Roger V. Pierce, 808 New House Bldg., Salt Lake City, Utah Owner: William Mason, 2165 Center Drive, Butte, Montana Employees: 2 Status: Developing</p>	<p>Gold, silver, copper, zinc</p>	<p>Colorado district, secs. 17, 18, 19, 20, T. 7 N., R. 4 W.</p>
<p>BOULDER MINE Owner: James P. Bragg, 2327 Harrison Ave., Butte Montana Status: Inactive</p>	<p>Gold, silver, zinc</p>	<p>Cataract district, NE$\frac{1}{4}$NE$\frac{1}{4}$ sec. 13, T. 6 N., R. 6 W.</p>
<p>CRESCENT MINE Operator: Montana Gold & Silver Co., 901 E. 6th Ave., Helena, Montana Owner: Holter Estate, Helena, Montana Mill capacity: 100 t/d Employees: 6 Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Cataract district, NE$\frac{1}{4}$ sec. 29, T. 8 N., R. 5 W.</p>
<p>CRYSTAL MINE Operator: E. E. Lewis, Inc., Basin, Montana or Box 1481, Grand Junction, Colorado Owner: Chester A. Bullock, Basin, Montana, and Howard Johnson, Butte, Montana Status: Developing</p>	<p>Gold, silver, copper, lead zinc</p>	<p>Cataract district, sec. 18, T. 7 N., R. 5 W.</p>

JEFFERSON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
DAILY WEST MINE Operator: Charles E. Vann, Helena, Montana Owner: Paul George, Basin, Montana Status: Unknown	Silver, lead, zinc	Cataract district, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 6 N., R. 6 W.
FOURTH OF JULY & FIFTH OF JULY MINE Operator: William Mason, 2165 Center Dr., Butte, Montana Owner: The Anaconda Co., Butte, Montana Employees: 2 Status: Developing	Gold, silver	Elk Park district, secs. 11, 12, T. 3 N., R. 7 W.
GREATER MONTANA MINE Owner: William Mason, 2165 Center Dr., Butte, Montana Status: Inactive	Silver, gold, lead	Fourth of July district, sec. 11, 12, T. 3 N., R. 7 W.
HOPE AND BULLION MINES Operator: R. Romerio, Box 281, Boulder, Montana Owner: Mrs. A. K. Romerio, 4856 W. 115 St., Hawthorne, California Mill capacity: 12 t/d Employees: 2 Status: Developing	Gold, silver, copper	Boulder district, sec. 6, 31, T. 7 R. 6
KLONDYKE MINE Operator: Klondyke Gold Mines, Inc., c/o Wade V. Lewis, Boulder, Montana Owner: Charles and Lilah H. Schreiner, 3011 Richardson, Butte, Montana Employees: 2 Status: Exploration	Gold, copper	Elkhorn district, sec. 11, T. 6 N., R. 3 W.
MC CLELLAN QUARRY Operator: Maronick Construction Co., Inc., East Helena, Montana Owner: E. P. Maronick, East Helena, Montana Employees: 5 Status: Producing	Limestone	McClellan district, sec. 7, T. 9 N., R. 3 W.

JEFFERSON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>MONTREAL STAR MINE Operator: Lee, William, and Jack Hicks, 1034 California, Butte, Montana Owner: Godfrey Gagnier, 515 E. 3rd, Anaconda, Montana Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Lowland district, NW$\frac{1}{4}$NW$\frac{1}{4}$ sec. 3, T. 4 N., R. 7 W.</p>
<p>MORNING GLORY MINE Operator: J. K. Curtiss, Box 102, Basin, Montana Owner: P. O. Dorweiller, Algona, Iowa; and J. K. Curtiss, Basin, Montana Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Cataract district, sec. 33, T. 7 N., R. 5 W.</p>
<p>MT. THOMPSON MINE Operator: J. K. Curtiss, Box 102, Basin, Montana, and Bill Olson, 835 - 13th St., Butte, Montana Owner: James A. Poore et al., Silver Bow Bldg., Butte, Montana Employees: 3 Status: Producing and developing</p>	<p>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: Developing</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>RUBY MINE Operator: Ruby Silver and Gold Mining Co. Owner: Frank Benich, 814 Waukesha, Butte, Montana Status: Developing</p>	<p>Gold, silver</p>	<p>Lowland district, sec. 2, 11, T. 5 N.,</p>

JEFFERSON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
SILVER HILL MINE Operator: Silver Hill Mining Co., c/o Gordon Giulio, Box 73, Boulder, Montana Status: Unknown	Gold, silver, lead, zinc	Cataract district, sec. 36, T. 7 N., R. 5 W.
SILVER QUEEN MINE Operator: James P. Leary and William Egan, 2830 Yale Ave., Butte, Montana Owner: James P. Leary, William Egan and James R. Cashin, 2830 Yale Ave., Butte, Montana Employees: 3 Status: Developing	Silver	Pipestone district, sec. 6, T. 2 N., R. 5 W.
SKOOKUM PLACER MINE Operator: Theodore Nyquest, Box 133, Boulder, Montana Owner: Same as operator Status: Producing	Gold	Comet district, sec. 12, T. 5 N., R. 6 W.
SUNNYSIDE MINE Operator: Lester Lindquist, Box 373, Whitehall, Montana Owner: Same as operator Status: Developing	Gold, silver	Cardwell district, SE $\frac{1}{4}$ sec. 13, T. 2 N., R. 4 W.
UNION MINE Operator: Wm. V. Stone Mining Ventures, Grand Junction, Colorado or c/o R. C. Hartmann, Boulder, Montana Owner: D. D. Walker et al., 904 W. Platinum St., Butte, Montana Employees: 3 Status: Developing	Silver, lead	Elkhorn district, sec. 11. T. 6 N., R. 3 W.
URANIUM MINE Operator: John Saari, 305 Clancy St., Helena, Montana Owner: Same as operator Status: Developing	Lead, zinc, silver	Colorado district

JUDITH BASIN COUNTY
County Seat: Stanford

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>BELL MINES Operator: Texmont Mines, Monarch, Montana Owner: Roland Westerman, Rt. 1, Lorenzo, Texas Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Barker district, W$\frac{1}{2}$ sec. 18, T. 15 N., R. 9 E.</p>
<p>BLOCK P MINE Operator: Hughesville Lumber and Mining Co., Box 33, Monarch, Montana Owner: American Smelting and Refining Co., 120 Broadway, New York 5, New York Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Sec. 6, T. 15 N., R. 9 E.</p>
<p>DOCTOR KALLOCH MINE Operator: John Zupan, Box 64, Sand Coulee, Montana Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Barker district, sec. 6, T. 15 N., R. 9 E.</p>
<p>GOLD BUG (WEATHERWAX) MINE Operator: W. Lehman, Box 780 Lewistown, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Yogo district, sec. 29, T. 14 N., R. 10 E.</p>
<p>LIBERTY MINE Operator: Faith Mining Co., Monarch, Montana Owner: Faith Mining Co., Monarch, Montana or Box 1681, Helena, Montana Status: Developing</p>	<p>Lead, zinc, silver</p>	<p>Barker unorganized district, sec. 6, 7, 18, T. 15 N., R. 9 E.</p>
<p>TIGER MINE Operator: Croff and Montague, Box 69, Monarch, Montana Owner: Clendennin Mines, Inc., c/o John T. Nightengale, Boston, Massachusetts Employees: 2 Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Barker district, secs. 5, 6, T. 15 N., R. 9 E.</p>

JUDITH BASIN, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>WILLOW CREEK MINE Operator: Young-Montana Corp., 2223 - 1st Ave., Hibbing, Minnesota, Ernest Young, Pres. Owner: Same as operator Status: Producing</p>	Iron ore	Running Wolf district, secs. 2, 4, T. 14 N., R. 11 E.
<p>YOGO SAPPHIRE MINES Operator: Siskon Corp., H. B. Chessher, Pres., 422 Old Gazette Bldg., Reno, Nevada Owner: New Mine Sapphire Syndicate, Billings, Montana Status: Inactive</p>	Sapphires	Yogo district, secs. 19, 20, 21, 22, 23, 24, T. 13 N., R. 11 E.

LEWIS & CLARK COUNTY
 County Seat: Helena

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>BLACKWATCH MINE Operator: Rocky Mountain Exploration Co., Inc., 1639 - 5th Ave. N.W., Great Falls, Montana, Homer Pike, Director Owner: Same as operator Employees: 3 Status: Developing</p>	Gold	Poorman district, Fields Gulch
<p>DISCOVERY & MARGURETE MINE Operator: Cyrus M. and Vance Clinger, 1515 S. 5th St. W., Missoula, Montana Owner: Missoula Lincoln Mines Co., Missoula, Montana Status: Developing</p>	Gold, silver, copper, lead, zinc	Lincoln district, sec. 8, T. 14 N., R. 9 W.
<p>EMPIRE MINE Operator: Jack Vandenberg, Box 601, Helena, Montana Owner: Same as operator Mill capacity: 300 t/d Employees: 4 Status: Developing</p>	Gold silver, copper, lead, zinc	Marysville district, secs. 33, 34, T. 12 N., R. 6 W.

LEWIS & CLARK, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>FRANKLIN MINE Operator: Helena Minerals Co., Inc., c/o Chester Leirness, 1900 - 11th Ave., Helena, Montana Owner: Thomas Cruse Mining & Developing Co., Box 137, Helena, Montana Employees: 5 Status: Producing</p>	<p>Gold, silver, lead, zinc</p>	<p>Scratch Gravel district, sec. 11, T. 10 N., R. 4 W.</p>
<p>GOLD DOLLAR MINE Operator: Earl Foster, Lincoln, Montana Owner: Same as operator Employees: 2 Status: Developing</p>	<p>Gold, silver, copper</p>	<p>Poorman district, sec. 5, T. 13 N., R. 8 W.</p>
<p>HUMDINGER MINE Operator: Ray W. Crumb, Avon, Montana Owner: Same as operator Mill Capacity: 4 t/d Status: Producing and Developing</p>	<p>Gold, silver, copper</p>	<p>Madison Gulch district, sec. 35, T. 13 N., R. 9 W.</p>
<p>LITTLE SAMPSON MINE Operator: C. A. Magnuson, 2530 Peasley Canyon Rd., Aburn, Washington Owner: Art Benson, Butte, Montana Status: Inactive</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Rimini district, NW$\frac{1}{4}$SW$\frac{1}{4}$ sec. 4, T. 8 N., R. 5 W.</p>
<p>MIKE HORSE MINE Operator: Norman Rogers Mining Co., Box 1719, Helena, Montana Owner: American Smelting and Refining Co., 120 Broadway, New York 5, New York Status: Developing</p>	<p>Gold, silver, copper, lead, zinc</p>	<p>Heddeleston district, SE$\frac{1}{4}$SE$\frac{1}{4}$ sec. 28, T. 15 N., R. 6 W.</p>
<p>MONTE CHRISTO MINE Operator: Hans Mo, Box 284, Helena, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper, zinc, lead</p>	<p>Rimini district, sec. 8, T. 8 N., R. 5 W.</p>

LEWIS & CLARK, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>NICK AND DICK MINE Operator: Percy Goodwin and John H. Byrd, Route A, Helena, Montana Owner: Percy Goodwin and G. A. Parte Employees: 2 Status: Producing and developing</p>	<p>Lead</p>	<p>Canyon Ferry district, secs. 32, 33, T. 11 N., R. 1 W.</p>
<p>PAYMASTER AND ANACONDA MINE Operator: Paramount Estates, 432 Walton Rd., Maplewood New Jersey Owner: Same as operator Status: Developing</p>	<p>Silver, lead, zinc</p>	<p>Heddleston district, T. 15 N., R. 6 W.</p>
<p>PEARL MINE Operator: R. Isaak and E. W. Weston, Jr., Rimini Route Helena, Montana Owner: Fred Palmer and Paul Ortel Status: Developing</p>	<p>Gold, silver</p>	<p>Scratch Gravel district, sec. 30, T. 10 N., R. 5 W.</p>
<p>ROSETTA (ROSENFELD) MINE Operator: Continental Rare Metals, 2005 So. 7th St., West Missoula, Montana Owner: Same as operator Status: Developing</p>	<p>Copper</p>	<p>Wolf Creek district, sec. 31, T. 15 N., R. 4 W.</p>
<p>SAM GATY MINE Operator: Helena Minerals Co., Inc., c/o Chester Leirness, 1900 - 11th Ave., Helena, Montana Owner: C. E. Pew et al., 617 Holter Ave., Helena, Montana Employees: 8 Status: Producing and developing</p>	<p>Gold, silver, lead, copper</p>	<p>10 Mile district, sec. 11, T. 10 N., R. 4 W.</p>
<p>SILVER CRESCENT MINE Operator: Montana Gold Silver, William Hall, Pres., Box 295, Helena, Montana Owner: Holger Estate, Helena, Montana Mill capacity: 100 t/d Employees: 5 Status: Producing</p>	<p>Gold, silver, lead, zinc, copper</p>	<p>Rimini district, NE$\frac{1}{4}$NE$\frac{1}{4}$ sec. 29, and SE$\frac{1}{4}$SE$\frac{1}{4}$ sec. 30, T. 8 N., R. 5 W.</p>

LEWIS & CLARK, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>STEMPLE GOLD MINE Operator: Vern C. Knof, Canyon Creek, Montana Owner: Same as operator Mill capacity: 50 t/d Employees: 1 Status: Developing</p>	<p>Gold, silver</p>	<p>Stemple district, sec. 10, T. 13 N., R. 7 W.</p>
<p>WOODROW WILSON MINE Operator: Lee Irelan Mining Co., Inc., 820 - 6th Ave., Helena, Montana Owner: Same as operator Employees: 1 - 3 Status: Producing and developing</p>	<p>Gold, silver, silica</p>	<p>Rimini district, sec. 29, T. 8 N., R. 5 W.</p>

LIBERTY COUNTY
 County Seat: Chester

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>SWEETGRASS MINE Operator: L. R. Hannah and Cedor Aronow, Box 378, Shelby, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, copper, lead</p>	<p>East Butte district, sec. 25, T. 36 N., R. 4 E.</p>
<p>WHITLASH MINE Operator: Whitlash Mining Co., c/o F. W. Knobel, Whitlash, Montana Owner: Same as operator Status: Developing</p>	<p>Silver, copper</p>	

LINCOLN COUNTY
 County Seat: Libby

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>COPPER MOUNTAIN MINE Operator: Lendal and Donald Kotschevar, Sandpoint, Idaho Owner: Same as operator Status: Developing</p>	<p>Barite</p>	<p>Troy district, NW$\frac{1}{4}$NW$\frac{1}{4}$ sec. 12, T. 30 N., R. 34 W.</p>

LINCOLN, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>GLORIA MINE Operator: Arlin C. Lewis, Libby, Montana Owner: Same as operator Employees: 1 Status: Developing</p>	<p>Gold, silver, lead, zinc</p>	<p>Libby district, secs. 27, 34, T. 27 N., R. 31 W.</p>
<p>HIGHLAND SILVER GROUP MINE Operator: R. L. Rittenhouse, Route 3, Troy, Montana Owner: Same as operator Status: Inactive</p>	<p>Gold, silver, lead</p>	<p>Sec. 36, T. 32 N., R. 35 W.</p>
<p>MORNING GLORY & NEW MORNING GLORY MINE Operator: New Morning Glory Mines, Inc., 418 Maritime Bldg, Seattle 4, Washington Owner: Same as operator Mill capacity: 50 t/d Status: Inactive</p>	<p>Lead, silver, gold</p>	<p>Sylvanite district, sec. 34, T. 34 N., R. 33 W.</p>
<p>NORTH STAR GROUP Operator: North Star Mines, c/o C. W. (Hoyt) Tallmadge, Libby, Montana Owner: Carol (Hoyt) Tallmadge, R. Rte., Box 68, Libby, Montana Status: Developing</p>	<p>Lead, zinc</p>	<p>Warland district, secs. 25, 26, T. 32 N., R. 29 W.</p>
<p>SNOWSHOE MINE Operator: St. Paul Lead Co. and Merger Mines Corp., A. I. Osborn, Pres., 816 - 15th St., Coeur d'Alene, Idaho Owner: Keith, Foote, and Grubb, Kalispell, Montana Mill capacity: 100 t/d Status: Unknown</p>	<p>Gold, silver, lead, zinc</p>	<p>Libby district, SE$\frac{1}{4}$SW$\frac{1}{4}$ sec. 7, T. 28 N., R. 31 W.</p>
<p>ST. PAUL MINE Operator: St. Paul Lead Co., 815 - 15th St., Coeur d'Alene, Idaho Owner: Walter Zollers, 217 W. Lincoln, Libby, Montana Mill capacity: 100 t/d Employees: 7 (1960) Status: Unknown</p>	<p>Silver, lead, zinc</p>	<p>Libby district, NE$\frac{1}{4}$NE$\frac{1}{4}$ sec. 9, T. 28 N., R. 31 W.</p>

LINCOLN, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
VERMICULITE MOUNTAIN MINE Operator: Zonolite Company, 135 S. La Salle St., Chicago 3, Illinois Owner: Same as operator Status: Producing	Vermiculite	Rainy Creek district, secs. 14, 15, 22, 23, T. 31 N., R. 30 W.
WAY UP MINE Operator: A. G. Cook, Avon, Montana Owner: Mary Jensen (Harpole Estate), St. Regis, Montana Status: Producing	Gold	Libby district
WEST FISHER AND MILLER PLACER Operator: Oscar V. Miller, Route 1, Libby, Montana Owner: Same as operator Status: Inactive	Gold	Libby district, sec. 4, T. 27 N., R. 30 W.

MADISON COUNTY
County Seat: Virginia City

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
AMAZON MINE Operator: Wm. Cocanaugher, Twin Bridges, Montana Owner: Scott Mallich, Dillon, Montana Status: Unknown	Siliceous copper	Stone Creek district, sec. 20, T. 7 S., R. 6 W.
BIG BERTHA MINE Operator: Fred R. Starner, Sheridan, Montana Owner: Same as operator Status: Developing	Gold, silver	Tidal Wave district
BLACK ACE MINE Operator: Louis R. Lepp, Whitehall, Montana Owner: Lewis C. Rollins, P. O, Box 4, Waterloo, Montana Status: Producing	Gold, silver, lead, zinc	Tidal Wave district, sec. NW $\frac{1}{4}$ NE $\frac{1}{4}$ 34, T. 3 S., R. 5 W.

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
BOULDER COBALT MINE Operator: Boulder Lake Corp., Twin Bridges, Montana Owner: A. A. Moser, Box 516, Hardin, Montana Status: Developing	Gold, lead, silver	Sheridan district, sec. 5, T. 3 S., R. 4 W.
CLANCY MINE Operator: B. J. Rybin, Silver Star, Montana Owner: Same as operator Status: Unknown	Gold, silver, copper	Silver Star district, sec. 33, T. 1 S., R. 6 W.
COLORADO MINE Operator: Bill Pruett and Leland M. Warmoth, Whitehall, Montana Owner: Lloyd Thompson and Myrtle Pruett Chapman, Whitehall, Montana Status: Unknown	Gold, silver	Bone Basin district, NW $\frac{1}{4}$ sec. 3, T. 1 S., R. 4 W.
EASTON PACIFIC MINE Operator: Easton Pacific & Riverside Mining Corp., c/o Ed Scheitlen, Virginia City Montana Status: Producing	Gold	Virginia City district, sec. 4, T. 7 S., R. 3 W.
EL FLEEDA MINE Operator: R. B. Farnsworth and Lloyd Brooks, 14 N. Tracy, Bozeman, Montana Owner: Union Bank and Trust Co., No. 4 Washington Pl., Helena, Montana Employees: 1 Status: Producing and developing	Gold, silver, copper	Fairweather (Virginia City) district, sec. 26, T. 6 S., R. 3 W.
FAIRVIEW MINE Operator: Walkup, Hayworth and Tunstill, c/o Ben Walkup, Box 644, Philipsburg, Montana Owner: Hall and Rossiter, Sheridan, Montana Status: Producing and Developing	Gold copper	Sheridan district, secs. 31, 32, T. 3 S., R. 4 W.

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
FLORENCE (COOK) MINE Operator: Mike Dilulo, Whitehall, Montana Owner: Northern Pacific Railway, St. Paul, Minnesota Status: Unknown	Copper, lead, zinc, silver, iron ore, chromium, gold	Bone Basin district, sec. 9, T. 1 S., R. 4 W.
GOLD PLATE MINE Owner: L. L. Locke, Norris, Montana Status: Producing	Gold, silver	Cherry Creek district, secs. 25, 30, 31, T. 2 S., R. 2 E.
HIGH RIDGE MINE Owner: Lester Taylor and Rudolph Broksle, Twin Bridges, Montana Status: Inactive	Gold, silver, copper, lead	Tidal Wave district, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 3 S., R. 5 W.
LEODORA MINE Operator: Carl T. Carlson, Twin Bridges, Montana Owner: Same as operator Status: Unknown	Gold, silver, lead	Rochester district, sec. 4, T. 3 S., R. 5 W.
LIBERTY MONTANA MINE Operator: Vern J. Huckaba, 2404 Raymond Ave., Missoula, Montana Owner: B. Suejkosky, Cardwell Montana Employees: 2 Status: Producing	Gold, silver	
LOST LODE MINES Operator: John T. Macale, 9013 - 37 S. W., Seattle Washington Owner: Mrs. William Anderson, Seattle, Washington Employees: 3 Status: Developing	Gold, silver, lead	Fairweather district, sec. 33, T. 7 S., R. 3 W.
MERLIN MINE Operator: G. M. Flemming, Box 424, Dillon, Montana Owner: Same as operator Status: Unknown	Mica	12 miles south of Ennis

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
MISSOURI-MC KEE MINE Operator: H. Denny, McAllister, Montana Owner: Same as operator Employees: 2 Status: Developing	Gold, silver	Washington (Meadow Creek) district, N $\frac{1}{2}$ sec. 30, T. 4 S., R. 2 W.
NICHOLS MINE Operator: Lyle Nichols, Lavina, Montana Owner: Same as operator Status: Developing	Gold, silver	East Fork of South Boulder
OXIDENTAL MINE Operator: Indian Creek Mining Co., c/o John Magnus, Twin Bridges, Montana Owner: Elling Est. Company, 1612 Alameda Ave., Alameda, California Employees: 2 Status: Developing	Gold, copper, silver, lead, zinc	Sheridan district, secs. 35, 36, T. 3 S., R. 4 W.
PAUPERS DREAM MINE Operator: Phil Hannifin 515 S. Idaho St., Butte, Montana Owner: Same as operator Status: Developing	Gold	Rochester district, sec. 9, T. 3 S., R. 7 W.
POLLINGER GROUP MINE Operator: Boulder Lake Corp., Twin Bridges, Montana, c/o Robert Judd, 1236 W. Diamond, Butte, Montana Owner: A. E. Moser and Norman Smith, Sheridan, Montana Status: Developing	Gold, silver, lead, copper	Tidal Wave district, secs. 5, 6, 8, T. 3 S., R. 4 W.
RAMSHORN MINE Operator: F. & S Mining Co., 1300 Chicago, Butte, Montana Owner: Same as operator Status: Unknown	Iron ore	Sheridan district, sec. 1, T. 5 S., R. 4 W.
REBISH AND IKE MINE Operator: American Chemet Corp., East Helena, Montana Owner: Same as operator Employees: 4 Status: Producing	Talc	Sweetwater district, sec. 7, T. 8 S., R. 6, 7 W.

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>RED PINE MINE Operator: Ruby Valley Development Co., 6216 S. Montgomery, Tacoma 9, Washington Owner: Same as operator Status: Developing</p>	<p>Gold, silver,</p>	<p>Sheridan district, sec. 5, T. 4 S., R. 4 W.</p>
<p>REGAL MINE Operator: Tri-State Minerals Co., Dillon, Montana Owner: Same as operator Status: Producing and developing</p>	<p>Talc</p>	<p>Blacktail district, N$\frac{1}{2}$ sec. 2, T. 8 S., R. 7 W.</p>
<p>RIDGEWAY MINE Operator: Lyle Nichols, Lavina, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver</p>	<p>Mammoth South Boulder district</p>
<p>RUBY MINE Operator: American Chemet Corp., East Helena, Montana Owner: Same as operator Status: Inactive</p>	<p>Talc</p>	<p>Willow Creek district, secs. 20, 29, T. 8 S., R. 3 W.</p>
<p>RUBY VIEW TALC MINE Operator: Claude H. Brown, Box 102, Dillon, Montana Owner: Same as operator Status: Developing</p>	<p>Talc</p>	<p>Stone Creek district, sec. 14, T. 7 S., R. 6 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>SHOEMAKER MINE Operator: John A. Layton 3104 Busch St., Butte, Montana Owner: R. Dickie and R. Woods, Butte, Montana Status: Developing</p>	<p>Gold, silver</p>	<p>Rabbit district, SE$\frac{1}{4}$NE$\frac{1}{4}$ sec. 7, T. 3 S., R. 7 W.</p>

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
SHORT SHIFT MINE Operator: W. O. Larsen, Twin Bridges, Montana Owner: Same as operator Mill capacity: 30 t/d Employees: 1 Status: Producing and developing	Gold, silver	Jack Rabbitt district
SILVER BULLION MINE Operator: Horse Creek Development Co., 1327 W. Granite, Butte, Montana Owner: Mrs. Reba Storer, 1611 6th St., Walkerville, Montana Status: Developing	Silver	Horse Creek district, secs. 27, 28, T. 4 S., R. 4 W.
SNOW WHITE TALC MINE Operator: Claude H. Brown, Box 102, Dillon, Montana Owner: Same as operator Status: Developing	Talc	Stone Creek-Spring Creek district, sec. 3, T. 7 S., R. 8 W.
SPARROW PLACER Operator: Frank Kelly, Sheridan, Montana Owner: Frank Kelly, 3808 Driscoll Bldg., Spokane, Washington Employees: 2 Status: Developing	Silver, gold, lead	sec. 32, T. 4 S., R. 3 W.
STRAWBERRY MINE Operator: Fred Box, Pony, Montana Owner: Elling Estate Co., Alameda, California Mill capacity: 25 t/d Employees: 2 Status: Producing	Tungsten, gold, silver	Mineral Hill district, NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 2 S., R. 3 W.
TREASURE STATE MINE Operator: Tri-State Minerals Co., c/o John R. Pyner, Gen. Mgr., Box 227, Dillon, Montana Owner: Same as operator Status: Producing	Talc	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 7 S., R. 6 W.

MADISON, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
WEST MAYFLOWER MINE Operator: Frank Antonioli, 505 S. Clark, Butte, Montana Owner: The Anaconda Co., Butte, Montana Status: Inactive	Gold, silver	Cedar Hollow district, Center sec. 32, T. 1 N., R. 3 W.
YELLOWSTONE MINE Operator: Sierra Talc Co., E. W. Stevens, Supt., 1608 Huntington Dr., South Pasadena, California Owner: Same as operator Employees: 18 summer; 9 winter Status: Producing	Talc	Johnny Gulch district, sec. 4, T. 9 S., R. 1 W.

Note: Mammoth mine also produced, but information not available.

MEAGHER COUNTY
County Seat: White Sulphur Springs

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
COPPER DUKE MINE Operator: Ben Rux, Martinsdale, Montana Owner: N. Hardman, Glendale, California Status: Inactive	Gold, copper	Copperopolis district, SW $\frac{1}{4}$ sec. 29, T. 10 N., R. 9 E.
CUMBERLAND MINE Operator: HOCO Inc., c/o Clarence Oliphant, P. O. Box 0, White Sulphur Springs, Montana Owner: HOCO Inc., Lennep, Montana Employees: 3 to 10 Status: Producing and developing	Silver, copper	Castle Mountain district, sec. 14, T. 8 N., R. 8 E.
LAST CHANCE PLACER MINE Operator: Mrs. Valentine Wood, White Sulphur Springs, Montana Owner: Same, El Mirage, Arizona Status: Developing	Gold	Beaver district, sec. 24, T. 11 N., R. 2 E.

MEAGHER, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
LITTLE JOE #1 MINE Operator: Joe Nutter, c/o Fred Lind, Lingshire Rte., White Sulphur Springs, Montana Owner: Joe Nutter, White Sulphur Springs, Montana Washer capacity: 200 yds/d Status: Developing	Gold	Unorganized district, sec. 13, T. 11 N., R. 2 E.
MAXINE MINE Operator: John R. Knight, Box 236, White Sulphur Springs, Montana Owner: Same as operator Status: Inactive	Manganese oxide	Maxine district, sec. 21, T. 12 N., R. 4 E.
YELLOWSTONE MINE Operator: Hamilton Mines, Inc., Lennup, Montana Owner: Producing	Lead, silver	Castle Mountain district, sec. 11, T. 8 N., R. 9 E.

MINERAL COUNTY

County Seat: Superior

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
BONANZA GROUP MINE Operator: George M. Gilder- sleeve, Box 565, Superior, Montana Owner: Same as operator Status: Developing	Gold, silver, lead, barite	Cedar Creek district, T. 15 N., R. 26 W.
GILDERSLEEVE MINE Operator: George Gildersleeve, Box 565, Superior, Montana Owner: Same as operator Status: Developing	Gold, silver, copper, lead, barite	Cedar Creek district, sec. 17, T. 15 N., R. 26 W.
KEYSTONE (PROSPERTY) MINE Operator: Fred W. Wilson and M. E. Engdahl, 1716 S. 9th W., Missoula, Montana Owner: Prosperity Mines Co., Inc., 1716 S. 9th W., Missoula, Montana Employees: 2 Status: Producing and developing	Silver, lead, copper	Keystone district, T. 18 N., R. 26 W.

MINERAL, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>NANCY LEE MINE Operator: The Bunker Hill Co., Box 29, Kellogg, Idaho Owner: Nancy Lee Co., 410 Main St., Kellogg, Idaho Mill capacity: 120 t/d Employees: 15 Status: Producing and developing</p>	<p>Silver, lead, zinc</p>	<p>Keystone district, secs. 31, 32, T. 18 N., R. 26 W.</p>
<p>REDEMPTION #1 & #2, AND SILVER STREAK MINES Operator: Roscoe Henderson, P. O. Box 441, Superior, Montana Owner: Same as operator Status: Producing and developing</p>	<p>Gold, silver, copper, lead</p>	<p>Cedar Creek district, sec. 7, T. 15 N., R. 27 W.</p>
<p>SNOWBIRD MINING CLAIMS Owner: Joseph H. Farrington Carl G. Reinhard, 1132 Longstaff St., Missoula, Montana Status: Inactive</p>	<p>Fluorspar</p>	<p>Fish Creek district</p>
<p>STEMWINDER PLACER MINE Operator: George M. Gilder- sleeve, Box 565, Superior, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Cedar Creek (Trout Creek) district, sec. 17, T. 15 N., R. 26 W.</p>
<p>TARBOX & MEADOW MOUNTAIN MINE Operator: Mineral King Mining Co., c/o C. F. Buls, 509 Patty Canyon Drive, Rt. 3, Missoula, Montana Owner: Same as operator Status: Developing</p>	<p>Gold, silver, lead, copper</p>	<p>Saltese-St. Regis district, sec. 36, T. 20 N., R. 31 W.</p>

MISSOULA COUNTY
County Seat: Missoula

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>COLOMA MINE Operator: National Lead Co., Baroid Division, Box 392, Missoula, Montana Owner: Same as operator Mill capacity: 5 t/hr. Status: Inactive</p>	Barite	Coloma district, sec. 32, T. 13 N., R. 14 W.
<p>CRYSTAL SPRINGS MINE Owner: S. P. Wilson, Deer Lodge, Montana Status: Inactive</p>	Gold, silver	Coloma district, sec. 32, T. 13 N., R. 14 W.
<p>EILEEN MARSHA PLACER MINE Operator: Earl A. Dotson, 2837 Hermosa Ave., Hermosa Beach, California Owner: Same as operator Status: Inactive</p>	Gold	Nine Mile district, sec. 2, T. 16 N., R. 23 W.
<p>ELK CREEK BARITE MINE Operator: National Lead Co., Box 392, Missoula, Montana Baroid Division Owner: Same as operator Mill capacity: 8 t/hr. Employees: 3 Status: Inactive</p>	Barite	Elk Creek district, sec. 15, T. 13 N., R. 24 W.
<p>HIDDEN TREASURE MINE Operator: Clinton Mining and Milling Co., and Hera Explo- ration Co., Box 40, Missoula, Montana Owner: Same as operator Mill capacity: 50 t/d Employees: 2 Status: Developing</p>	Copper, lead, silver, gold	Clinton (Wallace) district, S $\frac{1}{2}$ NW $\frac{1}{4}$ sec. 19, T. 12 N., R. 16 W.
<p>LA CHAMBRE PLACER MINE Operator: J. T. La Chambre, Huson, Montana Owner: Same as operator Status: Inactive</p>	Gold, silver	Nine Mile district, sec. 22, T. 17 N., R. 24 W.

MISSOULA, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>LYON QUARRY Operator: Lyon Construction Co., Clinton, Montana Owner: Same as operator Mill capacity: 1,500 t/d Employees: 20 Status Producing</p>	<p>Railroad ballast, road metal</p>	<p>Clinton (Wallace Creek) district, sec. 17, T. 12 N., R. 17 W.</p>
<p>MONGAR MINE Operator: George Mongar, Jr., Box 31, Drummond, Montana Owner: Same as operator, 215 1st Ave. S., Shelby, Montana Status: Unknown</p>	<p>Silver, copper, lead</p>	<p>Clinton district, sec. 11, T. 12 N., R. 16 W.</p>
<p>NINE MILE MINE Operator: William Lamon and Lloyd R. Allen, Huson, Montana Owner: Same as operator Mill capacity: 15 t/d Status: Developing</p>	<p>Gold</p>	<p>Nine Mile district, sec. 18, T. 17 N., R. 24 W.</p>
<p>TWIN CREEKS PLACER MINE Operator: Victor Demin, Route #4, Missoula, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Nine Mile district, sec. 26, T. 17 N., R. 24 W.</p>

PARK COUNTY

County Seat: Livingston

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>CROWN BUTTE & MELISSE MINE Operator: Scott Riley, Box 356, Cooke City, Montana Owner: Same as operator Mill capacity: 5 t/d Employees: 1 Status: Developing</p>	<p>Gold, copper, lead, silver</p>	
<p>NEBRASKA #1 & #2 PLACER MINE Operator: Alex Gagnier, Box 267, Gardiner, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Jardine and Crevasse mining district, secs. 15, 16, 22, T. 9 S., R. 9 E.</p>

PARK, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
SIN NOMBRE MINE Operator: T. H. Hallin and Donald Cameron, Jr., Box 314 Gardiner, Montana Owner: Same as operator Status: Developing	Gold, tungsten	Crevasse district, sec. 22, T. 9 S., R. 9 E.
TRAVERTINE QUARRY Operator: Montana Travertine Quarries, c/o John B. Ahern, P. O. Box 163, Gardiner, Montana Employees: 9 Status: Producing and developing	Cut stone, stone chips	

PHILLIPS COUNTY
County Seat: Malta

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
HAWKEYE MINE Operator: Northern Mining and Milling Co., Paul I. Raber, Pres., Townsend, Montana Owner: Northern Mining Co., Zortman, Montana Mill capacity: 100 t/d Status: Developing	Gold, silver	Little Rockies district, sec. 7, T. 25 N., R. 25 E.
LITTLE BEN (GOLD BUG) MINE Operator: Little Rockies Mining and Development Co., Lewistown, Montana Owner: Same as operator, Cecil Flinders, Pres., 412 W. Main, Lewistown, Montana Mill capacity: 50 t/d Status: Developing	Gold, silver	Little Rockies district, sec. 15, T. 25 N., R. 24 E.
LUCKY MAUD PLACER Operator: Louis Clark, Box 21, Zortman, Montana Owner: Same as operator Status: Developing	Gold	Little Rockies district, sec. 18, T. 25 N., R. 25 E.

MISSOULA, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>LYON QUARRY Operator: Lyon Construction Co., Clinton, Montana Owner: Same as operator Mill capacity: 1,500 t/d Employees: 20 Status Producing</p>	<p>Railroad ballast, road metal</p>	<p>Clinton (Wallace Creek) district, sec. 17, T. 12 N., R. 17 W.</p>
<p>MONGAR MINE Operator: George Mongar, Jr., Box 31, Drummond, Montana Owner: Same as operator, 215 1st Ave. S., Shelby, Montana Status: Unknown</p>	<p>Silver, copper, lead</p>	<p>Clinton district, sec. 11, T. 12 N., R. 16 W.</p>
<p>NINE MILE MINE Operator: William Lamon and Lloyd R. Allen, Huson, Montana Owner: Same as operator Mill capacity: 15 t/d Status: Developing</p>	<p>Gold</p>	<p>Nine Mile district, sec. 18, T. 17 N., R. 24 W.</p>
<p>TWIN CREEKS PLACER MINE Operator: Victor Demin, Route #4, Missoula, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Nine Mile district, sec. 26, T. 17 N., R. 24 W.</p>

PARK COUNTY

County Seat: Livingston

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>CROWN BUTTE & MELISSE MINE Operator: Scott Riley, Box 356, Cooke City, Montana Owner: Same as operator Mill capacity: 5 t/d Employees: 1 Status: Developing</p>	<p>Gold, copper, lead, silver</p>	
<p>NEBRASKA #1 & #2 PLACER MINE Operator: Alex Gagnier, Box 267, Gardiner, Montana Owner: Same as operator Status: Developing</p>	<p>Gold</p>	<p>Jardine and Crevasse mining district, secs. 15, 16, 22, T. 9 S., R. 9 E.</p>

PARK, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
SIN NOMBRE MINE Operator: T. H. Hallin and Donald Cameron, Jr., Box 314 Gardiner, Montana Owner: Same as operator Status: Developing	Gold, tungsten	Crevasse district, sec. 22, T. 9 S., R. 9 E.
TRAVERTINE QUARRY Operator: Montana Travertine Quarries, c/o John B. Ahern, P. O. Box 163, Gardiner, Montana Employees: 9 Status: Producing and developing	Cut stone, stone chips	

PHILLIPS COUNTY
County Seat: Malta

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
HAWKEYE MINE Operator: Northern Mining and Milling Co., Paul I. Raber, Pres., Townsend, Montana Owner: Northern Mining Co., Zortman, Montana Mill capacity: 100 t/d Status: Developing	Gold, silver	Little Rockies district, sec. 7, T. 25 N., R. 25 E.
LITTLE BEN (GOLD BUG) MINE Operator: Little Rockies Mining and Development Co., Lewistown, Montana Owner: Same as operator, Cecil Flinders, Pres., 412 W. Main, Lewistown, Montana Mill capacity: 50 t/d Status: Developing	Gold, silver	Little Rockies district, sec. 15, T. 25 N., R. 24 E.
LUCKY MAUD PLACER Operator: Louis Clark, Box 21, Zortman, Montana Owner: Same as operator Status: Developing	Gold	Little Rockies district, sec. 18, T. 25 N., R. 25 E.

PHILLIPS, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
RUBY GULCH MINE Operator: American Exploration and Mining Co., Russ Bldg., 23rd Floor, San Francisco 4, California Owner: Ruby Gold Inc., Professional Bldg., Bozeman, Montana Mill capacity: 300-400 t/d Employees: 6 Status: Developing	Gold, silver	Little Rockies district, sec. 7, T. 25 N., R. 25 E.

POWELL COUNTY
County Seat: Deer Lodge

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
ANDERSON MINE Operator: Montana Phosphate Products Co., Garrison, Montana Owner: Same as operator Employees: 160 Status: Producing	Phosphate rock	Garrison district, sec. 3, T. 10 N., R. 10 W.
BONANZA MINE Owner: The Zosil Family, Deer Lodge, Montana Status: Inactive	Gold, silver, lead	Zosell (Emery) district, N $\frac{1}{2}$ sec. 11, T. 7 N., R. 8 W.
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	Gold, silver, lead, zinc	Nigger Hill district, NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 9 N., R. 7 W.
ELLISTON QUARRY Operator: Elliston Lime Co., 303 N. Ewing, Helena, Montana Owner: Same as operator Mill capacity: 200 t limestone, 40 t lime per day Employees: 16 Status: Producing	Limestone	Secs. 5, 6, T. 9 N., R. 6 W.

POWELL, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
G. & G. TOOLE PLACER Operator: Louis Eich and Elmer Waggner, Townsend, Montana Owner: Harry C. W. Richter and Catherine Kieley, 314 Spruce St., Townsend, Montana Status: Producing	Gold	Jefferson Gulch district, sec. 11, T. 12 N., R. 9 W.
HARD ROCK & PLACER MINE Operator: Pat T. Phalen, Helmville, Montana Owner: Same as operator Status: Inactive	Gold	Ogden Mountain district, secs. 15, 16, 21, 22, T. 13 N., R. 10 W.
HIDDEN HAND MINE Operator: Howard C. Banks, Box 514, Deer Lodge, Montana Owner: Same as operator Status: Developing	Gold, silver, lead, zinc	Zosell (Emery) district, NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 7 N., R. 8 W.
JACK PINE (TROUT CREEK) MINE Operator: Bunker Hill Co., c/o A. E. Nugent, Explo. Geol., Box 29, Kellogg, Idaho Owner: Same as operator Status: Developing	Phosphate rock	Elliston district, SW $\frac{1}{4}$ sec. 35, T. 11 N., R. 7 W.
JEFFERSON GULCH MINE Operator: Louis Eich and Elmer Waggner, Box 287, Avon, Montana Owner: Harry C. W. Richter and Catherine Kieley, Helena, Montana Employees: 3 Status: Producing	Gold	Jefferson Gulch district, sec. 11, T. 12 N., R. 9 W.
JULIA (COPPER KING OR SURE THING) MINE Operator: Elliston Consoli- dated Mining Co., Elliston, Montana Owner: Same as operator Status: Developing	Gold, silver, lead, zinc, copper	Elliston district, SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 8 N., R. 6 W.
L & M PLACER MINE Operator: C. E. Mitchell and Sons, 308 - 4th Ave. South, Great Falls, Montana Owner: Same as operator Employees: 2 Status: Producing	Gold	Washington Gulch (Finn) district

POWELL, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>LOIS MINE Operator: Frank Young, Box 33, Gold Creek, Montana Owner: Claus Wholers, Gold Creek, Montana Status: Developing</p>	Gold	sec. 18
<p>LUKE MINE Operator: Montana Phosphate Products Co., F. E. Burnet, Gen. Mgr., Garrison, Montana Owner: Same as operator Employees: 50 Status: Producing and developing</p>	Phosphate rock	Garrison district, sec. 15, T. 10 N., R. 9 W.
<p>MONARCH MINE Operator: Monarch Minerals, Inc., Box 33, Helena, Montana Owner: Same as operator Employees: 3 to 5 Status: Developing</p>	Gold, silver, lead, copper	Ontario district, secs. 30, 31, T. 8 N., R. 6 W.
<p>NEGROS MINE Operator: John F. Hopkins, 401 N. Montana, Helena, Mont. Owner: Fred W. Hopkins, Box 375, Helena, Montana Status: Developing</p>	Gold, silver, lead	Nigger Hill, dis- trict, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 9 N., R. 7 W.
<p>OLD SHOE #1 PLACER MINE Operator: Arthur H. Roat & Sons, Polson, Montana Owner: Same as operator Status: Unknown</p>	Gold	Finn district, 1 mile north on North Fork of Washington Gulch
<p>RELYEA MINE Operator: George Relyea, Box 85, Garrison, Montana Owner: Same as operator Mill capacity: 300 t/d Employees: 40 Status: Producing and developing</p>	Phosphate rock	Garrison (Brock Creek) district, S $\frac{1}{2}$ sec. 12, T. 10 N., R. 10 W.
<p>THIRD TERM MINE Operator: Northwest Mining and Exploration Co., 12822- 3d. So., Seattle, Washington Owner: Elmer Lince, Elliston, Montana Status: Developing</p>	Gold, silver, copper, lead, zinc	Nigger Hill dis- trict, NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 9 N., R. 6 W

POWELL, Cont'd.

Note: The following mines were reported to be productive in 1961, but detailed information is not available: Cyclone, Northern Pacific, and Silver Reef.

RAVALLI COUNTY
County Seat: Hamilton

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>CRYSTAL MOUNTAIN MINE Operator: Roberts Mining Co., John Taber, Gen. Mgr., 8150 Beverly Blvd., Los Angeles 48, California Owner: A. E. Cumley, L. I. Thompson, and R. D. Flightner, Darby, Montana Mill capacity: 50 t/h. Employees: 45 Status: Producing</p>	Fluorite	Crystal Mountain district, SW $\frac{1}{4}$ sec. 18, T. 3 N., R. 18 W.
<p>DARKSTAR MINE Owner: William Van Matre, 2624 Edwards St., Butte, Montana Status: Inactive</p>	Columbium, rare earths	Mineral Point district, secs. 1, 3, 4, T. 4 S., R. 22 W.
<p>HUGHES CREEK PLACER Operator: Hughes Creek Dredging Co., Inc., Hamilton, Montana Owner: A. Smith, Hamilton, Montana Status: Inactive</p>	Gold, silver	Overwich district, N $\frac{1}{2}$ T. 3 S., R. 21 W.
<p>LARRIGON MINE Operator: Larrigon Mining Co., c/o G. W. Berggeren, 404 N. 2d. St., Hamilton, Montana Owner: Same as operator Status: Unknown</p>	Gold	Hughes Creek district, sec. 34, T. 2 S., R. 21 W.
<p>RYE CREEK PROSPECT Operator: J. T. Abbey and M. Wilson, Box 47, Darby, Montana Owner: Same as operator Status: Developing</p>	Columbium, rare earths	Rye Creek district, sec. 29, T. 3 N., R. 20 W.

SANDERS COUNTY
County Seat: Thompson Falls

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>HEIDELBERG MINE Operator: Heidelberg Mining Co. of Montana, c/o G. A. Myers, 1001 Court St., Pascoe, Washington Owner: Same as operator Status: Developing</p>	Gold	Noxon district, SW $\frac{1}{4}$ sec. 29, and NW $\frac{1}{4}$ sec. 32, T. 27 N., R. 31 W.
<p>HOLLIDAY MINE Operator: Holliday Mines, Inc., Box 197, Noxon, Montana Owner: Same as operator Employees: 8 Status: Developing</p>	Silver, lead, zinc, copper	Pilgrim Creek district, sec. 30, T. 26 N., R. 33 W.
<p>JACK WAITE MINE Operator: American Smelting and Refining Co., C. H. Blackwell, Supt., Wallace Idaho Owner: Jack Waite Mining Co., 170 Broadway, New York 38, New York Mill capacity: 300 t/d Employees: 23 Status: Produced to April 1961</p>	Gold, silver, copper, lead	Eagle (White Plains) district, W $\frac{1}{2}$ sec. 17, T. 22 N., R. 32 W.
<p>RAVEN MINE Operator: Raven Mine, c/o Austin Monk, Thompson Falls, Montana Owner: Austin Monk and Ralph Provence, Thompson Falls, Montana Employees: 4 Status: Producing and developing</p>	Copper	Thompson River district, sec. 33, T. 22 N., R. 28 W.
<p>SALES MINE Owner: Mr. & Mrs. Gordon Sales and Mrs. Ruth Sales, Box 464, Kalispell, Montana Status: Inactive</p>		Sec. 1, T. 25 N., R. 28 W., sec. 6, T. 25 N., R. 27 W., and sec. 36, T. 26 N., R. 28 W.
<p>STATE GROUP Operator: Montana-Coeur d'Alene Mines Inc., Plains, Montana Owner: The State Mining Co., Box 68, E. 5219 Boone Ave., Yardly, Washington Status: Developing</p>	Lead, silver	Eddy Creek district, secs. 16, 21, T. 20 N., R. 28 W.

SANDERS, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
VERMILLION GOLD INC. MINE Operator: Vermillion Gold Inc., c/o Frank P. Duvall, East 15 Walton Ave., Spokane, Washington Owner: Same as operator Status: Developing	Gold (placer)	Silver Butte (Vermillion) district, secs. 6, 7, T. 24 N., R. 30 W.

SILVER BOW COUNTY
County Seat: Butte

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
ADELAID AND MAT MINE Operator: A. G. Hooper, 2703 Princeton, Butte, Montana Owner: Anaconda Co., Hennessy Bldg., Butte, Montana Employees: 4 Status: Producing, inactive since May	Zinc, lead, silver	Butte district
BADGER MINE Operator: The Anaconda Co., Hennessy Bldg., Butte, Montana Owner: Same as operator Status: Developing	Sulfide ore	Summit Valley (Butte) district, NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T. 3 N., R. 7 W.
BERKELEY PIT Operator: The Anaconda Co., Hennessy Bldg., Butte, Montana Owner: Same as operator Status: Producing	Copper, gold, silver	Summit Valley (Butte) district, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T. 3 N., R. 7 W.
BROWN NO. IX MINE Operator: Claude H. Brown, Box 102, Dillon, Montana Owner: Same as operator Status: Unknown	Fluorspar, dolomite	Divide district, secs. 15, 22, 23, 24, T. 1 S., R. 9 W.
JEWEL MINE Operator: Ruby Silver Mines Co., Salt Lake City, Utah Owner: Dale F. Galles and Ben Harwood, Billings, Montana Mill capacity: 20 t/d Status: Unknown	Gold, silver	Grove Creek district, sec. 22, T. 3 N., R. 8 W.

SILVER BOW, Cont'd.

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>KELLEY MINE Operator: The Anaconda Co., Hennessy Bldg., Butte, Montana Owner: Same as operator Status: Producing</p>	<p>Copper, silver, gold</p>	<p>Summit Valley (Butte) district, SW$\frac{1}{4}$SW$\frac{1}{4}$ sec. 7, T. 3 N., R. 7 W.</p>
<p>MAIDEN ROCK MINE Operator: Victor Chemical Division of Stauffer Chemical Co., Box 1966, Butte, Montana Owner: Victor Chemical Works, 155 N. Wacker Dr., Chicago 6, Illinois Status: Producing</p>	<p>Phosphate rock</p>	<p>Maiden Rock district, NE$\frac{1}{4}$ sec. 5, T. 2 S., R. 9 W.</p>
<p>MOUNTAIN CON MINE Operator: The Anaconda Co., Hennessy Bldg., Butte, Montana Owner: Same as operator Status: Producing</p>	<p>Copper, silver, gold</p>	<p>Summit Valley (Butte) district, NE$\frac{1}{4}$SW$\frac{1}{4}$ sec. 12, T. 3 N., R. 8 W.</p>
<p>STEWARD MINE Operator: The Anaconda Co., Butte, Montana Owner: Same as operator Status: Producing and developing</p>	<p>Copper, silver, gold</p>	<p>Summit Valley district, NW$\frac{1}{4}$NE$\frac{1}{4}$ sec. 13, T. 3 N., R. 8 W.</p>
<p>TUXEDO MINE Operator: Ed Hughes, 1301 Porphyry, Butte, Montana Owner: Same as operator Status: Producing and developing</p>	<p>Gold, silver</p>	<p>Summit Valley district, sec. 28, T. 4 N., R. 9 W.</p>

STILLWATER COUNTY
County Seat: Columbus

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
<p>MOUAT MINE Operator: American Chrome Co., 1 Montgomery St., Rm. 1201, San Francisco 4, California Owner: M. W. Mouat Estate, Nye, Montana Mill capacity: 1,000 t/d Employees: 170 Status: Producing</p>	<p>Chromite concentrates, ferro- chrome</p>	<p>Nye district, secs. 20, 21, 28, 29, 30, T. 5 S., R. 15 E.</p>

SWEET GRASS COUNTY
County Seat: Big Timber

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
HALF MOON MINE Operator: Half Moon Mining Co., George Guay, Pres., 207 Hedden Bldg., Billings, Montana Owner: Same as operator Status: Unknown	Gold, silver, lead	Independence district

TOOLE COUNTY
County Seat: Shelby

<u>Name of Operation</u>	<u>Product</u>	<u>Property Location</u>
GOLD BUTTE MINE Operator: Ham Mining Co., P. O. Box 255, Shelby, Montana Owner: Same as operator Status: Developing	Gold	Gold Butte district, T. 36 N., R. 3 E.

YELLOWSTONE COUNTY
County Seat: Billings

Operator: Lovell Clay Products 1312 Lockwood Rd., Billings Montana Owner: Same as operator Status: Producing	Clay	Sec. 20, T. 1 S., R. 26 E.
Operator: Montana Liteweight Co., P. O. Box 3027, Billings, Montana Owner: Same as operator Status: Producing	Expanded shale lightweight aggregate	

STATE COAL MINE INSPECTOR'S REPORT

Coal production in the State of Montana for the fiscal year June 30, 1960 to June 30, 1961 with 46 mines reporting was 352,924 tons as compared with 335,121 tons for the previous year, an increase of 17,803 tons.

There were no fatalities in the Montana coal mines during the preceeding year. There were 29 reportable injuries with 9 lost time injuries. The only serious accidents resulting in injuries were due to roof falls, which continues to be the number one hazard in the coal mines.

During the past year several more of the smaller mines, owned and operated by ranchers, were closed down and it is doubtful if they will reopen. The winter of 1960 and 1961 was very mild and this curtailed the demand for coal.

The Square Deal Co. and Johnie's mine have installed new air shafts which will improve their ventilation and give the employees an additional escapeway. A new drift has been driven in the Burns mine connecting the live workings to the outside which provides better ventilation and gives this mine two escapeways.

There were two applicants for the mine foremans examination with one certificate being issued. When the steel mill is constructed in Anaconda the demand for coal will increase and improve the economic conditions in the coal fields.

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 1960 - June 1961

Mines by County	Ave. No. Employees	Total Days Worked	Tonnage Mined	Accidents	
				Fatal	Non-Fatal
<u>BLAINE</u>					
Milk River Mine	13	170	3,475	0	2
<u>BIG HORN</u>					
Spring Creek	2	120	3,200	0	0
<u>CARBON</u>					
Smith Coal Docks	6	205	5,600	0	2
Roadside Mine	2	76	449	0	0
Brophy Coal Mine	5	140	4,055	0	0
Burnes Coal Mine	2	105	5,200	0	1
<u>CASCADE</u>					
Canyon Coal Co.	3	96	1,400	0	0
Latham Mine	2	76	700	0	0
Loveland Mine	3	87	800	0	0
East Belt Mine	2	122	1,407	0	0
<u>CUSTER</u>					
Storm King Mine	4	100	3,900	0	0
Moon Creek Mine	1	21	80	0	0
<u>DAWSON</u>					
Clapp Mine	1	4	110	0	0
Peuse Mine	2	79	1,250	0	0
Albrecht Mine	2	50	851	0	0
<u>FERGUS</u>					
Swanson	1	21	140	0	0
Tuss	2	114	950	0	0
<u>GARFIELD</u>					
Magnuson	4	12	30	0	0
<u>HILL</u>					
Rocky Boy Mine	2	76	634	0	0
Caplette Mine	2	38	95	0	0
<u>MC CONE</u>					
No. 1 Mine	2	72	183	0	0
Yarger Mine	1	72	600	0	0

Production Report, Cont'd.

Mines by County	Ave. No. Employees	Total Days Worked	Tonnage Mined	Accidents	
				Fatal	Non-Fatal
<u>MUSSELSHELL</u>					
Antelope Mine	2	33	200	0	0
Divide Mine	3	126	7,300	0	2
Gildroy Mine	4	103	5,712	0	0
Johnson Mine	5	140	3,111	0	1
Johnie's Mine	5	103	1,180	0	2
Nie's Bros. Mine	5	145	3,900	0	0
Roundup Mining Co.	75	185	52,692	0	7
Square Deal Mine	5	106	9,894	0	0
Western Coal Co.	3	115	2,600	0	0
P. M. Mine	2	160	2,005	0	0
<u>POWDER RIVER</u>					
Coal Creek Mine	2	96	850	0	0
Wilson Mine	4	3	20	0	0
Sterling Mine	1	4	25	0	0
Two Tree Mine	3	5	60	0	0
<u>ROSEBUD</u>					
Lame Deer Mining Co.	3	127	6,800	0	0
Foley Bros. Inc.	3	20	539	0	0
<u>RICHLAND</u>					
Pickering Mine	2	55	780	0	0
Bemer Mine	3	104	900	0	0
Coal Bank Canyon	2	70	600	0	0
Knife River Co.	12	262	211,142	0	6
Thiell Bros. Mine	3	114	1,800	0	0
<u>ROOSEVELT</u>					
Diamond Lignite	2	20	230	0	0
<u>SHERIDAN</u>					
Acme Mine	4	181	4,304	0	0
Lagerquist Mine	2	71	1,171	0	0

LIST OF MONTANA COAL MINES ACTIVE IN 1961

By Thomas Morgan
State Coal Mine Inspector

<u>Company</u>	<u>Operator</u>	<u>Town</u>	<u>County</u>
Spring Creek Mine	Henry Yellowizer	Decker	Big Horn
Milk River Coal Co.	Lauren Sargent Box 661, Havre	Havre	Blaine
Smith Coal Docks	Samuel Carpenter Box 332, Red Lodge	Bearcreek	Carbon
Roadside Coal Co.	Frank Janskovich Box 673, Bearcreek	Bearcreek	Carbon
Brophy Coal Co.	James R. Brophy	Red Lodge	Carbon
Burns Coal Co.	Patrick R. Barrett Box 881, Red Lodge	Bearcreek	Carbon
Kainu Coal Mine	Hugo Kainu Box 614, Red Lodge	Red Lodge	Carbon
Canyon Coal Co.	William T. Surmi Sand Coulee	Giffen	Cascade
Latham Coal Co.	Andrew Yatsko	Stockett	Cascade
Loveland Mine	Earl Loveland Milligan Route Great Falls	Cascade	Cascade
East Belt Mine	Sam Williamson	Belt	Cascade
Storm King Mine	Calvin Fleming Box 66, Route 1 Miles City	Miles City	Custer
Moon Creek Mine	Henry Freeze 509 Pacific Ave. Miles City	Miles City	Custer
Clapp Coal Mine*	Clyde Clapp Box 93, Glendive	Glendive	Dawson
Peuse Coal Mine	Gordon Peuse	Lindsay	Dawson
Albrecht Coal Co.	Jacob Albrecht	Bloomfield	Dawson

*These mines are closed temporarily or have been abandoned.

<u>Company</u>	<u>Operator</u>	<u>Town</u>	<u>County</u>
Swanson Mine	William S. Swanson Gilt Edge Route Lewistown	Lewistown	Fergus
Tuss Coal Co.	C. M. Tuss 512 Evelyn, Lewistown	Lewistown	Fergus
Kountz Coal Mine*	Ted Kountz	Jordan	Garfield
Magnuson Mine	John Magnuson Box 715, Jordan	Jordan	Garfield
Rocky Boy Mine	Alfred Laursen	Box Elder	Hill
Caplette Coal Co.	Frank Caplette Box 64, Box Elder	Box Elder	Hill
LaHay Mine*	D. H. Lemieux Poplar	Vida	McCone
No. 1. Coal Mine	R. D. Stephensen	Circle	McCone
Willoughby Mine*	Dayton Willoughby	Vida	McCone
Yarger Coal Mine	Wayne Yarger	Brockway	McCone
Antelope Coal Co.	Joseph Birrer 1111 6th Ave. N. Billings	Roundup	Musselshell
Divide Coal Co.	Victor C. Carlson Box 342, Roundup	Roundup	Musselshell
Gildroy Mine	R. J. Gildroy Box 734, Billings	Roundup	Musselshell
Johnson Coal Co.	Victor Forstrom Box 828, Roundup	Roundup	Musselshell
Johnie's Coal Mine	Johnie Keosky 1011 1st E., Roundup	Roundup	Musselshell
Nie's Bros. Coal Mine	Gust Nies 1011 Main St., Roundup	Roundup	Musselshell
The Roundup Mining Co.	Roundup Mining Co. Box 98, Roundup	Roundup	Musselshell
Square Deal Coal Co.	Virgil Cross 220 7th St. W., Roundup	Roundup	Musselshell

<u>Company</u>	<u>Operator</u>	<u>Town</u>	<u>County</u>
Western Coal Co.	Glen H. Johnson Box 153, Roundup	Roundup	Musselshell
P. M. Mine	Paul Meged Box 495, Billings	Roundup	Musselshell
Coal Creek Mine	John Schoonover	Volborg	Powder River
Wilson Mine	J. L. Wilson	Broadus	Powder River
Erickson Mine*	Theodore Erickson	Ashland	Powder River
Hanic Mine*	Anthony Hanic	Ashland	Powder River
Hanson Mine*	Perry Hanson Box 104, Ashland	Ashland	Powder River
Sterling Mine	F. L. Sterling	Sonnette	Powder River
Schoenbach Mine*	U. B. Schoenbach	Ashland	Powder River
Two Tree Mine	Antone Gali	Epsie	Powder River
Gentry Mine*	O. B. Gentry	Ashland	Powder River
Lame Deer Mining Co.	Lame Deer Mining Co.	Lame Deer	Rosebud
Knoblock Mine	Albert Knoblock	Birney	Rosebud
Foley Bros. Inc.	O. E. Rye	Coalstrip	Rosebud
Pickering Coal Mine	Freeman Pickering	Crane	Richland
Bemer Coal Mine	Joe Bemer	Culbertson	Richland
Coal Bank Canyon	Cyrus Lowry Box 882, Sidney	Sidney	Richland
Knife River Coal Co.	Knife River Coal Co.	Savage	Richland
Thiell Bros. Coal Co.	Thiell Bros. Coal Co. Box 586, Sidney	Sidney	Richland
Diamond Lignite Mine*	Ralph Higgins Bainville	Culbertson	Roosevelt
Acme Mine	M. F. Brenteson	Coalridge	Sheridan
Lagerquist Mine	E. C. Lagerquist R.F.D. 1, Westby	Westby	Sheridan

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

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Argenta	I 1960	Log Cabin	I 1960
Blue Ore	I 1960	Lucky Strike	
Brenner Placer	A 1958	(Storm King)	I 1958
Calvin	I 1959	M. D.	U 1958
Dexter	I 1959	Old Faithful	I 1960
Ferdinand	I 1959	Pete Ampo	D 1960
Fisher	I 1959	Polaris	I 1958
French Creek	I 1958	Ruby (Centennial)	I 1960
Glendale Smelter Dump	A 1958	Sil-King	I 1960
Gladstone	U 1960	S S & R	I 1960
Goldsmith	I 1960	Starlight	A 1958
Governor Tilden	I 1960	Sylvia	I 1958
Ivanhoe	I 1959	Templeton	A 1958
Keystone	I 1960		

BROADWATER COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Ace In Hole	A 1958	Keating Dump	I 1959
Acme	I 1958	Kelly #1	U 1960
Blackhawk (North Star)	A 1958	Lakeview	A 1958
Copper City	A 1958	Liberator	I 1958
Diamond Hill	A 1958	Lonesome Pine	I 1958
Eagle Dump	I 1959	Midas (Iron Age)	I 1958
Edna #1, 2, 3	D 1960	Miles Lease	A 1958
Endevour	A 1958	Miller Slim Jim	I 1958
Hummingbird	A 1958	Patent 2880	A 1958
Hyantha Tunnel	I 1959	Pioneer	I 1959
Iron Mask	A 1958	Santa Anita	I 1960
Iron Mask #3	A 1958	Stray Horse	I 1958
Josephine & Baby Doe	A 1958	Sullivan Group	I 1958

CARBON COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Key	I 1958	Pryor Mountain	
Old Glory	U 1960	(Dandy)	I 1960

CASCADE COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Boss (Rochester & Allantus)	I 1959	Silver Bell Sunshine	I 1958 I 1958

DEER LODGE COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Alturas	A 1958	McCabe	I 1959
Blue Eyed Nellie	I 1959	Olsen Mountain	U 1958
Brightstar	A 1958	Ophir	A 1958
Cable	I 1958	Storm Lake	I 1958
Gold Coin	I 1959	Tarlack	I 1958
Log Cabin	A 1958	Tip Top	I 1958
Lucky Arrowhead	U 1958	Trigger	I 1958

FERGUS COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
America	A 1958	Iron Chancellor	I 1959

FLATHEAD COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Blow Out #1	A 1958	Golden Queen	A 1958
Cedar Hills	A 1958		

GALLATIN COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Karst	A 1958	Nellie H	A 1958

GRANITE COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Bagdad	I 1958	Copper Queen	A 1958
Bearmouth Placer	U 1960	Forest Rose	I 1958
Blue Bell	A 1958	Grubstake	I 1958
Bohrer	A 1958	Guy Kneale	I 1958
Cadgie Taylor	A 1958	Henderson Creek Placer	I 1958
Chicago	I 1959	Hope	U 1958
Comanche	A 1958	Iron Age & Redemption	I 1958

GRANITE COUNTY, Cont'd.

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Little Emma	I 1959	Sand Basin Placer	A 1958
Lyon Placer	P 1960	Scratch All	I 1960
Marie	I 1958	Sunlight	I 1957
Maywood Placer	P 1960	Tarlach	U 1958
Mountain View	I 1959	Tibbets Fowler	U 1958
Queen	A 1958	Wegner	I 1958
Ross Hayworth	A 1958	White Horse	I 1958

JEFFERSON COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Ariadne	I 1959	Little Nell	A 1958
Aurora	I 1957	Loeber	U 1960
Badger	I 1958	Lotta	A 1958
Baltimore	U 1960	Lucky Hit	I 1958
Basin Jib	I 1959	Mammoth Cleanup	A 1958
Big Chief	A 1958	Midway	I 1958
Blue Bell (Marsh)	I 1960	Minah	I 1958
Bluebird	I 1958	Montana (Colorado district)	A 1958
Blue Boy	I 1958	Montana (Homestake district)	A 1958
Carbonate	A 1958	Montana Hotels Inc.	U 1960
Comet-Grey Eagle	U 1958	Morning	A 1958
Daily (Altas)	I 1960	Morning Glory Placer	U 1960
Elkador & Little Nancy	A 1958	Mountain Queen	I 1958
Elkhorn Queen	I 1959	Niki	A 1958
Glowing Star	U 1960	Obelisk	U 1960
Golden Sunlight	I 1960	Potee	U 1960
Good Friday	A 1958	President Group	I 1960
Gregory Dump	I 1958	Prickly Pear Placer	I 1960
Harriet	I 1958	Silver Claim	A 1958
Helen's Pride	I 1958	Uranium	I 1958
Hope	I 1959	White Pine	I 1959
Lena	A 1958		

JUDITH BASIN COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Dewey (Iron King- Iron Clad)	D 1958		

LEWIS & CLARK COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Ajax	I 1959	Helena	I 1960
Aurora	I 1958	Little Ox	I 1958
Bald Butte	I 1958	Lucky Joe	I 1958
Blackjack (Jack Pot)	U 1958	Midnight	I 1958
Crossfire	I 1960	Pass Creek	A 1958
Drumlummon	I 1960	Rock Rose (Dandy)	A 1958
Eagles Nest	A 1958	Silver Coin	A 1958
Frontier	I 1958	Transit	I 1960
Happy Jack	I 1960	Various Placer	A 1956

LINCOLN COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Big Sky	I 1960	Esther May	I 1960
Black Diamond	U 1960	Larue & Cripe	
Christmas Trees	A 1958	Prospect	I 1960
Daniel Lee Prospect	D 1958	Waylett Group	I 1960

MADISON COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Alder	U 1960	Hawkeye	A 1958
Anthony	A 1958	Kent & Miller	U 1958
Apex	I 1960	Keystone	I 1960
Betty Bennit	A 1958	Mapleton	A 1958
Betty May	U 1958	Marietta Mill	I 1958
Birdia	I 1958	Moonlight	A 1958
Bismark	A 1958	Mountain Flower	A 1958
Black Ace	A 1958	Old Joe	I 1960
Brown	I 1958	Pauline	I 1960
Calvin	I 1958	Pioneer	I 1958
Chemet #1	I 1960	Ridgeway	A 1958
Cliff Lake	D 1958	Sampson	U 1960
Copper Flat	A 1958	Shamrock	I 1959
Corn Cracker	U 1960	Silver Bell	I 1960
Daizy No. 1	I 1958	Strawn	I 1960
Diamond Hitch	A 1958	West Shore	A 1958
Dictator & Belle Union	P 1960	Wetmore	I 1959
Green Campbell	I 1959		

MEAGHER COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Exchange Placer	I 1960	Little Belt	I 1958
Jack Black	A 1958	Rachele Pit (P.R.K.)	A 1958
Jim Beam #1	A 1958	Russi #1 & #2	A 1958

MINERAL COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Boulder Gold Placer	U 1960	Highbar	I 1959
Christian's Calumet		Iron Mountain	A 1956
Daly Placer	A 1958	Meadow Creek Placer	I 1958
Cron's C. B. & Q.		Night Owl	A 1956
Placer	A 1958	Snowbird	I 1958

MISSOULA COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Arrowhead	I 1958	Charcoal	I 1958
Blacktail	I 1959	Josephine Creek	A 1958
Blue Bell (Leonard)	I 1958	Pearl	A 1958

PARK COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Ed & Ann	I 1958	Hudson	D 1958
Great Rift (Big Blue, St. Jude)	A 1958	Irma	I 1958
		Moonlight	U 1960

PHILLIPS COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Independent	I 1960		

POWELL COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Alice Marie Placer	I 1958	New Majestic	I 1958
Bluebell	I 1960	Nora	I 1960
Brock	D 1960	Peacock	A 1958
Emery	A 1958	Pineau Placer	U 1960
Flora	I 1958	Plutarc (Snowflake)	I 1958
Golden Anchor	I 1960	Reservoir & Ophir	
Graveley	I 1960	Patents	U 1960
Independence	I 1960	Reservoir Placer	U 1960
Key	A 1958	Rogers Homestead	U 1960
Kilburn Placer	A 1958	Royal	I 1959
Lazy L	A 1958	Ruby Gold	I 1958
Lucky Andy Placer	I 1958	Treasure Mountain	I 1960
Marjorie (Amended Drift) Placer	A 1958		

RAVALLI COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Ace	D 1958	Smith	U 1960
Curlew	U 1960	Woods Creek Iron	D 1960
Lucky Joe	D 1958	Woodtick #1 Placer	A 1958

SANDERS COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Montana Standard	I 1960		

SILVER BOW COUNTY

<u>Mine</u>	<u>Last Reported</u>	<u>Mine</u>	<u>Last Reported</u>
Agnostic	A 1958	Little Annie	I 1959
Alice Pit	P 1959	Little Sarah	I 1959
Anselmo	P 1959	Magna Charta	I 1958
Bay Horse	A 1958	Major Bud	I 1960
Beal Dike	I 1958	Mapleton	I 1959
Belmont	I 1958	Marget Ann	A 1958
Blue Bird	I 1959	McPhail Prospect	U 1960
Brilliant	I 1959	Minnie Jane	A 1958
Burlington	I 1959	Montana	I 1958
Creole	I 1958	Narrow Gauge	A 1958
Cumberland	A 1958	Nettie Hubernie	I 1959
Diamond	A 1958	Norwich Plutus	I 1959
Eagle Bird	A 1958	Olsen Fraction	I 1958
East Colusa Pit	I 1958	Original	I 1958
Easter	A 1958	Orphan Girl	I 1958
Emma	I 1959	Poorman	A 1958
Fairview	A 1958	Poser	A 1958
Fredonia	I 1959	Sankey	A 1958
Fruition	I 1958	Scotia	A 1958
Gagnon Pit	I 1958	Self Rising	I 1959
Garibaldi	I 1959	Silver Cleft	A 1958
Good Luck	I 1959	Snowdrift	I 1958
Great Republic	P 1958	Steward	I 1958
Gregory	A 1958	Travona	I 1958
Grey Eagle	A 1958	Tzarena	I 1958
Jane Placer	I 1959	Unita	A 1958
Lavena	I 1958	Valdemere	A 1958
Leonard	I 1959	West Mapleton	I 1959
Lexington	I 1959	West Nettie	I 1959



MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES



Stewart L. Udall, Secretary

Marling J. Ankeny, Director

Region I—Mark L. Wright, Regional Director

Division of Mineral Resources
O. M. Bishop, Chief

Area Report B-91
Albany, Oregon

THE MINERAL INDUSTRY OF MONTANA IN 1961

Preliminary Annual Report

Montana's copper production in 1961 was the largest in 17 years. Red metal output increased to 104,000 tons. In contrast, there was a further decrease in lead and zinc production in the State. Montana mines produced only 3,000 tons of lead (lowest recorded since 1932) and 11,000 tons of zinc (lowest since 1938). Mineral fuels activity was highlighted by a record output of crude petroleum of 31 million barrels. Crude petroleum (\$74.9 million) and copper (\$62.3 million) supplied 75 percent of the value of mineral production during the year. According to preliminary figures, increased production was recorded for natural gas, coal, sand and gravel, stone, cement, lime, vermiculite, and tungsten ore and concentrate. Production of the following commodities declined: chromium ore and concentrate, gold, manganese ore and concentrate, silver, fluorspar, and phosphate rock. The State total value of mineral production of \$182.0 million was \$3.2 million (2 percent) greater than in 1960, according to a preliminary report by the Bureau of Mines, U.S. Department of the Interior. The value was considerably below the record production of \$214 million in 1956.

General.— The index of the quantity of production based on preliminary figures was 123 compared with 114 in 1960 (1959 = 100). The index was a weighted average of the quantities produced in 1961 divided by those produced in 1959, using current year values as weights.

State legislation was passed concerning eminent domain in the acquisition of surface property for mining. Condemnation and appraisal procedures were about the same as used for highways; property owners were to be paid the value of similar residential property in a similar area not affected by open-pit mining. The new law was considered necessary to extend the boundaries of existing open-pit operations at Butte as well as to begin any new open-pit mining in the future in the Butte area.

Prepared by F. B. Fulkerson and G. A. Kingston, commodity specialists, under the supervision of A. J. Kauffman, Jr., Chief, Albany Office of Mineral Resources, Bureau of Mines, Region I, Albany, Oregon, December 21, 1961.

TABLE 2. - Mineral production in Montana 1/

Mineral	1960		1961 2/	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Chromium ore and concentrate 2/.....short tons, gross weight	106,716	\$3,813	82,258	\$2,939
Clays 4/.....thousand short tons	63	77	60	71
Coal (bituminous and lignite).....do.....	313	1,188	360	5/
Copper (recoverable content of ores, etc.).....short tons	91,972	59,046	103,840	62,304
Fluorspar.....do.....	31,273	5/	14,685	5/
Gold (recoverable content of ores, etc.).....troy ounces	45,922	1,607	34,120	1,194
Iron ore (usable).....thousand long tons, gross weight	55	293	5/	5/
Lead (recoverable content of ores, etc.).....short tons	4,879	1,142	2,910	623
Manganese ore and concentrate (35 percent or more Mn).....	29,036	1,996	5/	5/
Manganiferous ore and concentrate (5 to 35 percent Mn).....	676	11	4,381	66
Natural gas.....million cubic feet	33,418	2,373	34,000	2,600
Petroleum (crude).....thousand 42-gallon barrels	30,240	72,878	31,066	74,869
Sand and gravel.....thousand short tons	12,589	11,657	13,000	12,500
Silver (recoverable content of ores, etc.) thousand troy ounces	3,607	3,265	3,336	3,019
Stone.....thousand short tons	1,183	1,576	1,250	1,700
Uranium ore.....short tons	1,726	29	5/	5/
Zinc (recoverable content of ores, etc.).....do.....	12,551	3,238	11,110	2,555
Value of items that cannot be disclosed: Barite, cement, gem stones, gypsum, lime, mica, natural gas liquids, phosphate rock, talc, tungsten, vermiculite, and values indicated by footnote 5.....		15,217		18,185
Total 6/.....		178,854		182,025

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

3/ Excludes tonnage used for ferrochromium production; included with "Value of items that cannot be disclosed."
 4/ Excludes fire clay; included with "Value of items that cannot be disclosed."
 5/ Figure withheld to avoid disclosing individual company confidential data.

6/ Total adjusted to eliminate duplicating value of raw materials used in manufacturing cement and lime.

Construction of the Libby Dam on the Kootenai River in northwestern Montana was made possible under a treaty between the United States and Canada signed by the President and the Prime Minister in January. The treaty was ratified quickly by the U.S. Senate, but approval by the Canadian Parliament was held up because of a disagreement between the Federal Government of Canada and the Provincial Government of British Columbia over means of financing three storage dams to be constructed in southeastern British Columbia. The treaty provided for cooperative development of the water resources of the Columbia Basin. Both the Columbia and the Kootenai are international streams. Benefits for power and flood control would result from construction made possible by the treaty. Expansion of industry such as aluminum reduction would be likely from new blocks of power that would become available.

State economic trends were disclosed by employment statistics published by the Montana Employment Service. Based on figures for the first 10 months, mining industry employment averaged the same as in 1960; however, in 1960 the trend was upward following settlement of a metal-mining labor dispute in February, while in 1961 the trend was downward due to poor metal markets and mine closures. Manufacturing employment declined slightly (2 percent) as the result of cutbacks early in the year in lumber and timber products, primary metals, and petroleum refining. Contract construction recorded the largest gain among the State's industries and increased 16 percent over 1960. Highway projects, missile-site construction, and preliminary work on two dams provided impetus. Average employment for all non-agricultural industries increased 1 percent.

TABLE 3.- Estimated average monthly employment, thousands

	First 10 months, 1960	First 10 months, 1961	Change, percent
Mining.....	7.1	7.1	0
Metal mining.....	4.3	4.2	-2.3
Quarrying and nonmetallic mining, including coal.....	0.7	0.8	+14.2
Petroleum and natural gas production...	2.1	2.1	0
Manufacturing.....	20.3	19.9	-2.0
Lumber and timber products.....	7.3	7.2	-1.3
Primary metals.....	3.7	3.6	-2.7
Petroleum refining.....	1.0	0.9	-10.0
Contract construction.....	11.4	13.2	+15.8
Transportation and utilities.....	19.1	18.5	-3.1
Non-agricultural industries.....	166.7	169.1	+1.4

Source: Montana Labor Market, State Employment Service.

The Anaconda Co. process-metallurgy research center at Anaconda employed 37 technical personnel in the following areas of research: the utilization of Berkeley pit (company mine at Butte) ore waste as an alumina source; application of the electric furnace in copper smelting and refining; metallurgical techniques for fluidized-bed-reactor roasting of ore concentrates; production of industrial chemicals from Montana raw materials; mineral dressing, leaching, and flotation studies on molybdenum from copper ore and concentrate, on beryl ores, on Canadian magnetite (iron) ores, and on South American base-metal ores; and the application of instrumentation to process control.

REVIEW BY MINERAL COMMODITIES

METALS

Aluminum.- Anaconda Aluminum Co., Columbia Falls, primary aluminum output was increased to full capacity (approximately 65,000 tons annually) on May 1; the increase brought 30 idle reduction cells into production. Toward yearend the company announced that a feasibility study was being conducted that might result in expansion of the Columbia Falls plant to 3 potlines, an addition of 1 line to the existing 2. Anaconda Aluminum produced more fabricated than primary aluminum--primary expansion could correct the imbalance and permit the company to halt purchases from competitors.

Chromium.- The American Chrome Co. Stillwater County mining and milling operation at Nye ceased production following completion of a 900,000-ton Government stockpiling contract. The mine was closed on September 29 and the mill on October 2. Ore was broken at the mine during the first 4 months of the year and hauled from these reserves for the remaining 5 months of the operation. The 3, 4, and 5 levels were worked in the G and H zones of the deposit (classification described in Geological Survey Bulletins 922-N, 948-C, and 1015-D) and no development was carried out. Approximately 100 workers were terminated because of the closure. Measured, indicated, and inferred reserves remaining in the deposit totaled in excess of 4 million tons, and a potential of an additional 5 million tons was estimated to be available through further exploration and development.

A pilot smelter operated by American Chrome at the mill site also was shut down on October 12. Medium-carbon ferrochromium was produced from the Mouat ore concentrate and marketed to eastern United States stainless steel producers. A rotating-disc pelletizer was installed in the pilot-smelter charge-preparation room earlier in the year; its purpose was to prepare a pellet composed of reductant, flux, and chromite concentrate for charging to the electric smelting furnace. The company was attempting to acquire a Federal contract to smelt the nearby 900,000-ton stockpile to ferrochromium.

Copper.- All but 247 tons of the 103,840-ton State total (a 13-percent increase over 1960) was yielded from The Anaconda Co. Berkeley pit, Kelley, and vein-ore mines at Butte, Silver Bow County. A shaft development program was underway at the Anaconda Butte mines as part of a comprehensive move to increase production efficiency, and to explore and prepare deeper levels for

mining: The Steward sub-shaft was sunk and concreted 662 feet below the 4000 level; sinking of the Kelley No. 1 shaft below the 3000 level was begun in May; and plans were being made to extend the Neversweat shaft from the 2800-level to the 4500-level horizon to provide adequate ventilation for the deeper levels.

The Butte mines yielded approximately 43,000 tons of ore a day--33,000 from the Berkeley pit, 8,000 from the Kelley, and 2,000 from high-grade vein ore. Mill heads from the Berkeley pit contained from 0.70 to 0.78 percent copper.

The Anaconda Reduction Works at Anaconda, Deer Lodge County, employed approximately 2,200 at yearend; nearly 1,000 workers were laid off during the year because of terminations of zinc and phosphate fertilizer production. Fluidized-bed roasting of copper concentrate was initiated in November, replacing hearth roasting, and the capacity of two reverberatory furnaces was doubled by widening the furnace shells. Copper output was at the reduction works capacity of 25-million pounds a month. An expansive 4,000-acre tailings pond was in use, adjacent to the Anaconda plant; mill tails were used in dike building to contain the slimes.

Gold.- Output declined 26 percent to a total of 34,120 ounces, yielded principally from copper ores of The Anaconda Co. and gold-bearing ores and concentrates received at the Anaconda Reduction Works from miscellaneous shippers.

Iron Ore.- Young-Montana Corp. terminated work at the Willow Creek mine near Stanford; ore shipments were below previous years and accounted for a decline in the State total. Although considerable ore remained at the Willow Creek property, costs became excessive because of the necessity to mine selectively around high-sulfur-bearing ore, that was encountered in greater quantities. Ralls & Harris Bros., Radersburg, shipped from the Iron Cross mine and from several claims about 5 miles west of Radersburg.

Lead.- Preliminary estimates indicated a 40-percent production decline to 2,910 tons compared with 4,879 for the previous year. Miscellaneous shippers to the American Smelting and Refining Co. (Asarco) lead smelter at East Helena and the Asarco Jack Waite mine, Sanders County, accounted for most of the total. The Jack Waite property was closed in March, and Asarco terminated its long-term lease with the Jack Waite Mining Co.

Manganese.- Total output from three company operations--The Anaconda Co., Trout Mining Co., and Taylor-Knapp Co.--declined. The Anaconda Co. shipped from stocks most of the year, but produced manganese nodules during 2 months in the fall; the ore treated had been mined previously and stockpiled at the idle Emma mine. The Trout company entered into a cooperative contract with the nearby Taylor-Knapp Co., whereby Trout shipped manganese ore to the Taylor-Knapp mill for processing, and in return, Trout beneficiated base-metal ore from Taylor-Knapp mines.

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)
1952-56 (average)...	134	9	6,525	27,766	\$972	6,294	\$5,697
1957.....	125	13	10,790	32,766	1,147	5,558	5,030
1958.....	125	11	10,861	26,003	910	3,631	3,286
1959.....	96	14	8,779	28,551	999	3,420	3,096
1960.....	129	13	12,317	45,922	1,607	3,607	3,265
1961 ^{3/}	114	17	12,550	34,120	1,194	3,336	3,019

Year	Copper		Lead		Zinc		Total value (thousands)
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	
1952-56 (average)...	75,376	\$50,469	18,343	\$5,413	72,503	\$19,022	\$81,572
1957.....	91,512	55,090	13,300	3,804	50,520	11,721	76,792
1958.....	90,683	47,699	8,434	1,974	33,238	6,781	60,649
1959.....	65,911	40,469	7,672	1,765	27,848	6,405	52,734
1960.....	91,972	59,046	4,879	1,142	12,551	3,238	68,298
1961 ^{3/}	103,840	62,304	2,910	623	11,110	2,555	69,695

^{1/} Includes recoverable metal content of gravel washed (placer mines), ore milled, old tailings retreated, and ore, old slag, and copper precipitates shipped to smelters during calendar year indicated. Owing to rounding, figures may not add to totals.

^{2/} Does not include gravel washed.

^{3/} Preliminary figures. Gold and silver values calculated at U.S. Treasury buying price of \$35 a troy ounce and \$0.9050505 a troy ounce, respectively. In calculating production values for copper, lead, and zinc, preliminary average prices in 1961 per pound of refined metal were used, as follows: Copper, \$0.30; Lead, \$0.107; Zinc, \$0.115.

TABLE 5.- Mine production of gold, silver, copper, lead, and zinc in 1961, by months, in terms of recoverable metals

Month	Gold (troy ounces)	Silver (troy ounces)	Copper (short tons)	Lead (short tons)	Zinc (short tons)
January.....	1,500	234,580	8,490	250	880
February.....	1,490	236,870	8,040	240	700
March.....	1,740	267,360	8,520	240	690
April.....	1,320	229,390	8,090	200	660
May.....	2,850	269,800	8,370	160	660
June.....	2,490	297,710	8,850	170	760
July.....	4,430	294,690	9,330	180	780
August.....	6,820	331,560	9,360	240	920
September.....	4,180	308,990	8,640	460	1,550
October.....	2,640	312,780	8,910	360	1,570
November.....	2,580	278,000	8,620	210	950
December.....	2,080	274,000	8,620	200	990
Total.....	34,120	3,335,730	103,840	2,910	11,110

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 (thousand short tons)	Gold, lode and placer (troy ounces)	Silver, lode and placer (thousand troy ounces)
1952-56 (average)....	21	6,393	21,518	5,764
1957.....	19	10,673	27,312	5,069
1958.....	22	10,745	17,374	3,308
1959.....	16	8,679	18,615	3,204
1960.....	11	12,169	21,819	2,918
1961 <u>1/</u>	10	12,392	17,085	2,646

Year	Copper (short tons)	Lead (short tons)	Zinc (short tons)	Total value (thousands)
1952-56 (average)....	75,208	14,753	66,126	\$78,050
1957.....	91,393	9,617	43,169	73,328
1958.....	90,557	5,492	26,580	57,942
1959.....	65,810	4,456	22,459	50,149
1960.....	91,754	1,889	4,755	63,980
1961 <u>1/</u>	103,625	426	1,354	65,570

1/ Preliminary figures.

A diversity of manganese products were shipped by Taylor-Knapp: A 50-55 percent MnO_2 product went to the uranium-processing industry; battery grade ore was shipped for flashlight-battery manufacture; low-grade ore was used as a cell cleaner at base-metal refineries; carbonate ore was used in manufacturing welding rod; and a new oxide ore use was as a coloring agent in clay-brick products.

Silver. - Production was 3,335,730 ounces, a drop of 8 percent from a total of 3,606,991 ounces for the previous year. The Anaconda Co. Butte copper mines and miscellaneous shippers to the American Smelting and Refining Co. East Helena lead smelter accounted for most of the total.

In December the Government announced cessation of silver sales. The full impact of this action on the price of silver and on the domestic silver producer remained to be determined.

Steel. - Gulf State Lands and Industries, Inc., a subsidiary of Webb and Knapp, Inc., applied to the Federal Area Redevelopment Administration (ARA) for financial assistance to construct a proposed steel plant at Anaconda, utilizing The Anaconda Co. smelter slag and Montana iron ore as raw materials. The estimated cost of plant construction was \$40 million. The ARA had not reached a decision at yearend on the request.

Tungsten. - Minerals Engineering Co. produced high-grade scheelite concentrate at a mill near Glen; ore was mined at the Calvert pit mine near Wise River. The pit reached a depth of 165 feet. Good results were obtained from a new upgrading process at the mill, and concentrate exceeding 70 percent WO_3 was produced from 60 percent WO_3 concentrate by using a hydrochloric acid leach. Total mine and mill employment was approximately 40 men.

Uranium. - Ore tonnage and value dropped compared with 1960. Lower-grade ore was mined, accounting for a greater decline in value.

Zinc. - Absence of zinc production by The Anaconda Co., except for a comparatively small tonnage yielded from manganese sulfide ore treated in September and October, was the principal factor accounting for an 11-percent decline to 11,110 tons, compared with 12,551 tons for the previous year. Anaconda company zinc mining at Butte ceased in 1960. The Anaconda Co. slag-fuming operation at East Helena was the largest single producer. All Anaconda zinc refining of purchased and toll concentrates was conducted at the Great Falls plant.

NONMETALS

Barite. - Output of barite increased compared with 1960, according to estimates. Baroid Sales Division, National Lead Co., continued to mine and grind barite near Greenough, Missoula County.

Plans were announced to resume barite mining at the Copper Mountain claims, 5 miles south of Troy in Lincoln County. Recent development by the owners (Lendal and Donald Kotschever) uncovered veins of high-grade barite.

Cement.- Quantity and value of cement shipments increased 9 percent and 13 percent, respectively, compared with last year. The Ideal Cement Co. plant at Trident, Gallatin County, continued to be the only cement producer in the State.

Permanente Cement Co. (Oakland, Calif.) indicated interest in constructing a \$10 million cement plant near Helena. The cement company was associated with a group holding the prime contract for constructing the Yellowtail Dam near Hardin. Cement requirements for the dam were estimated at 1 million barrels.

Clays.- Production of miscellaneous clay and fire clay was 4 percent less than 1960.

Miscellaneous clay (includes shale) was dug in Fergus, Powell, Cascade, and Yellowstone Counties. Cascade County also was the source of fire clay.

Bentonite that qualifies under the Agricultural Conservation Program was mined in southern Phillips County. Under this program, 50 percent of the cost of sealing stockwater and irrigation dams would be credited to the farmer or rancher.

A report "Preliminary Investigation of Clay Deposits in Minnesota, North Dakota, Montana, Northern Idaho, and Washington" prepared by Northern Pacific Railway Co. Geologic Division, Properties and Industrial Development Department, has been put on open file at the Montana Bureau of Mines and Geology office.

Fluorspar.- Output of fluorspar from the Crystal Mountain mine was curtailed sharply by Cummings-Roberts. Mined ore was trucked to the Darby, Ravalli County, plant for processing.

Gypsum.- A small decrease in the quantity of crude gypsum mined was accompanied by a slight increase in value. Two mines in Fergus County furnished the output. As in past years, most of the production was calcined and marketed as ground gypsum, wallboard, and lath.

Mica.- A small increase in the quantity of mica shipped to the Government purchase depot at Custer, S. Dak., was accompanied by a sharp rise in value. Larger amounts of higher grade mica were shipped. Most of the production came from the Thumper No. 1 mine of Planet Exploration Co. near Gallatin Gateway, Gallatin County.

Phosphate Rock.- Output of marketable phosphate rock was slightly lower than 1960. Mines in Beaverhead, Powell, and Silver Bow Counties contributed to the production. Phosphate rock was processed to elemental phosphorus, phosphoric acid, and phosphate fertilizers.

The ammonium-phosphate plant of The Anaconda Co. was dismantled and shipped to J. R. Simplot Co. west of Pocatello, Idaho. The Idaho company purchased the plant and leased the Conda (Idaho) phosphate rock deposits from Anaconda last year.

The Bunker Hill Co. relinquished its lease on the Jack Pine phosphate claims near Elliston, Powell County. The company had been developing the property.

Phosphate rock from a deposit in the Hall-Maxville area of Granite County was shipped by Montana Phosphate Products Co. to Consolidated Smelting and Mining Company of Canada, Ltd., at Trail, British Columbia, for beneficiation testing. A plant would be built at the site, if the rock could be beneficiated economically and if a market could be developed.

Sand and Gravel and Stone.- Combined output of sand and gravel and stone totaled 14.3 million tons (\$14.2 million) compared with 13.8 million tons (\$13.2 million) in 1960. Montana had one of the biggest highway construction years in its history. Contracts for all heavy construction were more than \$14 million higher than in 1960; however, work was not started during the year on all projects. An increase in stone production resulted from larger quantities of limestone used for making cement and lime.

Sulfur.- Production and shipments of high-purity elemental sulfur were slightly less than in 1960. Waste refinery gases were processed at the Montana Sulphur & Chemical Co. plant in Yellowstone County.

Talc.- Estimated tonnage of talc output was 31 percent lower than in 1960. Production came from Beaverhead and Madison Counties.

Sierra Talc Co. opened a new talc-grinding plant at Three Forks, Gallatin County. Marketed under the trade name "Mistron Vapor," the product will be used by the paint, cosmetics, chemical, pulp and paper, and rubber industries. Ore from the Yellowstone mine is cleaned and screened on the site and then trucked to the new plant for grinding, packaging, and shipping.

American Chemet Corp. produced for the second year from the Madison mine in the Johnny Gulch area adjacent to Sierra Talc's Yellowstone open pit.

A publication of the Montana Bureau of Mines and Geology listed a new talc deposit, 2,000 feet long and 800 feet wide, south of Ennis on Cherry Creek, Madison County.

Vermiculite.- Production of crude vermiculite from the Libby (Lincoln County) open-pit mine by Zonolite Co. was 11 percent greater than in 1960.

Use of vermiculite for masonry fill insulation and for concrete aggregate for roof deck applications, as well as for home garden, agriculture, and animal feed purposes increased. A highly refined fraction called "verxite" was supplied to Monsanto Chemical Co. for use in making a stock-feed product.

The Zonolite company embarked on a development program adjacent to the producing pit. Involved was stripping overburden from an area of about 30 acres. Milling ore for a few years to come would be obtained from this area.

MINERAL FUELS

Coal.- Estimated output of bituminous coal and lignite was 360,000 tons compared with 313,000 tons in 1960. The steam-electric generating plant at Sidney, Richland County, continued to be the main consumer of lignite.

Attention was called to a new refinery byproduct--"fluid coke." This finely divided carbon from the Humble Oil & Refining Co. refinery at Billings after being briquetted and crushed was tested as a reductant in various metallurgical processes--producing elemental phosphorus and smelting at East Helena.

Petroleum and Natural Gas.- Recovery of crude oil was estimated at 31.1 million barrels (\$74.9 million) compared with 30.2 million barrels (\$72.9 million) in 1960. Marketed production of natural gas rose to 34.0 billion cubic feet (\$2.6 million) from 33.4 billion cubic feet (\$2.4 million) in the previous year.

There was considerable drilling activity throughout the producing areas of the State. Concentrated effort was expended in the southwestern corner of the Williston Basin along the Cedar Creek anticline which traverses portions of Fallon, Prairie, and Wibaux Counties. Up to October, 43 of the 46 wells drilled yielded crude oil. Very little information was released but there was much activity in the Tule Creek area of Roosevelt County, about 15 miles northwest of the Poplar field. Interest began with a Nisku-Devonian strike in the 1 Sletvold. Numerous shows had been reported from this formation but no actual production in Montana. An important eastern extension of the Keg Coulee field (Musselshell County) was drilled and the Pennel field (Fallon County) had a three-horizon producer. There also was interest along the "disturbed belt" on the east front of the Rocky Mountains, looking for an extension of the gas fields of Alberta.

A major expansion program was started at the Phillips Petroleum Co. refinery at Great Falls. Included would be erection of a new catalytic cracking unit, a distillate hydrogenation unit, expansion and modernization of the laboratory facilities, and expansion of the refinery's water-cooling system. Farmers Union Central Exchange increased crude-charging and fresh-feed catalytic cracking capacity at its Laurel refinery. Texaco, Inc., announced plans to close its Cut Bank refinery. The company had operated the facility only intermittently since 1958. Because of the newly constructed Glacier pipeline, no problems were anticipated in marketing the crude produced in the area.

A 430-mile crude oil pipeline owned jointly by Continental Pipe Line Co. and Texas Pipe Line Co. was completed from fields in northern Montana near Cut Bank to Roundup and to refinery centers at Billings and Laurel. From here, it continued to Bryon in northern Wyoming where it connected with facilities of the Platte Pipeline Co.

This report summarizes mineral industry activity in Montana in 1961 and contains preliminary production data for the year as estimated from company monthly and quarterly production canvasses, smelter and Government purchase depot receipt reports, and information contained in industry publications. Final production totals for the State's mineral commodities will be published in mid-1962 after completion of canvasses of all mineral industry establishments.

LIST OF
MINING DISTRICTS

Beaverhead County, D-4

1. Ajax
2. Argenta (Montana)
3. Bald Mountain
4. Bannack
5. Beaverhead (Dark Horse) (Mulchy Creek)
6. Big Muddy
7. Blacktail
8. Bloody Dick (Beaverhead)
9. Blue Wing
10. Bryant (Hecla)
11. Chinatown (Glendale)
12. Dillon (Armstead)
13. Elkhorn (Carter Creek) (Frying Pan Basin)
14. Elkhorn (Coolidge)
15. Elkhorn (Wise River)
16. Horse Prairie
17. Jake Creek
18. Lost Creek (Brown's Lake) (Rock Creek)
19. Medicine Lodge
20. Monica
21. Mount Torrey
22. Niccolia
23. Nogo (Apex)
24. Pioneer
25. Polaris (Lost Cloud)
26. Ruby
27. Saginaw (Jackson)
28. Utopia (Birch Creek)
29. Vipond
30. 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. Magpie 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) (Killa)
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 (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. Haddleston (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) (Sheepsteer)
154. New World (Cooke City) (Blackmore)

Phillips County, A-9

155. Little Rockies (Landusky) (Zortman)

Powell County, C-4

156. Big Blackfoot (Helmsville)
157. Eliston (Ontario) (Nigger Hill)
158. Emery (Zosell)
159. Finn (Washington) (Jefferson) (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. Revals 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

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

Stillwater County, D-7

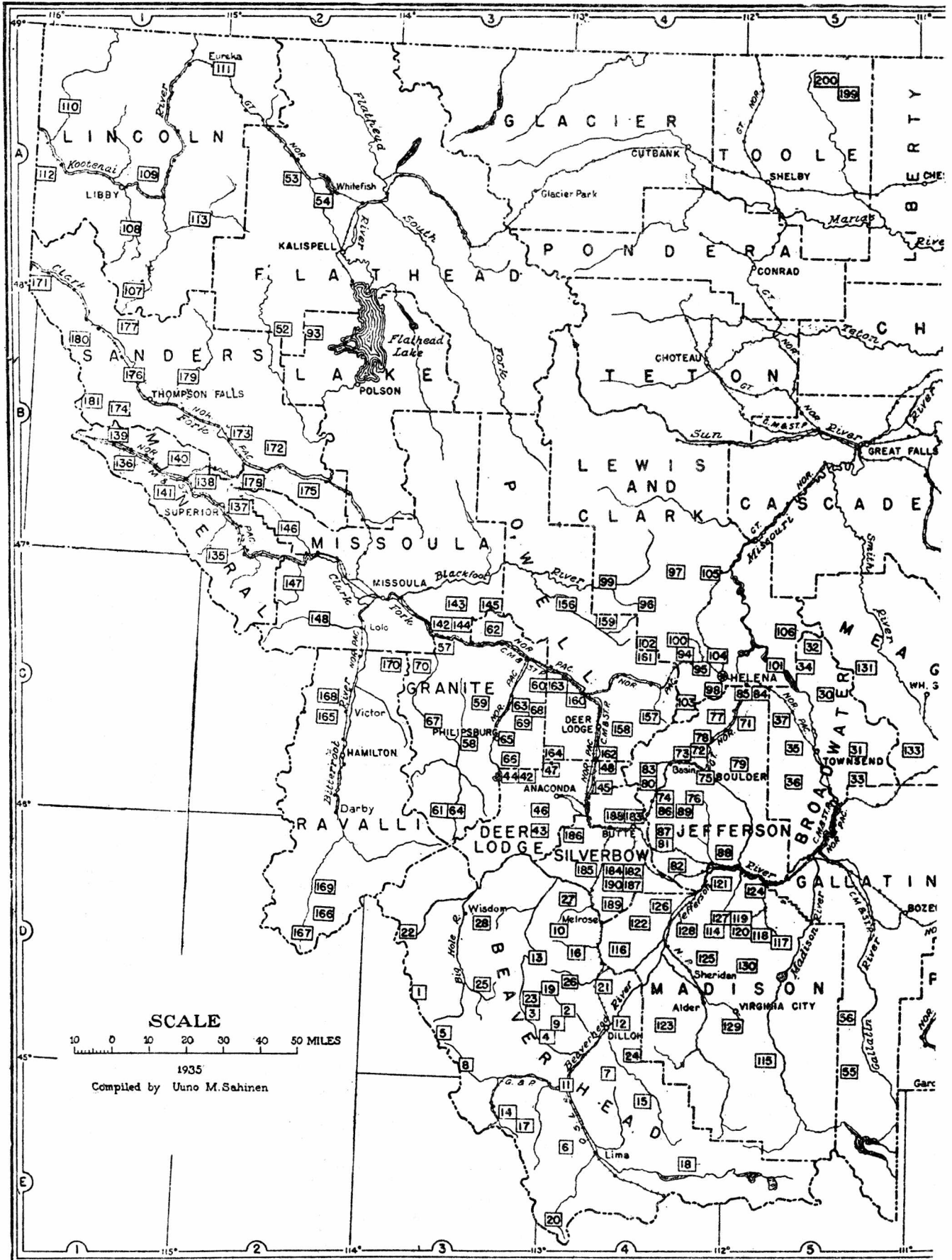
191. Nye
192. Stillwater
193. Yellowstone River

Sweet Grass County, D-6

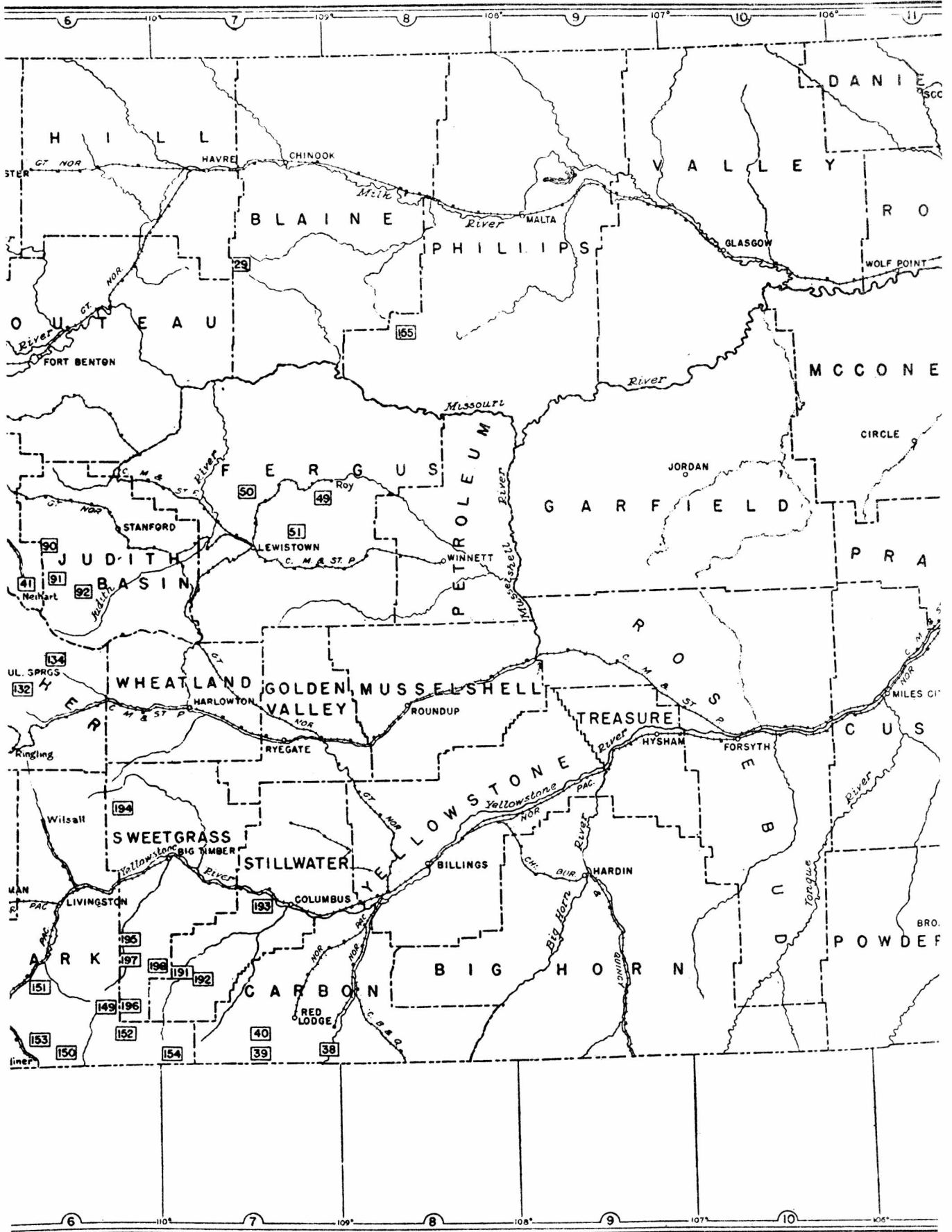
194. Big Timber Canyon
195. Boulder River
196. Independence
197. Natural Bridge
198. West Stillwater

Toole County, A-5

199. Gold Butte
200. West Butte



MAP SHOWING DISTRIBUTION OF



MINING DISTRICTS IN MONTANA