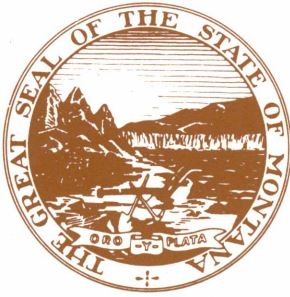


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**DIRECTORY OF
MONTANA
MINING
ENTERPRISES
FOR 1985**

compiled by
D. C. Lawson

with a section on
the Emery mining district by Robert E. Derkey



Emery mill in Powell County.

Bulletin 124

1986

**Montana Bureau of Mines and Geology
A Department of
Montana College of Mineral Science and Technology**

MONTANA COLLEGE OF MINERAL SCIENCE AND TECHNOLOGY

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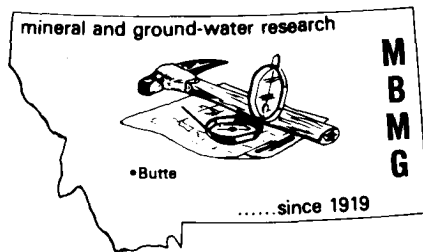
Bulletin 124



**DIRECTORY OF MONTANA
MINING ENTERPRISES
FOR 1985**

compiled by
D. C. Lawson

with a section on the Emery mining district
by
Robert E. Derkey



1986

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Preface

Each year the Bureau Staff Field Agent visits many mining properties in Montana under the long-established Bureau Small Mines Program. With the accelerated mineral activities in the State, however, it is impossible to visit all properties during the year, and therefore information is requested by mail from mine operators and owners relating to their mining activities. The responses to this canvassing and to personal interviews are then compiled and published annually in the Directory of Montana Mining Enterprises.

Mining enterprises are listed, by counties, either under *Metal Mines, Nonmetal Mines, Pits and Quarries* or *Coal Mines*. Within the counties, the properties are listed alphabetically, and contain the type of ore or mineral produced; mining district and location of the property based on legal subdivisions of land survey; owners' and operators' names and addresses; mill capacity; and the number of employees. The yearly status is also outlined, i.e., whether the property produced ore during the year; is still producing; developed ore without producing; did exploration work; or remained totally inactive. To facilitate use of the Directory, an index of mines, mine owners and operators is included at the back. Also included is a list entitled *Major Montana Exploration Projects*.

The map in the back pocket includes township and range lines to facilitate locating the area in which a mine or group of claims is located. Also, the Directory entries include the mining district index number in [brackets], which will allow one quickly to locate the district on the map.

The Directory contains a supplemental list of mines that have previously been listed as active but have been inactive over three continuous years. Mines inactive for a period of six consecutive years have been dropped entirely from the Directory.

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

For their contributions to the Directory, special acknowledgements are due W. L. Rice, U.S. Bureau of Mines, who provided the *Foreword* on the mineral industry of Montana in 1985, and to Robert E. Derkey, who contributed the section on the Emery mining district. This feature is the sixth of such articles on selected mining areas within the State, and we hope to continue these profiles in forthcoming directories.

If any additional facts or corrections are known, please submit such information to D. C. Lawson, Montana Bureau of Mines and Geology, Butte, Montana 59701, phone 406/496-4171.

The abbreviations and symbols used throughout the Directory are: (sec.), section; (T.), township; (R.), range; (t/d), tons per day; (t/hr), tons per hour; (t/y), tons per year; (g/d), gallons per day; (y/hr), yards per hour; (*), openpit; (**), openpit and underground.

D. C. Lawson
Staff Field Agent
Montana Bureau of Mines and Geology

Butte
March 5, 1986

Foreword

The estimated value of nonfuel mineral production in Montana for 1985 was approximately \$225 million, a decrease of 10 percent from that recorded in 1984, according to the Bureau of Mines, U.S. Department of the Interior. The most significant losses were in silver and copper production; gold production increased in quantity but decreased in value. Metallic minerals accounted for 50 percent of the State's total nonfuel mineral production value for 1985. Montana ranked 32nd nationally in the value of its 1985 nonfuel mineral production.

ASARCO Inc. continued silver and copper production from its Troy mine near Libby. Placer U.S. Inc. concluded the second full year of gold production from its Golden Sunlight mine near Whitehall, and Pegasus Gold Inc. operated the Ruby Gulch mine at Zortman in the Little Rocky Mountains. Depressed metal prices forced a suspension of operations at the Inspiration Mining Inc. Black Pine mine near Philipsburg. Golden Maple Mining & Leaching Company increased gold production at the Giltedge operation in the Judith Mountains. The Stillwater Mining Company joint venture announced that \$40 million will be spent on mine development at the Stillwater Complex platinum-palladium project; initial production is set for 1987.

Washington Corporation announced purchase of properties of the Anaconda Minerals Company in Silver Bow, Deer Lodge and Granite counties, including the Butte operations. ARCO Aluminum Company sold its Columbia Falls reduction plant to an investor group; the new company, Columbia Falls Aluminum Company, will operate the smelter on a tolling basis. ASARCO curtailed operations in midyear at its East Helena lead smelter, reducing output by 20 percent. Companies announcing plans for gold and silver mining operations included Homestake Mining Company-American Copper and Nickel Company Inc. at Jardine, and Pegasus Gold at the Centennial Minerals Montana Tunnels property near Wickes.

Exploration activity increased in 1985. ASARCO gained permission to patent 101 mining claims for silver-copper deposits in the Cabinet Mountains Wilderness, Sanders County; U.S. Borax & Chemical Corporation continued drilling on adjoining claims. Queenstake Resources drilled in the Quartz Hill district, and Midas Gold Inc. conducted underground exploration at the Gold Coin mine in the Georgetown district. Pegasus continued limited exploration at the Beal gold property in German Gulch, southwest of Butte.

Industrial minerals production value increased 6 percent from that of 1984; the largest gains were recorded for talc, portland cement, and clays. Work progressed on the Montana Talc Company \$12 million talc mine and mill, with operations projected to begin in 1986. Discount power rates, coupled with employee reductions, enabled Stauffer Chemical Company to continue operation of its Silver Bow elemental phosphorus plant.

W. L. Rice
State Liaison Officer
U.S. Bureau of Mines

Spokane
January 17, 1986

Part I—Metal Mines

ANTIMONY MINES

Ravalli County: Hamilton 59840

*DOMINIC GROUP Antimony
Sec. 35, T. 7 N., R. 19 W.
Owner-Operator: Betty Lykins
Box 181, 300 S. 9th, Hamilton MT 59840
Status: Developing

Sanders County: Thompson Falls 59873

BABBIT MINE Antimony
Prospect Creek dist. [174],
sec. 17, T. 21 N., R. 31 W.
Operator: John C. Lawrence
Box 643, Thompson Falls MT 59873
Owner: U.S. Antimony Corp.
Box 643, Thompson Falls MT 59873
Employees: 12
Mill capacity: 250 t/d, refinery and electrolytic plant
Smelter: High-purity antimony, battery-grade antimony, antimony trioxide, sodium antimonate
Status: Producing

GOLD, SILVER, COPPER, LEAD AND ZINC MINES

Beaverhead County: Dillon 59725

AJAX MINE Gold, silver, lead
Sec. 7, T. 6 S., R. 17 W.
Owner-Operator: Ajax Gold, Inc.
Willow Creek Rd., Corvallis MT 59828
Mill capacity: 50 t/d
Status: Inactive

BURGIEROSA MINE Silver, lead, copper
Vipond Park dist. [27],
sec. 34, 35, T. 1 S., R. 11 W.
Owner-Operator: Burgierosa Silver Mines, Inc.
P.O. Box 65, Genoa City WI 53128
Employees: 2
Status: Developing

BUSTER MINE Silver, gold, lead, copper, zinc
Birch Creek dist. [26],
sec. 17, 18, 19, 20, T. 5 S., R. 10 W.
Owner-Operator: Ken Langstaff
125 Grey Wolf Drive, Ronan MT 59864
Status: Inactive

ELKHORN-TIGER GROUP AND GUY CLAIM
Molybdenum, silver
Elkhorn [13],
sec. 15, 21, 22, 27, 28, T. 4 S., R. 12 W.
Owner-Operator: Timberline Minerals, Inc.
John A. Wells, Bd. Chm.
Box 308, Dubois WY 82513
Status: Inactive

ERMONT MINES Copper, silver, gold
Dillon dist. [12], sec. 35, T. 6 S., R. 11 W.
Operator: CSC of Montana, Inc.
301 1st National Bank Building, Box 1715,
Helena MT 59624
Owner: Overland Gold Corp.
STE 451 400 Jefferson Building,
Spokane WA 99204
Status: Developing

FAITHFUL LODE Silver, lead
Vipond Park dist. [27], sec. 3, T. 1 S., R. 11 W.
Owner-Operator: Lively Mining, Inc.
Box 96, Melrose MT 59743
Status: Inactive

GOLDEN DAWN MINE Gold, silver
Argenta dist. [2], SE¼ sec. 24, T. 6 S., R. 11 W.
Owner-Operator: Dan A. MacDonald
7200 Argenta Road, Dillon MT 59725
Status: Developing

*GRASS HOPPER CLAIMS NO. 1 Gold, silver, lead
Bannack dist. [4], sec. 9, T. 8 S., R. 11 W.
Owner-Operator: Martin L. Belus
35021 W.V.H., Algona WA 98001
Status: Developing

Beaverhead County (continued)

****GRASSHOPPER MINE** Gold
Bannack dist. [4], sec. 8, T. 8 S., R. 11 W.
Operator: R. A. Hanson Mining Co.
N. 8700 Crestline, Spokane WA 99207
Owner: Hanson Properties, Inc.
N. 8700 Crestline, Spokane WA 99207
Status: Exploration

HAND GROUP Gold, silver, lead
Argenta dist. [2],
sec. 7, 8, 17, 18, 19, 20, 29, 30, T. 6 S., R. 10 W.
sec. 13, T. 6 S., R. 11 W.
Owner-Operator: William M. Hand
30 South Arizona, Dillon MT 59725
Status: Developing

***LAMPLIGHTER GROUP** Silver, copper
Vipond Park dist. [27],
sec. 29 (unsurveyed), T. 2 S., R. 11 W.
Owner-Operator: Roy Hoekema and Arthur Semsak
Box 132, Gold Bar WA 98251
Status: Developing

LAST CHANCE GROUP Gold
Vipond Park dist. [27], sec. 9, T. 2 S., R. 11 W.
Owner-Operator: Harvey Allen
Route 1, Box, 95, Sheridan MT 59749
Status: Developing

****LUCKY STRIKE MINE** Gold, silver, copper
Horse Prairie dist. [14], sec. 14, T. 11 S., R. 13 W.
Owner-Operator: Owen Adams
Box A, Teasdale UT 84773
Status: Unknown

POLARIS MINE Silver
Polaris (Lost Cloud) dist. [23],
sec. 28, T. 5 S., R. 12 W.
Owner-Operator: Midnite Mines, Inc.
North 9 Post, Suite 400, Spokane WA 99201
Status: Inactive

****SATA MAIRA RAINBOW GROUP** Copper,
silver, lead, tungsten
Utopia dist. [26], sec. 21, 27, 28, T. 5 S., R. 10 W.
Owner-Operator: J. V. Brady and Harold Reid
Box 3, Moise MT 59824
Status: Developing

SILVER RIDGE GROUP Silver, molybdenum,
tungsten
Sec. 26, T. 5 S., R. 17 W.
Operator: S & S Diversified
Ted Siaperias, General Manager
Box 4123, Pocatello ID 83201
Owner: Florence Coates and others
P.O. Box 368, Mullan ID 83846
Employees: 8
Status: Developing

THUNDERBIRD GROUP Silver, tungsten,
molybdenum
Elkhorn dist. [13],
sec. 14, 15, 22, 23, T. 4 S., R. 12 W.
Owner-Operator: Thunderbird Resources
Don L. Jenkins, President
P.O. Box 506, Corvallis MT 59828
Status: Exploration

****TIGER GROUP** Silver, tungsten, lead, zinc,
copper
Elkhorn dist. [13],
sec. 13, 14, 15, 22, 23, 26, 27, T. 4 S., R. 12 W.
Owner-Operator: Don L. Jenkins
P.O. Box 506, Corvallis MT 59828
Status: Exploration

VIRGINIA GULCH MINE Gold, silver
Argenta dist. [2], sec. 15, T. 6 S., R. 11 W.
Owner-Operator: Kenneth Langstaff
125 Grey Wolf Drive, Ronan, MT 59864
Employees: 1
Status: Developing

WAPITA MINE Lead, silver
Argenta dist. [2], sec. 22, 24, T. 6 S., R. 11 W.
Owner-Operator: Rudy and Nels Nygren
4700 Argenta Rd., Dillon MT 59725
Status: Developing

YELLOWBAND GROUP Gold, silver
Argenta dist. [2], sec. 1, 2, 11, T. 6 S., R. 11 W.
Operator: Nelson Associates
3926 Bellecrest, Missoula MT 59801
Owner: E. E. Nelson, 3926 Bellecrest, Missoula
MT 59801; Carl Shafer et al., Dillon, MT 59725
Employees: 4
Status: Developing

Broadwater County: Townsend 59644

BLUEBELL GROUP Copper, silver, gold, lead, zinc
Hassel dist. [35], sec. 1, T. 6 N., R. 1 W.;
sec. 32, T. 7 N., R. 1 E.
Owner-Operator: Nila Tyrrel
Box 291, Kirkwood IL 61447
Status: Developing

***CHAR TAM MINE** Gold, silver, lead
Winston dist. [37], sec. 13, T. 8 N., R. 1 W.
Operator: Western Energy Co.
Project Mgr. Jeff LeFever
16 E. Granite, Butte MT 59701
Owner: Don Holmes
Route 1, Box 831, Lakeview Manor,
Townsend MT 59644
Status: Developing

Broadwater County (continued)

CROSS MINE Lead, zinc, gold, silver
Park dist. [35], sec. 20, 21, T. 7 N., R. 1 W.
Owner-Operator: L. W. Doggett, C. Kokoruda and
F. Beniger
810 Breckenridge, Helena MT 59601
Status: Inactive

CUSTER MINE Gold
Winston dist. [37], sec. 13, T. 8 N., R. 1 W.
Owner-Operator: West Gate Mining and
Construction
U.S. Route 19 North, R.D. 13, Box 101,
Morgantown WV 26505
Mill capacity: 250 t/d
Status: Inactive

DIAMOND HILL MINE Gold, tungsten
Hassel dist. [35], sec. 36, T. 7 N., R. 1 W.
Owner-Operator: Mrs. Palmer Engh
Box 231, Townsend MT 59644
Mill capacity: 10 t/d
Status: Developing

EAST PACIFIC MINE Gold, silver, lead
Winston dist. [37], sec. 26, T. 8 N., R. 1 W.
Operator: Herb Carver (care taker)
Winston MT 59647
Owner: East Pacific Mining Co.,
c/o Bill Cullen, 1306 Washington,
Mutual Bldg., Spokane WA 99201
Mill capacity: 40 t/d
Status: Inactive

EDNA MINE Gold, silver
Winston dist. [37], sec. 13, T. 7 N., R. 1 W.
Operator: Western Energy Co.
Project Mgr. Jeff LeFever
16 E. Granite, Butte MT 59701
Owner: Bob Cobben
Winston MT 59647
Status: Developing

****GRANITE HILL NO. 1 AND NO. 2** Ox Tree mill
gold
North Fork-Deep Creek dist. [31], sec. 35, 36,
T. 8 N., R. 4 E.
Owner-Operator: Arnold J. Kolberg
R.R. 1, Box 57, Toston MT 59643
Employees: 2
Status: Developing

HARD CASH MINE Gold
Cedar Plains dist. [36], sec. 10, 11, T. 5 N., R. 1 W.
Operator: Dennis Miller
Radersburg MT 59641
Owner: Jim Forkner
6037 N. Van Hess Blvd., Fresno CA 93705
Status: Developing

IRON AGE GROUP Gold
Winston dist. [37], sec. 13, 24, T. 7 N., R. 1 W.
Operator: Western Energy Co.
Project Mgr. Jeff LeFever
16 E. Granite, Butte MT 59701
Owner: Mrs. Gwendlyn Couch Johnson and others
2875 Westwood Lane No. 2
Carmichael CA 95608
Status: Developing

****KOLBERG EUREKA LEAD NO. 1** Silver, lead,
zinc
Eureka dist., sec. 20, T. 7 N., R. 1 W.
Owner-Operator: Arnold J. Kolberg
R. R. 1, Box 57, Toston MT 59643
Employees: 2
Status: Developing

KOLBERG MILL Free milling (Preferred)
Toston Flat dist., sec. 5, T. 4 N., R. 2 E.
Owner-Operator: Arnold J. Kolberg
R. R. 1, Box 57, Toston MT 59643
Mill capacity: 40 t/d
Employees: 3

LITTLE GIANT Gold, silver
Cedar Plains dist. [36],
sec. 1, 2, 35, 36, T. 6 N., R. 1 W.
Operator: Dennis R. Miller
Route 1, Box 25-A, Toston MT 59643
Owner: Radersburg Mining Company
4344 IDS Center, Minneapolis MN 55402
Employees: 2
Status: Developing

MAPLES AND BRIDGTON GROUP Gold, silver
Winston dist. [37], sec. 24, T. 7 N., R. 1 W.
Operator: Western Energy Co.
Project Mgr. Jeff LeFever
16 E. Granite, Butte MT 59701
Owner: Don Holmes
Route 1, Box 831, Lakeview Manor,
Townsend MT 59644
Status: Developing

PIONEER MINE Gold, silver
Indian Creek dist. [35], sec. 5, T. 7 N., R. 1 E.
Owner-Operator: Virgil C. Sills
Box 1142, Townsend MT 59644
Employees: 1
Status: Developing

SILVER DIKE GROUP Gold, silver
Cedar Plains dist. [36], sec. 4, T. 7 N., R. 1 W.
Operator: Don Holmes
Route 1, Box 831, Lakeview Manor,
Townsend MT 59644
Owner: Mary Ann Miller and Don Holmes
Route 1, Box 831, Lakeview Manor,
Townsend MT 59644
Status: Inactive

Broadwater County (continued)**SKY MINE** Gold, silver

Cedar Plains dist. [36], sec. 10, 15, T. 6 N., R. 1 W.

Operator: Don Holmes

Route 1, Box 831, Lakeview Manor,

Townsend MT 59644

Owner: Mary Ann Miller and Don Holmes

Route 1, Box 831, Lakeview Manor,

Townsend MT 59644

Status: Developing

STOLEN SWEETS MINE Gold, silver

Winston dist. [37], sec. 24, T. 7 N., R. 1 W.

Operator: Western Energy Co.

Project Mgr. Jeff LeFever

16 E. Granite, Butte MT 59701

Owner: Ed Sewell

6314 Laurel Canyon Blvd., N. Hollywood CA 91606

Status: Inactive

****SLIM SAM GROUP** Lead, silver, gold

Radersburg dist. [36],

sec. 19, 20, 29, 30, T. 6 N., R. 1 W.

Operator: Ted Roberts

Box 65, Radersburg MT 59641

Owner: Ann and Ted Roberts

Box 65, Radersburg MT 59641

Status: Developing

****VALLEY VIEW MINE** Gold, silver, lead, zinc

Park (Indian Creek) dist. [35],

sec. 24, T. 7 N., R. 1 W.

Owner-Operator: Warren Schreiner

Box 665, Townsend MT 59644

Status: Inactive

VULTURE MINE Lead, silver

Park dist. [35], sec. 8, T. 7 N., R. 1 W.

Owner-Operator: Bayles Estate

Robert S. Bayles, Representative

146 Briarwood Lane, Helena MT 59601

Status: Developing

Cascade County: Great Falls 59401**CHAMPION B. MINE** Silver, lead, zinc

Neihart dist. [41], unsurv., sec. 29, T. 14 N., R. 8 E.

Owner-Operator: Marvin E. Corkill

Box 403, White Sulphur Springs MT 59645

Status: Inactive

FLORENCE and QUEEN MINE Silver, lead, zinc

Neihart dist. [41], sec. 29, 30, 31, 32, T. 14 N., R. 8 E.

Operator: Hecla Mining Co., Gordon Walde, Mgr.,

New Mines, Box 220, Wallace ID 83873

Owner: The Monarch Co., Carroll R. Bennett

Box 2267, Great Falls MT 59401

Status: Inactive

MOULTON MINE Silver, lead, zinc

Neihart dist. [41], sec. 29, 32, unsurv., T. 14 N., R. 8 E.

Owner-Operator: Della A. Antonioli

1001 W. Gold, Butte MT 59701

Status: Inactive

****PONDEROSA 102 and 102A MINE** Gold, silver,

lead, zinc, copper

Neihart dist. [41], sec. 15, T. 14 N., R. 8 E.

Operator: Morgan Enterprises, Inc.

Mike Morgan, Pres., c/o MED-PRO

P. O. Box 53, Virginia City MT 59755

Owner: James M. Morgan

P.O. Box 15, Neihart MT 59465

Status: Unknown

***SILVER DYKE MINE** Silver, lead, zinc

Neihart dist. [41], sec. 10, T. 14 N., R. 8 E.

Owner-Operator: Della A. Antonioli

1001 W. Gold, Butte MT 59701

Status: Inactive

Deer Lodge County: Anaconda 59711***GREAT EASTERN MINE** Silver, copper, zinc

Lost Creek dist. [47], sec. 9, 10, T. 5 N., R. 11 W.

Owner-Operator: Nettie Lord, Two Knudson Dr.,

Yerington NV 89447; and Lyman Thayer, 3103 Lost

Creek Rd., Anaconda MT 59711

Status: Developing

Fergus County: Lewistown 59457

- **BLACK BULL MINE** Gold, silver, copper, lead, zinc
Warm Springs dist. [51], sec. 7, T. 16 N., R. 20 E.
Owner-Operator: G. S. Abbott
Gilt Edge Route, Lewistown MT 59457
Status: Inactive
- BONANZA GROUP** Gold, silver
Kendall dist. [50], sec. 30, T. 18 N., R. 18 E.
Owner-Operator: Arnold Smith
318 W Blvd., Lewistown MT 59457
Status: Inactive
- *COPPER ELK GROUP** Lead, silver
Cone Butte dist. [49], sec. 22, T. 17 N., R. 20 E.
Owner-Operator: T. A. Pentecost and others
204 E. Washington, Lewistown MT 59457
Status: Developing
- **FEDERAL RESERVE GROUP** Gold, silver, lead
South Moccasin dist., sec. 35, T. 17 N., R. 17 E.
Operator: Dean C. Burnham
Route 3, Lewistown MT 59457
Owner: D. C. Burnham and others
Route 3, Lewistown MT 59457
Status: Developing
- *GILT EDGE** Gold
Gilt Edge dist. [51],
sec. 17, 18, 19, 20, T. 16 N., R. 20 E.
Operator: Golden Maple Mining & Leaching Co.
P.O. Box 1131 Lewistown, MT 59457
K. V. Lonm, Resource Manager
Owner: Gilt Edge Corp.
Big Horn, WY 82833
Employees: 5
Status: Produced, inactive
- *JAY DEE NO. 3** Gold, silver
Cone Butte (unorg.), sec. 8, T. 17 N., R. 21 E.
Owner-Operator: John and Dolores Rife
211 S.W. Cedar, Lewistown MT 59457
Status: Developing
- *KENDALL MINE** Gold
North Moccasin dist. [50], sec. 31, T. 18 N., R. 18 E.
Operator: Grayhall Resources, Inc.
1668 Valtec Lane, Boulder CO 80301
Owner: Judith Lease Joint Venture
1668 Valtec Lane, Boulder CO 80301
Mill capacity: 150 t/d
Employees: 40
Status: Producing, developing
- **MAGINNIS MINE** Gold, silver
Warm Springs (Gilt Edge) dist. [51],
sec. 5, T. 16 N., R. 20 E.
Operator: Jerry Hanley
P.O. Box 333, Poplar MT 59255
Owner: Selma Hanley and others
Lewistown MT 59457
Status: Developing
- MYRANDA CLAIM** Gold, silver, lead
Warm Springs dist. [51], sec. 8, T. 16 N., R. 20 E.
Owner-Operator: William and Glenn McVeda
915 W. Watson, Lewistown MT 59457
Status: Developing
- SHEEP MOUNTAIN MINE** Gold, silver, copper, lead
Warm Springs dist. [51], sec. 4, 5, T. 16 N., R. 20 E.
Owner-Operator: Lawrence Lenling and others
Box 74, Lewistown MT 59457
Status: Developing
- SPOTTED HORSE MINE** Gold, silver, tellurium, lead, zinc
Warm Springs dist. [51], sec. 5, T. 16 N., R. 20 E.
Operator: Joint venture of Minerals Inc. and D.B.A. Colerate Minerals Inc.
Thomas R. Young, Pres.
2433 Ford St., Golden CO 80401
Owner: Viking Exploration, Inc.,
Charles A. Eimarsen, Pres.
801 Denver Center Bldg.
1776 Lincoln St., Denver CO 80203
Employees: 5
Status: Produced, developing
- *TWO LADY NO. 7** Gold, silver
Cone Butte (unorg.), sec. 17, T. 17 N., R. 21 E.
Owner-Operator: John and Dolores Rife
P.O. Box 193, Roy MT 59471
Status: Developing
- **WAR EAGLE MINE** Silver, lead
Warm Springs dist. [51], sec. 7, T. 16 N., R. 20 E.
Operator: Harry Abbott
AM Mining and Development Co.
Box 413, Lewistown MT 59457
Owner: Cougar
Calgary, Alberta, Canada
Employees: 3
Status: Developing

Flathead County: Kalispell 59901

- *HERRIGG CREEK MINING CO. INC. GROUP**
Gold, silver, copper, bismuth
Sec. 14, T. 28 N., R. 25 W.
Owner-Operator: L. O. and Jack Bauska
94 Konley Dr., Kalispell MT 59901
Status: Developing

Flathead County (continued)

HOG HEAVEN PROJECT Silver, gold
 Hog Heaven dist. [52], sec. 17, T. 25 N., R. 23 W.
 Owner-Operator: CoCa Mines, Inc.,
 Gordon L. Steele, Project Mgr.
 P.O. Box 131, Polson MT 59868
 Employees: 12
 Status: Developing

STAR MEADOW GROUP Gold, silver, copper
 Tally Lake dist., sec. 17, 20, 21, T. 30 N., R. 24 W.
 Operator: Star Meadow Mining, Inc.
 690 S. Hilltop Road, Columbia Falls MT 59912
 Owner: Ivan, Shirley and Robert DeSpain
 690 S. Hilltop Road, Columbia Falls MT 59912
 Status: Developing, inactive

Granite County: Philipsburg 59858

BLACK PINE MINE Silver, gold
 Black Pine dist. [59], sec. 7, 8, 16, 17 and
 18, T. 8 N., R. 14 W.
 Operator: Black Pine Mining Co.
 Dan McLaughlin, Mgr.
 Box 618, Philipsburg MT 59858
 Owner: Inspiration Consolidated Copper Co.
 55 Madison, Morristown NJ 07960
 Mill capacity: 1,000 t/d
 Employees: 90
 Status: Producing, developing

BLUE BIRD MINE Gold, silver, copper
 Rose Mountain dist. [68], sec. 26, T. 8 N., R. 12 W.
 Operator: David M. Harris
 Box 296, Philipsburg MT 59858
 Owner: Ben Walkup
 Philipsburg MT 59858
 Employees: 2
 Status: Developing

CONTACT MINING CUSTOM MILL Sulfide ores
 Flint Creek dist. [65], sec. 36, T. 7 N., R. 14 W.
 Operator: Contact Mining Co.
 724 S. Western Ave., Butte MT 59701
 Owner: Contact Mining Co.
 P.O. Box 337, Philipsburg MT 59858
 Mill capacity: 1,000 t/d
 Employees: 12
 Status: Producing

GLITTERING HILL MINE Gold
 Red Lion dist. [66],
 sec. 22,, 23, 26, 27, T. 6 N., R. 12 W.
 Operator: Joe Balkovatz
 1016 W. 4th, Anaconda MT 59711
 Owner: Mary L. McCabe
 2010 Haggin Ave., Anaconda MT 59711
 Status: Developing

****GOLDEN JUBILEE MINE** Gold, silver
 Red Lion dist. [66], sec. 14, T. 6 N., R. 13 W.
 Owner-Operator: Golden Jubilee Corp.,
 A. C. Nielsen, Pres.
 Box 322, Philipsburg MT 59858
 Mill capacity: 200 t/w
 Status: Producing, developing

HOPE GROUP Silver, siliceous ore
 Flint Creek dist. [65], sec. 19, T. 7 N., R. 13 W.
 Operator: Contact Mining Co.
 724 S. Western Ave., Butte MT 59701
 Owner: Contact Mining Co.
 P.O. Box 337, Philipsburg MT 59858
 Status: Inactive

****NEW SEATTLE (DOLLY QUARTZ) MINE**
 Silver, gold
 Maxville dist. [63], sec. 9, T. 8 N., R. 13 W.
 Owner-Operator: James E. Maehl and Grace Maehl
 29 Maxville Road, Philipsburg MT 59858
 Status: Developing

***NUT PINE MINE** Gold, silver, tungsten
 Gold Bar Basin-Twin Peaks-Red Lion dist. [66],
 sec. 7, T. 6 N., R. 12 W.
 Owner-Operator: F. N. Earll
 2044 S. Gaylord Ave., Butte MT 59701
 Status: Developing

PARNELL GROUP MINE Silver, copper, lead
 Flint Creek dist. [65], sec. 7, 8, T. 7 N., R. 13 W.
 Operator: Flint Range Minerals, Inc.
 Raymond Bozles, Mgr.
 16 Mountain View, Anaconda MT 59722
 Owner: Ethel C. Heaney
 Box 130, Philipsburg MT 59858 and
 Paul Heaney
 927 Chouteau, Helena MT 59601
 Status: Developing

SILVER KING MINE Gold, silver
 Rock Creek dist. [67], sec. 4, 5, T. 6 N., R. 15 W.
 Operator: Aurum, Inc. and James Striker
 Bill Presley, Field Manager
 15110 Dallas Parkway, Suite 600, Dallas TX 75248
 Owner: Charles Byam, Fernette Byam
 P.O. Box 640, Philipsburg MT 59858
 Employees: 4
 Status: Developing

Jefferson County: Boulder 59632

- **BASIN JIB GROUP** Gold, silver, copper, lead, zinc
Cataract dist. [73], sec. 18, T. 6 N., R. 5 W.
Operator: Gladstone Crushing & Construction, Inc.
1825 Gladstone, Butte MT 59701
Owner: Silvinite, Inc.
Butte MT 59701
Employees: 10
Mill capacity: 150 t/d
Status: Inactive
- **BIG MARY MINE** Gold, silver
Sec. 10, T. 7 N., R. 2 W.
Owner-Operator: Horace Wilson
850 Silvette, Helena MT 59601
Status: Developing
- BOULDER CHIEF MINE** Silver, lead
Cataract (Basin) dist. [73], sec. 27, T. 7 N., R. 5 W.
Owner-Operator: Mrs. Esther Brandems,
Mrs. Margaret
Evans; Everett WA 98201
Status: Inactive
- COMET GROUP** Silver, gold, lead, zinc
Comet dist. [73], sec. 36, T. 7 N., R. 5 W.
Operator: Billern Corp.
Basin MT 59631
Owner: Martyn Salusso, Lloyd Wilhelm
1825 Gladstone, Butte MT 59701
Mill capacity: 150 t/d
Status: Inactive
- **CRYSTAL MINE** Gold, silver, copper, lead, zinc
Cataract (Basin) dist. [73], sec. 20, T. 7 N., R. 5 W.
Owner-Operator: Delbert and John Bullock
109 W. Quartz, Basin MT 59631
Status: Developing
- **EAST RIDGE GROUP** Gold, copper, lead, zinc
Nez Perce dist. [86], sec. 12, T. 3 N., R. 7 W.
Owner-Operator: Leber Mining Co.
36 S. Market St., Elizabethtown PA 17022
Status: Developing
- FLORENCE GROUP** Gold, silver
Sec. 18, T. 2 N., R. 3 W.
Owner-Operator: Lester Lindquist
P.O. Box 373, Whitehall MT 59759
Employees: 2
Status: Producing, developing
- **GOLDEN CURRY (SOURDOUGH) MINE**
Gold, silver, copper, lead, zinc
Elkhorn dist. [79], sec. 10, T. 6 N., R. 3 W.
Operator: Mt. Heagon Dev. Inc.
C. A. Dickey, Pres.
P.O. Box 501, Boulder MT 59632
Owner: John Rothfuss
2100 Oregon Ave., Butte MT 59701
Status: Inactive
- **GOLDEN SUNLIGHT GROUP** Gold, silver
Cardwell dist. [88],
sec. 17, 18, 19, 20, T. 2 N., R. 3 W.
Owner-Operator: Golden Sunlight Mines, Inc.
P.O. Box 678, Whitehall MT 59759
Employees: 140
Mill capacity: 5,000 t/d
Status: Producing
- GREY EAGLE GROUP** Gold, silver, lead
Comet dist. [73], sec. 34, 35, 36, 2, 3, T. 6 N. & 7 N.,
R. 4 W. & 5 W.
Owner-Operator: Cumberland Mining Co. Inc.
Jim Knowlson, Pres.
711 Cedar St., Edmonds WA 98020
Status: Inactive
- **HOPE AND BULLION GROUP** Gold, silver,
copper, lead, zinc
Comet dist. [73], sec. 6, T. 6 N., R. 7 W.;;
sec. 31, T. 7 N., R. 5 W.
Operator: Romero Co.
Boulder MT 59632
Owner: Mrs. A. K. Romero
19320 Hinsdale, Torrance CA 90503
Status: Unknown
- HUMBOLT MINE** Gold, silver
Homestake dist. [81], sec. 9, T. 3 N., R. 6 W.
Owner-Operator: Stanley L. Boyce
Box 4222, Butte MT 59702
Status: Inactive
- INFINITE GROUP** Gold, silver
Lowland dist. [83], sec. 11, 12, 13, T. 6 N., R. 7 W.
Owner-Operator: Harvey Allen and George Kralicek
Route 1, Box 95, Sheridan MT 59749
Status: Developing
- **KADY GULCH GROUP** Gold, silver, copper,
lead, zinc
Colorado dist. [78], sec. 1, T. 7 N., R. 5 W.;;
sec. 6, T. 7 N., R. 4 W.
Owner-Operator: Leber Mining Co.
J. Leber, Pres.
36 S. Market St., Elizabethtown PA 17022
Status: Developing
- **LUCKY HIT GROUP** Gold, silver, lead
Sec. 19, T. 2 N., R. 3 W.
Operator: Ralph Huckaba
Box 336, Whitehall MT 59759
Owner: Ralph Huckaba and Charlie Weber
Route 2, Box 2228, Whitehall MT 59759
Mill capacity: 60 t/d
Employees: 3
Status: Produced, producing, developing

Jefferson County (continued)

MAGDELENA GROUP Gold, silver
Basin dist. [73], sec. 31, T. 8 N., R. 5 W.;
sec. 36, T. 7 N., R. 6 W.

Owner-Operator: Robert L. Lynn and
Guy E. Maycumber
690 S. Hilltop Rd., Columbia Falls MT 59912
Status: Developing

MONTANA TUNNEL GROUP Gold, silver, lead,
zinc

Wickes dist. [78], sec. 8, T. 7 N., R. 4 W.
Operator: Centennial Minerals Inc.
4th Floor Power Block Building
6th and Last Chance Gulch, Helena MT 59601
Owner: U.S. Minerals Exploration Co.
12189 Ralston Road, Suite 200, Arvada CO 80002
Status: Developing

MOUNTAIN QUEEN MINE Copper, silver,
lead, uranium

Big Foot dist. [76], sec. 26, T. 4 N., R. 5 W.
Owner-Operator: William Mulcahy Estate
Box 631, Butte MT 59701
Status: Inactive

****PAYDAY GROUP** Gold, silver
Cardwell dist. [88], sec. 18, T. 2 N., R. 3 W.

Owner-Operator: Ralph Huckaba
Box 336, Whitehall MT 59759
Employees: 1
Mill capacity: 35 t/d
Status: Producing, developing

***PIERMONT NO. 1 EAST MINE** Lead, gold, silver,
copper, zinc

Cataract dist. [73], sec. 8, T. 7 N., R. 5 W.
Owner-Operator: Raymond L. Beaver
829 N. Lamborn St., Helena MT 59601
Status: Developing

***RUMLEY MINE** Lead, gold, silver

Comet dist. [73], sec. 36, T. 7 N., R. 5 W.
Owner-Operator: Harold J. Giulio
305 S. Cleveland, Boulder MT 59632
Status: Developing, inactive

STREAK OF LUCK, SUNNYSIDE GROUP

Gold, silver
Cardwell dist. [88], sec. 18, T. 2 N., R. 3 W.
Owner-Operator: Lester Lindquist
P.O. Box 373, Whitehall MT 59759
Mill capacity: 3 t/d
Employees: 2
Status: Produced, producing, developing

WILD CAT and LINE LODGE Gold, silver
SE¼ sec. 33, T. 7 N., R. 2 W.

Owner-Operator: Tom Coster
117 - 11th St., Black Eagle MT 59414
Status: Developing

Judith Basin County: Stanford 59479

****CLENDENNIN GROUP** Lead, silver, zinc
Barker dist. [90], sec. 5, 6, T. 15 N., R. 9 E.

Operator: Croff and Montague
Box 69, Monarch MT 59463
Owner: G. A. Croff and others
Box 69, Monarch MT 59463
Employees: 2
Status: Produced, developing

LIBERTY MINE Silver, lead, zinc
Barker dist. [90], sec. 6, 7, 18, T. 15 N., R. 9 E.

Operator: Amax Exploration, Inc.
Giles Walker, District Geologist
Box 5358, Helena MT 59604
Owner: Mrs. G. V. R. McBride and others
Box 905, Monarch MT 59643
Status: Inactive

****MONTGOMERY and SAN MIGUEL MINE**
Gold, silver, copper, lead, zinc

Barker dist. [90], sec. 31, T. 15 N., R. 9 E.
Owner-Operator: Mrs. G. V. R. McBride
Box 905, Monarch MT 59463
Status: Developing

****SETTER MINE** Silver, copper, lead
Running Wolf dist. [91], sec. 21, T. 14 N., R. 10 E.

Operator: Don Prickett
232 Wapita Dr., Bayfield CA 91122
Owner: Setter Mining Co.
Box 322, Stanford MT 59479
Status: Inactive

Lewis and Clark County: Helena 59601

- BELMONT Gold**
Marysville dist. [100], sec. 35, T. 12 N., R. 6 W.
Operator: AMAX and Gulf Titanium
Box 5358, Helena MT 59601
Owner: W. T. Crus Mining Co.
95 River Street, Hoboken NJ 07030
Employees: 22
Status: Producing, developing
- DELT GULCH MINE Gold, silver**
Lincoln dist. [99], sec. 16, T. 13 N., R. 9 W.
Owner-Operator: Fulgham Mining Co.
Box 343, Lincoln MT 59639
Employees: 3
Status: Produced, developing
- **GRAY ROCK MINE Gold, copper, zinc**
Owyhee dist. [98], sec. 11, T. 9 N., R. 4 W.
Owner-Operator: Douglas E. Tintinger and
Vernon Tintinger
3633 4th Ave., South, Great Falls MT 59405
Status: Developing
- **HUMDINGER GROUP Gold, copper,
molybdenum**
Sec. 35, T. 13 N., R. 9 W.
Owner-Operator: Guy E. Maycumber
2217 Hwy. 2E, Kalispell MT 59901
Status: Developing
- INDEPENDENT MINE Gold, copper, zinc, uranium**
Owyhee dist. [98], sec. 11, T. 9 N., R. 4 W.
Owner-Operator: Douglas E. Tintinger
3633 4th Ave. South, Great Falls MT 59405
Status: Produced, developing
- **MARYSVILLE PROJECT Gold, silver**
Marysville dist. [100], sec. 33, 34, T. 12 N., R. 5 W.;
sec. 36, T. 12 N., R. 6 W.
Owner-Operator: Goldsil Mining and Milling, Inc.,
P.O. Box 5626, Helena MT 59604
Employees: 4
Mill capacity: 500 t/d
Status: Inactive
- MONTE CHRISTO MINE Gold, silver, copper, lead**
Rimini (Vaughn) dist. [103], sec. 17, T. 8 N., R. 5 W.
Owner-Operator: Larry LaRock
1230 W. Aluminum, Butte MT 59701
Status: Developing
- NEW VALLEY FORGE MINE Silver, lead**
Rimini dist. [103], sec. 33, T. 9 N., R. 5 W.
Owner-Operator: Medallion Minerals
1804 Lafayette Ave., Butte MT 59704
Mill capacity: 100 t/d
Employees: 1
Status: Inactive
- PEGGY ANN MINE Gold, silver**
Sec. 24, T. 13 N., R. 7 W.
Operator: Peggy Ann Mines, Inc.
C. E. Mannix, President
Box 494, Canyon Creek MT 59633
Owner: C. E. Mannix
12520 - 19 N.E., Seattle WA 98125
Status: Inactive
- **SKY MINE Gold, silver, copper, zinc**
Owyhee dist. [98], sec. 2, 11, T. 9 N., R. 4 W.
Owner-Operator: Douglas E. Tintinger
3633 4th Ave. South, Great Falls MT 59405
Status: Developing
- **TWILIGHT GROUP Gold, silver, copper, barite**
Helena dist. [98], sec. 2, T. 9 N., R. 2 W.
Owner-Operator: Charles Hansen
Box 309, Big Sandy MT 59520
Status: Developing

Lincoln County: Libby 59923

- CABLEWAY GROUP Silver, lead, gold**
Sec. 33, T. 28 N., R. 31 W.
Owner-Operator: Donald C. and Marie O. Cripe
Route 1, Box 929-B, Libby MT 59923
Status: Inactive
- GOLDEN WEST MINE Gold, silver**
Cabinet dist. [107], sec. 34 E½, T. 27 N., R. 31 W.
Owner-Operator: AMCO Minerals, Bill Ericksmoen
1018 Antimony, Dept. B, Butte MT 59701
Status: Exploration
- **PRINCESS ETHNE Gold, silver**
West Fisher dist. sec. 26, T. 27 N., R. 31 W.
Owner-Operator: Rockie Nethercott
Route 1, Box 164, Polson MT 59860
Mill capacity: 1 t/d
Employees: 1
Status: Producing, developing

Lincoln County (continued)

TROY UNIT Silver, copper
 Sec. 12, 13, 14, 23, 24, 25, 26, 35, 36,
 T. 29 N., R. 34 W.
 Operator: Troy Unit, ASARCO, Inc.
 Jack Bingham, Project Manager
 Box 868, Troy MT 59935
 Owner: ASARCO, Inc.
 180 Maiden Lane, New York NY 10038
 Mill capacity: 8,500 t/d
 Employees: 350
 Status: Producing

Madison County: Virginia City 59755

ALAMEDA-WAKOOSTA MINE Gold, silver
 Virginia City dist. [129], sec. 27, 28, T. 6 S., R. 3 W.
 Owner-Operator: Cumberland Mining Co., Inc.
 Jim Knowlson, Pres.
 711 Cedar St., Edmonds WA 98020
 Status: Inactive

***ATLANTIC PACIFIC MINE** Gold, silver, copper
 Mineral Hill dist. [119], sec. 20, T. 2 S., R. 3 W.
 Owner-Operator: Fred Box Estate, Oleta C. Box
 Pony MT 59747
 Status: Developing

B & H (PETE & JOE) GROUP Gold, silver,
 copper, lead
 Tidal Wave dist. [128], sec. 7, T. 3 S., R. 4 W.
 Operator: Winchester Gold Co.
 Gary N. Fields, President
 1st Interstate Bldg., Suite 220, Spokane WA 99201
 Owner: Gold Ranch Mining Corp.
 Twin Bridges MT 59754
 Employees: 4
 Status: Developing

BADGER NO. 1 and NO. 2 MINES Gold, silver
 Norris (Lower Hot Springs) dist. [17],
 sec. 19, 20, T. 3 S., R. 1 E.
 Owner-Operator: Earl Clopton
 P.O. Box 66, Norris MT 59745
 Mill capacity: 4 t/d
 Status: Developing

BESSIE and GOLDEN WAVE MINE Gold,
 silver, copper, tungsten
 Mineral Hill dist. [119], sec. 14, 15, T. 2 S., R. 2 W.
 Owner-Operator: W. G. Forbes
 Pony MT 59747
 Mill capacity: 10 t/d
 Employees: 3
 Status: Developing

BOSS TWEED & CLIPPER GROUP Pyritic gold ore
 Mineral Hill dist. [119], sec. 15, T. 2 S., R. 3 W.
 Owner-Operator: Denimil Resources (U.S.) Inc.
 P.O. Box 1413, Bozeman MT 59715
 Mill capacity: 150 t/d
 Employees: 8
 Status: Exploration

DON-A-VERA & JAYHILL GROUP Gold, silver
 Fairweather dist. [129],
 sec. 25, 26, 35, T. 6 S., R. 3 W.
 Operator: Tabor Resources Corp.,
 c/o A. J. Katches
 Box 252, Virginia City MT 59755
 Owner: A. J. Katches
 Box 252, Virginia City MT 59755
 Status: Developing

EAGLE BLACK GROUP Gold, silver, copper
 Highland dist. [129],
 sec. 2, 3, 10, 11, T. 7 S., R. 3 W.
 Owner-Operator: Tabor Resources Corp.,
 c/o A. J. Katches
 Box 252, Virginia City MT 59755
 Status: Developing

FRIDA MARIE GROUP Gold
 Silver Star dist. [126], sec. 10, 11, T. 2 S., R. 6 W.
 Operator: Northern Mining Co., Inc.
 P.O. Box 583, Sheridan MT 59749
 Owner: Robert Decker, Sr., Frida Decker,
 Russ Herman
 P.O. Box 583, Sheridan MT 59749
 Employees: 2
 Status: Developing

***GLENAM CLAIM** Gold, silver
 Mill Creek dist. [125], sec. 24, T. 4 S., R. 4 W.
 Operator: Richard Anderson
 P.O. Box 154, Sheridan MT 59749
 Owner: Goldstream Corporation
 2163 South 2700 West, West Valley City UT 84119
 Employees: 3
 Status: Developing

****GREEN CAMPBELL MINE** Gold
 Silver Star dist. [126], sec. 3, T. 2 S., R. 6 W.
 Owner-Operator: United Investors Corporation
 L. S. Leatham, President
 546 DeSoto St., Salt Lake City UT 84103
 Mill capacity: 100 t/d
 Status: Developing

Madison County (continued)

- **GRUBSTAKE MINE** Gold, silver
Lower Hot Springs dist. [117],
sec. 19, 24, 30, T. 3 S., R. 1 E.
Owner-Operator: Resources America, Inc.
P.O. Box 1843, Winter Park FL 32790
Mill capacity: 100 t/d
Status: Inactive
- **HIGH HOPE MINE** Gold, silver
Mill Creek dist. [125], sec. 9, T. 4 S., R. 3 W.
Operator: Raymond D. Shafer
Sheridan MT 59749
Owner: Raymond Shafer and Dorothy Buck
Sheridan MT 59749
Status: Developing
- HIGHRIDGE MINE** Gold, silver
Tidal Wave dist. [128], sec. 27, T. 3 S., R. 5 W.
Operator: George Guay
532 Howard Ave., Billings MT 59101
Owner: Gold Ridge Mining Co.
George Guay, President
532 Howard Ave., Billings MT 59101
Employees: 2
Status: Developing
- JACK RABBIT MINE** Gold, silver, lead
Rochester dist. [122], sec. 21, T. 2 S., R. 8 W.
Owner-Operator: Jim McLaughlin
Route 1, Box 22, Sheridan MT 59749
Status: Inactive
- **KENNETT-BERTHA MINE** Gold, silver, lead,
zinc, manganese
Virginia City (Alder Gulch) dist. [129],
sec. 5, T. 6 S., R. 2 W.
Operator: Hughes Mining Co., Inc.
Rick Hughes, Drawer J, Twin Bridges MT 59754
Owner: Kennett Gold Corp.
Twin Bridges MT 59754
Status: Developing
- KEYHOLD GROUP** Gold, silver
Highland dist. [129], sec. 1, 12, T. 7 S., R. 3 W.
Owner-Operator: Tabor Resources Corp.,
c/o A. J. Katches
Box 252, Virginia City MT 59755
Status: Developing
- MADDEN GROUP** Gold
Virginia City (Alder Gulch) dist. [129],
sec. 12, T. 7 S., R. 3 W.
Owner-Operator: Lively Mining Co.
Box 96, Melrose MT 59743
Status: Developing
- **MAMMOTH MINE** Gold
Mammoth dist. [127], sec. 7, 18, T. 2 S., R. 3 W.
Operator: South Boulder Mining Corp.
R. Von Kleist, President
Box 696, Whitehall MT 59759
Owner: Ed Workman
Box 4, Cardwell MT 59721
Status: Inactive
- MOUNTAIN VIEW MINE** Gold, silver
Tidal Wave dist. [128], sec. 2, 3, T. 3 S., R. 5 W.
Operator: Johnson-Reid Corp.
Reid Kephart, Pres.
2000 Harrison Ave., Butte MT 59701
Owner: Johnson-Reid Corp.
Reid Kephart, Pres.
733 McKinley Ave., Mundelein IL 60060
Status: Developing
- NELLIE BLY GROUP** Gold
Highland dist. [129], sec. 1, 12, T. 7 S., R. 3 W.
Owner-Operator: Western Division,
Tabor Mines and Metals Corp., c/o A. J. Katches
Box 252, Virginia City MT 59755
Status: Developing
- NEW WINNETKA GROUP** Gold, silver
Highland dist. [129], sec. 1, 2, T. 7 S., R. 3 W.
Operator: Tabor Resources Corp.,
c/o A. J. Katches
Box 275, Virginia City MT 59755
Owner: A. J. Katches
Box 275, Virginia City MT 59755
Status: Developing
- PEARL GROUP** Gold, silver
Alder Gulch dist. [129], sec. 1, 2, T. 7 S., R. 3 W.
Owner-Operator: Tabor Resources Corp.,
c/o A. J. Katches
Box 252, Virginia City MT 59755
Status: Developing
- RED PINE MINE** Gold, silver
Sheridan dist. [125], sec. 34, T. 3 S., R. 4 W.;
sec. 3, T. 4 S., R. 4 W.
Owner-Operator: Shermont Mining Co.
John Magnus, Pres., Box 254, Sheridan MT 59749
Mill capacity: 50 t/d
Status: Producing, developing
- RIDGEWAY MINE** Gold
Sec. 6, 7, T. 3, S., R. 3 W.
Operator: Modern Technology Mining Corp.
Gerald A. Hanneman, Pres.
P.O. Box 4753, Missoula MT 59801
Owner: Evelyn Hines
2526 Stanley Dr., Route 3, Moses Lake WA 98837
Status: Inactive
- ST. JOHN GROUP** Gold, silver
Highland dist. [129], sec. 1, T. 7 S., R. 2 W.
Owner-Operator: Western Division,
Tabor Mines and Metals Corp., c/o A. J. Katches
Box 252, Virginia City MT 59755
Status: Developing
- SCALDED CAT MINE** Gold, silver
Mineral Hill dist. [119], sec. 14, T. 2 S., R. 3 W.
Operator: Jean Clary
5375 S. Sandhill Rd., Las Vegas NV 89120
Owner: Jean Clary and Jack Clary
5375 S. Sandhill Rd., Las Vegas NV 89120
Status: Developing

Madison County (continued)

SILVER CROWN MINE Gold, silver, lead
Unorg. dist. sec. 5, T. 2 S., T. 2 E.
Operator: Clinton A. Cain
Box 2864, Norris MT 59745
Owner: Silver Crown Mines, Inc.,
Clinton Cain, Pres., Norris MT 59745
Status: Inactive

SPUHLER GROUP Gold, silver, lead
Sec. 20, T. 3 S., R. 4 W.
Owner-Operator: Harvey Allen
Route 1, Box 95, Sheridan MT 59749
Status: Developing

STRAWN MINE Gold, silver, antimony
Unorg., sec. 18, T. 2 S., R. 4 W.
Operator: Sam Bear Mining Co.
Twin Bridges MT 59754
Owner: Dale Bros.
Box 302, Twin Bridges MT 59754
Mill capacity: 20 t/d
Employees: 2
Status: Produced, developing

UNCLE SAM MINE Gold, silver
Mill Creek dist. [125], NE¼ sec. 17, T. 4 S., R. 3 W.
Owner-Operator: Steve Mortensen and
Audrey Mortensen
Sheridan MT 59749
Employees: 2
Mill capacity: 40 t/d
Status: Producing, developing

VALLEY VIEW MINES Gold, silver
Williams Gulch dist. [129], sec. 29, T. 6 S., R. 3 W.
Operator: Jim Thomas
Box 52, Virginia City MT 59755
Owner: St. Lawrence Consolidated Mines, Inc.
Box 52, Virginia City MT 59755
Status: Inactive

WATSECA MINE Gold, silver
Rabbit dist. [122], sec. 31, 32, T. 3 S., R. 7 W.
Owner-Operator: Rocky Mountain Minerals, Inc.
W. Ray Hill, Pres., P.O. Box 489, Butte MT 59701
Mill capacity: 200 t/d
Employees: 3
Status: Developing

WOODEN NICKEL Gold
Revenue dist., sec. 25, T. 3 S., R. 2 W.
Operator: Wooden Nickel Mining Corp.
3767 Blackwood Rd., Bozeman MT 59715
Owner: John Brownell and James C. Tate
3767 Blackwood Rd., Bozeman MT 59715
Mill capacity: 1 ton/hr
Employees: 2
Status: Developing

Meagher County: White Sulphur Springs 59645

BIGLER GROUP Gold
Thompson Creek dist. [131], sec. 28, T. 9 N., R. 4 E.
Operator: Richard K. Geordgo
H C 83, Box 667, Martinsdale MT 59503
Owner: A. J. Burchak and Travis Belue
213 Collins, Lavina MT 59046; and
1242 Avenue F, Billings MT 59102
Status: Inactive

LUCKY DOLLAR MINE Lead, silver
Castle Mountains dist. [132], sec. 12, T. 8 N., R. 8 E.
Owner-Operator: Carl Berg
Box 126, Martinsdale MT 59053
Status: Developing

***McDANIEL COPPER GROUP** Silver, copper, lead,
barite
Unorg. dist. sec. 17, 18, T. 13 N., R. 7 E.
Owner-Operator: Duane McDaniel
Box 33, Neihart MT 59465
Status: Developing

****SNOW BANK MINE** Gold
Beaver Creek dist. [131], sec. 28, T. 9 N., R. 4 E.
Operator: Kenneth McGuire
P.O. Box 510, White Sulphur Springs MT 59645
Owner: Steve and Mary Helburn
1301 Loreauville Rd., New Iberia LA 70560
Status: Inactive

Mineral County: Superior 59872

AMAZON-DIXIE MINE Copper, lead, zinc
Saltese dist. [136], sec. 4, 5, T. 19 N., R. 32 W.
Owner-Operator: Amazon-Dixie Mining Co.
Box 469, Scott Bldg., Wallace ID 83873
Status: Unknown

BIG NUGGET Gold
Cedar Creek dist. [135], sec. 24, T. 15 N., R. 26 W.
Operator: Ken Miller and Carl Westfall
Drawer E, Stregis MT 59866
Owner: Carl Westfall
Stregis MT 59866
Mill capacity: 100 yd/hr
Employees: 2
Status: Producing

Mineral County (continued)

BONANZA GROUP Gold, silver, copper, lead, barite
Cedar Creek dist. [135], sec. 29, T. 15 N., R. 26 W.
Owner-Operator: G. M. Gildersleeve
Box 568, Superior MT 59872
Status: Developing

***CROWN SILVER GROUP** Lead, zinc, copper, silver
Sec. 19, 20, T. 20 N., R. 31 W.
Operator: Frank A. Morbeck
Box 1127, Wallace ID 83873
Owner: Crown Silver Mining Co.
504 Bank St., Box 1127, Wallace ID 83873
Employees: 4
Status: Developing

EAST COEUR D'ALENE SILVER MINE Silver, copper, lead, zinc
Keystone dist. [138], sec. 17, T. 18 N., R. 26, 27 W.
Owner-Operator: East Coeur d'Alene Silver Mines, Inc.
Scott Bldg., Wallace ID 83873
Status: Unknown

LITTLE ANACONDA GROUP Silver, lead, zinc
Sec. 35, T. 18 N., R. 26 W.
Operator: Sunrise Silver Mines
c/o Hugh G. King, Frenchtown MT 59834
Owner: Hugh G. King and Lucinda Cone
Box 8717, Missoula MT 59807
Status: Inactive

Missoula County: Missoula 59801

ALADDIN GROUP Copper, gold, silver
Wallace Creek dist. [142],
sec. 18, 19, T. 12 N., R. 16 W.
Operator: Aladdin Mining Company
1529 Choteau Street, Helena MT 59601
Owner: Keim family
1529 Choteau Street, Helena MT 59601
Status: Inactive

CHARCOAL GROUP Lead, zinc, silver, copper
Coloma dist. [143], sec. 11, T. 12 N., R. 16 W.
Owner-Operator: Esther Keller
547 S. 5th St. W., Missoula MT 59801
Status: Inactive

****NINE MILE MINE** Gold
Nine Mile Creek dist. [146],
sec. 21, 22, 27, 28, T. 17 N., R. 24 W.
Owner-Operator: Nine Mile Mines, Inc.
Box 1329, Park City UT 84060
Mill capacity: 150 t/d
Employees: 6
Status: Inactive

RIVERS CREEK MINE Silver, lead
Saltese dist. [136], sec. 5, T. 18 N., R. 30 W.
Owner-Operator: Charles L. Kannegaard and Ray and Charles Minnick
Box 386, Medical Lake WA 99022
Status: Unknown

SILVER CABLE GROUP Lead, zinc, copper, silver
Sec. 24, T. 20 N., R. 31 W.
Operator: Frank A. Morbeck
Box 1127, Wallace ID 83873
Owner: Silver Cable Mining Co.
504 Bank St., Box 1127, Wallace ID 83873
Status: Developing

SILVER PEAK GROUP Lead, zinc, copper, silver
Sec. 10, T. 20 N., R. 32 W.
Operator: Frank A. Morbeck
Box 1127, Wallace ID 83873
Owner: Silver Peak Mining Co.
504 Bank St., Box 1127, Wallace ID 83873
Status: Developing

NUGGET MINE Lead, zinc, copper, silver
Nine Mile Creek dist. [146],
sec. 13, T. 16 N., R. 23 W.
Operator: Frank A. Morbeck
Box 684, Wallace ID 83873
Owner: Nugget Mining Co.
504 1/2 Bank St., Box 1127, Wallace ID 83873
Status: Developing

SILVER BELL GROUP Copper, silver, gold
Clinton dist. [142], sec. 17, T. 12 N., R. 16 W.
Operator: Silver Bell, Inc.
965 - 8th St. W. Riverside, Missoula MT 59801
Owner: Del Fontaine, Les Bonnet, Del Holter, Richard Souders
965 - 8th St. W. Riverside, Missoula MT 59801
Status: Inactive

VENGEANCE MINE (old Ward Mine) Gold, silver, copper, lead, zinc, cobalt, barium, chrome
Sec. 22, T. 11 N, R. 22 W.
Owner-Operator: Vengeance Mine Corp.
John C. Ledbetter, President
3021 Sixth Ave. North, P.O. Box 1835,
Billings MT 59103
Status: Developing

Missoula County (continued)

WALDBILLIG MINE Copper, silver, gold
 Sec. 1, 2, T. 11 N., R. 19 W.
 Owner-Operator: Joe and O. R. Waldbillig
 Route 5, Miller Creek, Missoula MT 59801
 Status: Developing

Park County: Livingston 59047

- ACME GROUP Silver, lead
 New World dist. [154], sec. 34, T. 8 S., R. 14 E.
 Owner-Operator: Margaret Reeb
 Box 301, Livingston MT 59047
 Status: Developing
- **BAR GROUP Gold, silver, lead, copper,
 molybdenum
 Emigrant dist. [151], sec. 5, 6, 7, 8, 9, 16, 17, 19,
 20, 21 and 30, T. 7 S., R. 9 E.
 Operator: J. H. Counts
 221 South C St., Livingston MT 59047
 Owner: J. H. Counts, Jr., Silase Counts and
 Steven J. Counts
 622 S. 12th St., Livingston MT 59047
 Status: Developing
- *COPPER GROUP Copper, iron, nickel
 Emigrant dist. [151], sec. 1, 2, 3, T. 7 S., R. 8 E.
 Operator: J. H. Counts
 221 South C St., Livingston MT 59047
 Owner: J. H. Counts, Jr., Silase Counts and
 Steven J. Counts
 221 South C St., Livingston MT 59047
 Status: Developing
- COPPER KING GROUP Platinum, palladium,
 copper, molybdenum, gold, silver
 New World dist. [154], sec. 19, T. 8 S., R. 15 E.
 Owner-Operator: Copper King Mining Co.
 Margaret Reeb, President
 Box 301, Livingston MT 59047
 Status: Developing
- GOLDEN GRIZZLY GROUP Gold, silver, copper
 New World dist. [154], sec. 2, 3, 10, 11, 12, 13,
 T. 9 S., R. 14 E.
 Owner-Operator: Hecla Mining Company
 Gordon Walde, Manager
 New Mines, Box 220, Wallace ID 83873
 Status: Inactive
- GOOSE LAKE GROUP Platinum, palladium,
 copper, lead, tungsten, gold, silver
 New World dist. [154], sec. 19, T. 15 E., R. 8 S.
 Owner-Operator: Margaret Reeb
 Box 301, Livingston MT 59047
 Status: Developing
- **HENDERSON GROUP Gold, silver, copper
 New World dist. [154], sec. 14, T. 9 S., R. 14 E.
 Owner-Operator: Margaret Reeb
 Box 301, Livingston MT 59047
 Status: Developing
- **HOPE GROUP Copper, silver
 Emigrant dist. [151], sec. 36, T. 6 S., R. 8 E.
 Operator: J. H. Counts
 221 South C St., Livingston MT 59047
 Owner: J. H. Counts, Jr., Silase Counts and
 Steven J. Counts
 221 South C St., Livingston MT 59047
 Status: Developing
- **MAGNITITE GROUP Gold, silver, lead, iron,
 copper, nickel
 Emigrant dist. [151],
 sec. 2, 10, 11, 12, 18, 21, 24, 25, T. 7 S., R. 8 E.
 Operator: J. H. Counts
 221 South C St., Livingston MT 59047
 Owner: J. H. Counts, Jr., Silase Counts and
 Steven J. Counts
 221 South C St., Livingston MT 59047
 Status: Developing
- MOHAWK MINE Gold, lead, silver
 New World dist. [154], sec. 25, 36, T. 9 S., R. 14 E.
 Owner-Operator: Durden Construction and Cop
 Construction
 811 E. Montana, Livingston MT 59047
 Status: Inactive
- NEW WORLD PROJECT Gold, copper
 New World dist. [154], sec. 11, T. 9 S., R. 14 W.
 Owner-Operator: Plexus Resources Inc.
 A. H. Ditto, Pres.
 Suite 781, 175 SW Temple St.,
 Salt Lake City UT 84101
 Status: Developing
- **REPUBLIC MINES Lead, silver, zinc
 New World dist. [154], sec. 36, T. 9 S., R. 14 E.
 Owner-Operator: Ralph Huckaba
 Box 336, Whitehall MT 59759
 Employees: 2
 Mill capacity: 35 t/d
 Status: Produced, developing

Phillips County: Malta 59538

***LANDUSKY** (old Gold Bug-Little Ben-August Group) Gold, silver
 Little Rockies dist. [155], sec. 15, T. 25 N., R. 24 E.
 Operator: Landusky Mining Co.
 Pete Erickson, Resident Manager
 P.O. Box 313, Zortman MT 59546
 Owner: Wharf Resources, 2790 Scotia Centre,
 700 - 2d St. SW, Calgary, Alberta, Canada T2P2W2
 Mill capacity: 60,000 t/d
 Employees: 85
 Status: Inactive

***RUBY GULCH MINE** Gold, silver
 Little Rockies dist. [155], sec. 18, T. 25 N., R. 25 E.
 Operator: Zortman Mining Co.
 Pete Erickson, Resident Manager
 P.O. Box 313, Zortman MT 59546
 Owner: Gold Reserve Corp.
 503 Northtown Office Bldg., Spokane WA 99207
 Mill capacity: 60,000 t/d
 Employees: 85
 Status: Producing

Powell County: Deer Lodge 59722

AMANDA MINE Gold, silver
 Elliston dist. [157], sec. 22, T. 8 N., R. 6 W.
 Owner-Operator: Enard Lindquist and
 James R. Dixon
 1805 Joslyn, Helena MT 59601
 Status: Developing

NEGROS MINE Gold, silver, lead, zinc
 Nigger Hill dist. [157],
 SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 9 N., R. 7 W.
 Owner-Operator: James R. Dixon, Box 302, Elliston
 MT 59728; Enard Lindquist, 1805 Joslyn, Helena
 MT 59601
 Status: Inactive

***BARRY DEAN MINE** Gold
 Zosell dist. [158], sec. 10, T. 7 N., R. 3 W.
 Owner-Operator: Lionel C. Taft
 920 - 65th Ave. NE, Puyallup WA 98371
 Status: Developing

NORTH POLE MINE Silver, copper, zinc, gold
 Elliston dist. [157], sec. 29, T. 8 N., R. 6 W.
 Operator: James R. Dixon
 Box 302, Elliston MT 59728
 Owner: James R. Dixon and Dorothy E. Dixon
 Box 302, Elliston MT 59728
 Status: Inactive

****ELLISTON CONSOLIDATED GROUP**
 Lead, zinc, silver, gold
 Elliston dist. [157],
 sec. 5, 8, 10, 15, 22, T. 8 N., R. 6 W.
 Owner-Operator: Elliston Consolidated Mining Co.
 c/o Dave R. Newman, Box 396, Elliston MT 59728
 Employees: 2
 Status: Developing

THIRD TERM MINE Zinc, copper, gold, silver, lead
 Elliston dist. [157], sec. 28, T. 9 N., R. 6 W.
 Owner-Operator: Delbert Woodley
 Box 353, Warm Springs Rd., Garrison MT 59731
 Status: Developing

EMERY MINE Gold, silver, lead, zinc
 Deer Lodge dist., sec. 10, T. 7 N., R. 8 W.
 Owner-Operator: Montana Precision Mining, Ltd.
 N 721 Jefferson STE 305, Spokane WA 99201
 Status: Developing, inactive

TIBBETTS MINE Gold
 Sec. 7, 8, T. 8 N., R. 11 W.
 Operator: Clifford Hatton
 2501 S. Dakota St., Butte MT 59701
 Owner: Clifford Hatton and others
 2501 S. Dakota St., Butte MT 59701
 Status: Developing

Ravalli County: Hamilton 59840

LBJ, PIC AND PER GROUPS Gold, silver, platinum
 Sec. 8, 17, T. 2 S., R. 22 W.,
 sec. 35, 36, T. 1 S., R. 22 W.
 Operator: Aljon Mining and Exploration, Inc.
 716 South First Street, Hamilton MT 59840
 Owner: Aljon Mining and Exploration, Inc.
 West Fork Road, Darby MT 59829
 Employees: 2
 Status: Unknown

****VIOLET GROUP** Molybdenum, tungsten,
 silver, gold
 Mineral Point dist. [167],
 sec. 22, 28, 29, T. 4 S., R. 22 W.
 Owner-Operator: Mary W. Motley
 121 Parkside Apts., #205
 121 State St., Hamilton MT 59840
 Status: Inactive

***WOODS CREEK COPPER MINE** Copper,
 silver, gold
 Mineral Point dist. [167],
 sec. 16, 17, 20 and 21, T. 3 S., R. 22 W.
 Owner-Operator: Shook Mines, Inc.,
 Earnest J. Shook, Pres.
 Box 77, Darby MT 59829
 Status: Developing

Sanders County: Thompson Falls 59873

- BABE #1** (old Sid claim) Copper
Trout Creek dist. [171], sec. 24, T. 24 N., R. 32 W.
Owner-Operator: Sidney A. deBarathy
2900 Sherman Ave., Butte MT 59701
Employees: 1
Status: Inactive
- BAY CHIEF MINE** Lead, silver, copper
Sec. 14, 23, T. 20 N., R. 28 W.
Owner-Operator: State Mining Co.
509 N. Main St., Colville WA 99114
Status: Inactive
- HEIDELBERG MINE** Gold, silver
SE¼ sec. 29, NW¼ sec. 32, T. 27 N., R. 31 W.
Owner-Operator: Heidelberg Mining Co.
G. W. Anthony, President
613 Road, Pasco WA 99301
Employees: 3
Status: Developing
- JANSTAN GROUP** Silver, copper
Summit dist., sec. 2, 3, 4, 10, 11, T. 21 N., R. 32 W.
Operator: Mines Management Inc.
William R. Green, President
West 905 Riverside, Suite 311, Spokane WA 99201
Owner: Mr. J. Colson, Mr. Ed Bailey and
Mr. Stan Harrison
24 Agate Street, Kellogg ID 83837
Status: Developing
- NOXON PROJECT** Silver, copper
Rock Creek dist., sec. 17, 29, 30, T. 27 N., R. 31 W.
Owner-Operator: Pacific Coast Mines, Inc.
Affiliate U.S. Borax Co.
E5603 3rd Ave., Spokane WA 99212
Status: Developing
- RAVEN MINE** Copper, silver
Thompson River dist. [179],
NW¼ sec. 4, T. 21 N., R. 28 W.; and
SW¼ sec. 33, T. 22 N., R. 28 W.
Owner-Operator: Raven Mining Co.,
Austin Monk, Pres., Marion MT 59925
Status: Developing

Silver Bow County: Butte 59701

- *BERKELEY PIT** Copper, gold, silver
Summit Valley dist. [183], sec. 5, 6, 7, 8, 18,
T. 3 N., R. 7 W.
Owner-Operator: Anaconda Minerals Co.
J. F. Gardner, Operations Manager
Box 689, Butte MT 59701
Mill capacity: 42,000 t/d
Status: Inactive
- DAY AND HARVEY GROUP** Silver, gold
Moose Creek dist. [190], sec. 9, T. 1 S., R. 8 W.
Owner-Operator: Royal Apex Silver, Inc.
P.O. Box 886, Wallace ID 83873
Status: Developing
- *EAST BERKELEY PIT** Copper, molybdenum
Summit Valley dist. [183], sec. 5, 6, 7, 8, 18,
T. 3 N., R. 7 W.
Owner-Operator: Anaconda Minerals Co.
J. F. Gardner, Gen. Mgr., Montana Operations
Box 687, Butte MT 59701
Employees: 737
Mill capacity: 42,000 t/d
Status: Inactive
- EMMA MINE** Gold, silver
Highland dist. [187], sec. 29, T. 1 N., R. 7 W.
Owner-Operator: Howard Stratton
2619 Walnut St., Butte MT 59701
Mill capacity: 5 t/d
Status: Producing, developing
- FOURTH ESTATE MINE** Fluorspar, gold
Summit Valley dist. [183], sec. 13, T. 3 N., R. 7 W.
Owner-Operator: Tom Helehan
Box 235, Butte MT 59701
Status: Developing
- LAST CHANCE MINE** Gold, silver
Highland dist. [187], sec. 28, T. 1 N., R. 7 W.
Owner-Operator: Howard Stratton
2619 Walnut St., Butte MT 59701
Status: Developing
- MONTE CLARK GROUP** Silver, copper
Moose Creek dist. [190],
sec. 25, 30, T. 1 S., R. 8, 9 W.
Owner-Operator: Lively's, Inc.
Box 96, Melrose MT 59743
Status: Developing
- MOONLIGHT MINE** Gold, silver
Highland dist. [187], sec. 28, T. 1 N., R. 7 W.
Owner-Operator: Howard Stratton
2619 Walnut St., Butte MT 59701
Status: Developing
- PEABODY MINE** Silver, lead
Soap Gulch dist. [189], sec. 6, T. 1 S., R. 8 W.
Owner-Operator: Lively's, Inc.
Box 96, Melrose MT 59743
Status: Inactive
- STRATTON MINE** Gold, silver, copper
Highland dist. [187], sec. 32, T. 1 N., R. 7 W.
Owner-Operator: Howard Stratton
2619 Walnut St., Butte MT 59701
Employees: 2
Status: Developing
- *WRONG FONT GROUP** Gold, silver
Summit Valley dist. [183], sec. 24, T. 3 N., R. 9 W.
Owner-Operator: Tom Helehan
Box 235, Butte MT 59701
Status: Developing

Iron Mines

Meagher County: White Sulphur Springs 59645

*BLACK BUTTE MINE Iron
 Sec. 34, T. 12 N., R. 6 E.
 Operator: Hallett Minerals Co.
 Irving Sewell, General Manager
 Box 169, Livingston MT 59047
 Owner: R. Borland and J. Potter
 White Sulphur Springs MT 59645
 Employees: 3
 Status: Producing

Molybdenum Mines

Beaverhead County: Dillon 59725

ELKHORN GROUP Molybdenum, silver
 Elkhorn dist. [13],
 sec. 15, 21, 22, 27, 28, T. 4 S., R. 12 W.
 Owner-Operator: Timberline Minerals, Inc.
 John A. Wells, Bd. Chm.
 Box 308, Dubois WY 82513
 Status: Inactive

Ravalli County: Hamilton 59840

VIOLET GROUP Molybdenum, tungsten, silver, gold
 Mineral Point dist. [167],
 sec. 22, 28, 29, T. 4 S., R. 22 W.
 Owner-Operator: Mary W. Motley
 121 Parkside Apts., #205
 121 State St., Hamilton MT 59840
 Status: Inactive

Titanium Mines

Teton County: Choteau 59422

*CHOTEAU PROJECT Titanium, iron, zircon
 Sec. 11, 12, 13, 14, T. 25 N., R. 6 W.;;
 sec. 18, T. 25 N., R. 5 W.
 Owner-Operator: Earthsearch, Inc.
 7100 W. 44th St., Suite 201, Wheatridge CO 80033
 Status: Unknown

Tungsten Mines

Beaverhead County: Dillon 59725

THUNDERBIRD GROUP Silver, tungsten,
 molybdenum
 Elkhorn dist. [13],
 sec. 14, 15, 22, 23, T. 4 S., R. 12 W.
 Owner-Operator: Thunderbird Resources,
 Don L. Jenkins, Pres.
 P. O. Box 506, Corvallis MT 59828
 Employees: 2
 Status: Developing

Uranium Mines

Carbon County: Red Lodge 59068

****SWAMP FROG MINE** Uranium
 Sec. 17, 20, 21, T. 9 S., R. 27 E.
 Owner-Operator: James J. Stoick
 Box 2074, Billings MT 59101
 Status: Developing

Jefferson County: Boulder 59632

FREE ENTERPRISE URANIUM-RADON MINE
 Uranium, radon
 Boulder dist. [75], sec. 22, T. 6 N., R. 4 W.
 Owner-Operator: Elkhorn Mining Co.,
 Wade V. Lewis, Pres.
 201 N., Boulder MT 59632
 Employees: 5
 Status: Active health mine

Placer Mines

Beaverhead County: Dillon 59725

BANNACK # 1 PLACER Placer gold
 Bannack dist. [4], sec. 8, T. 8 S., R. 11 W.
 Owner-Operator: Rob Towner and A. E. Dionne
 Box 4900, Bannack Road, Dillon MT 59725
 Mill capacity: 600 y/d
 Employees: 3
 Status: Producing, developing

***GOLD NUGGET PLACER CLAIMS** Gold
 SW¼ sec. 30, T. 3 S., R. 17 W.;
 N½ sec. 36, T. 3 S., R. 18 W.
 Owner-Operator: Prospect Mining Co., Inc.
 Preston ID 83263
 Status: Developing

ORO PLACER GROUP Gold
 Argenta dist. [2], sec. 3, 4, 5, 6, T. 7 S., R. 10 W.
 sec. 32, 33, 34, T. 6 S. R. 10 W.
 Owner-Operator: William M. Hand
 30 S. Arizona, Dillon MT 59725
 Status: Developing

***RUBY GOLD PLACER CLAIMS** Gold
 Pioneer dist. [22], sec. 29, T. 3 S., R. 17 W.
 Owner-Operator: Valley International Products, Inc.
 P.O. Box 1721, Helena MT 59601
 Status: Developing

Broadwater County: Townsend 59644

***INDIAN CREEK PLACER** Gold
 Indian Creek dist. [35], sec. 28, T. 7 N., R. 1 E.
 Operator: Robert S. Bayles, President
 146 Briarwood Lane, Helena MT 59601
 Owner: Indian Creek Inc.
 Box 1108, Townsend MT 59644
 Status: Producing, developing

Granite County: Philipsburg 59858

***ELM NO. 6** Placer gold
 Philipsburg dist. [65], sec. 31, T. 8 N., R. 15 W.
 Operator: Chris Koenig, Montana Agent
 8860 Sharptail, Missoula MT 59802
 Owner: SK Ventures, Inc., A. K. Raymond, Pres.
 P.O. Box 255, Baldwin City KS 66006
 Employees: 5
 Status: Inactive

Jefferson County: Boulder 59632

***BLACK CANYON PLACERS** Gold
Alhambra dist. [71], sec. 14, 15, T. 7 N., R. 3 W.
Owner-Operator: A. E. Reichel Estate,
Horace Willson, 850 Silverette, Helena MT 59601
Status: Developing

CHINESE DIGGINGS Gold
Boulder dist. [75], sec. 5, 8, 9, T. 5 N., R. 4 E.
Operator: S & G Mining Co.
Thomas Gwynn, Manager, Resource Development
Box 3049, Sheridan WY 82801
Owner: Kiewit Mining and Engineering Co.
1000 Kiewit Plaza, Omaha NE 68131
Status: Inactive

HAWKEYE PLACER Gold
Sec. 24, 25, T. 7 N., R. 2 W.
Operator: R. L. Lynn
690 S. Hilltop Road, Columbia Falls MT 59912
Owner: Paul L. Lynn
690 S. Hilltop Road, Columbia Falls MT 59912
Status: Developing

TIZER CREEK PLACER GROUP Placer gold
Sec. 21, 22, 23, 24, 28, 29, T. 7 N., R. 2 W.
Owner-Operator: Horace Willson and others
850 Silverette, Helena MT 59601
Status: Developing

Lewis and Clark County: Helena 59601

***FRENCH BAR PLACER** Sapphires, gold
Missouri River dist. [101], sec. 4, 5, T. 10 N., R. 1 W.
Owner-Operator: James McMaster
Box 483, East Helena MT 59635
Status: Produced, producing

FRENCH BAR UNDERWATER SECTION
Gold, sapphires, garnets, rubies
Missouri River dist. [101], sec. 4, T. 10 N., R. 1 W.
Operator: Montana Gold and Sapphires, Inc.
MacDonald M. Mader II
Box 155, Helena MT 59624
Owner: State of Montana, Helena MT
Plant: 8" suction dredge
Status: Produced, developing

***PRETTY GIRL PLACER** Gold
Sec. 9, 10, T. 9 N., R. 4 W.
Operator: Al Ballard, P.G. Mine,
8310 Applegate Drive, Helena MT 59601
Owner: Ballard Mining Corp.
2765 Wylie Drive #72, East Helena MT 59635
Employees: 4
Mill capacity: 40 y/h
Status: Produced

Lincoln County: Libby 59923

ALPINE PLACER Gold
Libby dist. [108], sec. 17, T. 28 N., R. 30 W.
Operator: AMCO Minerals
1018 Antimony, Dept. B., Butte MT 59701
Owner: AMCO Minerals, D. A. Peterson and others
P.O. Box 854, Libby MT 59923
Mill capacity: 3 y/h
Status: Developing

HARRY HOWARD GROUP Placer gold
Sec. 27, T. 29 N., R. 31 W.
Owner-Operator: Donald C. and Marie O. Cripe
Route 1, Box 929-B, Libby MT 59923
Status: Developing

Madison County: Virginia City 59755

***BUBANY PLACER** Gold
Browns Gulch dist. [129], sec. 16, 21, T. 6 S., R. 3 W.
Owner-Operator: Montana Minerals Browns Gulch
Placer, Box 34, Virginia City MT 59755
Status: Inactive

NORWEGIAN PLACER Gold
Norwegian Creek dist. [118],
NE $\frac{1}{4}$ sec. 31, T. 2 S., R. 1 W.
Owner-Operator: L. L. Higinbotham
Harrison MT 59735
Status: Inactive

Meagher County: White Sulphur Springs 59645

***BLUE JAY PLACER** Gold
Beaver Creek dist. [131], sec. 3, T. 8 N., R. 4 E.
Owner-Operator: Norman Walters
Box 722, White Sulphur Springs MT 59645
Status: Developing

***CAMP ROBBER PLACER** Gold
Thompson Creek dist. [131],
sec. 22, 27, T. 9 N., R. 4 E.
Owner-Operator: Larry Burns
Box 324, White Sulphur Springs MT 59645
Status: Inactive

Meagher County (continued)

*HUNGRY HOLLOW PLACER Gold
 Beaver Creek dist. [131],
 sec. 23, 24, T. 10 N., R. 3 E.
 Owner-Operator: Howard Weaver, Albert Bodle
 Box 215, White Sulphur Springs MT 59645
 Status: Inactive

*MARY SUE PLACER Gold
 Beaver Creek dist. [131],
 SE¼ sec. 24, T. 10 N., R. 3 E.
 Owner-Operator: Raymond J. Heinrich
 200 Summit Drive, Wavely IA 50677
 Status: Developing

Mineral County: Superior 59872

BIG NUGGET Gold
 Cedar Creek dist. [135], sec. 24, T. 15 N. R. 26 W.
 Operator: Ken Miller and Carl Westfall
 Drawer E, Stregis MT 59866
 Owner: Carl Westfall
 Stregis MT 59866
 Mill capacity: 100 y/h
 Employees: 2
 Status: Producing

*STEMWINDER PLACER Gold
 Cedar Creek dist. [135], sec. 29, T. 15 N., R. 27 W.
 Owner-Operator: George Gildersleeve
 Box 565, Superior MT 59872
 Status: Developing

*SUNRISE CREEK PLACER Gold
 Sec. 21, T. 15 N., R. 26 W.
 Owner-Operator: C & H Company
 c/o Sam Coleman, Box 74, Superior MT 59872
 Status: Developing

*F. D. PLACER Gold
 SE¼ NE¼ SW¼ and SE¼ SW¼ SW¼ sec. 8;
 N½ N½ NW¼ sec. 17, T. 12 N., R. 24 W.
 Owner-Operator: Fred D. Slemes
 Box 143, Alberton MT 59820
 Employees: 3
 Status: Developing

TRIANGLE PLACER Gold
 Quartz Creek dist. [135], sec. 3, T. 14 N., R. 26 W.
 Owner-Operator: Victor D. Wright
 Box 40, Superior MT 59872
 Status: Developing

LOST GULCH PLACER Gold
 Cedar Creek dist. [135], sec. 24, T. 16 N., R. 27 W.
 Owner-Operator: Ray Wagner
 Box 137, Ravalli MT 59863
 Status: Producing

*TROUT CREEK PLACER Gold
 Trout Creek dist. [135], sec. 28, T. 16 N., R. 26 W.
 Owner-Operator: Mrs. Joe Arpan
 Box 51, Superior MT 59872
 Status: Inactive

*MEADOW CREEK PLACER Gold
 Sec. 24, T. 15 N., R. 25 W.
 Owner-Operator: C & H Company
 c/o Sam Coleman, Box 74, Superior MT 59872
 Status: Inactive

Missoula County: Missoula 59801

*CLAY LEWIS PLACER Gold
 Nine Mile dist. [146], sec. 16, T. 17 N., R. 24 W.
 Operator: Clay Lewis
 Huson MT 59846
 Owner: Stanley McElligett Family
 1001 Stella Road, Longview WA 98632
 Employees: 1
 Status: Producing

NINE MILE PLACER Placer gold
 Sec. 13, 14, 23, 24, T. 16 N., R. 23 W.
 Owner-Operator: U.S. Antimony Corp.
 John C. Lawrence, Pres.
 Box 643, Thompson Falls MT 59873
 Employees: 5
 Status: Producing

*IDA A. PLACER Gold
 Nine Mile Creek dist. [146],
 sec. 15, T. 16 N., R. 23 W.
 Operator: Albert Byron Peterson, Claude DeValle
 1859 S. 9th St. W., Missoula MT 59801
 Owner: A. B. Peterson
 1859 S. 9th St. W., Missoula MT 59801
 Status: Developing

*ROBIN L. PLACER Gold
 Nine Mile Creek dist. [146],
 sec. 21, T. 17 N., R. 24 W.
 Owner-Operator: Mary C. Anliker
 923 Spartan Dr., Missoula MT 59801
 Status: Developing

Park County: Livingston 59047

*STILLWATER RIVER PLACER Gold
 New World dist. [154], sec. 9, 10, 16, T. 9 S., R. 14 E.
 Owner-Operator: Margaret Reeb
 General Delivery, Livingston MT 59047
 Status: Inactive

Powell County: Deer Lodge 59722

*BIG SKY PLACER Gold, placer gold
 Pioneer dist. [163], sec. 1, T. 8 N., R. 11 W.
 Owner-Operator: T & B Mining Co., Inc.
 621 Kentucky, Box 9, Deer Lodge MT 59711
 Status: Unknown

KLONDIKE ORE #1 Placer gold
 Finn dist. [159], sec. 2, T. 12 N., R. 8 W.
 Owner-Operator: Ernest H. and Bill E. Young
 Box 568, Deer Lodge MT 59722
 Status: Developing

OLYMPIC #2 Placer gold
 Finn dist. [159], sec. 11, T. 12 N., R. 8 W.
 Owner-Operator: Ernest H. and Bill E. Young
 102 N. Main, Deer Lodge MT 59722
 Status: Developing

*SILVER BAR PLACER Placer gold
 Big Blackfoot dist. [156],
 sec. 15, 16, 21, 22, T. 13 N., R. 10 W.
 Owner-Operator: Roy A. Betlach
 Route 7, Spokane WA 99206
 Mill capacity: 20-50 t/d
 Status: Inactive

*YOUR NAME PLACER Placer gold, tungsten
 Sec. 4, 13, 17, 18, 22, 23, T. 13 N., R. 12, 13 W.
 Owner-Operator: H. C. Craig and Co.
 336 Peyton Bldg., Spokane WA 99201
 Status: Unknown

Silver Bow County: Butte 59701

GLORIA ALICE PLACER Placer gold
 Highland dist. [187], sec. 2, 28, T. 1 N., R. 7 W.
 Operator: Al Smith and Don Johnson
 525 Battery Place, #9, Chattanooga TN 37403
 Owner: Howard Stratton
 2619 Walnut, Butte MT 59701
 Status: Producing, developing

HIGHLAND PLACER Gold
 Highland dist. [187], sec. 28, T. 1 N., R. 7 W.
 Operator: Howard Stratton, Mark Stratton,
 2619 Walnut St., Butte MT 59701
 Owner: Butte Water Co.
 124 W. Granite St., Butte MT 59701
 Status: Producing

*MACKEG PLACER Gold
 Soap Gulch dist. [189], sec. 12, T. 2 S., R. 9 W.
 Owner-Operator: Lively Mining Co.
 Box 96, Melrose MT 59743
 Status: Developing

Part 2—Nonmetal Mines, Pits and Quarries**Barite Mines****Beaverhead County: Dillon 59725**

*LUCKY JIM BEAM GROUP MINE Barite
 Jackson dist. [25], sec. 25, 26, T. 4 S., R. 14 W.
 Operator: Elena Jackson
 Jackson MT 59736
 Owner: R. P. Jackson and R. M. Shepherd
 Jackson MT 59736
 Status: Inactive

Lincoln County: Libby 59923

KENELTY MINE Barite
 Libby dist. [108], sec. 34, T. 27 N., R. 28 W.
 Owner-Operator: Montana Barite Co.,
 Bob Walsh, Mgr.
 P.O. Box 3296, Missoula MT 59801
 Employees: 4
 Status: Inactive

Mineral County: Superior 59872

BONANZA GROUP Barite
 Cedar Creek dist. [135], sec. 29, T. 15 N., R. 27 W.
 Owner-Operator: Fern and George Gildersleeve
 Box 568, Superior MT 59872
 Status: Developing

***MULLEN BARITE MINE Barite**
 St. Regis dist. [141], sec. 9, T. 18 N., R. 28 W.
 Owner-Operator: June Alexander
 Box 167, St. Regis MT 59866
 Mill capacity: 50 t/d
 Employees: 4
 Status: Developing

Missoula County: Missoula 59801

****COLOMA MINE Barite**
 Coloma dist. [143], sec. 31, T. 13 N., R. 14 W.
 Owner-Operator: Montana Barite Co.
 Bob Walsh, Mgr.
 Box 3296, Missoula MT 59801
 Mill capacity: 40 t/h
 Employees: 4
 Status: Producing

ELK CREEK MINE Barite
 Elk Creek dist. [145],
 sec. 15, 16, 20, T. 13 N., R. 14 W.
 Owner-Operator: Montana Barite Co.
 Bob Walsh, Mgr.
 P.O. Box 3296, Missoula MT 59801
 Employees: 4
 Status: Producing

FROSTBITE DEPOSIT Barite
 Elk Creek dist. [145], sec. 20, T. 13 N., R. 14 W.
 Operator: Montana Barite Co.
 Bob Walsh, Mgr.
 P.O. Box 3296, Missoula MT 59801
 Owner: Anaconda Minerals Co.
 Butte MT 59701
 Status: Inactive

Bentonite Pits**Phillips County: Malta 59538**

***AMERICAN COLLOID PIT Bentonite**
 Sec. 6, T. 26 N., R. 31 E.
 Operator: American Colloid Co.
 Malta MT 59538
 Owner: American Colloid Co.
 5100 Suffield Ct., Skokie IL 60076
 Status: Inactive

MALTA PLANT Bentonite
 NW¼ SE¼ sec. 16, T. 30 N., R. 30 E.
 Operator: American Colloid Co.
 Malta MT 59538
 Owner: American Colloid Co.
 5100 Suffield Ct., Box 228, Skokie IL 60076
 Mill capacity: 500 t/d
 Employees: 6
 Status: Producing

Chlorite Mines**Madison County: Virginia City 59755**

***ANTLER MINING COMPANY PIT Chlorite**
 Silver Star dist. [126], sec. 14, T. 2 S., R. 6 W.
 Owner-Operator: Sylvan Donegan, Jr., Robert Nolte
 Box 304, Twin Bridges MT 59754
 Employees: 3
 Status: Producing

Clay Mines and Pits**Deer Lodge County: Anaconda 59711**

***PLACER FIRE CLAY PIT Fire clay**
 Sec. 34, T. 5 N., R. 11 W.
 Owner-Operator: Harold Snow
 Box 1155, Anaconda MT 59711
 Status: Produced

Jefferson County: Boulder 59632

***CALICO CLAY PIT Pottery clay**
 Sec. 36, T. 2 N., R. 3 W.
 Owner-Operator: Robert C. and Barbara Nevin
 Box 5, Cardwell MT 59721
 Mill capacity: 50 g/d
 Employees: 1
 Status: Producing

Fluorspar Mines**Silver Bow County: Butte 59701**

****FOURTH ESTATE MINE Fluorspar, gold**
 Summit Valley dist. [183], sec. 13, T. 3 N., R. 9 W.
 Owner-Operator: Tom Helehan
 Box 235, Butte MT 59701
 Status: Developing

Graphite Mines

Broadwater County: Townsend 59644

BLACK DIAMOND GROUP Graphite
Indian Creek dist. [35],
sec. 17, 20, 29, 32, T. 7 N., R. 1 E.
Owner-Operator: Black Diamond Graphite Co.
Jim Hill, Mgr., Clancy MT 59634
Status: Developing

Gypsum Mines

Fergus County: Lewistown 59457

SHOEMAKER (HEATH) MINE Gypsum
Sec. 1, 2, T. 14 N., R. 19 E.
Operator: U.S. Gypsum Company
Plant Manager R. J. Thompson
Heath Star Route, Lewistown MT 59457
Owner: U.S. Gypsum Company
101 S. Wacker Dr., Chicago IL 60606
Status: Producing

Limestone Mines and Quarries

Beaverhead County: Dillon 59725

****WHITE LIME GROUP** Limestone
Argenta dist. [2], sec. 17, T. 6 S., R. 10 W.
Owner-Operator: Rudy Nygren
Argenta Star Route, Dillon MT 59725
Status: Developing

Broadwater County: Townsend 59644

***CONTINENTAL LIME INC. PLANT** Quick lime,
limestone
Indian Creek dist. [35], sec. 28, 33, T. 7 N., R. 1 E.
Operator: Continental Lime Inc.
P.O. Box 550
Owner: Steel Brothers Canada
215-10451 Shellbridge Way
Richmond, B.C., Canada V6X 2W8
Mill capacity: 480 t/d
Employees: 20
Status: Producing

Carbon County: Red Lodge 59068

***WARREN QUARRY** Limestone
Sec. 24, 25, T. 8 S., R. 25 E., and
sec. 19, 30, T. 8 S., R. 26 E.
Operator: Big Horn Calcium Co.
P.O. Box 22007, Billings MT 59104
Owner: Big Horn Limestone Co.
P.O. Box 1952, Denver CO 80901
Mill capacity: 10 t/hr
Employees: 20
Status: Producing

Gallatin County: Bozeman 59715

***TRIDENT QUARRY** Portland cement limestone
Sec. 9, 10, T. 2 N., R. 2 E.
Owner-Operator: Ideal Basic Industries—Cement Div.
R. J. Castelli, Vice Pres., Prod., Pacific Region
3030 One Union Square, 600 University Street,
Seattle WA 98101
Mill capacity: 330,000 t/y
Employees: 100
Status: Producing

Jefferson County: Boulder 59632

***CLARK GULCH QUARRY**
Portland cement limestone
Sec. 14, T. 9 N., R. 2 W.
Operator: Kaiser Cement Corp.
(R. J. O'Hara, Plant Mgr.)
Montana City MT 59602
Owner: Kaiser Cement Corp.
Kaiser Center, Oakland CA 94600
Mill capacity: 1000 t/d
Employees: 86
Status: Produced

***McCLELLAN QUARRY** Limestone
McClellan dist. [84], sec. 7, T. 9 N., R. 2 W.
Operator: Maronick Construction Co., Inc.
East Helena MT 59635
Owner: E. P. Maronick, Pres.
East Helena MT 59635
Mill capacity: 600 t/d
Employees: 3
Status: Producing

Phosphate Mines

Powell County: Deer Lodge 59722

RELYEA MINE Phosphate rock
Garrison dist. [160], S ½ sec. 12, T. 10 N., R. 10 W.
Owner-Operator: George Relyea Estate
Box 116, Garrison MT 59731
Mill capacity: 50 t/d
Status: Inactive

WARM SPRINGS MINE Phosphate rock
Garrison dist. [160], sec. 11, 13, 24, T. 10 N.,
R. 10 W.; sec. 19, T. 10 N., R. 9 W.
Owner-Operator: Cominco American, Inc.
Garrison MT 59731
Employees: 115
Status: Producing, developing

Sapphire Mines

Granite County: Philipsburg 59858

GEM MOUNTAIN SAPPHIRE MINE Sapphire
[Old Chaussee Sapphire mine]
Rock Creek dist. [67], sec. 16, T. 6 N., R. 16 W.
Owner-Operator: Gem Mountain Sapphire
T. R. Hess, General Manger
P.O. Box 701, Philipsburg MT 59856
Status: Producing, developing

Judith Basin County: Stanford 59479

YOGO SAPPHIRE MINE Sapphire
Yogo dist. [92], sec. 19, 20, 21, 22, T. 13 N., R. 11 E.
Owner-Operator: Intergem, Inc.
Harry C. Bullock, Chairman/C.E.O.
3025 S. Parker, Aurora CO 80014
Mill capacity: 500 t/d
Employees: 5
Status: Developing

Lewis and Clark County: Helena 59601

*EL DORADO BAR SAPPHIRE MINE Sapphire
Sec. 2, 10, 11, T. 11 N., R. 12 W.
Owner-Operator: El Dorado Inc.
6240 Nelson Road, Helena MT 59601
Status: Producing

FRENCH BAR PLACER Placer sapphire, gold
Missouri River dist. [101], sec. 4, 5, T. 10 N., R. 1 W.
Owner-Operator: James McMaster
Box 483, East Helena MT 59635
Employees: 2
Status: Produced, producing

FRENCH BAR UNDERWATER SECTION
Gold, sapphire, garnet, rubies
Missouri River dist. [101], sec. 4, T. 10 N., R. 1 W.
Operator: Montana Gold & Sapphire, Inc.
MacDonald M. Mader II, Pres.
P.O. Box 155, Helena MT 59624
Owner: State of Montana, Helena MT 59604
Plant: 8" suction dredge
Status: Produced, developing

Semiprecious Stones

Missoula County: Missoula 59801

*FOUR V's CLAIMS Smoky quartz
Sec. 22, T. 11 N., R. 24 W.
Owner-Operator: Albert E. Volker
1806 S. 10th West, Missoula MT 59801
Status: Producing

Shale Pits

Gallatin County: Bozeman 59715

*KANTA PIT Expanded shale
Sec. 13, T. 2 N., R. 2 E.
Owner-Operator: Kanta Products, Inc.
George E. Kanta, President
Box 96, Three Forks MT 59752
Employees: 1
Status: Produced, producing

Jefferson County: Boulder 59632

*CARDWELL PIT Expanded shale
Unorg., E½ W½ sec. 36, T. 2 N., R. 3 W.
Operator: Kanta Products, Inc.
Box 96, Three Forks MT 59752
Owner: State of Montana, Helena MT 59601
Employees: 1
Status: Producing

Silica Mines and Quarries

Beaverhead County: Dillon 59725

*CANYON CREEK QUARRY Metallurgical silica
Sec. 32, T. 1 S., R. 9 W.
Owner-Operator: Industrial Chemical Div., Stauffer
Chemical Co., Paul Pruett, Plant Manager
Box 3146, Butte MT 59702
Mill capacity: 500 t/d
Employees: 3
Status: Producing

Jefferson County: Boulder 59632

*BASIN QUARTZ QUARRY Industrial silica
Basin dist. [73], sec. 16, T. 6 N., R. 5 W.
Owner-Operator: Hemphill Bros, Inc.
W. S. Langdon, Vice President
P.O. Box 807186, Seattle WA 98108
Status: Inactive

Ravalli County: Hamilton 59840

**EAGLE ROCK GROUP Quartz
Unorg., sec. 1, 2, 6, 10, 11, 12, 13, 14, 15, and
22, T. 5 N., R. 19 W.
Owner-Operator: Eagle Rock Mining Co., Inc.
1308 S. 1st St., Hamilton MT 59840
Status: Unknown

Soil Conditioners

Lake County: Polson 59860

*MARTIN'S PEAT, INC. Peat
Sec. 16, 17, T. 24 N., R. 17 W.
Owner-Operator: Martin's Peat, Inc.
Ronald I. Martin, Pres., Swan Lake MT 59911
Employees: 12
Mill capacity: 2,000 t/y
Status: Produced

Stone Quarries**Missoula County: Missoula 59801**

*McQUARRIE QUARRY Ballast and road material
Clinton (Wallace) dist. [142],
sec. 17, T. 12 N., R. 17 W.
Operator: Janney Construction Co., Inc.
Box 517, Deer Lodge MT 59723
Owner: Burlington Northern, Inc.
St. Paul MN 55101
Mill capacity: 200 t/hr
Employees: 10
Status: Producing

Park County: Livingston 59047

*LIVINGSTON MARBLE & GRANITE QUARRY
Ashlar, cut stone, rubble
Sec. 14, 24, T. 9 S., R. 8 E.
Operator: Livingston Marble and Granite Works
Livingston MT 59047
Owner: H. W. Strong
711 E. Park, Livingston MT 59047
Mill capacity: 18 t/d
Employees: 7
Status: Producing

Talc Mines**Madison County: Virginia City 59755**

ADAM AND EVE NO. 1 and NO. 2 Talc
Unorg., sec. 30, T. 8 S., R. 4 W.
Owner-Operator: Sam Maloney, Goldie S. Maloney
and others
Box 118, Alder MT 59710
Status: Inactive

*BEAVERHEAD MINE Talc
Sec. 11, 14, T. 7 S., R. 6 W.
Operator: Cyprus Industrial Minerals
P.O. Box 516, Ennis MT 59729
Owner: Cyprus Industrial Minerals
7200 South Alton, Englewood CO 80155
Status: Developing

*BIG WILLOW NO. 1 and NO. 2 Talc
Unorg., sec. 30, T. 8 S., R. 4 W.
Owner-Operator: Sam Maloney, Goldie S. Maloney
and others
Box 118, Alder MT 59710
Status: Inactive

JOHNNY GULCH TALC MINE Talc
Sec. 9, T. 9 S., R. 1 W.
Operator: Nicor Mineral Ventures
Donald Kennedy, Proj. Manager
P.O. Box 296, Ennis MT 59729
Owner: Joint ventures of Nicor Ventures and
Sheridan Land and Mineral Co.
P.O. Box 296, Ennis MT 59729
Status: Developing

*REGAL MINE Talc
Unorg., N½ sec. 2, T. 8 S., R. 7 W.
Owner-Operator: Pfizer, Inc.
Box 1147, Dillon MT 59725
Status: Developing

*RUBY NO. 1 and NO. 2 MINE Talc
Unorg., sec. 11, T. 8 S., R. 4 W.
Owner-Operator: Sam Maloney, Goldie S. Maloney
Box 118, Alder MT 59710
Status: Developing

*TREASURE MINE AND PLANT Talc
Unorg., NE¼ NE¼ sec. 14, T. 7 S., R. 6 W.
Owner-Operator: Pfizer, Inc.
Box 1147, Dillon MT 59725
Employees: 118
Status: Producing

*WILLOW CREEK MINE (RUBY RIDGE GROUP)
Talc
Unorg., sec. 30, T. 8 S., R. 3 W.
Operator: Willow Creek Talc, Inc.
P.O. Box 5, Alder MT 59710
Owner: Woodward and Dickerson, Inc.
937 Haverford Road, Bryn Mawr PA 19010
Employees: 2
Status: Developing

*YELLOWSTONE (CAMERON) MINE Talc
Sec. 4, T. 9 S., R. 1 W.
Operator: Cyprus Industrial Minerals
P.O. Box 516, Ennis MT 59729
Owner: Cyprus Industrial Minerals
720 South Alton, Englewood CO 80155
Employees: 101
Status: Producing

Vermiculite Mines**Lincoln County: Libby 59923**

*ZONOLITE MINE Vermiculite
Rainy Creek dist. [109],
sec. 14, 15, 22, 23, T. 31 N., R. 30 W.
Owner-Operator: Construction Products Division,
W. R. Grace & Co.
62 Whittemore Ave., Cambridge MA 02140
Mill capacity: 1000 t/d
Employees: 200
Status: Producing

Madison County: Virginia City 59755

*CONSTELLATION DEPOSIT Vermiculite
Mineral Hill dist. [119], sec. 26, T. 1 S., R. 3 W.
Owner-Operator: Mine-X, Inc.,
c/o W. G. Forbes, Pres.
Box 656, Pony MT 59747
Status: Developing

***GILLIAM VERMICULITE DEPOSIT** Vermiculite
 Mineral Hill dist. [119], sec. 25, T. 1 S., R. 3 W.
 Owner-Operator: Mine-X, Inc.,
 c/o W. G. Forbes, Pres.
 Box 656, Pony MT 59747
 Employees: 4
 Status: Developing

Ravalli County: Hamilton 59840

***WESTERN VERMICULITE COMPANY** Vermiculite
 Sec. 24, 25, T. 6 N., R. 19 W.
 Operator: Western Vermiculite Co.
 P.O. Box 220, Victor MT 59893
 Owner: National Vermiculite Corp. and Argee Corp.
 Box 220, Victor MT 59875
 Employees: 1
 Status: Inactive

Part 3—Coal Mines

Big Horn County: Hardin 59034

***ABSALOKA MINE** Coal
 Sec. 25, T. 1 N., R. 37 E.
 Operator: Morrison-Knudsen Co., Inc.
 Don Cutbirth, Business Manager
 Box 529, Hardin MT 59034
 Owner: Westmoreland Resources
 Box 430, Hardin MT 59034
 Employees: 113
 Status: Produced

***EAST DECKER MINE** Coal
 Sec. 11, 12, 14, T. 9 S., R. 40 E.
 Owner-Operator: Decker Coal Co.
 Box 12, Decker MT 59025
 Employees: 242
 Status: Producing

SPRING CREEK MINE Coal
 Sec. 16, T. 8 S., R. 40 E.
 Operator: Spring Creek Coal Co.
 Dave Dearcorn, Gen. Mgr.
 Box 67, Decker MT 59025
 Owner: NERCO, Inc.
 111 SW Columbia, Portland OR 97201
 Plant capacity: 10,000,000 t/y
 Employees: 112
 Status: Producing

***WEST DECKER MINE** Coal
 Sec. 9, T. 9 S., R. 40 E.
 Operator: Decker Coal Co.
 P.O. Box 12, Decker MT 59025
 Owner: Kiewit Mining and Engineering Co., and
 Pacific Power and Light Co.
 1000 Kiewit Plaza, Omaha NE 68131
 Mill capacity: 3,000 t/hr
 Employees: 222
 Status: Producing

Musselshell County: Roundup 59072

***P.M. MINE** Coal
 Sec. 13, T. 6 N., R. 26 E.
 Owner-Operator: P.M. Coal Mining Co.
 Megeed Bros.
 Goulding Creek Route, Roundup MT 59072
 Mill capacity: 100 t/h
 Employees: 4
 Status: Producing

STORM KING PIT Coal
 Sec. 24, T. 6 N., R. 26 E.
 Operator: Storm King Coal Mining Co., Inc.
 Jerry J. Prouse, Mgr.,
 427 Lordwith Dr., #5, Billings MT 59102
 Owner: L. Von Bretz
 427 Lordwith Dr., #5, Billings MT 59102
 Employees: 5
 Status: Produced, inactive

Powder River County: Broadus 59317

***COAL CREEK MINE** Coal
 Sec. 3, T. 3 S., R. 45 E.
 Owner-Operator: Coal Creek Mining Co.
 Clayton Tonnemaker, Pres.
 P.O. Box 145, Ashland MT 59003
 Mill capacity: 500 t/d
 Status: Inactive

Richland County: Sidney 59270

***SAVAGE MINE** Coal
 Sec. 27, T. 20 N., R. 57 E.
 Operator: Knife River Coal Mining Co.
 Box 32, Savage MT 59262
 Owner: Knife River Coal Co.
 Douglas Kane, Vice President Operations
 1915 Kavaney Dr., Bismarck ND 58501
 Plant capacity: 350 t/hr
 Employees: 17
 Status: Producing

Rosebud County: Forsyth 59327

***BIG SKY MINE** Coal
Sec. 27, T. 1 N., R. 41 E.
Operator: Peabody Coal Co.
Tracy Hendricks, Supt.
Box 97, Colstrip MT 59323
Owner: Peabody Coal Co.
301 N. Memorial Dr., St. Louis MO 63102
Employees: 129
Mine capacity: 3,000,000 t/y
Status: Producing

***ROSEBUD MINE** Coal
Sec. 1, 2, 3, 4, 5, 12, T. 1 N., R. 40 E.; sec. 1, 2, 3, 4,
5, 6, 7, 8, 9, 10, 12, 18, T. 1 N., R. 41 E.; sec. 29, 32,
33, 35, T. 2 N., R. 41 E.
Owner-Operator: Western Energy Co.
Richard T. Dale, Mine Manager
Box 99, Colstrip MT 59323
Employees: 325
Mine capacity: 15,000,000 t/y
Status: Producing

Drill-Core Repository

The drill-core library, established in 1979, is housed in a permanent facility at the Mineral Research Center south of Butte. The cores are donations from exploration drilling projects in Montana. They are available to individuals, companies and institutions for examination and research purposes. Bureau geologists skeletonize the core in order to provide space for additions to the drill-core library. Most core donations are accompanied by drill logs and location maps. Financial donations also have been received to help support the repository. The table below provides a brief description of the cores available at the repository. To visit the facility, please contact the Montana Bureau of Mines and Geology.

Open-File Report 148 (completed May 1984), gives detailed listings of available core donations, donor, number of holes, depth and location. Locations in most cases are to the quarter section. Donations of core for the past year include extensive footage from the Stillwater Complex and from a prospect southwest of Georgetown Lake by Anaconda Company and core from various localities in the Boulder batholith region by AMAX, Inc. These donations totaled over 20,000 feet of diamond drilling. The drilling represented by core donations to the repository now totals over 100,000 feet.

Available Core		
Name	County	Donator
April claims	Madison	U.S. Steel
Aurora-Borealis mine	Madison	Blue Jay Mining Company
Bald Butte	Lewis and Clark	AMAX
Brown's Lake mine	Beaverhead	GE, Utah International
Calvert mine	Beaverhead	Minerals Engineering, Utah International
Crystal Park	Beaverhead	Utah International
Cumberland	Meagher	United Nuclear, Russell Manger
Elkhorn mine	Beaverhead	Bethlehem Steel
Emery (Zosell) district	Powell	Gulf Mineral Resources
Emigrant Gulch	Park	AMAX
Ermont mine	Beaverhead	Gold Fields Mining
Golden Sunlight mine	Jefferson	U.S. Bureau of Mines
Heath Oil Shale	Fergus	MBMG
HO	Granite	Union Carbide
Lost Creek	Beaverhead	GE, Utah International
McCartney Mountain	Madison	Freeport Exploration
McDowell Ranch	Carter	Marathon Resources
North Moccasin Mountains	Fergus	Gold Fields Mining
Monitor	Jefferson	Union Pacific Railroad
Ontario Creek	Powell	Utah International
Red Star	Beaverhead	Utah International
Stone Creek	Beaverhead	Utah International
Silver Bell	Lewis and Clark	Utah International
WASA	Granite	General Crude, Texas Gas, Lake Ronel

**ALL MINERS AND PROSPECTORS SHOULD BE AWARE OF THE
STATE LAW PERTAINING TO INSPECTION OF MINES**

[Title 50-108 (3425)]

“This act shall apply to all mines (except coal and lignite) and individuals, owners, lessors, lessees, agents, partnerships, corporations, managers, operators or employers operating any surface or underground metal or nonmetallic mines in this state. These individuals, owners, lessors, lessees, agents, partnerships, corporations, managers, operators or employers operating any surface or underground metal or nonmetallic mines (excluding coal and lignite) shall report the same to the Workers’ Compensation Division (State Inspector of Mines), state the name of the mine, the location of the same, the name of the company, person or persons owning or operating the same, post office address and number of men employed.”

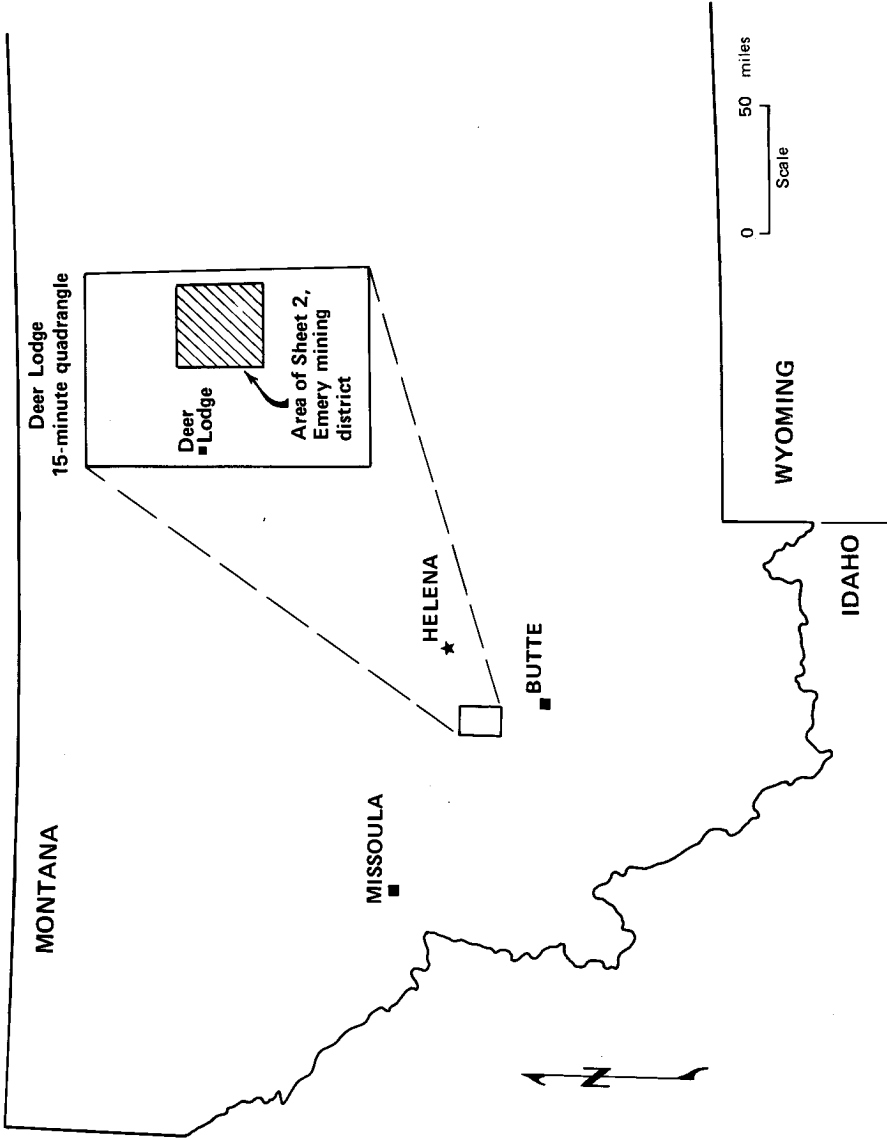


Figure 1—Location map of the Deer Lodge 15-minute quadrangle outlining the Emery mining district.

The Emery mining district, Powell County, Montana

by
Robert E. Derkey

Introduction

An extensive volume of igneous rocks hosts numerous mineral deposits in the Butte-Deer Lodge-Helena region of southwestern Montana (**Figure 1**). From this region, over 7 million ounces of gold (**Table 1**), plus silver, lead, zinc and copper have been produced. The igneous rocks include the Boulder batholith and co-magmatic Elkhorn Mountains Volcanic suite (70 to 80 m.y.), the Lowland Creek Volcanic suite (48 to 50 m.y.) and younger rhyolitic volcanic rocks (37 to 40 m.y.). Mineralized Cretaceous basalts interfinger with the Elkhorn Mountains Volcanic suite in the Emery mining district. Many of Montana's rich and famous mining districts (**Table 1**) are located within or adjacent to igneous rocks of this region.

The Emery district, located 7 miles east of Deer Lodge (**Figure 1**), is approximately 8 miles east and 4 miles north of exposures of the Boulder batholith. It is 5 miles north of exposures of the Lowland Creek Volcanic suite; however, 6-inch diameter boulders that can be correlated with a member of the Lowland Creek Volcanic suite were found in conglomerate 3.5 miles northwest of the district. The fact that boulders of this size are preserved so far north of Lowland Creek Volcanic suite exposures suggests Lowland Creek volcanism once extended north of present exposures. A two-square-mile rhyolite dome is exposed 3 miles east of the district. There are no dates for the age of mineralization in the Emery district, but it is reasonable to assume that one or more of these igneous events may have produced the mineralization.

History

The following historical sketch of the Emery district is taken from Elliot (1939) and Robertson (1953) and centers largely on events at the Emery mine. Robertson (1953) provided a more detailed sketch for activity from 1897 to 1950. Locations of mines and drainages within the district are shown on **Sheet 2, back pocket**.

The district bears the name "Emery" from the largest mine in the district. It has also been called the Zosell district (Pardee and Schrader, 1933) after W. T. Zosel, the locator of the Bonanza lode (Callaway, 1950) and a prominent rancher and homesteader who lived near the district. Because Emery was used as an early name for the district and in deference to the misspelling of the Zosel name, Emery is the preferred name for the district.

The earliest activity in what was to become the Emery district was the discovery of placer gold in Rocker Gulch (**Sheet 2**) in 1872. Over the next 20 years an estimated \$75,000 in gold was recovered from Rocker, Spring and Deep gulches and from a small tributary of Little Cottonwood Creek near the Sterrett mine (Robertson, 1953). Fifteen

Table 1—Gold production from mining districts in or adjacent to Cretaceous and younger igneous rocks of the Boulder batholith region through 1959 (from Koschmann and Bergandahl, 1968).

District	Ounces Lode	Ounces Placer	Ounces Total
Park	42,800	37,500	80,300
Radersburg	NA	NA	325,000
Winston	106,000	12,000	118,000
Basin & Boulder	176,200	12,000	188,200
Clancy	2,000	101,000	103,000
Elkhorn	NA	NA	70,112
Tizer	9,536	964	10,500
Whitehall*	NA	NA	100,000
Wicks	264,000	2,200	266,200
Helena-Last Chance	345,000	940,000	1,285,000
Marysville	1,145,800	164,200	1,310,000
Rimini	194,000	4,275	198,275
Scratchgravel	48,700	59,300	108,000
Ophir	8,250	180,000	188,250
Emery	39,450	3,625	43,075
Butte	2,362,000	363,000	2,725,000
Highland	NA	NA	50,000
Phillipsburg	NA	NA	260,000
		Total ounces	7,428,912
		Total for Montana	17,752,000

* includes the Golden Sunlight mine.

NA figures not available.

years after the discovery of gold in the area, Joe Peterson located the Hidden Hand lode. The Emery lode was discovered by John Renault in 1888 and was staked later in the same year as the Carbonate Hill claim by W. C. Emery. The Bonanza lode was staked in 1895.

W. C. Emery mined the Emery lode to a depth of about 100 feet on the decline and then sold the property to Conrad Kohrs and others in 1890. (Kohrs owned the Grant-Kohrs Ranch, which now is a designated National Historic Site at Deer Lodge.) Kohrs invested in numerous mining properties in the area including building of water ditches to the rich placers of Gold Creek in the Pioneer district west of Garrison. The Kohrs' interests patented the Carbonate Hill and adjacent claims 3 years later.

The Kohrs' interests successfully exploited the property until 1902 when they sold it to the Emery Mining Company which reportedly took out \$90,000 in gold, silver and

lead over the next five years. In 1907, an English company, Deer Lodge Consolidated Mines Company Limited, gained control of the Emery mine. Extensive development ensued and included sinking of a vertical shaft north of the decline, which was intended to give better access to the mine workings. Extensive development with insufficient production bankrupted Deer Lodge Consolidated. The mine lay idle from 1908 to 1910 when many of the same interests of the old Emery Mining Company formed the Emery Consolidated Mining Company and took control of the mine. Electricity was brought to the mine and a 70 ton-per-day flotation mill was constructed in 1923. However, there was little production until 1935 when 12,000 tons of ore were treated. The mine was again idle from 1936 until 1939 when additional development was done and ore was hand sorted for shipment.

A 100 ton-per-day flotation mill was constructed at the Emery in 1945. The Deer Lodge Mining Company operated the mill and the Emery mine over the next 3 to 4 years. Production for the district apparently peaked in modern time during 1947-48 when 1,853 tons of ore yielding 686 ounces of gold and 3,569 ounces of silver were shipped from the Bonanza lode. They also shipped 71 tons of lead ore yielding 8 ounces of gold, 1,800 ounces of silver, 141 pounds of copper, 36,630 pounds of lead and 7,684 pounds of zinc. The mill at the Emery treated 8,968 tons of ore over this two-year period.

From the 1950s through the 1970s, the majority of activity in the district centered on exploration by several mining companies for shallow, large-tonnage precious-metals deposits or for a deep seated porphyry-copper deposit. In the early 1980s, Emery Mining Associates constructed a 200 ton-per-day mill at the site of the lower (vertical) shaft to the Emery mine. This company performed tests using ore from the Emery dumps and shipped approximately 100 tons of concentrates to the East Helena smelter. Mr. Al Luciano reported that the tests were successful; however, low metals prices necessitated its closure. Emery Mining Associates (now MPM Limited, P.O. Box 1050, Eureka, Montana 59917) is presently seeking ore for the mill and is also attempting to raise the necessary capital to reopen both the Emery and Bonanza mines.

Perhaps the most interesting story associated with the Emery district concerns a prospector named Thomas Spring (Wolle, 1963). Periodically, Spring would wander into Deer Lodge with samples of rich, gold-bearing quartz and proceed on a lengthy spree until his gold was gone. When he sobered up, he would ask one Sam Scott for another grubstake that was only the beginning of another cycle. In 1872, Scott persuaded Spring to take him along, but Spring allowed him to go only as far as the forks of Cottonwood Creek. Spring then went up Baggs Creek alone while Scott waited for him. Later, apparently the same day, Spring returned with two tin cans filled with gold-bearing, iron-stained quartz which he said came from a four-foot vein.

Spring felt the mine was safe from claim jumpers and apparently never filed a formal claim on the property. Two mining men finally persuaded Spring to show them the mine. They had agreed to finance the mine in return for a half interest. The party left Deer Lodge and made camp late that day near the forks of Cottonwood Creek. Spring left the party, this time to hunt for grouse. However, he didn't return that night and when found the next day, he was sitting under a tree with his gun across his knees. He apparently had suffered a heart attack.

The news started a stampede to the Baggs Creek area but no one found Spring's mine. The mine may have been the first discovery of lode gold in the Emery district, or the mine may still be waiting to be rediscovered.

Geology of the Emery district

Geologic mapping of the Deer Lodge 15-minute quadrangle has recently been field completed (1983-85) by the author, M. J. Bartholomew, Patrick J. Downey, Dale Anderson and S. Michelle Watson. The mapping was done at a scale of 1:24,000 and includes the following 7 ½-minute quarters of the quadrangle: Deer Lodge (NW ¼), Baggs Creek (NE ¼), Dempsey (SW ¼) and Sugarloaf Mountain (SE ¼). Current plans call for these maps to be ultimately published by the Montana Bureau of Mines and Geology. Unless otherwise noted, "Deer Lodge quadrangle" in this paper refers to the Deer Lodge 15-minute quadrangle. Previously published geologic descriptions of the district include Pardee and Schrader (1933) and Robertson (1953). Robertson's (1953) report, which includes a complete description of all mines and prospects in the district, is based largely upon unpublished M.S. theses by Elliot (1939) and Stejer (1948) and B.S. theses by Callaway (1950) and Joyce (1951). Al-Khirbash (1982) completed an M.S. thesis based upon a 2,800-foot deep drill hole near the Hidden Hand mine. Ruppel (1961) prepared a reconnaissance geologic map of the Deer Lodge quadrangle. **Sheet 2** was compiled from Robertson (1953) and from unpublished field mapping by the author in 1984-85, Anderson in 1984 and Watson in 1985.

Two types of basalt crop out within the Emery district: (1) dark-gray, porphyritic basalt with plagioclase phenocrysts (plagioclase basalt, **Figure 3**) and (2) medium-green porphyritic basalt with pyroxene phenocrysts (fine-grained pyroxene basalt, **Figure 4**). Vesicular and amygdaloidal equivalents of each type are also present. A third basalt type (pyroxene basalt) crops out north of the district and consists of a series of basalt flows with distinct pyroxene phenocrysts that range up to ½ inch in cross section. These three basalt types (Kb on **Sheet 2** and **Figure 2**), together with their vesicular-amygdaloidal equivalents, comprise most of the rocks which cover the north half of the Deer Lodge quadrangle. Though the three individual basalt types (Kb) were not mapped separately, the plagioclase basalt is considered the oldest, the fine-grained pyroxene basalt is next oldest and the pyroxene basalt is considered the youngest. Relationships of the basalts to the remainder of andesitic and dacitic rocks of the Elkhorn Mountains Volcanic suite in the quadrangle are shown in **Figure 2**.

At the base of the Elkhorn Mountains Volcanic suite in the Deer Lodge quadrangle is an andesitic flow and flow-breccia unit (Kem₁ of **Figure 2**) that contains distinct, white plagioclase phenocrysts. In the north part of the quadrangle, the plagioclase phenocrysts resemble rolled oats and the name "oatmeal" andesite has been used for these occurrences (Ruppel, 1963). In exposures southeast of the district, the "oatmeal" andesite (Kem₁) is overlain by a poorly-sorted pyroclastic unit (Kem₂ of **Figure 2**) containing locally abundant pumice. The thickness of this unit (Kem₂) in the southeastern part of the quadrangle is at least several hundreds of feet, but where exposed again in the north part of the quadrangle, the unit (Kem₂) is only a few tens of feet thick. It is suggested that the exposures of this heterogenous, locally pumice-rich pyroclastic unit in the southeast part of the quadrangle are intra-caldera and the exposures in the north

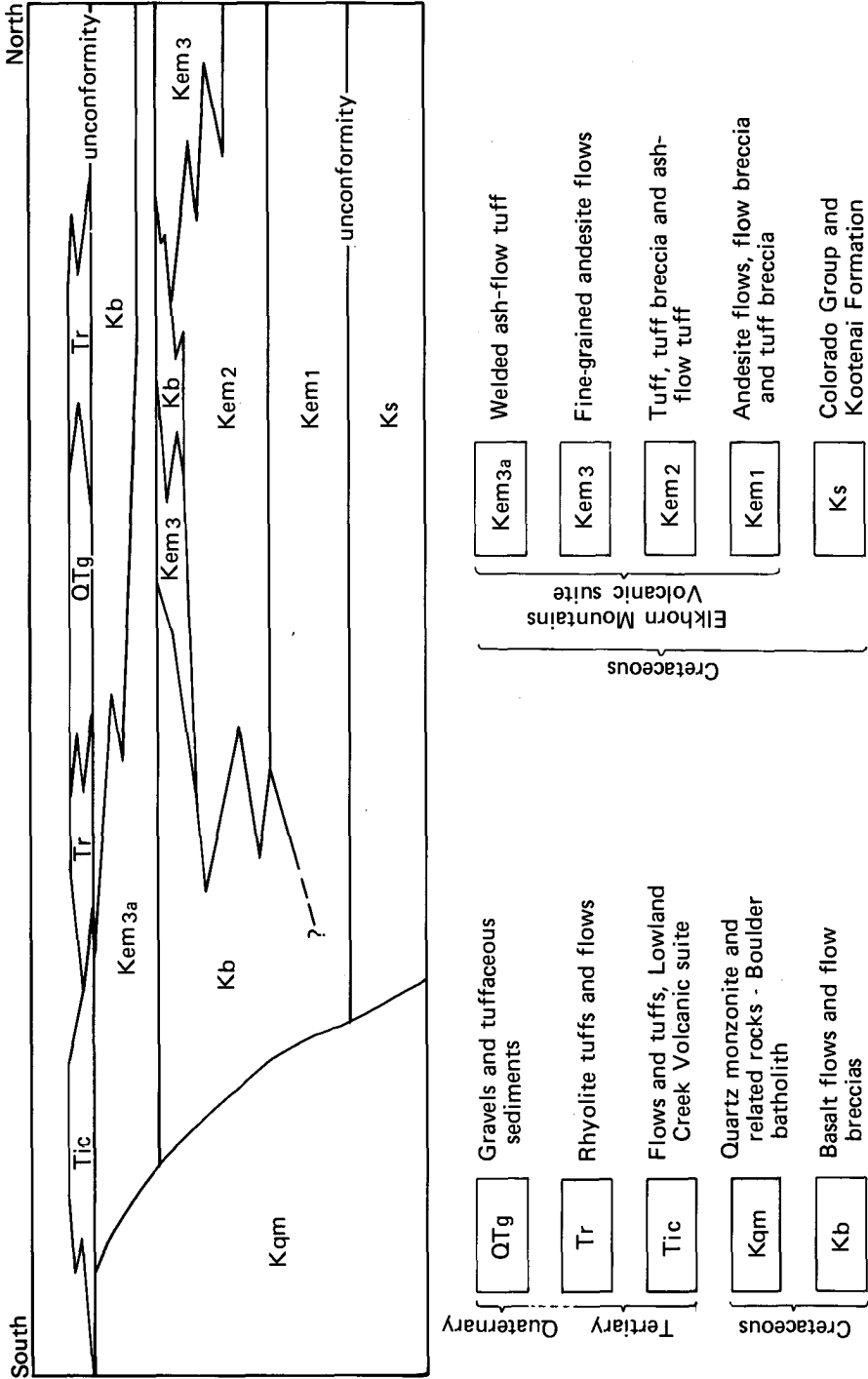


Figure 2— Generalized, north-to-south stratigraphic relationships of volcanic rock units and underlying sedimentary units within the Deer Lodge 15-minute quadrangle.

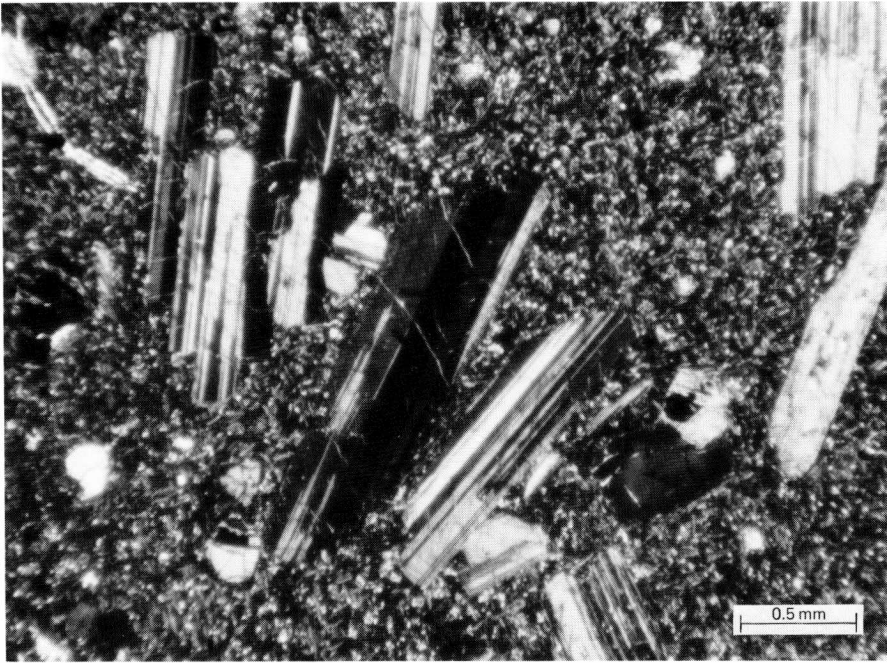


Figure 3—Twinned plagioclase phenocrysts in an altered, fine-grained basalt matrix. Photomicrograph of thin section viewed with transmitted light under crossed nicols. Plagioclase basalt, sample number DL 843, Deer Lodge quadrangle.

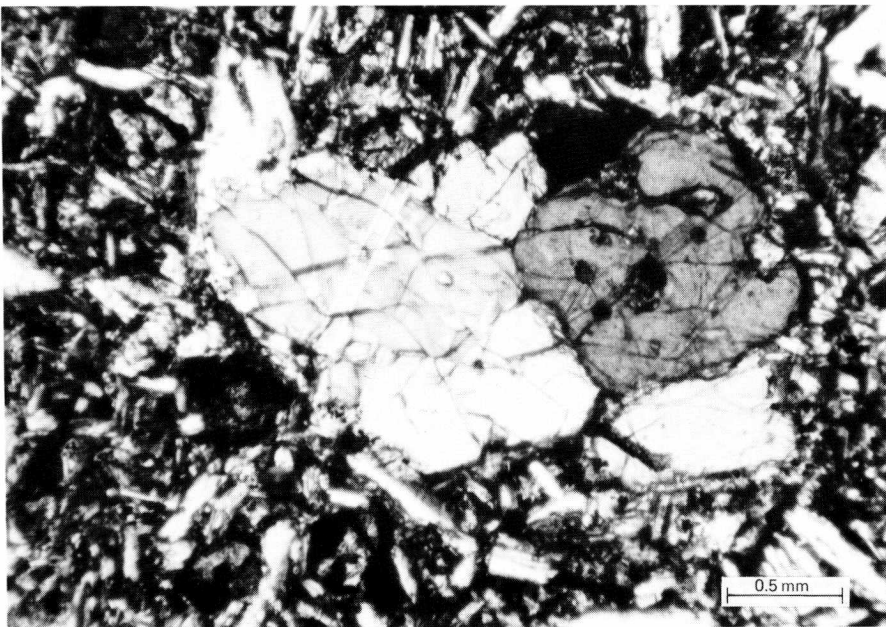


Figure 4—Pyroxene phenocrysts in a matrix of plagioclase and fine-grained, altered basalt. Photomicrograph of thin section viewed with transmitted light under crossed nicols. Fine-grained pyroxene basalt, sample number DL 829, Deer Lodge quadrangle.

part of the quadrangle represent materials ejected beyond the margin of the caldera. Overlying this poorly sorted pyroclastic unit is a fine-grained, phenocryst-poor series of andesite flows (Kem₃ of **Sheet 2** and **Figure 2**). These andesite flows (Kem₃) are not uniformly distributed throughout the quadrangle but, rather, are locally distributed with a thick sequence exposed on Black Mountain south of the district and at the north boundary of the quadrangle. Overlying the fine-grained andesite is a dacitic, red-brown ash-flow tuff unit (Kem_{3a} of **Sheet 2** and **Figure 3**) that is the only recognizable stratigraphic marker in the Emery district.

Relationships established by recent, unpublished geologic mapping indicate that basalts (Kb) interfinger with and perhaps even underlie andesites considered part of the lower Elkhorn Mountains Volcanic suite (**Figure 2**). Thrust faults and limited exposures complicate the relationship between the lowermost or oldest basalts and the Elkhorn Mountains Volcanic suite. A dacitic ash-flow tuff (Kem_{3a} on **Sheet 2** and **Figure 2**), a marker unit in the northern part of the Deer Lodge quadrangle, contains basalt fragments and is also overlain by pyroxene basalt flows (Kb). This dacitic ash-flow tuff unit, part of the middle member of the Elkhorn Mountains Volcanic suite (Ruppel, 1963), is the youngest and uppermost unit of the Elkhorn Mountains Volcanic suite exposed in the quadrangle.

Most exposures of the tuff marker unit (Kem_{3a}) in the Deer Lodge quadrangle are altered, densely welded and lithic-rich, with little evidence of pumice or glass shards. Near the base of the unit, however, pronounced, flattened, white pumice fragments are preserved with length-to-thickness ratios greater than 20:1. Generally, the ash-flow tuff contains less than 2 or 3 percent phenocrysts that are plagioclase. Lithic fragments are from the underlying andesite units and occasionally from the basalts.

Exposures of the ash-flow tuff (Kem_{3a}) are limited in the Emery district. North of the district, the ash-flow tuff (Kem_{3a}) overlies the fine-grained, andesitic-lava flow unit (Kem₃), and is repeated at least three times by thrust faulting. To the south, the ash-flow tuff (Kem_{3a}) overlies the thick, poorly sorted pyroclastic unit (Kem₂). Within the district, the ash-flow tuff (Kem_{3a}) overlies as well as underlies basalt (Kb). The small, discontinuous exposures of ash-flow tuff (Kem_{3a}) in the district are interpreted as slabs at the base of thrust faults.

Robertson (1953) considered the basalts (Kb) to be part of the Late Cretaceous Elkhorn Mountains Volcanic suite. Ruppel (1961, 1963) provisionally considered the basalts (Kb) to be the uppermost unit of the Elkhorn Mountains Volcanic suite. Southwest of the district and adjacent to the Boulder batholith (Kqm of **Figure 3**), the basalts underwent contact metamorphism, indicating that they are older than that portion of the batholith. North and east of the Emery district, basalt (Kb) overlies and interfingers with the andesitic rocks (**Figure 2**) considered to be part of the lower Elkhorn Mountains Volcanic suite immediately to the east of the Deer Lodge quadrangle in the Basin quadrangle (Ruppel, 1963; Klepper and others, 1957). In this paper, the basalts (Kb) are considered to be a separate, but time equivalent, unit to volcanic rocks of the lower and middle Elkhorn Mountains Volcanic suite in the Basin quadrangle. The basalts were extruded intermittently during the entire time span of extrusion of andesitic and dacitic volcanic rocks in the quadrangle.

Structure

Recent mapping (**Sheet 2, back pocket**) in the north half of the Deer Lodge quadrangle suggests that two thrust faults crop out along the east side of the district. The surface trace of these two thrusts is based upon repetition of the ash-flow tuff unit (Kem_{3a}) and by a general disrupted and altered appearance of the basalts (Kb) where the fault contact is basalt against basalt. Traces of the two thrusts were placed where disrupted and altered basalt is exposed in two of the saddles on the E-W-trending ridge east of the Hidden Hand mine (**Sheet 2**). Thrusting was eastward directed. The relationship between these two thrust faults and the flat-lying veins of the district is unknown; however, it is believed that these flat-laying veins may be localized along one or more thrust faults.

East-west trending, steeply dipping fissure veins such as the Black-Eyed May-Emma Darling and Swan-Paymaster (**Sheet 2**) are generally normal to the direction of thrusting and may be localized along tear faults developed at the same time as the thrust faults. Post-mineralization, high-angle faults include the NW-trending Black Rock fault and a NE-trending fault (**Sheet 2**).

Ore deposits

Two types of fissure veins, based upon structural orientation, occur in the Emery district: gently dipping or nearly flat lying and steeply dipping or nearly vertical. Robertson (1953) noted that the most important fractures for localization of ore were along . . . *low-angle reverse or thrust faults which more or less follow planes of weakness at the contact of two flows.* . . . Steeply dipping veins may be localized along tear faults related to thrust faulting. The veins identified by Robertson (1953) are shown on **Sheet 2**.

Sulfide minerals identified in the Emery district, both ore and gangue, are listed in **Table 2**. The most common sulfide minerals in specimens collected from the Emery

Table 2—List of ore and gangue minerals in the Emery district with their compositions (from Robertson, 1953; Al-Khribash, 1982).

Arsenopyrite	FeAsS
Pyrite	FeS ₂
Pyrrhotite	Fe _(1-x) S
Chalcopyrite	CuFeS ₂
Tetrahedrite	(Cu,Fe) ₁₂ Sb ₄ S ₁₃
Sphalerite	ZnS
Galena	PbS
Boulangerite	Pb ₅ Sb ₄ S ₁₁
Millerite	NiS
Quartz	SiO ₂
Calcite	CaCO ₃
Ankerite	Ca(Mg,Fe)(CO ₃) ₂
Tourmaline	Na(Mg,Fe,Li,Al) ₃ Al ₆ (Si ₆ O ₁₈)(BO ₃) ₃ (OH,F) ₄

mine dump are arsenopyrite (**Figure 5**), and galena and sphalerite (**Figure 6**). Arsenopyrite is probably the principal gold-bearing mineral in the district. Galena and sphalerite are the common ores for lead and zinc, respectively. The highest grades of silver are associated with galena and sphalerite; however, it is possible that silver is present in tetrahedrite, boulangerite and chalcopyrite which are present in lesser quantity but are closely associated with the galena and sphalerite. Millerite may have been produced by the release of nickel following hydrothermal alteration of the basalts.

Two minerals from the Emery district series of hypogene minerals, arsenopyrite and tourmaline, are normally considered high temperature in origin. The remaining sulfide minerals, with the exception of pyrite, are considered moderate to low temperature in origin. Pyrite can range from high to low temperature in origin.

Paragenesis

The majority of previous studies of the sequence of mineralization or paragenesis have indicated a single evolutionary trend to the mineralization for the Emery district. The exception is Elliot (1939) who divided the mineralization for the district into . . . *three more or less definite stages with possibly some overlapping*. The first stage was characterized by arsenopyrite, quartz and pyrite. The second stage included galena, sphalerite, chalcopyrite, tetrahedrite, quartz and boulangerite, and the third stage included ankerite, calcite and quartz.

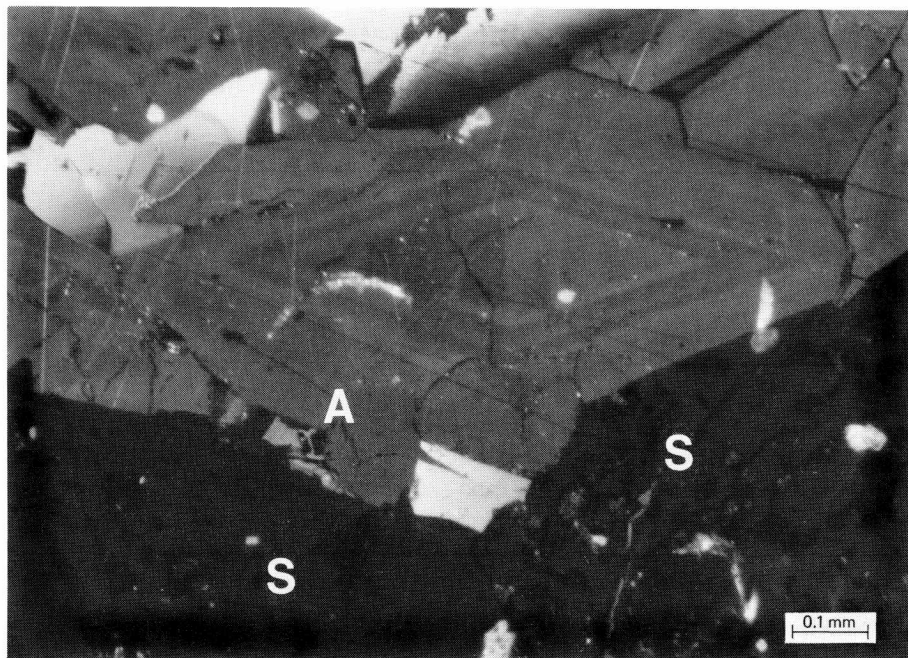


Figure 5—Distinct zoning in medium-gray arsenopyrite (A) observed only in specimens where the arsenopyrite is surrounded or near sphalerite (S). Photomicrograph of polished thin section viewed with reflected light under crossed nicols. Sample number EM 107, Emery mine.

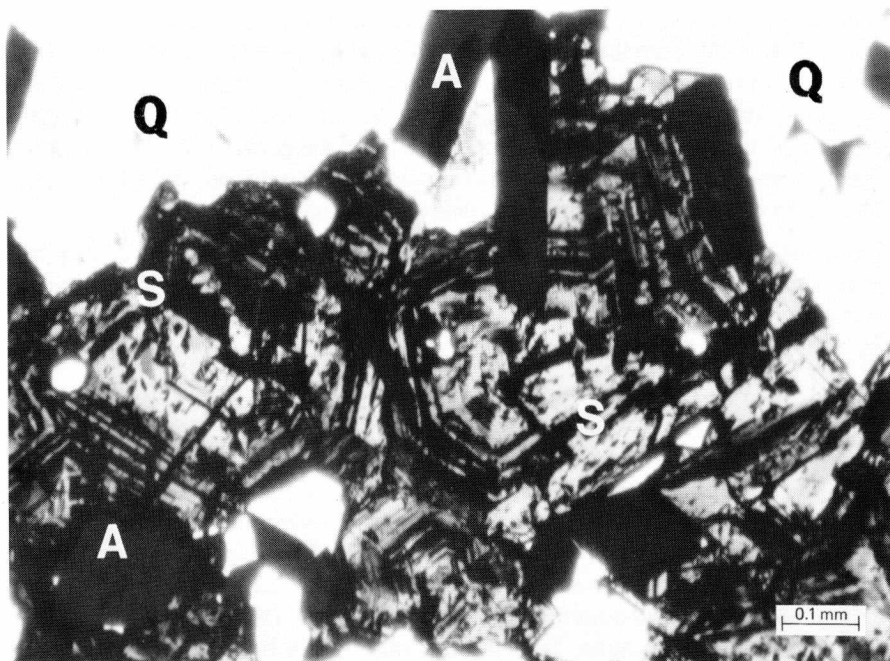


Figure 6—Sector zoning in sphalerite (S) surrounded by quartz (Q) and dark-gray grains of arsenopyrite (A). Photomicrograph of double polished thin section viewed with transmitted light. Sample number EM 107, Emery mine.

Stejer (1948) determined the following sequence of vein minerals at the Bonanza mine (from early to late):

- Quartz (*early*)
- Pyrite
- Arsenopyrite
- Galena
- Tetrahedrite
- Sphalerite
- Chalcopyrite
- Quartz (*late*)
- Ankerite

Callaway (1950) believed the paragenesis at the Bonanza was similar to Stejer's (1948) sequence except that galena was later than sphalerite. Joyce (1951) established a paragenesis similar to that of Stejer in samples from dumps at the Hidden Hand mine. Al-Khribash (1982) proposed a similar but more detailed paragenesis for the district (Figure 7), based upon examination of core from a drill hole near the Hidden Hand mine.

Reinterpretation of the paragenesis based upon observations of vein material from the Emery mine dumps, personal communication with Hiroharu Matsueda (1985) and reevaluation of descriptions and paragenetic sequences discussed above, resulted in placing the mineralization into four distinct events for the Emery district. The first stage includes a series of relatively low-temperature minerals: quartz, pyrrhotite, pyrite and

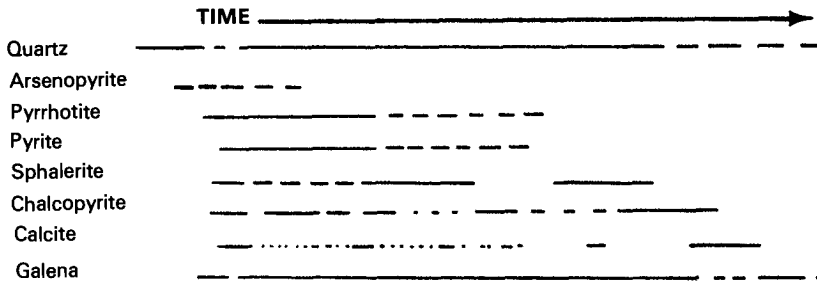


Figure 7—Paragenetic sequence established by Al-Khribash (1982) for the Emery mining district.

sphalerite. The second stage, the high-temperature suite of minerals, includes arsenopyrite, minor tourmaline and quartz. During the second stage, arsenopyrite may have incompletely replaced sphalerite from the first stage of mineralization (Figure 5). The third stage of mineralization is a low-temperature suite and includes sphalerite, galena, boulangerite, tetrahedrite and chalcopyrite. The fourth stage of mineralization was characterized by deposition of the carbonates calcite and ankerite.

An example of mineralization somewhat similar to that of the Emery district is the German Gulch deposit west of Butte. Hastings and Harrold (1985) suggest two mineralizing events at German Gulch: (1) An earlier (possibly contact) pyrrhotite and chalcopyrite event, and (2) a later pyrite, molybdenite, arsenopyrite, chalcopyrite, tellurides and gold event. An age-date of 71.8 m.y. on adularia from the German Gulch deposit (Hastings and Harrold, 1985) indicates that there is a mineralizing event associated with the Boulder batholith (generally the major part of which is 70-75 m.y. old).

The presence of arsenopyrite with gold and tourmaline in the Emery district is not unique but, rather, is characteristic of many mineral deposits within or in close proximity to the Boulder batholith (Knopf, 1913; Pardee and Schrader, 1933). Based upon the 71.8-m.y. adularia date at German Gulch and the presence of high-temperature minerals, arsenopyrite with gold plus tourmaline across the northern part of the batholith, it is suggested that a widespread arsenopyrite-tourmaline-gold mineralizing event is related to cooling of the batholith. There does not appear to be a single igneous system or event of sufficient size or magnitude to produce the widespread arsenopyrite-tourmaline-gold deposits in the region unless of course the arsenopyrite-tourmaline-gold deposits were produced during several separate igneous events. Dating of several of the arsenopyrite-tourmaline-gold deposits is necessary to test this hypothesis.

Summary

The Emery mining district is one of several gold-silver-lead-zinc producing districts associated with igneous rocks of the Boulder batholith region. The district is unique because major production has come from gently dipping veins possibly localized along thrust faults. Tourmaline and arsenopyrite associated with sphalerite and galena suggest the mineralization was produced by both high- and low-temperature hydrothermal solutions at Emery as well as at numerous other similar deposits in the region.

Recorded and estimated production of almost 7.5 million ounces (estimated through 1959, *from* Koschman and Bergandahl, 1968) or 42 percent of Montana's gold production has come from Cretaceous and younger rocks of the Boulder batholith region. Of that amount, approximately half has come from tourmaline-arsenopyrite bearing deposits. With current trends emphasizing on small- to medium-size mining ventures, the Emery district and other deposits of the Boulder batholith region are experiencing intense evaluation and exploration for additional economic gold deposits. This trend should continue as long as gold maintains its value in the world's economy.

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Appendix

Table 1—Nonfuel mineral production in Montana* (from U.S. Bureau of Mines).

Mineral	Measure	1984		1985**	
		Quantity	Value (thousands)	Quantity	Value (thousands)
Clays.....	thousand short tons	397	\$ 15,260	404	\$ 16,695
Gem stones.....		NA	450	NA	400
Gold (recoverable content of ores, etc.).....	troy ounces	181,190	65,348	184,774	60,051
Lime.....	thousand short tons	89	5,097	66	5,708
Sand and gravel (constr.).....	thousand short tons	7,776	21,269	7,900	21,700
Silver (recoverable content of ores, etc.).....	thousand troy ounces	5,653	46,018	5,250	32,550
Stone, crushed.....	thousand short tons	‡950	‡2,400	830	2,200
Combined value of barite, ce- ment, copper, graphite, gyp- sum, iron ore, lead, molybde- num, peat, phosphate rock, sand and gravel (industrial), stone (dimension), talc, and vermiculite.....		XX	93,521	XX	85,764
TOTAL		XX	\$249,363	XX	\$225,068

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

**Preliminary.

‡Estimated.

(NA), not available.

(XX), not applicable.

List 1**Major Montana Exploration Projects**

Rock Creek Project	ASARCO, Inc. T. 27 N., R. 32 W., Lincoln County Copper, silver
PGM Stillwater Joint Venture Project	Stillwater PGM Resources Chevron and Johns-Manville and Lac Resources Stillwater Complex Stillwater and Sweet Grass counties Platinum-group metals

List 2

Supplemental List of Mining Enterprises

This list includes mining enterprises that have been inactive up to three years, or have not returned questionnaires. The abbreviations used to describe their former status are: (I), inactive; (U), unknown.

BEAVERHEAD COUNTY

Calvert mine	I	1983
Cleve-Avon and Franklin mine	I	1984
Comet group	I	1983
Ferdinard mine	I	1985
Ground Hog mine	I	1983
Last Chance mine	U	1983
Lost Creek mine	I	1984
Mayday mine	I	1985
Sylvia and Sylvia Extension	I	1985

CARBON COUNTY

Brophy No. 2 mine	I	1983
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CASCADE COUNTY

Spoofers mine	I	1983
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DAWSON COUNTY

Peuse mine	I	1985
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FERGUS COUNTY

Lewistown pit	U	1983
Republic mine	I	1985

GRANITE COUNTY

Cadgie-Taylor mine	I	1984
Lycoming mine	I	1984
Queen mine	U	1985

JEFFERSON COUNTY

Big Major mine	I	1983
Columbia mine	I	1984
Meadow mine	I	1985
Rhoades mine	U	1983
Skookum placer	U	1984
Tourmaline Queen mine	I	1985

MADISON COUNTY

Dividend mine	I	1985
Morning Star mine	I	1985
Short Shift mine	I	1985

MEAGHER COUNTY

Loggers Dream	U	1985
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MINERAL COUNTY

Snowbird mine	U	1985
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MISSOULA COUNTY

Wallace Creek Custom Mill	I	1985
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PARK COUNTY

Barbara Ann mine	U	1985
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POWELL COUNTY

Monarch mine	U	1985
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SANDERS COUNTY

Lucky Lady mine	U	1985
Montro mine	I	1985
Red Fir (Amazon) mine	U	1983

SILVER BOW COUNTY

Kelley mine	I	1984
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TOOLE COUNTY

Gold Butte placer	I	1984
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VALLEY COUNTY

Glasgow works	I	1983
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List 3

Mining Districts

Beaverhead Co., 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)
(Glendale)
11. Chinatown
(Armstead)
12. Dillon
(Carter Creek)
(Frying Pan Basin)
13. Elkhorn
(Coolidge)
(Wise River)
14. Horse Prairie
15. Jake Creek
16. Lost Creek
(Brown's Lake)
(Rock Creek)
17. Medicine Lodge
18. Monida
19. Mount Torrey
20. Niccolia
21. Nogo
(Apex)
22. Pioneer
23. Polaris
(Lost Cloud)
24. Ruby
25. Saginaw
(Jackson)
26. Utopia
(Birch Creek)
27. Vipond Park
28. Wisdom
(Big Hole)

Blaine Co., A-8

29. Bearpaw Mountain

Broadwater Co., C-5

30. Confederate Gulch
(Backer)
(Canton)
(Diamond City)
31. Deep Creek
32. Hellgate

33. Lone Mountain

34. Maggie Gulch
35. Park
(Hassel)
(Indian Creek)
(Townsend)
36. Radersburg
(Cedar Plains)
37. Winston
(Beaver Creek)

Carbon Co., D-7

38. Clark Fork
39. Hellroaring
40. Silver Run

Cascade Co., B-5

41. Neihart
(Montana)

Deer Lodge Co., 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 Co., B-7

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

Flathead Co., A-2

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

Gallatin Co., D-5

55. Eldridge
56. West Gallatin
(Spring Hill)

Granite Co., C-3

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

Jefferson Co., 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 Co., B-6

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

Lake Co., B-2

93. Elmo
(Chief Cliff)

Lewis and Clark Co., B-4

94. Austin
(Greenhorn)
95. Blue Cloud
96. Gould-Stemple
(Fool Hen)
(Poorman)
97. Heddleston
(Blackfoot)
(Silver)
98. Helena
(Last Chance)
(Springhill)
(Unionville)
(Owyhee)
99. Lincoln
(McClellan Gulch)
(Seven-up Pete Gulch)
(Keep Cool Creek)
(Liverpool Creek)
(Stonewall Mountain)
100. Marysville
(Bald Butte)
(Ottawa)
101. Missouri River
102. Ophir
103. Rimini
(Vaughn)
(Bear Gulch)
104. Scratchgravel Hills
(Grass Valley)
105. Wolf Creek
(Gladstone)
106. York

Lincoln Co., A-1

107. Cabinet
(Fish River)
108. Libby
(Snowshoe)
109. Rainy Creek
110. Sylvanite
111. Tobacco River

List 3—Mining Districts (*continued*)

112. Troy
(Grouse Mountain)
(Calahan)
113. Wolf Creek
- Madison Co., D-5**
114. Bismark
(Wilmah)
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)
(Ramshorn)
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 Co., C-6**
131. Beaver Creek
(Elk Creek)
(Thompson Creek)
132. Castle Mountains
133. Murray
(Battle Creek)
134. Musselshell
(Copperopolis)
- Mineral Co., 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)
- Missoula Co., C-3**
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 Co., D-6**
149. Cowles
(Haystack)
150. Crevasse
151. Emigrant
(Chico)
152. Horseshoe
153. Jardine
(Bear Gulch)
(Sheepcater)
154. New World
(Cooke City)
(Blackmore)
- Phillips Co., A-9**
155. Little Rockies
(Landusky)
(Zortman)
- Powell Co., C-4**
156. Big Blackfoot
(Helmville)
157. Elliston
(Ontario)
(Nigger Hill)
158. Emery
(Zosell)
159. Finn
(Washington)
(Jefferson and
Buffalo Gulches)
160. Garrison
161. Ophir
(Snowshoe)
(Deadwood)
162. Oro Fino
163. Pioneer
(Gold Creek)
164. Racetrack
(Danielsville)
- Ravalli Co., C-2**
165. Curlew
166. Hughes Creek
(Alta)
(Overwich)
167. Mineral Point
168. Pleasant View
169. Slate Creek
170. Three Mile
- Sanders Co., B-1**
171. Blue Creek
(Heron)
172. Camas Prairie
(Perma)
173. Plains
174. Prospect Creek
175. Revais Creek
(Dixon)
176. Sleepy Creek
(Belknap)
177. Silver Butte
(Vermillion)
(Cabinet)
178. Spring Gulch
179. Thompson River
180. Trout Creek
181. White Pine
(Eagle)
- Silver Bow Co., D-4**
182. Basin Creek
183. Butte
(Summit Valley)
(Lost Child)
184. Divide Creek
185. Fleece Mountain
(Siberia)
186. German Gulch
(Siberia)
187. Highland
188. Independence
189. Melrose
(Camp Creek)
(Soap Gulch)
190. Moose Creek
- Stillwater Co., D-7**
191. Nye
192. Stillwater
193. Yellowstone River
- Sweet Grass Co., D-6**
194. Big Timber Canyon
195. Boulder River
196. Independence
197. Natural Bridge
198. West Stillwater
- Toole Co., A-5**
199. Gold Butte
200. West Butte

List 4

Strippable Subbituminous and Lignite Coal Fields

No. on map	Name of field	Coal bed	Est. reserves in millions of tons	Acreage	Average tons/acre	Ash*	Sulfur*	Btu*
1C	Decker	Anderson-Dietz 1 & 2	2,239.99	25,523	87,763	4.0	.40	9,652
2C	Deer Creek	Anderson-Dietz 1 & 2	495.65	14,214	35,397	4.0	.50	9,282
3C	Roland	Roland	218.04	12,076	18,055	9.2	.74	8,164
4C	Squirrel	Roland	133.41	6,208	21,490	5.5	.29	7,723
5C	Kirby	Anderson	216.52	5,655	38,285	4.2	.32	8,328
		Wall	473.69	5,952	79,579			
		Dietz	834.35	17,516	47,630	5.8	.59	8,509
		Canyon	158.53	4,066	38,983	5.8	.24	8,789
6C	Canyon	Wall	1,884.25	23,859	78,974	4.6	.30	9,088
		Brewster-Arnold	65.86	2,067	31,859	7.5	.40	8,444
7C	Birney	Brewster-Arnold	180.55	6,969	25,905	5.1	.41	9,055
8C	Poker Jim Lookout	Anderson-Dietz	872.65	19,609	44,501	5.2	.37	7,925
9C	Hanging Woman Creek	Anderson	1,583.29	30,547	51,830	4.9	.29	8,496
		Dietz	1,120.96	43,654	25,678	5.5	.33	8,078
10C	West Moorhead	Anderson	883.74	19,660	44,949	5.3	.36	8,296
		Dietz	397.49	20,416	19,469	4.1	.41	7,990
		Canyon	690.19	22,547	30,611	5.6	.45	8,055
11C	Poker Jim O'Dell	Knobloch	373.29	7,890	47,311	5.1	.22	8,846
		Knobloch	564.78	7,187	78,581			
12C	Otter Creek	Knobloch	2,075.55	25,791	80,475	4.7	.36	8,468
13C	Ashland	Knobloch	2,696.20	27,200	99,125	4.8	.15	8,421
		Sawyer A & C	357.49	20,262	17,643	4.9	.49	7,883
14C	Colstrip	Rosebud	1,439.26	33,379	43,118	9.5	.12	8,836
15C	Pumpkin Creek	Sawyer	2,426.50	45,695	53,102	7.5	.34	7,438
16C	Foster Creek	Knobloch	708.13	27,801	25,470	7.8	.76	7,573
		Terret	460.87	27,462	16,782	5.8	.21	7,770
		Flowers-Goodale	258.90	14,444	17,924	7.8	.51	7,553
17C	Broadus	Broadus	739.82	18,429	40,142	7.2	.27	7,437
18C	East Moorhead	T	525.21	15,559	33,756	6.2	.57	7,120
19C	Diamond Butte	Canyon	418.02	21,363	19,566	4.8	.43	7,330
20C	Goodspeed Butte	Cook	628.95	13,446	46,775	10.6	1.63	6,771
21C	Fire Gulch	Pawnee & Cook	336.69	8,486	39,674	3.8	.33	7,739
22C	Sweeney-Snyder	Terret	326.33	10,921	29,880	9.1	.11	8,175
23C	Yager Butte	Elk & Dunning	1,175.86	26,924	43,673	4.8	.33	7,646
		Cook	312.02	14,507	21,507	6.7	.63	7,254
24C	Threemile Buttes	Canyon & Ferry	225.40	13,836	16,289	5.5	.94	6,867
25C	Sonnette	Pawnee	320.25	8,224	38,940	9.8	.88	6,964
		Cook	362.98	10,470	34,668	8.1	1.23	6,891
26C	Home Creek Butte	Canyon & Ferry	217.21	4,851	44,774			
27C	Little Pumpkin Creek	Sawyer A & C, D, X & E	215.83	8,534	25,290			
28C	Sand Creek	Knobloch	267.34	5,952	44,915	6.6	.30	7,340
29C	Beaver-Liscom	Flowers-Goodale & Terret	135.87	8,851	15,350	8.1	.96	8,102
		Knobloch	491.62	17,075	28,791	7.7	.50	8,027
30C	Greenleaf-Miller Creek	Rosebud, Knobloch and Sawyer	453.71	14,918	30,413	7.5	.71	8,422
31C	Pine Hills	Dominy	193.87	6,022	32,191	7.2	.53	7,293
32C	Knowlton	Dominy (M & L)	747.51	19,613	38,112	7.1	.41	6,710
		Dominy (U)	120.31	4,448	27,048	5.6	.38	6,645
33C	Sarpy Creek	Rosebud-McKay	1,500.00	42,373	35,400	6.5	.50	8,600
34C	Cheyenne Meadows	Knobloch	1,200.00	13,560	88,500	4.1	.40	8,400
35C	Little Wolf	Rosebud-McKay	314.00	7,411	42,370			
36C	Jeans Fork		90.00	3,100	23,685			
37C	Wolf Mountains		1,922.00	31,000	62,000			
38C	Lame Jones	Dominy	150.00	10,593	14,160			6,020
39C	Lamesteer	Harmon(?)	35.00	1,978	17,700			6,332
40C	Wibaux	C	643.00	18,518	34,720	7.9	.90	6,050
41C	Little Beaver	C	134.00	8,445	15,865			
42C	Four Buttes	C	91.00	5,180	17,570			6,140
43C	Hodges		10.00	807	12,390			
44C	Griffith Creek		10.00	568	17,700			
45C	Smith-Dry Creek	G	150.00	8,475	17,700			
46C	O'Brian-Alkalie Creek		150.00	8,475	17,700			
47C	Breezy Flat	Pust	200.00	7,062	30,090	6.7	.50	6,660
48C	Burns Creek	Pust	200.00	7,062	30,090			
49C	N. F. Thirteen Mile Creek	Pust	225.00	5,085	44,250			6,880
50C	Fox Lake	Pust	46.00	2,166	21,240			6,880
51C	Lane	Lane	561.00	44,582	12,390			7,150
52C	Carroll	Carroll	345.00	29,780	11,584	5.5	.30	7,400

List 4—Strippable Subbituminous and Lignite Coal Fields (*continued*)

No. on map	Name of field	Coal bed	Est. reserves in millions of tons	Acreage	Average tons/acre	Ash*	Sulfur*	Btu*
53C	Redwater River	S	642.00	24,181	26,550	6.1	.40	7,400
54C	Weldon-Timber Creek	S	724.00	25,565	28,320			7,660
55C	Fort Kipp	Ft. Kipp-Ft. Peck	331.00	14,500	22,830	4.6	.20	6,110
56C	Lanark	Lanark	100.00	3,531	12,390	6.3	.40	6,853
57C	Medicine Lake		58.00	3,740	15,510	7.2	1.00	6,870
58C	Reserve		246.00	18,231	13,495	7.6	.40	6,599
59C	Coal Ridge	Coal Ridge	150.00	19,200	17,700	7.5	.40	5,830
60C	Carpenter Creek	Carpenter	50.00	3,211	14,015	6.5	.40	9,270
61C	Charter	Mammoth	60.00	3,210	17,700	6.0	.90	10,190
62C	Little Sheep Mountain	A&C	200.00	10,272	19,470			
TOTAL			42,561.93	1,152,640				

*"As received" basis. Where more than one sample available, average figures are given. (Robert E. Matson, pers. commun., 1973.)

List 5

New Mining Companies Incorporated in Montana in 1985.

AMMEX INC.

Maria Stephens
310 Monroe, Billings MT 59101

ARIES RESOURCES INC.

Gregory Black
49 N. Main, Butte MT 59701

B.G.C. RESOURCES, INC.

Gary G. Broeder
805 First Bank Bldg., Billings MT 59101

BACCARAT DEVELOPMENT CORP.

C. T. Corporation System
406 Fuller Ave., Box 1166, Helena MT 59624

BASS EXPLORATION AND PRODUCTION, INC.

J. L. Bass
Shearton Plaza, 18th F1, 27 N 27 Street,
Box 21815, Billings MT 59104

BAYOU RESOURCES, INC.

1209 Orange Street, Wilmington DE 19081

BEAR PAW MINERAL, INC.

John C. Schwary
10440 Highway #2 E. Havre MT 59501

BROOKS EXPLORATION INC.

C. T. Corporation System
406 Fuller, Box 1066, Helena MT 59624

COPPER CREEK MINING AND MILLING, INC.

Edon Dean Adair
913 Mahoney Road, Libby MT 59923

FAIRWAY RESOURCES, INC.

C. T. Corporation
406 Fuller, Box 1066, Helena MT 59624

GETTY NEW COAL CO.

Prentice-Hall Corporation System
Box 604, Helena MT 59624

G. L. C. EXPLORATION CO., INC.

C. T. Corporation System
406 Fuller, Box 1066, Helena MT 59624

HALLMARK PROPERTIES, INC.

Michael E. Gaudin
2400 Highway 93, Victor MT 59875

JOLLY ROGER MINING COMPANY

Gregory A. Jackson
Suite 4-F, Power Black Bldg., Helena MT 59601

LEACO MINES, INC.

Ian Hendrickson
104 Broadway, Suite 1, Helena MT 59601

NORTHERN DEVELOPMENT CORPORATION

Allen Coomber
1401 Central Ave., Billings MT 59102

OUTCROP

George M. Mungas
Philipsburg MT 59858

RELYEA MINES, INC.

M. Kermit Daniels
Box 670, Deer Lodge MT 59722

**SWEETWATER DRILLING AND EXPLORATION
COMANY**

Ted Williams
2224 Elm, Box 123, Billings MT 59103

TRI-NEP VENTURES, INC.

James O. Nepstad
140 Arrowhead Trail, Bozeman MT 59715

VICTORY MINING CO.

Robert Decker
Box 583, Sheridan MT 59749

WHJ EXPLORATION COMPANY

C. T. Corporation
406 Fullerton Ave., Box 1166, Helena MT 59624

WOODEN NICKEL MINING CORP.

John A. Brownell
3767 Blackwood Road, Bozeman MT 59715

Index of Mines, Mine Owners and Operators

(Mines in Supplemental List [page 45] not included in this Index.)

Abbott, G. S.	5	Beaver, Raymond L.	8
Abbott, Harry.	5	Beaverhead mine.	25
Absaloka mine.	26	Belmont.	9
Acme group.	14	Belue, Travis.	12
Adam and Eve No. 1 and No. 2.	25	Belus, Martin L.	1
Adams, Owen.	2	Beniger, F.	3
Ajax Gold, Inc.	1	Bennett, Carroll R.	4
Ajax mine.	1	Berg, Carl.	12
Aladdin Group.	13	Berkeley pit.	16
Aladdin Mining Co.	13	Bessie and Golden Wave mine.	10
Alameda-Wakoosta mine.	10	Betlach, Roy A.	21
Alexander, June.	22	Big Horn Calcium Co.	23
Aljon Mining and Exploration, Inc.	15	Big Horn Limestone Co.	23
Allen, Harvey.	2, 7 12	Big Mary mine.	7
Alpine Placer.	19	Big Nugget.	12, 20
AM Mining and Development Co.	5	Big Sky mine.	27
Amanda mine.	15	Big Sky placer.	21
AMAX and Gulf Titanium.	9	Big Willow No. 1 and No. 2.	25
Amex Exploration, Inc.	8	Bigler group.	12
Amazon-Dixie mine.	12	Billern Corp.	7
Amazon-Dixie Mining Co.	12	Bingham, Jack.	10
AMCO Minerals.	9, 19	Black Bull mine.	5
American Colloid Co.	22	Black Butte mine.	17
American Colloid pit.	22	Black Canyon placers.	19
Anaconda Minerals Co.	16, 22	Black Diamond Graphite Co.	23
Anderson, Richard.	10	Black Diamond group.	23
Anliker, Mary C.	20	Black Pine mine.	6
Anthony, G. W.	16	Black Pine Mining Co.	6
Antler Mining Co. pit.	22	Blue Bird mine.	6
Antonioli, Della A.	4	Blue Jay placer.	19
Arpan, Joe, Mrs.	20	Bluebell group.	2
ASARCO, Inc.	10	Bodle, Albert.	20
Atlantic Pacific mine.	10	Bonanza group (Fergus Co.)	5
Aurum, Inc.	6	Bonanza group (Mineral Co.)	13, 22
B & H (Pete & Joe) group.	10	Bonnet, Les.	13
Babbit mine.	1	Borland, R.	17
Babe #1.	16	Boss Tweed and Clipper Group.	10
Badger No. 1 and No. 2 mines.	10	Boulder Chief mine.	7
Bailey, Ed.	16	Box, Fred, Estate.	10
Balkovatz, Joe.	6	Box, Oleta C.	10
Ballard, Al.	19	Boyce, Stanley L.	7
Ballard Mining Corp.	19	Bozles, Raymond.	6
Bannack #1 Placer.	18	Brady, J. V.	2
Bar group.	14	Brandems, Esther (Mrs.)	7
Barry Dean mine.	15	Brownell, John.	12
Basin Jib group.	7	Bubany placer.	19
Basin quartz quarry.	24	Buck, Dorothy.	11
Bauska, Jack.	5	Bullock, Delbert.	7
Bauska, L. O.	5	Bullock, Harry C.	24
Bay Chief mine.	16	Bullock, John.	7
Bayles Estate.	4	Burchak, A. J.	12
Bayles, Robert S.	4, 18	Burgierosa Mine.	1
		Burgierosa Silver Mines, Inc.	1

Burlington Northern, Inc.	25	Counts, John H., Jr.	14
Burnham, D. C., and others	5	Counts, Silase	14
Burnham, Dean C.	5	Counts, Steven J.	14
Burns, Larry	19	Craig, H. C., and Co.	21
Buster mine	1	Cripe, Donald C.	9, 19
Butte Water Co.	21	Cripe, Marie O.	9, 19
Byam, Charles	6	Croff, G. A., and others	8
Byam, Frenette	6	Croff and Montague	8
		Cross mine	3
C & H Company	20	Crown Silver group	13
Cableway group	9	Crown Silver Mining Co.	13
Cain, Clinton A.	12	Crus, W. T., Mining Co.	9
Calico clay pit	22	Crystal mine	7
Camp Robber placer	19	CSC of Montana, Inc.	1
Canyon Creek quarry	24	Cullen, Bill	3
Cardwell pit	24	Cumberland Mining Co., Inc.	7, 10
Castelli, R. J.	23	Custer mine	3
Carver, Herb	3	Cutbirth, Don	26
Centennial Minerals Inc.	8	Cyprus Industrial Minerals	25
Champion B. mine	4		
Char Tam mine	2	Dale Bros.	12
Charcoal group	13	Dale, Richard T.	27
Chinese Diggings	19	Day and Harvey group	16
Choteau project	17	Dearcorn, Dave	26
Clark Gulch Quarry	23	deBarathy, Sidney A.	16
Clary, Jack	11	Decker Coal Co.	26
Clary, Jean	11	Decker, Frida	10
Clay Lewis placer	20	Decker, Robert, Sr.	10
Clendennin group	8	Denimil Resources (U.S.) Inc.	10
Clopton, Earl	10	Dert Gulck Mine	9
Coal Creek mine	26	DeSpain, Ivan	6
Coal Creek Mining Co.	26	DeSpain, Robert	6
Coates, Florence, and others	2	DeSpain, Shirley	6
Cobben, Bob	3	DeValle, Claude	20
CoCa Mines, Inc.	6	Diamond Hill mine	3
Coleman, Sam	20	Dickey, C. A.	7
Colerate Minerals Inc.	5	Dionne, A. J.	18
Coloma mine	22	Ditto, A. H.	14
Colson, J.	16	Dixon, Dorothy E.	15
Comet group	7	Dixon, James R.	15
Cominco American, Inc.	23	Doggett, L. W.	3
Cone, Lucinda	13	Dolly Quartz (New Seattle) mine	6
Constellation deposit	25	Dominic group	1
Construction Products Division	25	Don-A-Vera and Jayhill group	10
Contact Mining Co.	6	Donegan, Sylvan, Jr.	22
Contact Mining Custom Mill	6	Durden Construction	14
Continental Lime, Inc.	23		
Continental Lime Inc. plant	23	Eagle Black group	10
Cop Construction	14	Eagle Rock group	24
Copper Elk group	5	Eagle Rock Mining Co., Inc.	24
Copper group	14	Earl, F. N.	6
Copper King group	14	Earthsearch, Inc.	17
Copper King Mining Co.	14	East Berkeley pit	16
Corkill, Marvin E.	4	East Coeur d'Alene silver mine	13
Coster, Tom	8	East Coeur d'Alene Silver Mines, Inc.	13
Cougau	5	East Decker mine	26
Counts, J. H.	14	East Pacific mine	3

East Pacific Mining Co.	3	Gold Reserve Corp.	15
East Ridge group.	7	Gold Ridge Mining Co.	11
Edna mine.	3	Golden Curry (Sourdough) mine.	7
Eimarsen, Charles A.	5	Golden Dawn mine.	1
El Dorado Bar Sapphire mine.	24	Golden Grizzly group.	14
El Dorado Inc.	24	Golden Jubilee Corp.	6
Elk Creek mine.	22	Golden Jubilee mine.	6
Elkhorn group.	17	Golden Maple Mining & Leaching Co.	5
Elkhorn Mining Co.	18	Golden Sunlight group.	7
Elkhorn-Tiger Group and Guy Claim.	1	Golden Sunlight Mines, Inc.	7
Elliston Consolidated group.	15	Golden West mine.	9
Elliston Consolidated Mining Co.	15	Goldsil Mining and Milling, Inc.	9
Elm No. 6.	18	Goldstream Corp.	10
Emery mine.	15	Goose Lake group.	14
Emma mine.	16	Grace, W. R., and Co.	25
Engh, Palmer (Mrs.)	3	Granite Hill No. 1 and No. 2.	3
Ericksmoen, Bill.	9	Grass Hopper claims No. 1.	1
Erickson, Pete.	15	Grasshopper mine.	2
Ermont mines.	1	Grayhall Resources, Inc.	5
Evans, Margaret (Mrs.)	7	Gray Rock mine.	9
		Great Eastern mine.	4
F. D. placer.	20	Green Campbell mine.	10
Faithful Lode.	1	Green, William R.	16
Federal Reserve group.	5	Grey Eagle Group.	7
Fields, Gary N.	10	Grubstake mine.	11
Flint Range Minerals, Inc.	6	Guay, George.	11
Florence group.	7	Gwynn, Thomas.	19
Florence and Queen mine.	4		
Fontaine, Del.	13	Hallett Minerals Co.	17
Forbes, W. G.	10,25,26	Hand group.	2
Forkner, Jim.	3	Hand, William M.	2, 18
Four V's claims.	24	Hanley, Jerry.	5
Fourth Estate mine.	16,22	Hanley, Selma, and others.	5
Free Enterprise Uranium-Radon mine.	18	Hanneman, Gerald A.	11
French Bar placer.	19,24	Hansen, Charles.	9
French Bar underwater section.	19,24	Hanson Properties, Inc.	2
Frida Marie group.	10	Hanson, R. A., Mining Co.	2
Frostbite deposit.	22	Hard Cash mine.	3
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		Harrison, Stan.	16
Gardner, J. F.	16	Harry Howard group.	19
Gem Mountain Sapphire.	24	Hatton, Clifford.	15
Gem Mountain Sapphire mine.	24	Hatton, Clifford, and others.	15
George, Richard K.	12	Hawkeye placer.	19
Gildersleeve, Fern.	22	Heaney, Ethel C.	6
Gildersleeve, G. M.	13	Heaney Paul.	6
Gildersleeve, George.	20,22	Hecla Mining Co.	4, 14
Gilliam vermiculite deposit.	26	Heidelberg mine.	16
Gilt Edge.	5	Heidelberg Mining.	16
Giltedge Corp.	5	Heinrich, Raymond J.	20
Giulio, Harold J.	8	Helburn, Mary.	12
Gladstone Crushing & Construction, Inc.	7	Helburn, Steve.	12
Glenam claim.	10	Helehan, Tom.	16,22
Glittering Hill mine.	6	Hemphill Bros., Inc.	24
Gloria Alice placer.	21	Henderson group.	14
Gold Nugget placer claims.	18	Hendricks, Tracy.	27
Gold Ranch Mining Corp.	10		

Herman, Russ	10	Kenelty mine	21
Herrigg Creek Mining Co., Inc. group	5	Kennedy, Donald	25
Hess, T. R.	24	Kennett-Bertha mine	11
High Hope mine	11	Kennett Gold Corp.	11
Highland placer	21	Kephart, Reid	11
Highridge mine	11	Keyhold group	11
Higinbotham, L. L.	19	Kiewit Mining and Engineering Co.	19,26
Hill, Jim	23	King, Hugh G.	13
Hill, W. Ray	12	Klondike Ore #1	21
Hines, Evelyn	11	Knife River Coal Co.	26
Hoekema, Roy	2	Knife River Coal Mining Co.	26
Hog Heaven project	6	Knowlson, Jim	7, 10
Holmes, Don	2,3,4	Koenig, Chris	18
Holter, Del	13	Kokoruda, C.	3
Hope and Bullion group	7	Kolberg, Arnold J.	3
Hope group (Granite Co.)	6	Kolberg Eureka Lead No. 1	3
Hope group (Park Co.)	14	Kolberg mill	3
Huckaba, Ralph	7,8,14	Kralicek, George	7
Hughes Mining Co., Inc.	11	Lamplighter group	2
Hughes, Rick	11	Landusky	15
Humbolt mine	7	Landusky Mining Co.	15
Humdinger group	9	Langdon, W. S.	24
Hungry Hollow placer	20	Langstaff, Kenneth	1,2
Ida A. placer	20	LaRock, Larry	9
Ideal Basic Industries	23	Last Chance group (Beaverhead Co.)	2
Independent mine	9	Last Chance mine (Silver Bow Co.)	16
Indian Creek, Inc.	18	Lawrence, John C.	1,20
Indian Creek placer	18	LBJ, Pic and Per groups	15
Infinite group	7	Lease, Judith, Joint Venture	5
Inspiration Consolidated Copper Co.	6	Leatham, L. S.	10
Intergem, Inc.	24	Leber, J.	7
Iron Age group	3	Leber Mining Co.	7
Jack Rabbit mine	11	Ledbetter, John C.	13
Jackson, Elena	21	LeFever, Jeff.	2,3,4
Jackson, R. P.	21	Lenling, Lawrence, and others	5
Janney Construction Co., Inc.	25	Lewis, Clay	20
Janstan group	16	Lewis, Wade V.	18
Jay Dee No. 3	5	Liberty mine	8
Jenkins, Don L.	2,17	Lindquist, Enard	15
Johnny Gulch Talc mine	25	Lindquist, Lester	7,8
Johnson, Don	21	Little Anaconda group	13
Johnson, Gwendlyn Couch, and others	3	Little Giant	3
Johnson-Reid Corp.	11	Lively Mining Co.	11,21
Kady Gulch group	7	Lively Mining, Inc.	1
Kaiser Cement Corp.	23	Lively's, Inc.	16
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Kannegaard, Charles L.	13	Livingston Marble and Granite Works	25
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Kanta pit	24	Lord, Nettie	4
Kanta Products, Inc.	24	Lost Gulch placer	20
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Keller, Esther	13	Lucky Jim Beam group mine	21
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		Lykins, Betty	1
		Lynn, Paul L.	19

Lynn, R. L.	19	Montana Barite Co.	21, 22
Lynn, Robert L.	8	Montana Gold and Sapphires, Inc.	19, 24
MacDonald, Dan A.	1	Montana Minerals Browns Gulch placer ...	19
Mackeg placer	21	Montana Precision Mining, Ltd.	15
Madden group	11	Montana, State of.	19, 24
Mader, MacDonald M., II.	19, 24	Montana Tunnel group.	8
Mæhl, Grace	6	Monte Christo mine	9
Maehl, James E.	6	Monte Clark group	16
Magdalena group	8	Montgomery and San Miguel mine	8
Maginnis mine	5	Moonlight mine	16
Magnetite group	14	Morbeck, Frank A.	13
Magnus, John	11	Morgan Enterprises, Inc.	4
Maloney, Goldie S.	25	Morgan James M.	4
Maloney, Goldie S., and others	25	Morgan, Mike	4
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Mammoth mine	11	Mortensen, Steve	12
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Maples and Bridgton group.	3	Moulton mine.	4
Maronick Construction Co., Inc.	23	Mountain Queen mine	8
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Martin's Peat, Inc.	24	Mulcahy, William, Estate	8
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Marysville project.	9	Myranda claim.	5
Maycumber, Guy E.	8, 9	National Vermiculite Corp.	26
McBride, G. V. R. (Mrs.)	8	Negros mine	15
McBride, G. V. R. (Mrs.), and others	8	Nellie Bly group	11
McCabe, Mary L.	6	Nelson Associates	2
McClellan quarry	23	Nelson, E. E.	2
McDaniel, Copper group	12	NERCO, Inc.	26
McDaniel, Duane	12	Nethercott, Rockie	9
McElligett, Stanley, Family	20	Nevin, Barbara	22
McGuire, Kenneth	12	Nevin, Robert C.	22
McLaughlin, Dan	6	New Seattle (Dolly Quartz) mine	6
McLaughlin, Jim	11	New Valley Forge mine	9
McMaster, James	19, 24	New Winnetka group	11
McQuarrie quarry	25	New World project	14
McVeda, Glenn	5	Newman, Dave R.	15
McVeda, William	5	Nicar Mineral Ventures	25
Meadow Creek placer	20	Nicar Ventures	25
Medalion Minerals	9	Nielsen, D. C.	6
Meged Bros.	26	Nine Mile mine	13
Midnite Mines, Inc.	2	Nine Mile Mines, Inc.	13
Miller, Dennis	3	Nine Mile placer	20
Miller, Ken	12, 20	Nolte, Robert	22
Miller, Mary Ann	3, 4	North Pole mine	15
Minerals Inc.	5	Northern Mining Co., Inc.	10
Mines Management Inc.	16	Norwegian placer	19
Mine-X, Inc.	25, 26	Noxon Project	16
Minnick, Charles	13	Nugget mine.	13
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Oro Placer Group	18	Romerio, A. K. (Mrs.)	7
Overland Gold Corporation	1	Romerio Co.	7
P. G. Mine	19	Rosebud mine	27
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Pacific Power and Light Co.	26	Ruby Gulch mine	15
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Pearl group	11	St. John group	11
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Pete & Joe (B & H) group	10	Sata Maira Rainbow group	2
Peterson, A. B.	20	Savage mine	26
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Radersburg Mining Co.	3	Sills, Virgil C.	3
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Reichel, A. E., Estate	19	Silver Crown Mines, Inc.	12
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Rife, John	5	SK Ventures, Inc.	18
Rivers Creek mine	13	Sky mine (Broadwater Co.)	4
Roberts, Ann	4	Sky mine (Lewis and Clark Co.)	9
Roberts, Ted	4	Slames, Fred D.	20
		Slim Sam group	4

Smith, Al	21	Troy unit	10
Smith, Arnold	5	Twilight group	9
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Star Meadow Mining, Inc.	6		
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Stauffer Chemical Co.	24	Valley View mine (Broadwater Co.)	4
Steel Brothers Canada	23	Valley View mines (Madison Co.)	12
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Stemwinder placer	20	Vengence Mine Corp.	13
Stillwater River placer	21	Viking Exploration, Inc.	5
Stoick, James J.	18	Violet group	15, 17
Stolen Sweets mine	4	Virginia Gulch mine	2
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Storm King pit	26	Von Bretz, L.	26
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Back Pocket

Sheet 1—Map showing distribution of mining districts and strippable coal fields in Montana.

Sheet 2—Geologic map of the Emery mining district.

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