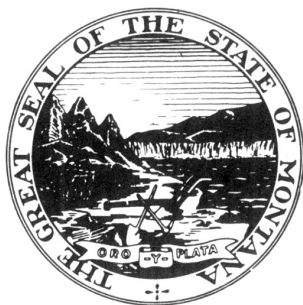


**M
B
M
G**



**DIRECTORY OF
MONTANA
MINING
ENTERPRISES
FOR 1988**

compiled by
Robin McCulloch

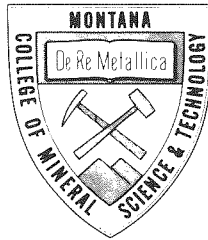


Bulletin 128

1989

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

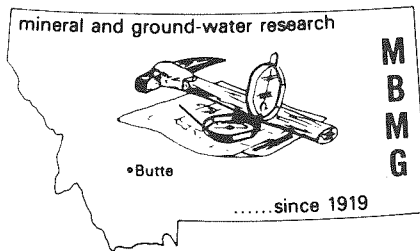
Bulletin 128



**DIRECTORY OF MONTANA
MINING ENTERPRISES
FOR 1988**

compiled by
Robin McCulloch

with a section on
**Gold placers: A signature for lode-gold deposits
in Montana**



1989

Contents

PREFACE	iii
FOREWORD	iv
PART I—METAL MINES	1
Antimony	1
Platinum, Gold, silver, copper, lead, zinc	1
Iron	13
Molybdenum	13
Titanium	13
Tungsten	14
Uranium	14
Placer	14
PART 2—NONMETAL MINES, PITS AND QUARRIES	18
Barite	18
Chlorite	18
Clay	18
Fluorspar	18
Graphite	18
Limestone	18
Phosphate	19
Sapphire	19
Semiprecious stones	20
Silica	20
Soil conditioners	20
Stone	20
Talc	20
Vermiculite	21
PART 3—COAL MINES	21
MINE INSPECTION LAW	23
GOLD PLACERS: A SIGNATURE FOR LODE-GOLD DEPOSITS IN MONTANA	25
APPENDIX	35
Table 1—Nonfuel mineral production in Montana	35
List 1—Major Montana exploration projects	36
List 2—Mining districts	38
List 3—Strippable subbituminous and lignite coal fields	40
List 4—New mining companies incorporated in Montana	42
INDEX	44
SHEET	
Distribution of mining districts and strippable coal fields in Montana	(back pocket)

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 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 his contribution to the Directory, special acknowledgement is due W. L. Rice, U.S. Bureau of Mines, who provided the *Foreword* on the mineral industry of Montana in 1988.

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

The abbreviations and symbols used in 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.

Robin McCulloch
Staff Field Agent
Montana Bureau of Mines and Geology

Butte
February 20, 1989

Foreword

The mineral industry of Montana in 1988

The estimated value of nonfuel mineral production for Montana in 1988 rose to nearly \$572 million, a significant increase of about 55 percent from that recorded in 1987, according to the U.S. Bureau of Mines (**Table 1**, Appendix). Gains in the production value of copper, gold, molybdenum, platinum-group metals, and zinc contributed largely to the increase. Metallic minerals—copper, gold, iron ore, lead, molybdenum, platinum-palladium, silver, and zinc accounted for nearly 84 percent of the State's nonfuel mineral production value. Montana ranked 17th nationally in that value, compared with a 24th ranking achieved in 1987.

Metallic mineral production has resumed a premier position in Montana's mineral economy. The first full year of operation at a major precious-base metal mine, a substantial rise in platinum-palladium production, and an increased copper output contributed strongly to the upturn in metal mining in the State. Production decisions for four new gold mines, mine planning and permitting for two world-class stratabound silver-copper operations, and accelerated precious metals exploration in 1988 indicate that the metals-dominant trend could continue well into the next decade.

Exploration—The Montana Department of State Lands reported a total of 192 active exploration permits in 1988, an increase of 81 from 1987. The Bureau of Land Management reported the filing of 12,013 new mining claims in 1988, for a total of 52,212 active claims in the State. Highlighting exploration in Montana, Cominco Resources International announced discovery of a large, high-grade massive sulfide copper-cobalt deposit at its Sheep Creek property near White Sulphur Springs, and the Noranda Exploration Inc.-Crown Butte Resource Ltd. joint venture continued drilling on the 1.1 million ton McLaren-Glengarry gold-silver-copper property near Cooke City. Near Elkhorn (Jefferson County), Homestake Mining Company-Mountain West Resources continued drilling at the Tourmaline Queen and No. 2 pipes, and Gold Fields Mining Corporation drilled more than 100 holes on its gold property.

Cominco drilled six deep holes on properties in the Sylvanite district, and Western Gold Mining Inc. drilled at the Black Diamond property. In the Cabinet Mountains, United States Borax & Chemical Corporation drilled at Dry Creek, Hereford Bar, and Government Mountain; Santa Fe Pacific Mining Company drilled on the Hunt claims, and ASARCO Inc. drilled in the Minton Peak, Clear Peak, Troy mine and Twilight Creek areas. U.S. Borax worked at the Golden Eagle mine; Magellan Resources announced discovery of a new ore zone at the Southern Cross; and Grand Trunk Resources explored and developed silver-gold ore at the San Francisco mine. In the Butte vicinity, AMAX Exploration Inc. drilled in Flume Gulch.

USMX Inc. trenched at the Ermont mine and adjacent area southeast of the Yellowband. Near Helena, Battle Mountain drilled in Grizzly Gulch, and West Gold drilled 50 holes in Bar Gulch, Cave Gulch, and York Gulch. In the Lincoln area, Exxon Corporation drilled near the Mike Horse mine; ASARCO drilled eight holes on its Heddleston Project; and Western Energy drilled and trenched on the Seven-Up Pete project. Silver King Mines Inc. drilled 30 holes on the Golden Assets property near the Montana Tunnels mine. In the greater Lewistown area, AMAX drilled in Chicago Gulch in the Judith Mountains and near Linster Peak. Meridian Gold Company and Santa Fe explored at Middle Butte in the Sweetgrass Hills, and FMC-Curator drilled near the Tailholt mine.

Environment—The Federal Environmental Protection Agency (EPA) reported that it had spent more than \$20 million (to date) to clean up mining and smelting-related contamination in

the Clark Fork River basin; included was \$9 million spent on the Silver Bow Creek-Butte site and \$4.1 million at the site of the smelter and tailings ponds at Anaconda. The State of Montana revived a four-year-old, \$50 million Superfund lawsuit against The Anaconda Company for alleged mining-related damages to the Clark Fork River basin. The Federal Occupational Health and Safety Administration levied a \$1.6 million fine in April against ASARCO Inc. (East Helena lead smelter) claiming that the company had exposed its workers to unacceptably high levels of lead and arsenic.

Legislation and government programs—A controversial Montana Wilderness Bill, opposed by some environmentalists and by mining and logging interests, ranchers, and recreation groups, was pocket-vetoed by President Reagan.

Review by nonfuel mineral commodities—Production of gold, Montana's highest valued mineral commodity, increased in 1988. Pegasus Gold Corporation's Zortman-Landusky operation (Phillips County) and Placer Dome Inc.'s Golden Sunlight mine (Jefferson County) produced at capacity. Placer Dome discovered ore reserves sufficient to extend mining by eight years; mine expansion will require increasing the work force from 195 to 225. Pegasus completed the first full year of production at the Montana Tunnels precious-base metal mine in Jefferson County.

Pangea Resources Ltd.'s Paupers Dream open-pit gold mine (Lewis and Clark County) came onstream in midsummer; annual production was projected between 25,000 and 30,000 ounces of gold over a mine life of five to seven years. Gulf Titanium Ltd. produced at its underground Cruse-Belmont gold mine in Lewis and Clark County. In Fergus County, Canyon Resources Corporation began operations in September at the Kendall open-pit gold mine; Chelsea Resources Ltd. produced gold at the underground Spotted Horse mine; and Blue Range Engineering Company operated the Gies gold mine and Heath flotation mill. Some larger gold placer operations were on Grasshopper Creek near Bannack; on Sauerkraut Creek near Lincoln; at Jefferson Creek near Avon; on Gold Creek west of Deer Lodge; and on Indian Creek west of Townsend.

Currently developing precious-base metal mines slated for production in 1989 include: New Butte Mining Company's \$90 million underground operation at Butte Hill; Jardine Joint Venture's \$32.4 million Mineral Hill mine (Park County); Pegasus Gold's \$10 million Beal open-pit heap leach operation (Silver Bow County); and Mark V Petroleum Mines' Bagdad Gold mine (Granite County).

Copper production rose in 1988. ASARCO's Troy silver-copper mine (Lincoln County) and Montana Resources Inc.'s Butte copper-molybdenum operation produced at capacity. Inspiration Copper Company's Black Pine silver mine (Granite County) suspended operations in February owing to low silver prices. ASARCO proceeded with permitting for its proposed Rock Creek stratabound silver-copper mine in the Cabinet Mountains Wilderness in Sanders County. Montana Reserves Company formed a joint venture with Noranda Inc. to develop the nearby Rock Lake stratabound silver-copper deposit; the proposed \$250 million underground mine would produce about 15 million ounces of silver per year for approximately 20 years. CoCa Mines announced 1989 plans to develop the Hog Heaven silver-gold property in Flathead County.

The Stillwater Mining Company successfully concluded the first full year of platinum-palladium production at its underground mine near Nye in Stillwater County. The initial production rate of 500 tons per day was boosted to 700 tons per day by midyear; a 1,000-ton-per-day rate

was forecast by 1991. A second mine and mill unit also is planned for 1991, and work on a smelter is anticipated to start in 1990.

A July fire at ASARCO's East Helena lead smelter resulted in a nine-day suspension of operations; in September, they announced plans to construct a new \$16 million ore unloading and storage facility to replace that destroyed in the fire. Hallet Minerals Company produced iron ore in Meagher County for use in in-State cement manufacture. Columbia Falls Aluminum Company operated its Flathead County aluminum reduction plant at capacity, and U.S. Antimony Corporation produced antimony oxide and sodium antimonate at its refinery in Sanders County. Chrome Corporation International announced plans for a 60,000-metric-ton-per-year ferrochromium smelter to be built at or near Columbus in Sweetwater County. Planned for completion by 1991, the facility would utilize chromite ore from the Stillwater Complex; company plans also include a \$120 million chromite mine slated to be in production in 1991.

The Ash Grove Cement West Inc. and Ideal Basic Industries Inc. produced cement at Montana City (Jefferson County) and at Trident (Gallatin County), respectively. W. R. Grace & Company mined and processed vermiculite near Libby (Lincoln County) and Stansbury Mining Corporation applied for permits to reopen a vermiculite mine southeast of Hamilton in Ravalli County. Montana retained first rank nationally in talc production; Cyprus Industrial Minerals, Pfizer Inc., and Montana Talc Company mined high-grade talc in the Ruby and Gravelly ranges in Madison County. Cominco American Inc. resumed phosphate production at its underground mine in Powell County; the operation had been previously closed to install a washing and dry-grinding plant. Three companies produced quicklime in Broadwater, Richland, and Yellowstone counties. Gem-quality sapphires were recovered by several operators in Judith Basin, Lewis and Clark, and Granite counties. Common clay, produced in Gallatin and Jefferson counties, was used in the manufacture of cement and pottery. Maronick Construction Company Inc. mined gypsum for cement manufacture at Raynesford in Judith Basin County.

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

Spokane, WA
February 1, 1989

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: Produced

PLATINUM, GOLD, SILVER, COPPER, LEAD AND ZINC MINES

Beaverhead County: Dillon 59725

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

ERMONT MINES Copper, silver, gold
Dillon dist. [12], sec. 35, T. 6 S., R. 11 W.
Operator: USMX Minerals Exploration
141 Union Blvd., Suite 100, Lakewood CO 80228
Owner: Ned Wellborn and Ed McCanse
11775 Hwy. 324, Dillon MT 59725
Status: Exploration

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: Exploration

**GRASSHOPPER MINE Gold
Bannack dist. [4], sec. 8, T. 8 S., R. 11 W.
Owner-Operator: R. L. Townner
Box 863, Hamilton MT 59840
Status: Exploration

HAND GROUP Gold, silver, lead
Argenta dist. [2],
secs. 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: Produced, 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
Box 609, Sheridan MT 59749
Status: Developing

Beaverhead County (continued)**MAYDAY Gold**

Argenta dist. [2], sec. 7, T. 6 S., R. 10 W.
 Owner-Operator: Rudy and Nels Nygren
 4700 Argenta Road, Dillon MT 59725
 Employees: 2
 Status: Producing, developing

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

SILVER RIDGE GROUP Silver, gold, molybdenum
 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, Mullian ID 83846
 Employees: 2
 Status: Developing

WAPITA MINE Silver, lead, gold
 Argenta dist. [2], secs. 22, 27, T. 6 S., R. 10 W.
 Owner-Operator: Rudy and Nels Nygren
 4700 Argenta Road, Dillon MT 59725
 Employees: 2
 Status: Exploration

YELLOWBAND GROUP Gold, silver
 Argenta dist. [2], secs. 1, 2, 11, T. 6 S., R. 11 W.
 Operator: Nelson Associates/Yellow Band Mines
 Inc.
 3926 Bellecrest, Missoula MT 59801
 Owner: E. E. Nelson, 3926 Bellecrest, Missoula
 MT 59801; Stan Shafer et al., Dillon, MT 59725
 Employees: 4
 Status: Exploration, development

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.
 secs. 5, 6, T. 6 N., R. 1 E.
 Owner-Operator: Nila Tyrrel
 Box 291, Kirkwood IL 61447
 Status: Exploration

***CHARTAM 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, exploration

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, exploration

EAST PACIFIC MINE Gold, silver, lead
 Winston dist. [37], sec. 26, T. 8 N., R. 1 W.
 Operator: Herb Carver (caretaker)
 Winston MT 59647
 Owner: East Pacific Mining Co.,
 c/o Bill Cullen, 1313 Washington,
 Mutual Bldg., Spokane WA 99201
 Mill capacity: 40 t/d
 Status: Exploration

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: Exploration

***GOLDBUG GROUP Silver, lead**
 Indian Creek dist. [35], secs. 26, 35, T. 7 N., R. 1 W.
 Operator: Mule Shoe Mining
 647 Lower Deep Creek Road, Townsend MT 59644
 Owner: John Plymale, Dewey H. Cooper
 647 Lower Deep Creek Road, Townsend MT 59644
 Status: Developing

IRON AGE GROUP (Chartam) Gold
 Winston dist. [37], secs. 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: Exploration

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

Broadwater County (continued)

MAPLES AND BRIDGTON GROUP (Chartam)
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: Exploration

**MARIETTA MINE Gold, silver, lead, zinc
Park dist. [35], secs. 10, 11, 14, 15, T. 7 N., R. 1 W.
Owner-Operator: Harry Q. Anders and others
4834 Blue Ridge Drive, San Jose CA 95100
Employees: 3
Status: Developing, exploration

Deer Lodge County: Anaconda 59711

CABLE MINE Sulphide, gold
Cable dist. [44], sec. 10, T. 5 N., R. 13 W.
Operator: Cable Mountain Mines, Inc.
JV with Mayellan Resources, Inc.
Owner: Joseph W. Aidlin
5143 Sunset Blvd., Los Angeles CA 90027
Status: Developing

MONTANA MINE Sulphide, gold
Georgetown dist. [44], sec. 8, T. 5 N., R. 13 W.
Owner-Operator: Magellan Resources, Inc.
2305 Carles St. Switch, Moss Beach CA 94038
Status: Exploration, developing

*GREAT EASTERN MINE Silver, copper, zinc
Lost Creek dist. [47], secs. 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, exploration

SOUTHERN CROSS MINE Oxidized sulphide,
gold
Southern Cross dist. [44], sec. 4, T. 5 N., R. 13 W.
Owner-Operator: Magellan Resources, Inc.
2305 Carles St. Switch, Moss Beach CA 94038
Status: Exploration, developing

Fergus County: Lewistown 59457

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: Developing

*JAY DEE NO. 3 Gold, silver
Cone Butte (unorg.), sec. 8, T. 17 N., R. 21 E.
Owner-Operator: Dolores Rife
211 S.W. Cedar, Lewistown MT 59457
Status: Exploration

ELK PEAK PROJECT (GIES MINE) Gold, silver
Cone Butte dist. [49], sec. 22, T. 17 N., R. 20 E.
Operator: Blue Range Mining Co. LP
56 E. Mercury, Butte MT 59701
Owner: Gies Family
P.O. Box 163, Lewistown MT 59457
Mill capacity: 150 t/d
Employees: 50
Status: Producing

*KENDALL VENTURE Gold
North Moccasin dist. [50], sec. 31, T. 18 N., R. 18 E.
Operator: Kendall Venture
P. O. Box 799, Hilger MT 59451
Owner: Addwest Gold & Canyon Resources
P. O. Box 927, Owensboro, KY 42302
Employees: 95
Status: Produced, exploring, 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

**MAGINNIS MINE Gold, silver
Warm Springs (Gilt Edge) dist. [51],
sec. 5, T. 16 N., R. 20 E.
Operator: Chelsea Resources (U.S.) Inc.
12265 W. Bayaud Ave., #103, Lakewood CO 80220
Owner: Selma and Jerry Hanley
138 13th Ave. S., Lewistown MT 59457
Status: Developing

*GILT EDGE Gold
Giltedge dist. [51],
secs. 17, 18, 19, 20, T. 16 N., R. 20 E.
Owner-Operator: Blue Range Mining Co. L.P.
56 E. Mercury, Butte MT 59701
Status: Exploration, development

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

Fergus County (continued)

PITA MINING 1, 2, 3, 4, 5 Lead, silver, gold
Cone Butte dist. [49], sec. 22, T. 17 N., R. 20 E.
Operator: Blue Range Mining Co. L.P.
56 E. Mercury, Butte MT 59701
Owner: Pita Mining, T. A. Pentecost and
Matilda Pentecost
204 E. Washington, Lewistown MT 59457
Status: Exploration, developing

SHEEP MOUNTAIN MINE Gold, silver, copper,
lead
Warm Springs dist. [51], secs. 4, 5, T. 16 N., R. 20 E.
Owner-Operator: Marion E. Heller
318 Washington, 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: Chelsea Resources (U.S.) Inc.
Charles W. Bauer, Manager
P.O. Box 860, Lewistown MT 59457
Owner: Chelsea Resources (U.S.) Inc.
12265 W. Bayaud Ave., #130, Lakewood CO 80220
Mill capacity: 50 t/d
Employees: 50
Status: Producing, developing

*TWO LADY NO. 7 Gold, silver
Cone Butte (unorg.), sec. 17, T. 17 N., R. 21 E.
Owner-Operator: Dolores Rife
211 S.W. Cedar, Lewistown MT 59457
Status: Exploration

**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: Cougau
Calgary, Alberta, Canada
Employees: 3
Status: Exploration, 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

HOG HEAVEN PROJECT Silver, gold
Hog Heaven dist. [52], sec. 17, T. 25 N., R. 23 W.
Owner-Operator: CoCa Mines, Inc.,
Bill Rust, Project Manager
1776 Lincoln St., Suite 910, Denver CO 80203
Status: Development

Granite County: Philipsburg 59858

AMERICAN FLAG-LILA DIXON GROUP Gold,
silver
Red Lion dist. [66], sec. 13, T. 6 N., R. 13 W.
Owner-Operator: Treasure State Mining Corpora-
tion, P. O. Box 4196, Missoula MT 59806
Status: Exploration

BLACK PINE MINE Silver, gold
Black Pine dist. [59], secs. 7, 8, 16, 17 and
18, T. 8 N., R. 14 W.
Operator: Black Pine Mining Co.
Dan Sullivan, Manager
Box 610, Philipsburg MT 59858
Owner: Inspiration Consolidated Copper Co.
55 Madison, Morristown NJ 07960
Mill capacity: 800 t/month
Employees: 7
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, Bill Antonioli, Ted
Antonioli
Box 296, Philipsburg MT 59858
Owner: Ben Walkup
Philipsburg MT 59858
Employees: 3
Status: Developing

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

Granite County (continued)**GLITTERING HILL MINE** Gold

Red Lion dist. [66],
secs. 22,, 23, 26, 27, T. 6 N., R. 12 W.
Owner-Operator: Joe Bolkovatz
1016 W. 4th, Anaconda MT 59711
Mary L. McCabe
2010 Haggin Ave., Anaconda MT 59711
Status: Exploration

****GOLDEN JUBILEE MINE** Gold, silver

Red Lion dist. [66], sec. 14, T. 6 N., R. 13 W.
Owner-Operator: A. C. Nielsen
Box 322, Phillipsburg MT 59858
Mill capacity: 200 t/y
Status: Produced, producing, developing

***HIDDEN LAKE** Limonite (gold), hematite in quartzite

Red Lion dist. [66], sec. 34, 35, T. 6 N., R. 11 W.
Owner-Operator: H. Follman, T. Scott
1110 Caledonia St., Butte MT 59701
Mill capacity: 10,000 t/y
Employees: 3
Status: Developing, exploring

SILVER KING MINE Gold, silver

Rock Creek dist. [67], secs. 4, 5, T. 6 N., R. 15 W.
Operator: Striker Gold Inc.
Box 746, Phillipsburg MT 59558
Owner: Charles Byam, Fernette Byam
P.O. Box 640, Phillipsburg MT 59858
Employees: 6
Status: Developing, producing

Jefferson County: Boulder 59632****BIG MARY MINE** Gold, silver

Alhambra dist. [71], sec. 10, T. 7 N., R. 2 W.
Owner-Operator: Horace Wilson
850 Silvette, Helena MT 59601
Status: Developing

COMET GROUP Silver, gold, lead, zinc

Comet dist. [73], sec. 36, T. 7 N., R. 5 W.
Operator: Billern Corp.
William Espey, Jr., Pres.
Box 519, Austin TX 78767
Owner: Concorde Mines Ltd.
Box 519, Austin TX 78767
Status: Exploration

****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

DOBLER MINE Gold, lead

Secs. 7, 18, T. 9 N., R. 1 W.; sec. 13, T. 9 N., R. 2 W.
Operator: Monument Resources Inc.
A. G. Foust, President
P.O. Box 1450, Castle Rock CO 80104
Owner: Monument Resources Inc., and M. O. Potter
Helena MT 59601
Status: Exploration

****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
Employees: 5
Status: Developing

ELKHORN PROJECT Gold

Elkhorn dist. [79], secs. 10, 11, T. 6 N., R. 3 W.
Operator: Gold Fields Mining Corp.
Paul Tietz, Project Manager
317 Main St., Boulder MT 59632
Status: Exploration

ELKHORN QUEEN Lead, zinc

Elkhorn dist. [79], sec. 26, T. 6 N., R. 3 W.
Owner: John Rothfuss
2100 Oregon Ave., Butte MT 59701
Status: Exploration

FLORENCE, STREAK OF LUCK AND SUNNYSIDE GROUP Gold, silver

Cardwell dist. [88], sec. 18, T. 2 N., R. 3 W.
Operator: Lester Lindquist
P.O. Box 373, Whitehall MT 59759
Owner: Golden Sunlight Mines, Inc.
454 U.S. Hwy. 10 East, Whitehall MT 59759
Mill capacity: 3 t/d
Employees: 2
Status: Produced

GOLDEN ASSETS Gold

Golconda dist. [71], sec. 29, T. 29 N., R. 34 W.
Operator: Alta Gold Company
Earl McCurley, Senior Geologist
P.O. Box 324, East Ely NV 89315
Owner: Fred Madison, Frank Frankovich
Helena MT 59601
Status: Developing

Jefferson County (continued)

**GOLDEN CURRY (SOURDOUGH) MINE

Gold, silver, copper, lead, zinc
Elkhorn dist. [79], sec. 10, T. 6 N., R. 3 W.
Operator: Gold Fields Mining Corp.
Paul Tietz, Project Manager
317 Main St., Boulder MT 59632
Owner: John Rothfuss
2100 Oregon Ave., Butte MT 59701
Status: Exploration

**GOLDEN SUNLIGHT GROUP

Gold, silver
Cardwell dist. [88],
secs. 17, 18, 19, 20, T. 2 N., R. 3 W.
Owner-Operator: Golden Sunlight Mines, Inc.
454 U.S Hwy. 10 East, Whitehall MT 59759
Employees: 155
Mill capacity: 6,000 t/d
Status: Producing

HOPE AND BULLION GROUP

Gold, silver,
copper, lead, zinc
Comet dist. [73], sec. 6, T. 6 N., R. 4 W.;
sec. 31, T. 7 N., R. 5 W.
Owner-Operator: Alberta K. Mining Co.
Mariana Subis, President
37 Hubbard Lane, Boulder MT 59632
Status: Developing

INFINITE GROUP

Gold, silver
Lowland dist. [83], secs. 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 LUKE GROUP

Gold, silver
Colorado dist. [78], secs. 12, 13, T. 7 N. R. 4 W.
Operator: Norguard Corp.
Allen LeMieux, President
37 Hubbard Lane, Boulder MT 59632
Owner: Allen LeMieux
37 Hubbard Lane, Boulder MT 59632
Status: Developing

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, exploration

*MONTANA TUNNELS MINE

Gold, silver,
lead, zinc
Wickes dist. [78], sec. 8, T. 7 N., R. 4 W.
Operator: Montana Tunnels Mining, Inc.
Allen Richardson, General Manager
P.O. Box 176, Jefferson City MT 59634
Owner: Pegasus Gold Corp. Executive office
Suite 400—North 9 Post, Spokane WA 99201
Mill capacity: 12,500 t/d
Employees: 85
Status: Producing

OLD BALDY GROUP

Gold, silver
Basin dist. [73], secs. 29, 30, T. 8 N., R. 5 W.;
secs. 25, 36, T. 8 N., R. 6 W.
Owner-Operator: Robert L. Lynn and
Guy E. Maycumber
690 S. Hilltop Road, Columbia Falls MT 59912
Status: Developing, exploration

*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.
Operator: Billern Corp.
William Espe, Jr., Pres.
Box 519, Austin TX 78767
Owner: Harold J. Giulio
305 S. Cleveland, Boulder MT 59632
Status: Exploration

STREAK OF LUCK & SUNNY SIDE GROUP

Gold,
silver
Cardwell dist. [88], sec. 18, T. 2 N., R. 3 W.
Operator: Lester Lindquist
P.O. Box 373, Whitehall MT 59759
Owner: Golden Sunlight Mines, Inc.
P.O. Box 678, Whitehall MT 59759
Mill capacity: 3 t/d
Employees: 2
Status: Produced

WILD CAT and LINE LODE

Gold, silver
SE ¼ sec. 33, T. 7 N., R. 2 W.
Owner-Operator: Tom Coster
117 - 11th St., Black Eagle MT 59414
Employees: 1
Status: Developing

Judith Basin County: Stanford 59479

****CLENDENNIN GROUP** Lead, silver, zinc
 Barker dist. [90], secs. 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: Exploration

Lewis and Clark County: Helena 59601

BELMONT Gold
 Marysville dist. [100], sec. 35, T. 12 N., R. 6 W.
 Operator: Gulf Titanium Inc.
 Martin Sadd, Project Manager
 Box 5358, Helena MT 59604
 Owner: Thomas Cruse Mining & Development Co.
 280 Madison Ave., Suite 308, New York NY 10016
 Employees: 18
 Status: Developing, producing

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: Exploration

GOOD CHANCE Gold, copper
 Owyhee dist. [98], sec. 11, T. 9 N., R. 4 W.
 Owner-Operator: Douglas E. Tintinger
 14160 Chamy Drive, Reno NV 89511
 Status: 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
 14160 Chamy Drive, Reno NV 89511
 Status: Developing

PAUPERS DREAM PROJECT Gold, silver
 Rimini dist. [103], secs. 24, 25, T. 8 N., R. 6 W.,
 secs. 19, 30, T. 8 N., R. 5 W.
 Operator: Pangea Mining Inc.
 5944 Hwy. 12 W., Helena MT 59601
 Owner: Pangea Resources Limited
 7th Floor, 74 Pitt Street,
 Sidney, Australia N.S.W. 2000
 Mill capacity: 400,000 t/y
 Employees: 51
 Status: Producing

****SKY MINE** Gold, silver, copper, zinc
 Owyhee dist. [98], secs. 2, 11, T. 9 N., R. 4 W.
 Owner-Operator: Douglas E. Tintinger
 14160 Chamy Drive, Reno NV 89511
 Status: Exploration

****SPRING HILL** Gold
 Helena dist. [98], secs. 3, 4, 9, 10, 11, T. 9 N., R.
 4 W.
 Owner-Operator: Ardic Exploration and
 Development Ltd.
 Evans R. Dick, III, President
 65 Broadway, New York NY 10006
 Status: Developing, exploration

****TWILIGHT GROUP** Gold, silver, copper, barite
 Helena dist. [98], sec. 2, T. 9 N., R. 2 W.
 Owner-Operator: Kurtis Hansen
 Box 309, Big Sandy MT 59520
 Status: Developing

Lincoln County: Libby 59923

BLACKTAIL PROJECT Gold
 Cabinet dist. [107], sec. 1, T. 26 N., R. 31 W.
 Owner-Operator: AMCO Mineral, Bill Ericksmoen
 Box 374, Battle Mountain NV 89820
 Status: Exploration, development

****PRINCESS ETHNE** Gold, silver
 West Fisher dist. sec. 26, T. 27 N., R. 31 W.
 Owner-Operator: Rockie Nethercott
 P.O. Box 1669, Polson MT 59860
 Mill capacity: 1 t/d
 Employees: 1
 Status: Developing

TROY UNIT Silver, copper
 Secs. 12, 13, 14, 23, 24, 25, 26, 35, 36,
 T. 29 N., R. 34 W.
 Operator: Troy Unit, ASARCO, Inc.
 Terry Erskine, 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

- *ATLANTIC PACIFIC MINE** Gold, silver, copper
 Mineral Hill dist. [119], sec. 20, T. 2 S., R. 3 W.
 Owner-Operator: Oleta C. Box
 Pony MT 59747
 Employees: 15
 Status: Produced
- B & H (PETE & JOE) GROUP** Gold, silver,
 copper, lead
 Tidal Wave dist. [128], sec. 7, T. 3 S., R. 4 W.
 Owner-Operator: Gold Ranch Mining Corp.
 Vern Hughs, President
 Drawer J, Twin Bridges MT 59754
 Status: Exploration
- BADGER NO. 1 and NO. 2 MINES** Gold, silver
 Norris (Lower Hot Springs) dist. [17],
 secs. 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], secs. 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, exploration
- BOSS TWEED & CLIPPER GROUP** Pyritic gold ore
 Mineral Hill dist. [119], sec. 15, T. 2 S., R. 3 W.
 Owner-Operator: Pathfinder Mines Corporation
 David Miller, Senior Geologist
 120 North 6th East, Suite 202, Riverton WY 82501
 Status: Exploration
- DON-A-VERA & JAYHILL GROUP** Gold, silver
 Fairweather dist. [129],
 secs. 25, 26, 35, T. 6 S., R. 3 W.
 Owner-Operator: Tabor Resources
 Stanley R. Dobrin, President
 6100 Green Valley Drive, Minneapolis MN 55438
 Status: Exploration
- EAGLE BLACK GROUP** Gold, silver, copper
 Highland dist. [129],
 secs. 2, 3, 10, 11, T. 7 S., R. 3 W.
 Owner-Operator: Tabor Resources
 Stanley R. Dobrin, President
 6100 Green Valley Drive, Minneapolis MN 55438
 Status: Exploration
- EASTON—PACIFIC** Gold
 Browns Gulch dist. [129], sec. 9, T. 7 S., R. 3 W.
 Owner-Operator: BHP—Utah International
 Larry Ott, Project Geologist
 P. O. Box 15479, Salt Lake City UT 84115
 Status: Exploration
- FRIDA MARIE GROUP** Gold
 Silver Star dist. [126], secs. 10, 11, T. 2 S., R. 6 W.
 Owner-Operator: Consolidated Minerals Corp.
 Robert C. Decker, Sr., President
 P.O. Box 467, Sheridan MT 59749
 Employees: 3-6
 Status: Producing, developing
- **GREEN CAMPBELL MINE** Gold
 Silver Star dist. [126], sec. 3, T. 2 S., R. 6 W.
 Owner-Operator: John Magnus
 Box 258, Sheridan MT 59749
 Mill capacity: 100 t/d
 Status: Exploration
- **HIGH HOPE MINE** Gold, silver
 Mill Creek dist. [125], sec. 9, T. 4 S., R. 3 W.
 Operator: Raymond D. Shafer
 506 Mill Street, Sheridan MT 59749
 Owner: Raymond Shafer and Dorothy Buck
 506 Mill Street, Sheridan MT 59749
 Status: Developing
- JAYHILL GROUP** Gold
 Highlands dist. [129], sec. 35, T. 6 S., R. 3 W.
 Owner-Operator: Tabor Resources
 Stanley R. Dobrin, President
 6100 Green Valley Drive, Minneapolis MN 55438
 Status: Exploration
- KEARSARGE GROUP** Gold, silver
 Summit dist. [129], sec. 23, T. 7 S., R. 3 W.
 Operator: John Magnus
 Box 258, Sheridan MT 59749
 Owner: Lewis Larson
 Divide CO 80814
 Status: Producing, developing, exploration
- **KENNETT-BERTHA MINE** Gold, silver, lead,
 zinc, manganese, platinum
 Virginia City (Alder Gulch) dist. [129],
 sec. 5, T. 6 S., R. 2 W.
 Operator: Hughes Mining Co., Inc.
 Drawer J, Twin Bridges MT 59754
 Owner: Kennett Gold Corp.
 Twin Bridges MT 59754
 Status: Developing
- KEYHOLD GROUP** Gold, silver
 Highland dist. [129], secs. 1, 12, T. 7 S., R. 3 W.
 Owner-Operator: Tabor Resources
 Stanley R. Dobrin, President
 6100 Green Valley Drive, Minneapolis MN 55438
 Status: Exploration
- 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

Madison County (continued)

- NELLIE BLY GROUP** Gold
Highland dist. [129], secs. 1, 12, T. 7 S., R. 3 W.
Owner-Operator: Tabor Resources
Stanley R. Dobrin, President
6100 Green Valley Drive, Minneapolis MN 55438
Status: Exploration
- NEW WINNETKA GROUP** Gold, silver
Highland dist. [129], secs. 1, 2, T. 7 S., R. 3 W.
Owner-Operator: Tabor Resources
Stanley R. Dobrin, President
6100 Green Valley Drive, Minneapolis MN 55438
Status: Exploration
- PEARL GROUP** Gold, silver
Alder Gulch dist. [129], secs. 1, 2, T. 7 S., R. 3 W.
Owner-Operator: Tabor Resources
Stanley R. Dobrin, President
6100 Green Valley Drive, Minneapolis MN 55438
Status: Exploration
- 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: Developing
- ST. JOHN GROUP** Gold, silver
Highland dist. [129], sec. 1, T. 7 S., R. 2 W.
Owner-Operator: Tabor Resources
Stanley R. Dobrin, President
6100 Green Valley Drive, Minneapolis MN 55438
Status: Exploration
- 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: Developing, exploration
- UNCLE SAM MINE** Gold, silver
Mill Creek dist. [125], NE ¼ sec. 17, T. 4 S., R. 3 W.
Owner-Operator: Steve Mortensen and
Audrey Mortensen
Sheridan MT 59749
Status: Developing
- VANGUARD GROUP** Precious metals
Mill Creek dist. [125], secs. 3, 4, 5, 6, 8, T. 4 S., R.
3 W.; secs. 32, 33, 34, T. 3 S., R. 3 W.
Owner-Operator: Smilodon Exploration and
Research Inc.
705 So. 5th Avenue, Bozeman MT 59715
Status: Exploration
- VESTA #1** Gold
Sec. 6, T. 4 S., R. 4 W.
Operator: Robert L. Edgley
Box 901, Corwin Springs MT 59021
Owner: Golden Chalice Mines, Inc.
Box 901, Corwin Springs MT 59021
Status: Developing
- WATSECA MINE** Gold, silver
Rabbit dist. [122], secs. 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
Status: Exploration

Meagher County: White Sulphur Springs 59645

- BIGLER GROUP** Gold
Thompson Creek dist. [131], sec. 28, T. 9 N., R. 4 E.
Operator: Richard K. George
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
Mill capacity: 7 t/d
Employees: 2
Status: Produced, developing
- 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
- **SNOW BANK MINE** Gold
Beaver Creek dist. [131], sec. 28, T. 9 N., R. 4 E.
Operator: Richard K. George
H C 83, Box 667, Martinsdale MT 59503
Owner: Steve and Mary Helburn
111 Upper Line St., Franklin LA 70538
Status: Produced, developing

Mineral County: Superior 59872

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

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: Exploration

Missoula County: Missoula 59801

SILVER BELL GROUP Copper, silver, gold
Clinton dist. [142], sec. 17, T. 12 N., R. 16 W.
Operator: Silver Bell, Inc.
20760 Hwy. 10 E., Clinton MT 59825
Owner: Del Fontaine, Les Bonnet, Del Holter,
Richard Souders
20760 Hwy 10 E., Clinton MT 59825
Status: Developing

VALLEY VIEW Gold
Coloma dist. [143], sec. 32, T. 13 N., R. 14 W.
Owner-Operator: Remote Prospecting Services
Raymond Bozlee, Manager
16 Mountain View, Anaconda MT 59722
Status: Developing, exploration

Park County: Livingston 59047

****BAR GROUP** Gold, silver, lead, copper,
molybdenum
Emigrant dist. [151], secs. 5, 6, 7, 8, 9, 16, 17, 19,
20, 21 and 30, T. 7 S., R. 9 E.
Operator: J. H. Counts, Jr.
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: Exploration

****MAGNITITE GROUP** Gold, silver, lead, iron,
copper, nickel
Emigrant dist. [151],
secs. 2, 10, 11, 12, 18, 21, 24, 25, T. 7 S., R. 8 E.
Operator: J. H. Counts, Jr.
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: Exploration

***COPPER GROUP** Copper, iron, nickel
Emigrant dist. [151], secs. 1, 2, 3, T. 7 S., R. 8 E.
Operator: J. H. Counts, Jr.
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: Exploration

****NEW WORLD PROJECT** Gold, copper
New World dist. [154], sec. 36, T. 9 S., R. 14 E.
Owner-Operator: Crown Butte Mines, Inc.
David Rovig, President
Room 510, Petroleum Building, Billings MT 59103
Status: Developing, exploration

***HOPE GROUP** Copper, silver
Emigrant dist. [151], sec. 36, T. 6 S., R. 8 E.
Operator: J. H. Counts, Jr.
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: Exploration

****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: 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: Zortman-Landusky Mining Co.
Steven W. Banning, General Manager
P.O. Box 313, Zortman MT 59546
Owner: Pegasus Gold Corp. Executive office
Suite 400—North 9 Post, Spokane WA 99201
Mill capacity: 60,000 t/d
Employees: 85
Status: Producing

*RUBY GULCH MINE Gold, silver
Little Rockies dist. [155], sec. 18, T. 25 N., R. 25 E.
Operator: Zortman-Landusky Mining Co.
Steven W. Banning, General Manager
P.O. Box 313, Zortman MT 59546
Owner: Pegasus Gold Corp. Executive office
Suite 400—North 9 Post, Spokane WA 99201
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., T. 6 W.
Owner-Operator: Enard Lindquist and
James R. Dixon
1805 Joslyn, Lot 111, Helena MT 59601
Status: Developing, exploration

**ELLISTON CONSOLIDATED GROUP
Lead, zinc, silver, gold
Elliston dist. [157],
secs. 5, 8, 10, 15, 22, T. 8 N., R. 6 W.
Owner-Operator: Elliston Consolidated Mining Co.
c/o Dave R. Newman, Box 159, Elliston MT 59728
Employees: 2
Status: Developing

**EMERY MINE Gold, silver, lead, zinc
Deer Lodge dist., sec. 10, T. 7 N., R. 8 W.
Operator: Freeport-McMoran Gold Co.
P. O. Box 41330, Reno NV 89504
Owner: Montana Precision Mining, Ltd.
P.O. Box 1050, Eureka MT 59917
Mill capacity: 200 t/d
Status: Exploration

McROMAS MINING CO. INC. Gold, silver,
titanium
Pioneer (Gold Creek) dist. [163], secs. 1, 11, 12, 14,
T. 8 N., R. 11 W.
Owner: Bobby R. McKnight and Partnership
Bobby R. McKnight, President
P. O. Box 2415, Kalispell MT 59901
Status: Developing

MARKAM MOUNTAIN Gold, silver
Secs. 23, 24, T. 14 N., R. 11 W.
Operator: Treasure State Mining Corporation
P. O. Box 4146, Missoula MT 59806
Status: Exploration

TIBBETTS MINE Gold
Secs. 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
Secs. 8, 17, T. 2 S., R. 22 W.,
secs. 35, 36, T. 1 S., R. 22 W.
Owner-Operator: Aljon Mining and Exploration,
Inc.
Nez Perce Road, Darby MT 59829
Employees: 2
Status: Unknown

Sanders County: Thompson Falls 59873

MONTANA PROJECT (Noxon Project) Silver, copper
Rock Creek dist., secs. 17, 29, 30, T. 27 N., R. 31 W.
Operator: Noranda
65 N. Eddison Way, Reno NV 89510
Owner: Noranda 55%; Montana Reserves 45%
N. 9 Post #281, Spokane WA 99201
Status: Development, exploration

Sanders County (continued)

PLAINSMAN MINE Gold, silver, lead, quartz
Secs. 8, 10, T. 19, 20 N., R. 26 W.

Operator: Venture Mining Corporation
Brian K. Springam, Secretary/treasurer
P. O. Box 624, Plains MT 59859

Owner: Goldrock Corporation

Spokane WA 99201

Mill capacity: 100 t/d

Employees: 4

Status: Produced, producing, developing

ROCK CREEK PROJECT Gold, copper
(unorganized), sec. 33, 34, T. 27 N., R. 32 W.

Operator: ASARCO, Inc.
T. Erskine, Project Manager
Box 868, Troy MT 59935

Owner: ASARCO, Inc.

180 Maiden Lane, New York NY 10038

Status: Developing

Silver Bow County: Butte 59701

*CONTINENTAL PIT Copper, molybdenum, silver
Summit Valley dist. [183], secs. 5, 6, 7, 8, 18,
T. 3 N., R. 7 W.

Owner-Operator: Montana Resources Inc.

Frank Gardner, President

600 Shields, Butte MT 59701

Mill capacity: 47,000 t/d

Employees: 320

Status: Producing

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: Exploration

FOURTH ESTATE MINE Fluorspar, gold
Summit Valley dist. [183], sec. 13, T. 3 N., R. 8 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: Exploration

MARGARET ANN PROJECT Gold, silver, lead,
zinc, manganese
Summit Valley dist. [183], sec. 1, T. 3 N., R. 8 W.

Owner-Operator: New Butte Mining
Alan Richardson, Vice-President operations
220 N. Alaska, Box 188, Butte MT 59701

Status: Exploration

MONTE CLARK GROUP Silver, copper
Moose Creek dist. [190],
secs. 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: Exploration

MT CON—KELLEY PROJECT Lead, zinc, silver,
gold

Summit Valley dist. [183], sec. 13, T. 3 N., R. 8 W.

Owner-Operator: Montana Mining Properties, Inc.

Frank Crowley, Manager

Kelley Mine, North Anaconda Road, Box 605,
Butte MT 59701

Status: Produced, exploration

NORTH BUTTE PROJECT Lead, zinc, silver, gold
Summit Valley dist. [183], sec. 15, T. 3 N., R. 7 W.

Owner-Operator: Montana Mining Properties, Inc.

Frank Crowley, Manager

Kelley Mine, North Anaconda Road, Box 605,
Butte MT 59701

Status: Produced, exploration

RAINBOW PROJECT Gold, silver, lead, zinc
Summit Valley dist. [183], sec. 12, T. 3 N., R. 8 W.

Owner-Operator: New Butte Mining

Alan Richardson, Vice-President operations
220 N. Alaska, Box 188, Butte MT 59701

Employees: 60

Status: Developing

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: Exploration

WEST BUTTE PROJECT Lead, zinc, silver, gold
Summit Valley dist. [183], secs. 9, 10, 11, 14, 15, 16,
T. 3 N., R. 8 W.

Owner-Operator: Montana Mining Properties, Inc.

Frank Crowley, Manager

Kelley Mine, North Anaconda Road, Box 605,
Butte MT 59701

Status: Developing, exploration

*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, exploration

Stillwater County: Columbus 59010

STILLWATER MINE Platinum, palladium, gold,
rhenium
Nye dist. [191], secs. 21, 22, T. 5 S., R. 15 E.
Operator: Chevron Resources
C.R. 2, Box 365, Nye MT 59601
Owner: Chevron and Mansville
Mill capacity: 1,000 t/d
Employees: 350
Status: Producing, 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. Bórland and J. Potter
White Sulphur Springs MT 59645
Employees: 3
Status: Producing

MOLYBDENUM MINES**Silver Bow County: Butte 59701**

*CONTINENTAL PIT Copper, molybdenum, silver
Summit Valley dist. [183], secs. 5, 6, 7, 8, 18,
T. 3 N., R. 7 W.
Owner-Operator: Montana Resources Inc.
Frank Gardner, President
600 Shields, Butte MT 59701
Mill capacity: 47,000 t/d
Employees: 320
Status: Producing

TITANIUM MINES**Teton County: Choteau 59422**

*CHOTEAU PROJECT Titanium, iron, zircon
Secs. 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

****LENTUNG GROUP** Tungsten
 Brown's Lake dist. [16], sec. 4, T. 4 S., R. 10 W.
 Operator: Garrand Corporation
 10 Exchange Place-201, Salt Lake City UT 84111
 Owner: Len Garrand
 10 Exchange Place-201, Salt Lake City UT 84111
 Employees: 4
 Status: Exploration, developing

URANIUM MINES

Carbon County: Red Lodge 59068

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

PLACER MINES

Beaverhead County: Dillon 59725

BANNACK # 1 PLACER Gold
 Bannack dist. [4], sec. 8, T. 8 S., R. 11 W.
 Owner-Operator: Rob Towner
 Box 4900, Bannack Road, Dillon MT 59725
 Mill capacity: 1,000 y/d
 Employees: 15
 Status: Produced, reclaiming

BON ACCORD PLACER Gold
 Bannack dist. [4], secs. 15, 16, 21-25, 27-30, T. 8 S.,
 R. 10 W.
 Owner-Operator: RLTCO
 815 SW Higgins, Suite A1, Missoula MT 59803
 Mill capacity: 50-70 y/hr
 Status: Produced

***GOLD NUGGET PLACER GROUP** Gold
 SW $\frac{1}{4}$ sec. 30, T. 3 S., R. 17 W.;
 N $\frac{1}{2}$ sec. 36, T. 3 S., R. 18 W.
 Owner-Operator: Prospect Mining Co., Inc.
 Preston ID 83263
 Status: Unknown

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

***RUBY GOLD PLACER** 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: Exploration

Broadwater County: Townsend 59644

***B AND B MINING** Placer gold
 Indian Creek dist. [35], sec. 22, 23, 28, T. 7 N., R. 1 E.
 Operator: Larry Lunan
 Tom Campbell, Manager,
 Box 1138, Townsend MT 59644
 Owner: B and B Mining, Ltd.
 Box 1138, Townsend MT 59644
 Mill capacity: 800 y/d
 Employees: 10
 Status: Producing, developing

***PIONEER PLACER** Gold
 Indian Creek dist. [35], sec. 35, T. 7 N., R. 1 E.
 Operator: Mule Shoe Mining
 647 Lower Deep Creek Road, Townsend MT 59644
 Owner: John Plymale, Dewey H. Cooper
 647 Lower Deep Creek Road, Townsend MT 59644
 Status: Developing, exploration

Deer Lodge County: Anaconda 59711

***CABLE PLACER** Gold, placer gravels
 Cable dist. [44], sec. 10, T. 5 N., R. 13 W.
 Operator: Cable Mountain Mine, Inc.
 5143 Sunset Blvd., Los Angeles CA 90027
 Owner: Joseph W. Aidlin
 5143 Sunset Blvd., Los Angeles CA 90027
 Status: Exploration, developing, producing

Jefferson County: Boulder 59632

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

HAWKEYE PLACER Gold
 Secs. 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: Unknown

MT GOLD AND SILVER CO Placer
 Sec. 2, T. 5 N., R. 7 W.
 Owner-Operator: John Butler, Dennis Hange
 736 Riverview Dr., E., Great Falls MT 59404
 Employees: 2
 Status: Developing

TIZER CREEK PLACERS Placer gold
 Secs. 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

ELDORADO BAR (placer) Sapphires, gold
 Missouri River dist. [101], sec. 17, T. 11 N., R. 1 W.
 Owner-Operator: Sam Speerstra
 Box 4308, Helena MT 59604
 Status: Produced, developing

****FRENCH BAR MINE** Gold, lead, silver, sapphires,
 copper
 French Bar dist., sec. 5, T. 10, R. 1 W. W.
 Operator: Francis Kindt
 Gillette WY 82716
 Owner: French Bar Industries
 7032 Canyon Ferry Road, Helena MT 59601
 Employees: 4
 Status: Producing, developing

***FRENCH BAR PLACER** Sapphires, gold
 Missouri River dist. [101], secs. 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: 16" suction dredge
 Status: Developing

Lewis and Clark County (continued)

*LOVE STONE PLACER Gold, sapphires
 Missouri River dist. [101], sec. 5, T. 10 N., R. 1 W.
 Owner-Operator: Bill Cooper and Kevin Pierce
 Box 5598, Helena MT 59604
 Status: Developing

*PRETTY GIRL PLACER Gold
 Secs. 9, 10, T. 9 N., R. 4 W.
 Operator: Special Lady Mining Co.
 Al Ballard, Project Manager
 P.O. Box 5134, Helena MT 59601
 Owner: Ballard Mining Corp.
 2765 Wylie Drive #72, East Helena MT 59635
 Employees: 4
 Mill capacity: 40 yd/hr
 Status: Produced, inactive

Lincoln County: Libby 59923

ALPINE PLACER Gold
 Libby dist. [108], sec. 17, T. 28 N., R. 30 W.
 Owner-Operator: AMCO Minerals
 Box 374 Battlemountain NV 89820
 Mill capacity: 3 yd/hr
 Status: Developing

HARRY HOWARD GROUP Gold
 Sec. 27, T. 29 N., R. 31 W.
 Owner-Operator: Donald C. and Marie O. Cripe
 3101 Granite Creek Road, Libby MT 59923
 Status: Developing

Madison County: Virginia City 59755

*BUBANY PLACER Gold
 Browns Gulch dist. [129],
 secs. 16, 21, T. 6 S., R. 3 W.
 Owner-Operator: Browns Gulch Mining, Inc.
 Gregory Martin, President
 5250 S. 300 W. Suite 102, Salt Lake City UT 84017
 Status: Produced, inactive

Meagher County: White Sulphur Springs 59645

*ATLANTA GROUP Placer gold
 Beaver Creek dist. [131], secs. 4, 5, 8, 9, T. 9 N.,
 R. 4 E.
 Operator: Dan Dinsdale
 1318 E. Park St., Livingston MT 59047
 Owner: Kinne Dinsdale
 1318 E. Park St., Livingston MT 59047
 Employees: 3
 Status: Developing

*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

*LARK PLACER Placer gold
 Beaver Creek dist. [131], sec. 6, T. 10 N., R. 3 E.
 Owner-Operator: Roy C. Kinne
 328 S. C Street, Livingston MT 59047
 Employees: 2
 Status: Produced

Mineral County: Superior 59872

BIG NUGGET PLACER Gold
 Cedar Creek dist. [135], sec. 24, T. 15 N. R. 26 W.
 Owner-Operator: Ken Miller
 Drawer E, St. Regis MT 59866
 Mill capacity: 100 yd/hr
 Employees: 3
 Status: Producing

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: Developing

Mineral County (continued)

*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

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

*TROUT CREEK PLACER Gold
Trout Creek dist. [135], sec. 28, T. 16 N., R. 26 W.
Operator: Danny and Wright Gleason
W. 509 Lauf Lane, Coeur d'Alene ID 83814
Owner: Mrs. Joe Wadsworth
Box 51, Superior MT 59872
Status: Developing

Powell County: Deer Lodge 59722

KLONDIKE ORE #1 PLACER 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: Exploration

*OLYMPIC #2 PLACER 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: Exploration

Sanders County: Thompson Falls 59873

*WALNUT—CARL E. PLACER Gold
Silver Butte dist. [177], secs. 4, 9, T. 24, 25 N.,
R. 30 W.
Owner-Operators: Marvin and Doris Eichert
50 Algers Road, Trout Creek MT 59874
Jim and Debra Williams
1457 Blueslide Road, Thompson Falls MT 59873
Employees: 4
Status: Produced

Silver Bow County: Butte 59701

FISH CREEK PLACER Gold
Highland dist. [187], secs. 28, 29, T. 1 N., R. 7 W.
Owner-Operator: Highland Gold Properties, Inc.
Mark Stratton, President
305 W. Mercury, office #305, Butte MT 59701
Employees: 5
Status: Developing, exploration

GLORIA ALICE PLACER Gold
Highland dist. [187], secs. 2, 28, T. 1 N., R. 7 W.
Owner-Operator: Howard Stratton
2619 Walnut, Butte MT 59701
Status: Developing, exploration

*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: Exploration

Part 2—Nonmetal Mines, Pits and Quarries

BARITE MINES

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

Missoula County: Missoula 59801

ELK CREEK MINE Barite
Elk Creek dist. [145], sec. 16, T. 13 N., R. 14 W.
Operator: Dillon Exploration, Inc.
P. O. Box 700, Lethbridge, Alberta,
Canada T1J 3Z6
Owner: State of Montana lease
Helena MT 59601
Mill capacity: 40 t/hr
Status: Producing

CHLORITE MINES

Madison County: Virginia City 59755

*ANTLER MINE Chlorite
Silver Star dist. [126], sec. 14, T. 2 S., R. 6 W.
Operator: Cyprus Industrial Minerals
5050 U.S. Highway 287 North, Ennis MT 59729
Owner: Cyprus Industrial Minerals
7200 South Alten, Englewood CO 80155
Employees: 11
Status: Produced

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

FLUORSPAR MINES

Silver Bow County: Butte 59701

**FOURTH ESTATE MINE Fluorspar, gold
Summit Valley dist. [183], sec. 13, T. 3 N., R. 8 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],
secs. 17, 20, 29, 32, T. 7 N., R. 1 E.
Owner-Operator: Black Diamond Graphite Co.
Box 682, Townsend MT 59644
Status: Exploration

LIMESTONE MINES AND QUARRIES

Broadwater County: Townsend 59644

*CONTINENTAL LIME INC. PLANT Quick lime,
limestone
Indian Creek dist. [35], secs. 28, 33, T. 7 N., R. 1 E.
Operator: Continental Lime Inc.
Elton Chorney, Plant Manager
P.O. Box 550, Townsend MT 59644
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
Secs. 24, 25, T. 8 S., R. 25 E., and
secs. 19, 30, T. 8 S., R. 26 E.
Operator: Big Horn Calcium Co.
James Weaver, President
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
Secs. 9, 10, T. 2 N., R. 2 E.
Owner-Operator: Ideal Basic Industries—
Cement Div.
J. M. Strawbridge, General Manager
4070 Trident Road, Three Forks MT 59752
Mill capacity: 330,000 t/y
Employees: 90
Status: Producing

Jefferson County: Boulder 59632***CLARK GULCH QUARRY**

Portland cement limestone
 Sec. S ¼, 10, N ½, 15, T. 9 N., R. 3 W.
 Owner-Operator: Ash Grove Cement West, Inc.
 R. J. O'Hara, Plant Manager
 Montana City MT 59602
 Mill capacity: 1000 t/d
 Employees: 72
 Status: Producing, developing

***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, President
 East Helena MT 59635
 Mill capacity: 600 t/d
 Employees: 3
 Status: Producing

PHOSPHATE MINES**Powell County: Deer Lodge 59722**

WARM SPRINGS MINE Phosphate rock
 Garrison dist. [160], secs. 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
 Mill capacity: 1,000 t/d
 Employees: 118
 Status: Producing, developing

SAPPHIRE MINES**Granite County: Philipsburg 59858**

***GEM MOUNTAIN SAPPHIRE MINE** Sapphires
 [Old Chaussee Sapphire mine]
 Rock Creek dist. [67], sec. 16, T. 6 N., R. 16 W.
 Operator: Gem Mountain Sapphire
 T. R. Hess, General Manger
 P.O. Box 701, Philipsburg MT 59856
 Owner: Theo T. Smith
 17207 N. 39th Dr., Glendale AZ 85308
 Employees: 13
 Status: Produced

Judith Basin County: Stanford 59479

VORTEX GROUP Sapphires
 Secs. 19, 20, T. 13 N., R. 11 E.
 Operator: Vortex Mining
 Utica MT 59452
 Owner: Lanny and Joy Perry, Chuck and Marie
 Ridgeway, Pete Ecker
 Utica MT 59452
 Mill capacity: 100 y/d
 Employees: 5
 Status: Producing, developing

YOGO SAPPHIRE MINE Sapphires
 Yogo dist. [92], secs. 19, 20, 21, 22, T. 13 N., R. 11 E.
 Owner-Operator: Roncor, Inc.
 Ronald H. Kunisaki, President, 2056 South
 Barrington Ave, Los Angeles CA 90025
 Mill capacity: 500 t/d
 Employees: 3
 Status: Produced

Lewis and Clark County: Helena 59601

***EL DORADO BAR SAPPHIRE MINE** Sapphires
 Secs. 2, 10, 11, T. 11 N., R. 12 W.
 Owner-Operator: Sam Speerstra
 Box 4308, Helena MT 59604
 Status: Produced, developing

***FRENCH BAR PLACER** Placer sapphires, gold
 Missouri River dist. [101], secs. 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, sapphires, garnets, 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: 16" surface controlled suction dredge
 Status: Developing

***LOVE STONE PLACER** Gold, sapphires
 Missouri River dist. [101], sec. 5, T. 10 N., R. 1 W.
 Operator: Jefferson Mining
 Bill Cooper and Kevin Pierce
 Box 5598, Helena MT 59604
 Status: Developing

***PRETTY GIRL PLACER** Gold
 Secs. 9, 10, T. 9 N., R. 4 W.
 Operator: S.L.M.C. Mining Corp.
 8310 Applegate Dr., Helena MT 59601
 Owner: Ballard Mining Corp.
 2765 Wylie Dr., #72, East Helena MT 59635
 Status: Produced, inactive

ST. JOE PLACER Placer gold
 Sec. SW ¼, SW ¼ 17, T. 10 N., R. 3 W.
 Operator: Special Lady Mining Company
 Al Ballard, President
 P.O. Box 5134, Helena MT 59601
 Owner: Sunlight Development Corp.
 16 E. Granite Street, Butte MT 59701
 Status: Produced, inactive

SEMI-PRECIOUS STONES**Jefferson County: Boulder 59632**

*P. C. CRYSTAL MINE Japan Law twins of quartz crystals
Basin Creek dist. [73], secs. 22, 23, 24, T. 7 N., R. 6W.
Owner-Operator: Forrest L. Klies
c/o P.O. Box 153, Basin MT 59631
Employees: 1
Status: Producing, developing

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
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 Pruetz, Plant Manager
Box 3146, Butte MT 59702
Mill capacity: 500 t/d
Employees: 2
Status: Producing

SOIL CONDITIONERS**Lake County: Polson 59860**

*MARTIN'S PEAT, INC. Peat
Secs. 16, 17, T. 24 N., R. 17 W.
Owner-Operator: Martin's Peat, Inc.
Ronald I. Martin, President
Swan Route, Bigfork 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.
Stewart Laber, Project Manager
Box 148, Clinton MT 59825
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
Secs. 14, 24, T. 9 S., R. 8 E.
Operator: Livingston Marble and Granite Works
Livingston MT 59047
Owner: Greg Strong
711 E. Park, Livingston MT 59047
Mill capacity: 18 t/d
Employees: 7
Status: Producing

Sanders County: Thompson Falls 59873

*RED BLUFF QUARRY Flag stone, trap rock
Unorg. dist., NE, SE¼ of sec. 14, T. 18 N., R. 26 W.
Owner-Operator: Red Bluff Quarry, Inc.
James M. Morgan, President
Box 237, St. Regis MT 59866
Employees: 4
Status: Produced, producing, developing

TALC MINES**Madison County: Virginia City 59755**

BEAVERHEAD MINE Talc
Secs. 11, 14, T. 7 S., R. 6 W.
Operator: Cyprus Industrial Minerals
Mike Toelle, Mine Manager
P.O. Box 99, Alder MT 59103
Owner: Cyprus Industrial Minerals
7200 South Alton, Englewood CO 80155
Employees: 15
Status: Producing

MONTANA TALC PROJECT Talc
Sec. 9, T. 9 S., R. 1 W.
Operator: Westmont Mining Company
M. B. Richings, Vice President
28769 Sappington Road, Three Forks MT 59752
Owner: Westmont Mining and Meridian Joint
Venture
28769 Sappington, Road, Three Forks MT 59752
Mill capacity: 75,000 t/y
Employees: 70
Status: Producing, developing

*TREASURE MINE AND PLANT Talc
Unorg., NE¼ NE¼ sec. 14, T. 7 S., R. 6 W.
Owner-Operator: Pfizer, Inc.
Richard Dale, Mine Manager
Box 1147, Dillon MT 59725
Employees: 100
Status: Producing

***YELLOWSTONE (CAMERON) MINE** Talc
 Sec. 4, T. 9 S., R. 1 W.
 Operator: Cyprus Industrial Minerals
 G. C. Jeske, Mine Manager
 P.O. Box 572, Cameron MT 59720
 Owner: Cyprus Industrial Minerals
 720 South Alton, Englewood CO 80155
 Employees: 115
 Status: Producing

VERMICULITE MINES

Lincoln County: Libby 59923

***ZONOLITE MINE** Vermiculite
 Rainy Creek dist. [109],
 secs. 14, 15, 22, 23, T. 31 N., R. 30 W.
 Operator: Libby Operations
 Alan Stringer, General Manager
 P.O. Box 609, Libby MT 59923
 Owner: Construction Products Division,
 W. R. Grace & Co.
 62 Whittemore Ave., Cambridge MA 02140
 Mill capacity: 900 t/d
 Employees: 100
 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
 Employees: 3
 Status: Exploration

***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: Exploration

Ravalli County: Hamilton 59840

***WESTERN RESOURCES COMPANY OF MONTANA** Vermiculite
 Secs. 24, 25, T. 6 N., R. 19 W.
 Operator: Western Resources Co.
 10010 Indian School Road, NE,
 Albuquerque NM 87112
 Owner: Stansbury Mining
 1831 N. Fort Canyon Road, Alpine UT
 Employees: 5
 Status: Developing

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: 55
 Status: Produced

***DECKER COAL COMPANY (EAST PITS)** Coal
 Secs. 11, 12, 14, T. 9 S., R. 40 E.
 Owner-Operator: Decker Coal Co.
 Box 12, Decker MT 59025
 Employees: 242
 Status: Producing

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

***SPRING CREEK MINE** Coal
 Sec. 16, T. 8 S., R. 40 E.
 Operator: Spring Creek Coal Co.
 David E. Dearcorn, General Manager
 Box 67, Decker MT 59025
 Owner: NERCO, Inc.
 111 SW Columbia, Portland OR 97201
 Plant capacity: 7,000,000 t/y
 Employees: 138
 Status: Producing

Blaine County: Chinook 59523

***BLACK JACK II MINE** Coal
 Sec. NW¼ SW¼ 34, T. 32 N., R. 20 E.
 Owner-Operator: Blaine Warburton
 Route 70, Box 51, Chinook MT 59523
 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.
 127 P.M. Coal Road, Roundup MT 59072
 Mill capacity: 100 t/hr
 Employees: 4
 Status: Producing

Richland County: Sidney 59270

*SAVAGE MINE Coal
 Sec. 27, T. 20 N., R. 57 E.
 Operator: Knife River Coal Mining Co.
 Box 37, Savage MT 59262
 Owner: Knife River Coal Co.
 Douglas Kane, President
 1915 Kavaney Dr., Bismarck ND 58501
 Plant capacity: 350 t/hr
 Employees: 14
 Status: Producing

*ROSEBUD MINE Coal
 Secs. 1, 2, 3, 4, 5, 12, T. 1 N., R. 40 E.; secs. 1, 2, 3,
 4, 5, 6, 7, 8, 9, 10, 12, 18, T. 1 N., R. 41 E.; secs. 29,
 32, 33, 35, T. 2 N., R. 41 E.
 Owner-Operator: Western Energy Co.
 Robert W. Cope, Mine Manager
 Box 99, Colstrip MT 59323
 Employees: 340
 Mine capacity: 18,000,000 t/y
 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: 111
 Mine capacity: 3,000,000 t/y
 Status: Producing

Nine coal operations produced 38,920,381 tons of coal in 1988 (*from* Montana Division of Workers Compensation, Bureau of Safety Mining Section).

**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.”

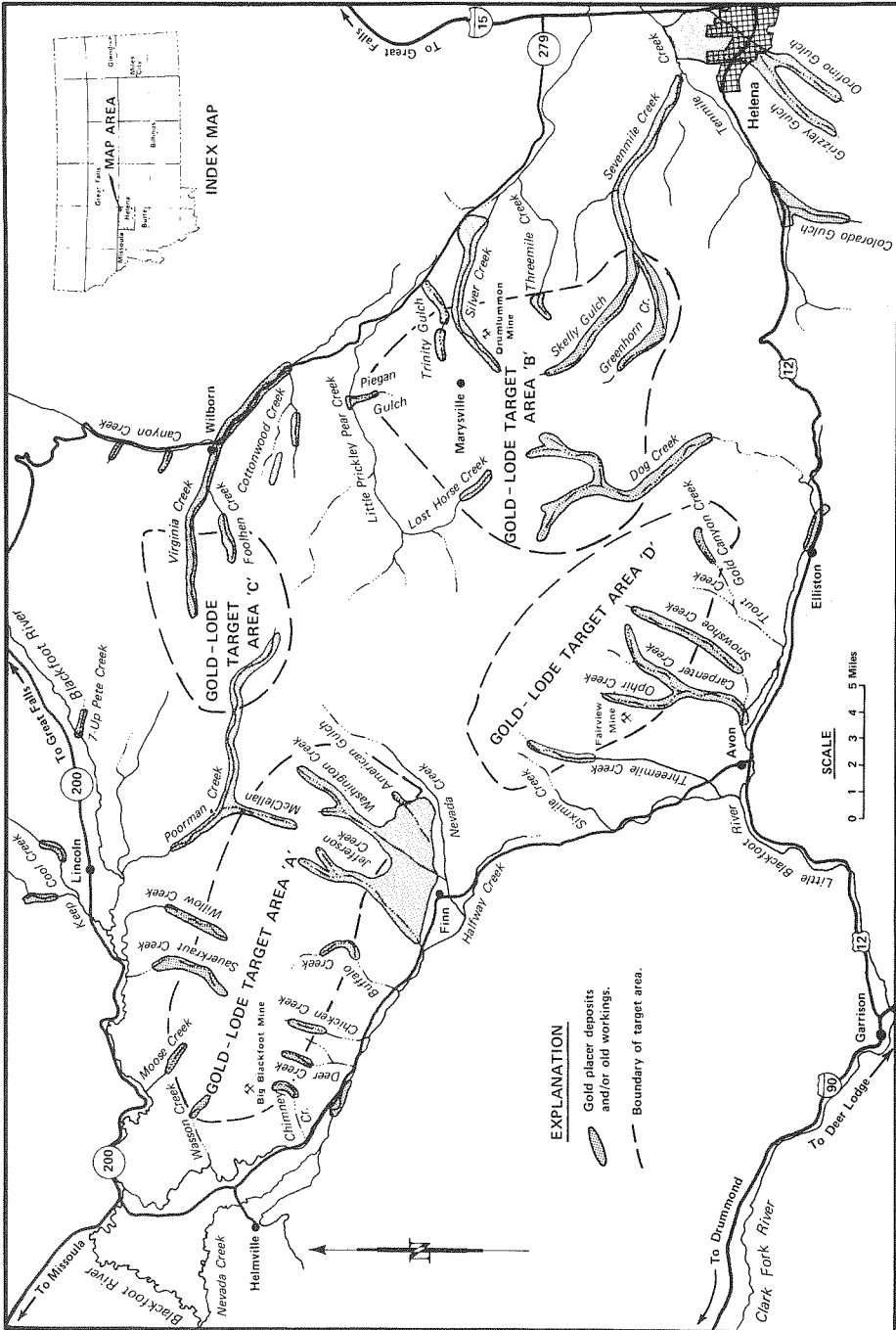


Figure 1 — Gold-lode target areas in the Lincoln-Helena area.

Gold placers: A signature for lode-gold deposits in Montana

by
Robin McCulloch

Introduction

“Where can I find a gold vein?” The answer to this frequent question is fairly simple, and the search can be fairly inexpensive if the seeker realizes that most lode-gold discoveries have been preceded by discovery of a related gold placer.

By plotting information of both placer and lode deposits on topographic maps, exploration targets can be outlined for further study. Both regional and local targets can be identified in this manner. Regional targets may include numerous drainages containing gold placers and large geographic areas. Local targets normally involve a single gold-bearing drainage and lode-gold source of the placer gold.

Regional targets

In searching for large, regional gold targets, the spatial relations of topography, geology, and deposit location with regard to other deposits are all important. These deposits commonly are found in radial, parallel or dense patterns:

1. Radial—A radiating pattern of gold-bearing drainages extending outward from a central area of higher elevation.
2. Parallel—A parallel pattern of gold-bearing drainages confined to one side of a dominant ridge.
3. Dense—An area of land containing a significant number of placer deposits that have no recognizable relation to one another; the areal density is such that many adjacent townships may have placer deposits in most of the larger drainages.

Two separate targets may be recognizable in radial deposits. One deposit target includes a ridge or multiple peaks. The other, more localized version, is confined to a dominant topographic feature. In **Figure 1**, Target area A represents a block of land that includes parts of six townships. It has a single ridgeline with multiple peaks and placer development is present in nearly every significant drainage.

Sources of gold within such a large area are likely to be varied. For example, in the northwest portion of Target area A (**Figure 1**), near Moose and Wasson creeks, the source of placers appears to be quartz veins that may be related to a Tertiary quartz monzonite stock (Lyden, 1948). The most significant lode deposit in the area is the Big Blackfoot mine which produced 570 ounces of gold from 1,235 tons of rock; placer production totaled 2,477 ounces of gold (McClerman, 1976). In the southeast portion of Target area A, along Jefferson and Washington creeks and

American Gulch, an estimated 50,714 ounces of placer gold were recovered. On the opposite side of the ridge, in McClellan Creek, 200,000 ounces of placer gold were recovered (Lyden, 1948). Upper Cretaceous granitic rock underlies the upper parts of the drainages (Alt and Hyndman, 1976).

Smaller radial deposits can be closely associated with a single topographic feature, where geologic controls are commonly widespread and relatively uniform. Target areas B and C (**Figure 1**) are examples of small radial deposits associated with a specific topographic high where significant placer deposits have been found in the major radially distributed drainages.

Target area B, the most significant of the two examples, is in the Marysville mining district where the principal topographic feature is Mount Belmont. The Marysville stock, a Tertiary granodiorite, intrudes country rock of the Empire (shale) and Helena (dolomite) formations of the Belt Supergroup (McClernan, 1983). Mineralization occurs in quartz-calcite fissure veins that are confined to the margin of the stock and surrounding hornfels (Derkey and Derkey, 1987). Lode production (to date) exceeds \$35 million of gold and silver (Bannister and others, written communication, 1965). Placer production in the Marysville area exceeds 199,692 ounces of gold. The parallel pattern of placer deposits originate on a single side of a ridge. This may indicate a mineralized geologic feature that is only exposed on that side (e.g., a continuing vein deposit that is exposed over a sufficient distance to influence several drainages, or from separate deposits exposed along one side of a ridge). An exposure of mineralization can also be controlled by stratigraphic units.

Target area D (**Figure 1**) is an area underlain by Paleozoic limestone intruded by Tertiary quartz monzonite and granodiorite (McClernan, 1976). The placer-gold source appears to be a garnet skarn which was formed along the contact. The most significant lode mine is the Fairview which produced 227 ounces of gold and 9,294 ounces of silver (McClernan, 1976), but a few lode mines in the area have yielded most of the ore. Placer output resulted in 259,927 ounces of gold; most of the production was prior to 1900 (Lyden, 1948).

Another example of a parallel pattern in a different geologic setting, is illustrated in **Figure 2**. Total placer production in this area is about 204,104 ounces of gold (Lyden, 1948). The placer gold originally was believed to have been derived from quartz diorite dikes in the district, but present theories suggest stratigraphic controls. Lode production for the area is about \$2.3 million, with most of the ore coming from the Golden Messenger mine. Grades of ore typically averaged 0.16 ounces/ton gold during the production years 1935-1942 (Bannister and others, written communication, 1965). Geologists of Western Gold Exploration and Mining Company suggest that the source of gold is bedded mudstones and siltstones of the Grayson Formation (Belt Supergroup), which locally include "reefs" that contain 0.1 to 0.015 ounces/ton gold. Grades of up to .05 ounces/ton gold exist in locally enriched zones (Baitis, 1988).

Exploration targets can also be suggested by regionally abundant gold deposits that do not seem to be controlled by central geologic or topographic features. A regional target thus is defined by areal density of gold placers and associated regional lode mineralization. For example, in **Figure 3** a block of uniform gold-bearing drainages occur in an area roughly 30 X 30 miles. The geology is extremely varied, as are

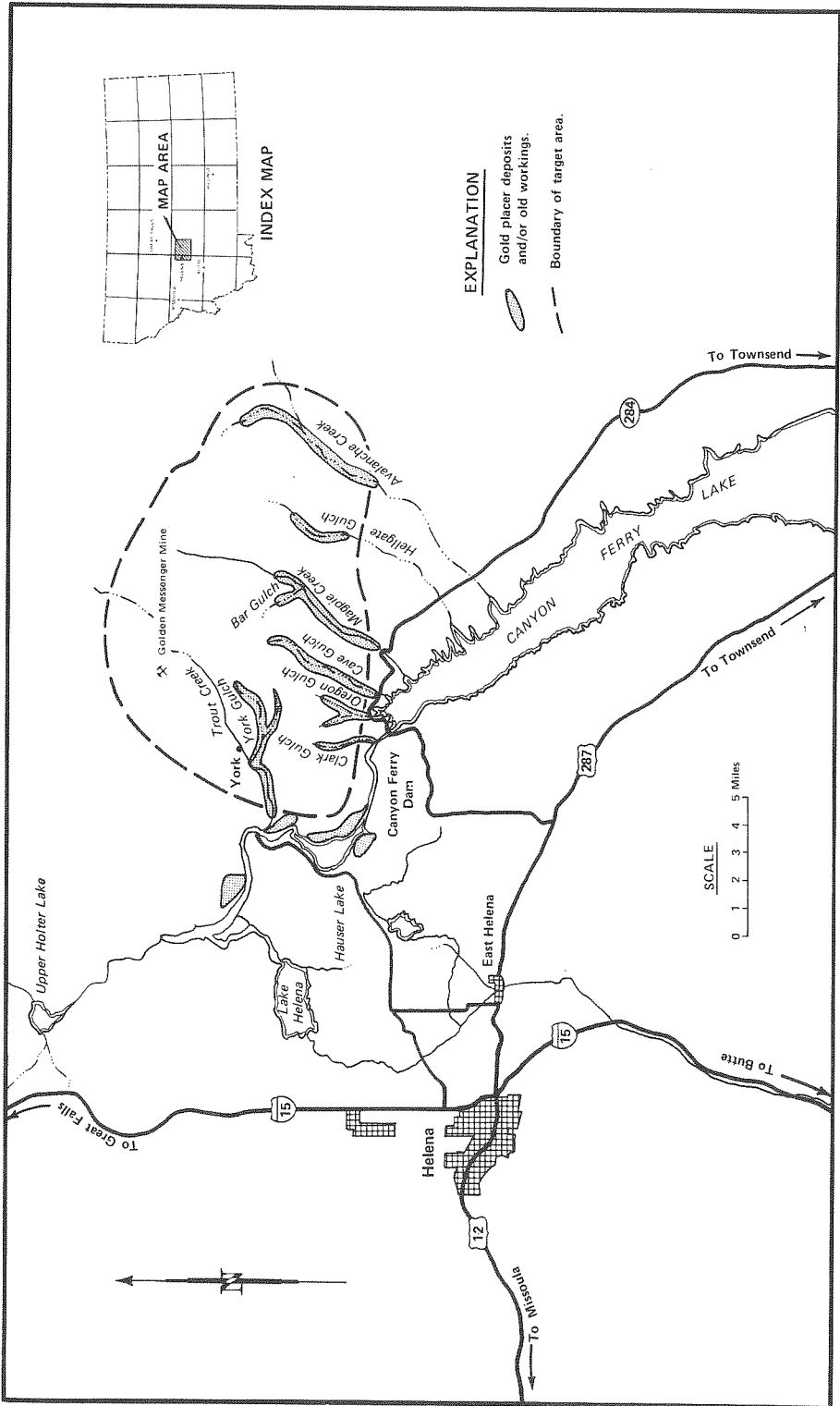


Figure 2—Regional target area associated with a parallel placer pattern.

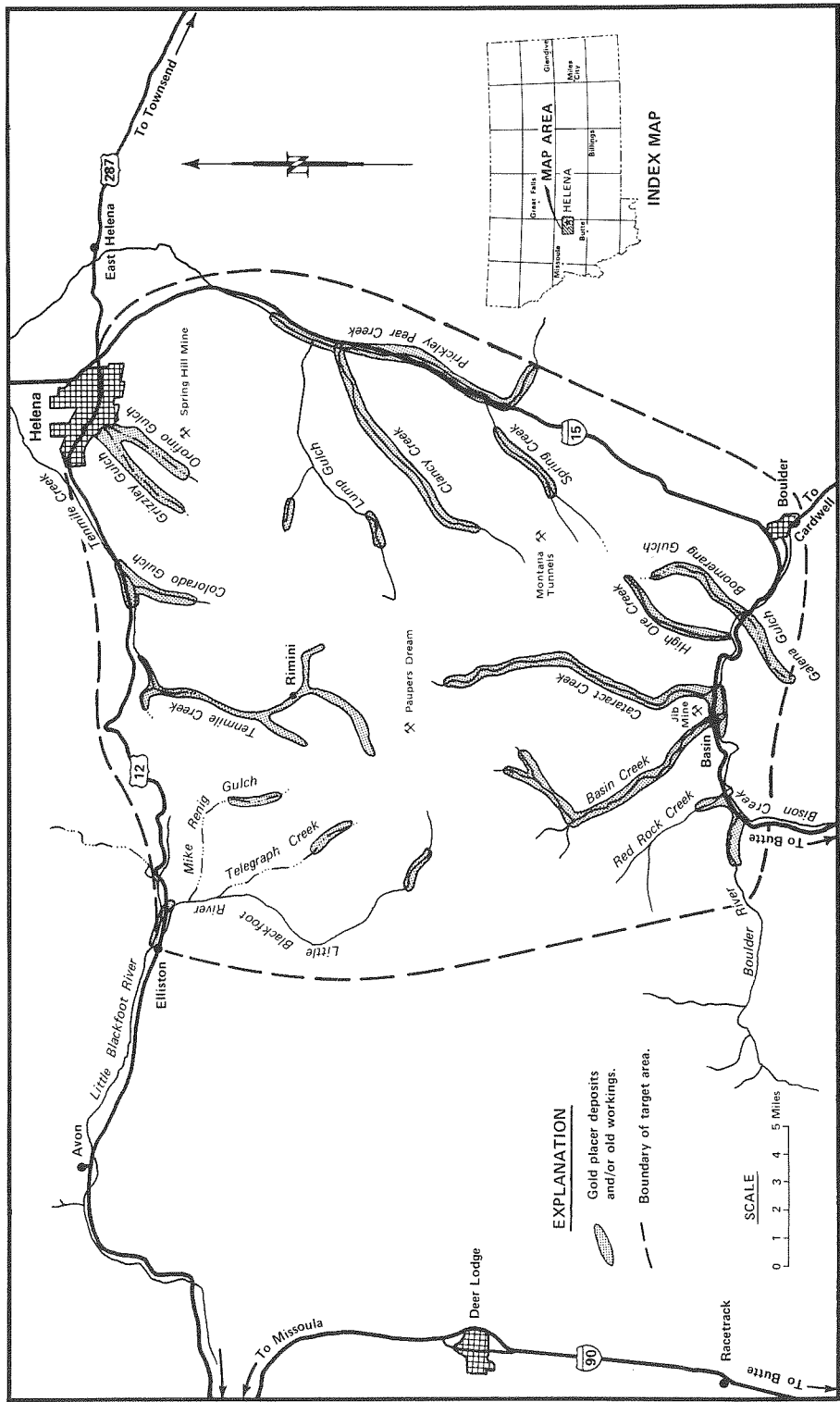


Figure 3—Regional target area with a density placer pattern.

the size and types of deposits. In the northeast corner of the area, the Helena district produced about 742,857 ounces of gold; lode-gold deposits produced about 27 percent of this total. The predominant producers are the Whitlatch-Union, Spring Hill and Big Indian mines (Bannister and others, written communication, 1965). The mineralization is associated with gold-hosted skarn deposits.

Near the northwest corner of the target area, the Rimini district produced about \$7.2 million in minerals of which \$4 million dollars was gold. Two of the more significant properties in the district, the Porphyry Dike and Paupers Dream mines were recently brought back into production. The ore of these two deposits is contained in Tertiary-age rhyolite flows containing up to 0.13 ounces/ton gold (Ruppel, 1963; Bannister and others, written communication, 1965). Present ore grades are between .04 and .05 ounces/ton gold. The mine life is estimated at 5-8 years and is expected to produce 30,000 ounces of gold per year.

In the southwest corner of the block (at Basin), the Hope and Katie mines (Jib Group) produced 240,000 tons of ore having a gross value of about \$3,000,000 (Ruppel, 1963). Ore emplacement was controlled by quartz veins associated with the Boulder batholith. Although the mine contained rich gold-shipping ore, the property is polymetallic in nature with good values in base metals and silver (Roby and others, 1960). Placer deposits derived from polymetallic areas are limited in size and grade.

The Montana Tunnels Project of Pegasus Gold Corporation is near the southeast corner of the block, north of Boulder. This is the largest operating mine in the target area. Annual production is 80,000 ounces of gold, 1.1 million ounces of silver, 9,400 tons of lead, and 25,000 ounces of zinc. Many properties in the area are located in a roof pendant of andesite or in veins associated with an andesite—quartz monzonite contact (Roby and others, 1960).

These few examples, and the fact that many other minor deposits are found throughout the target area, illustrate the broad variability of mineralization and geology. The large number of placers and lode deposits suggest that the entire block deserves further investigation.

Local targets

Most placer deposits can be categorized as local targets which are isolated placer deposits with specific lode sources or small, compound sources. An example of this type of target is shown in **Figure 4**. The German Gulch placer was derived from an ore body currently being developed at the Beal Mountain mine. Historic production is estimated at 142,857 ounces of gold from the placer, however, lode production was insignificant (Bannister and others, written communication, 1965). The lode deposit consists of disseminated sulfides and precious metals in Cretaceous quartzite, hornfels and metaconglomerates. This deposit is a low grade, high-tonnage ore body, that, due to the economic situation, could not have been mined profitably until now. Hastings and Harrold (1988) report that grades of 0.048 ounces/ton gold and similar amounts of silver in a deposit of 9,900,000 tons are now more beneficial to produce because of modern machinery, ore handling techniques, and increased gold prices.

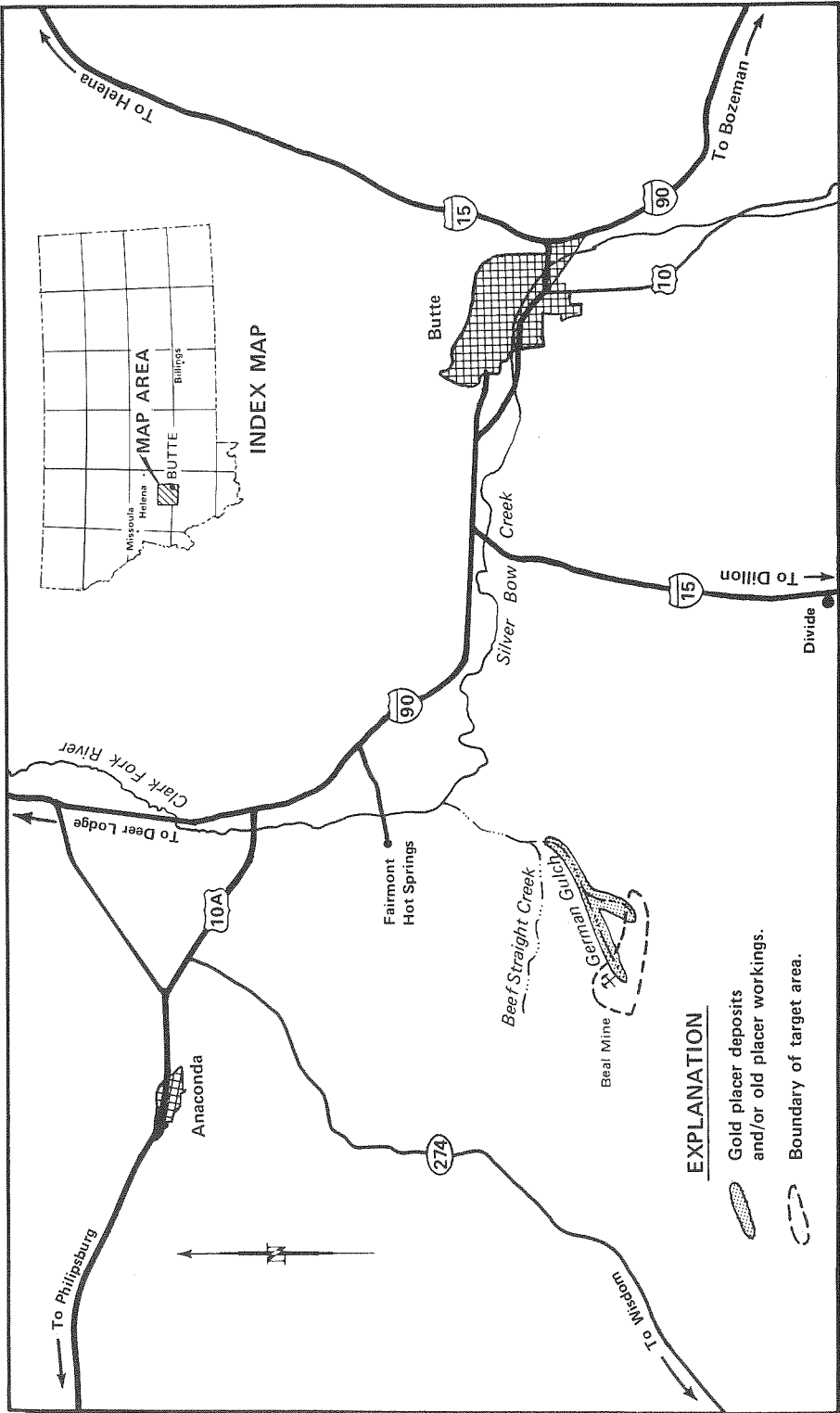


Figure 4 — Local placer deposit with a singular known source.

Placers with no known source

The techniques explained and the placer deposit patterns that have been characterized refer to areas where geology and lode sources have been identified. This is not true for every placer deposit in the State. Although the patterns previously discussed are useful in many instances, the source of gold for some placers is unknown. For some placers the lode sources may have been entirely eroded. For others, the placer itself may cover the lode source and the deposit will ultimately weather in place with little or no transport.

Figure 5 shows a placer deposit in the Ninemile drainage northwest of Missoula. It exhibits a parallel pattern but no placer or lode deposits are known on the north-facing side of the ridge. The headwaters of the drainages are underlain by slates from the equivalent of the Pritchard Formation (Lyden, 1948), which is known to contain gold elsewhere. Historic production of gold in the Ninemile drainage and its tributaries is more than 9,628 ounces of gold. Significant low-grade placer resources remain undeveloped in the drainages due to clay and boulder problems (Lyden, 1948).

Jeff Davis Creek, southwest of Dillon (**Figure 6**) produced an estimated 2,857 ounces of gold prior to World War II and has had continued placer production into the present era. It is an example of an isolated placer with no obvious lode source. The placer tailings contain cobbles of pre-Belt Dillon granite gneiss, quartzite, banded coarse-grained gneiss and light-colored felsic Tertiary volcanic rocks. The principal producer in the district is the H & S mine, which is located in both feldspathic volcanic rocks and brecciated gneiss. It has produced 1,293 tons of ore which contained 728,908 pounds of lead, 14,977 pounds of zinc, 700 pounds of copper, 11,182 ounces of silver but only 42 ounces of gold (Geach, 1972). The placer tailings match the country rock of the area, but the H & S mine, obviously, is not the source of the placers. In both the Jeff Davis Creek and Ninemile drainage areas are examples of placer deposits that may not have been associated with mined or mineable lode-gold sources.

Summary

Placer deposits may provide sufficient data to identify lode-gold exploration targets. Regional and local targets may be developed using drainage patterns that indicate possible locations of lode-gold sources for placer deposits. However, success in discovering a profitable lode is not certain—even with placer indicators.

Acknowledgements

The author wishes to express his appreciation to Tom Weitz, General Manager of Pegasus' Montana Tunnels mine and Robert Turner, Vice-President of operations for Pangea Mining Inc. Paupers Dream mine, for production and technical data from their respective properties. Greatful thanks is also offered to D'arcy Bannister, U.S. Bureau of Mines, for freely sharing unpublished data from previous studies.

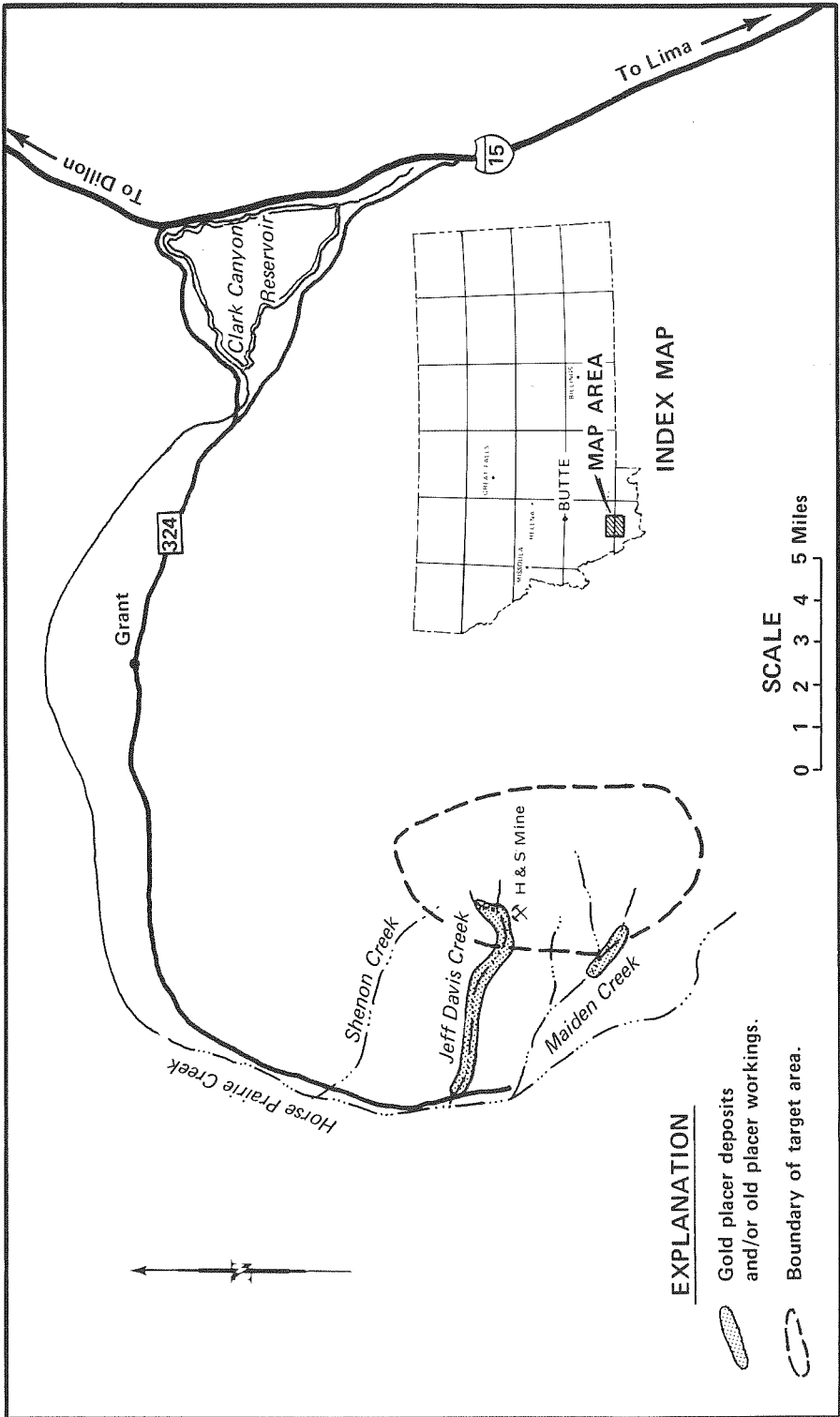


Figure 5—Unknown lode source for a parallel placer pattern.

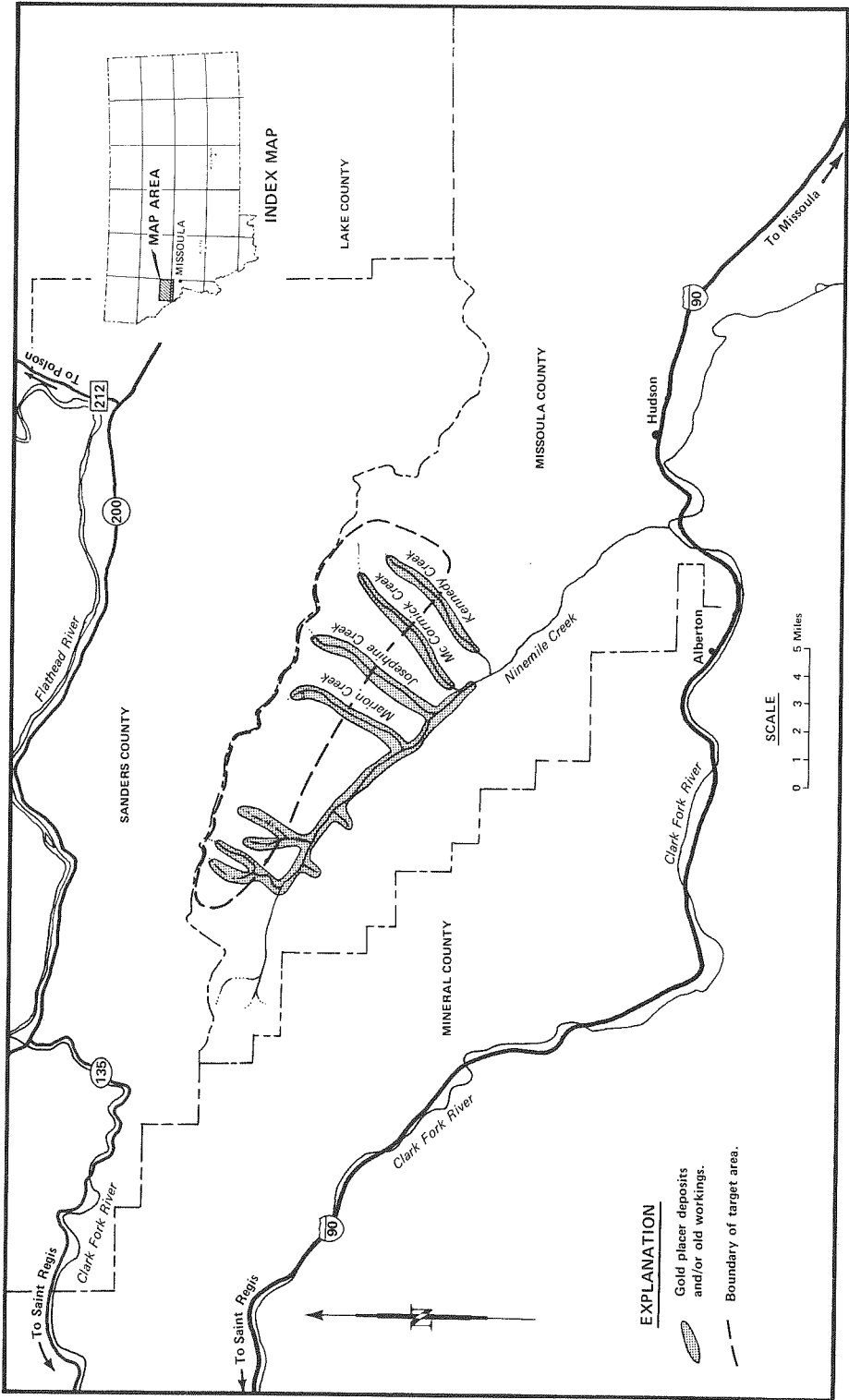


Figure 6—Unknown lode source for a local placer pattern.

References

- Alt, David, and Hyndman, Donald W.**, 1976, Preliminary geologic map of the Butte 1°x 2° quadrangle, Montana: Montana Bureau of Mines and Geology Open-File Report 53. Scale 1:250,000.
- Baitis, Hart**, 1988, York—Proterozoic "shale"-hosted gold system in Montana: Northwest Mining Association Abstracts with Program, Spokane, Washington, (*in press*).
- Derkey, Robert E., and Derkey, Pamela Dunlap**, 1987, Marysville stock and contact aureole, western Montana: Geological Society of America Centennial Field Guide, Rocky Mountain Section, p. 49-52.
- Geach, R. D.**, 1972, Mines and mineral deposits, Beaverhead County, Montana: Montana Bureau of Mines and Geology Bulletin 85, 194 p.
- Hastings, James S., and Harrold, Jerry L.**, 1988, Geology of the Beal gold deposit, German Gulch, Montana, *in* Symposium Proceedings, Bulk Mineable Precious Metal Deposits of the Western United States: Geological Society of Nevada, Reno, p. 207-220.
- Lyden, Charles J.**, 1948 (1987), Gold placers of Montana: Montana Bureau of Mines and Geology Reprint 6, 120 p.
- McClerman, H. G.**, 1976, Metallic mineral deposits of Powell County: Montana Bureau of Mines and Geology Bulletin 98, 69 p.
- _____ 1983, Metallic mineral deposits of Lewis and Clark County, Montana: Montana Bureau of Mines and Geology Memoir 52, 73 p.
- Roby, R. N., Ackerman, W. C., Fulkerson, F. B., Crowley, and Crowley, F. A.**, 1960, Mines and mineral deposits (except fuels), Jefferson County, Montana: Montana Bureau of Mines and Geology Bulletin 16, 117 p.
- Ruppel, E. T.**, 1963, Geology of the Basin quadrangle, Jefferson, Lewis and Clark, and Powell counties, Montana: U.S. Geological Survey Bulletin 1151, 121 p.

Appendix

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

Mineral	Measure	1987		1988**	
		Quantity	Value (thousands)	Quantity	Value (thousands)
Clays	thousand short tons	§ 29	§ \$98	§ 39	§ \$87
Gem stones		NA	1,302	NA	1,300
Gold (recoverable content of ores, etc.)	troy ounces	234,365	104,984	350,763	153,985
Gypsum	thousand short tons	24	W	W	W
Sand and gravel (constr.)	thousand short tons	‡ 6,800	‡ 18,800	6,900	17,000
Silver (recoverable content of ores, etc.)	thousand troy ounces	5,837	40,920	5,543	36,304
Stone, crushed†	thousand short tons	1,463	3,585	‡ 1,600	‡ 4,000
Combined value of barite (1987-88), cement, clays (ben- tonite 1988, fire clay 1987-88), copper, graphite (1988), iron ore (usable), lime, molyb- demun, peat, phosphate rock, platinum group metals (1987-88), sand and gravel (in- dustrial), stone (crushed trap- rock 1986, dimension), vermic- ulite, zinc, and values indicated by symbol W		XX	186,456	XX	349,374
	TOTAL	XX	\$368,466	XX	\$571,666

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

**Preliminary.

‡ Estimated.

§ Excludes certain clays; kind and value included with "Combined value" data.

† Excludes certain stone; kind and value included with "Combined value" figure.

(W), Withheld to avoid disclosing company proprietary data; value included with "Combined value" figure.

(NA), not available.

(XX), not applicable.

List 1

Major Montana Exploration Projects

BEAVERHEAD COUNTY

Yellowband project Noranda Exploration Inc., West U.S.
Division, 12640 West Cedar, P. O. Box
15638, Denver, CO 80215

BROADWATER COUNTY

Chartam project Addwest Gold Inc., 5301 Longley Lane,
Suite 5, Reno NV 89511

Miller Mountain project FMC Corporation, Minerals Division,
1801 California Street, Suite 2720,
Denver CO 80202

York project Inspiration Consolidated Gold Company,
P.O. Box 1559, Claypool AZ 85532

DEER LODGE COUNTY

Hidden Hand project Freeport McMaron Gold Company, 1424
National Avenue, Helena MT 59601

Southern Cross project Magellan Resources Inc., 2305 Carles
St. Switch, Moss Beach CA 94038

FERGUS COUNTY

Linster Peak project AMAX Exploration Inc., 1707 Cole Blvd.,
Golden CO 80401

JEFFERSON COUNTY

Diamond Hill project Pegasus Gold Corp., P. O. Box 4048,
300 Holmes Ave., Butte MT 59702

Elkhorn's project Goldfields Mining Corporation,
317 N. Main, Boulder MT

LEWIS AND CLARK COUNTY

Seven-up Pete project Western Energy Company, 16 East
Granite, Butte MT 59701

Spring Hill project Cyprus Minerals Co., P. O. Box 3299,
Englewood CO 80115

MADISON COUNTY

Easton-Pacific project BHP-Utah International Inc., 10 W. 2950
S., Salt Lake City UT 84115

MEAGHER COUNTY

Sheep Creek Venture project BHP-Utah International Inc., 10 W. 2950
S., Salt Lake City UT 84115

List 1—Major Montana Exploration Projects (continued)**PARK COUNTY**

New World project Noranda Exploration Inc., West U.S.
Division, 12540 West Cedar Drive, P. O.
Box 15638, Denver CO 80215

SANDERS COUNTY

Montana project Noranda Exploration Inc., West U.S.
Division, 12640 West Cedar Drive, P. O.
Box 15638, Denver CO 80215

SWEET GRASS COUNTY

East Boulder Chevron/Mansville Joint Venture, 6001
Bollinger Canyon Road, San Ramon CA
94583

List 2

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 (Giltedge) (Maiden)

Flathead Co., A-2

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

Galatin Co., D-5

55. Eldridge
56. West Gallatin (Spring Hill)

Granite Co., C-3

57. Alps (Bonita)
58. Antelope Creek
59. Combination (Henderson) (Black Pine)
60. Dunkleburg
61. Frog Pond Basin

62. Garnet (Top-o' Deep) (First Chance)

63. Maxville (Wyman) (Gird Creek)
64. Moose Lake
65. Phillipsburg (Flint Creek) (Granite)
66. Red Lion (Cable Mountain)
67. Rock Creek
68. Rose Mountain (Gold Creek)
69. South Boulder (Princeton)
70. Welcome Creek

Jefferson 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. Sylvania
111. Tobacco River
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)

List 2—Mining Districts (continued)

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)
(Sheepsteater)
154. New World
(Cooke City)
(Blackmore)
- Phillips Co., A-9**
155. Little Rockies
(Lasndusky)
(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. Fleecer Mountain
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 3

Strippable Subbituminous and Lignite Coal Fields

No. on map	Name of field	Coal bed	Est. reserves in millions of tons	Acresage	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
		Wail	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	Wail	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	3,800	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

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

List 3—Strippable Subbituminous and Lignite Coal Fields (continued)

52C	Carroll	Carroll	345.00	29,780	11,584	5.5	.30	7,400
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				

List 4

New Mining Companies Incorporated in Montana

- ADDWEST GOLD, INC.
313 Frederica St., Box 927, Owensboro KY 42301
- ALBERTA GOLD RESOURCES, INC.
5408 E. Vale Drive, Denver CO 80222
- ALBERTA LTD
Registered agent: CSC of Montana, Inc.
301 1st Natl Bank Bldg., Box 1715, Helena MT 59624-1715
- ALL STATE MINING & REFINING, INC.
Registered agent: Charles Eastman
300 N. Cherry, Box 954, Townsend MT 59644
- ALTA GOLD CO.
1007 Ave. D., East Ely NV 89315
- AMBASSADOR GOLD, LTD.
Registered agent: Robert L. Fletcher
1018 Main St., Box 9, Thompson Falls, MT 59873
- AMERICAN EXPLORATION ACQUISITION—VI CORP.
1209 Orange St., Wilmington DE 19801
- AMERICAN PLATINUM INC.
Registered agent: R. W. McKamy
2817 2nd Ave. N., Ste. 203, Billings MT 59101
- AMERICAN RESOURCES COMPANY
Registered agent: Deanna Campbell
Box 38, Emigrant MT 59027
- BIG SKY SAPPHIRES, INC.
Registered agent: CSC of Montana, Inc.
301 First Nat'l Bank Bldg., Box 1715, Helena, MT 59624-1715
- BILLITON METALS INC.
1209 Orange St., Wilmington DE 19801
- BILLITON MINERALS U.S.A. INC.
1209 Orange St., Wilmington DE 19801
- BOND GOLD EXPLORATION INC.
4600 S. Ulster St. #300, Denver CO 80237
- CENTURY SILVER MINES, INC.
Registered agent: John E. Thorson
314 N. Last Chance Gulch, Box 1185, Helena MT 59624
- CHEMEX LABS, INC.
Registered agent: Chadwick H. Smith
26 W. 6th Ave., Box 604, Helena MT 59624
- CHROME CORPORATION OF AMERICA
1209 Orange St., Wilmington DE 19801
- CLEMENTIS MINERAL CORPORATION
Registered agent: Gunnar Johnson M.E.
100 E. Broadway, Ste. 502, Butte MT 59703
- CURATOR GOLD, INC.
1675 Broadway St., Ste. 2430, Denver CO 80202
- EVANS MINING INCORPORATED
Registered agent: John D. Evans
202 White Ave., Libby MT 59923
- FIRST RESERVE RESOURCES, INC.
1209 Orange St., Wilmington DE 19801
- GOLD BLOCK PROPERTIES, INC.
Registered agent: Sara Kerr
Box 100, Fishtail MT 59028
- GOLD STREAM CORPORATION
Registered agent: Gerald Monk
62 Duncan District Road, Sheridan MT 59749
- GRANDE TRUNK RESOURCES, U.S., INC.
Registered agent: R. Wayne Peterson
44 Broadway, Philipsburg MT 59858
- INDEPENDENT MINING CO.
Registered agent: R. Dean Robbins
277 Parrot Ditch Rd, Whitehall MT 59759
- INTERNATIONAL MINERALS & CHEMICAL CORP.
1209 Orange St., Wilmington DE 19801
- IRON BEAR MINE & EQUIPMENT, INC.
Registered agent: Norman K Balison
52 Quartz Road, Superior MT 59872
- KENNECOTT MINERALS COMPANY
1209 Orange St., Wilmington DE 19801
- MASTER MINES CORPORATION
Registered agent: Hassan Najjar
119 W. Park, Box 1014, Anaconda MT 59711
- MAXIMILLIAN MINING INC.
Registered agent: Janet L. Nordwick
2000 Harrison Ave., Butte, MT 59701
- MCROMAS MINING CO., INC.
Registered agent: Bobby R. McKnight
138 Lore Lake Rd, Kalispell MT 59901
- MERIDIAN GOLD COMPANY
406 Fuller Ave., Box 1166, Helena MT 59624-1166
- MICAH MINING CORPORATION
Registered agent: Wendy Bryant
104 Beiler Lane, Box 451, Sheridan MT 59749
- MIDAS PROPERTIES, INC.
Registered agent: Prentice Hall Corp. System
26 W. Sixth Ave., Box 604, Helena MT 59624-0604
- MONTANA GOLD AND SILVER COMPANY
Registered agent: John W. Butler
736 Riverview Drive, E., Great Falls MT 59401
- MONTANA RESERVES COMPANY
1114 Old National Bank Bldg., Spokane WA 99201
- MOUNTAIN PACIFIC RESOURCES, INC.
Registered agent: W. B. Sherman
19 4th Ave. SW, Conrad MT 59425

List 4—New Mining Companies Incorporated in Montana (continued)

NECRAD MINING, INC.

Registered agent: B. Dale Fayram
Box E, Philipsburg MT 59858

NORTHERN STAR MINERALS, INC.

Registered agent: M. Dean Jellison
120 First Ave. W., Kalispell MT 59901

NORTH PACIFIC MINERALS INC.

Registered agent: Elita Haugen
3700 S. Russel, Ste. C114, Missoula MT 59801

NORTH RIVER EXPLORATION, INC.

Registered agent: Rick Kleven
104 Ast St., Highland Park, Box 582, Glendive MT 59330

PANGLO RESOURCES, LTD

Registered agent: James A. Nelson
206 Main St., Shelby MT 59474

QUARTZITE NORTH INCORPORATED

Registered agent: Ronald B. McLean
4032 Canyon Ferry Road, Helena MT 59601

RESOURCE RECOVERY CORPORATION

Registered agent: Peter M. Jones
100 Erik Drive, Bozeman MT 59715

ROCHE JAUNE EXPLORATION, INC.

Registered agent: Jacques L. Leroy Esq.
2817 2nd Ave. N., Billings, MT 59101

TIARA MINES, INC.

Registered agent: Paul B. McKee
1406 Hwy. 200, Box 545, Noxon MT 59853

TWIN BRIDGES MINING CORPORATION

Registered agent: Barry Bryant
104 Beiler Lane, Box 451, Sheridan MT 59749

VENTURE MINING CORPORATION

Registered agent: H. Leroy Hahn
Combest Road, Box 624, Plains MT 59859

WAYCO GOLD, INC.

Registered agent: Bill Clayton
419 S. Pines, Box 768, Townsend MT 59644

WESTERN MONTANA MINING VENTURES, LTD

Registered agent: Charles H. Recht
716 S. First St., Hamilton MT 59840

WHITE GOLD, INC.

Registered agent: Michael Harrington
460 Warm Springs Creek Road, Clancy MT 59634

Index of Mines, Mine Owners and Operators

Abbott, Harry	4	Black Diamond Graphite Co.....	18
Absaloka mine	21	Black Diamond group	18
Addwest Gold & Canyon Resources	3	Black Jack II mine	21
Aidlin, Joseph W.	3, 14	Black Pine mine	4
Alberta K. Mining, Co.	16	Black Pine Mining Co.	4
Aljon Mining and Exploration, Inc.	11	Blacktail Project	7
Allen, Harvey	1, 6	Blue Bird mine	4
Alpine placer	16	Blue Jay placer	16
Alta Gold Company	5	Blue Range Mining Co. LP	34
AM Mining and Development Co.	4	Bluebell group	2
Amanda mine	11	Bolkovatz, Joe	5
AMCO Minerals	7, 16	Bon Accord Placer	14
American Flag-Lila Dixon group	4	Bonanza group (Fergus Co.)	3
Anders, Harry Q., and others	3	Bonanza group (Mineral Co.)	10, 18
Antler mine	18	Bonnet, Les	10
Antonioli, Bill	4	Borland, R.	13
Antonioli, Ted	4	Boss Tweed and Clipper group	8
Ardic Exploration and Development, Ltd ...	7	Box, Oleta C.	8
Arpan, Joe, Mrs.	20	Bozlee, Raymond	10
ASARCO, Inc.	7, 12	Brady, J. V.	2
Ash Grove Cement West, Inc.	19	Browns Gulch Mining, Inc.	16
Atlanta group	16	Bubany placer	16
Atlantic Pacific mine	8	Buck, Dorothy	8
B and B Mining	15	Bullock, Delbert	5
B and B Mining, Ltd.	15	Bullock, John	5
B & H (Pete & Joe) group	8	Burchak, A. J.	9
Babbit mine	1	Burgierosa mine	1
Badger No. 1 and No. 2 mines	8	Burgierosa Silver Mines, Inc.	1
Ballard, Al	16, 19	Burlington Northern, Inc.	20
Ballard Mining Corp.	16, 19	Burnham, D. C., and others	3
Bannack # 1 placer	14	Burnham, Dean C.	3
Banning, Steven W.	11	Burns, Larry	19
Bar group	10	Butler, John	15
Bauer, Charles W.	4	Byam, Charles	5
Bauska, Jack	4	Byam, Fernette	5
Bauska, L. O.	4	Cable mine	3
Beaver, Raymond L.	6	Cable Mountain Mines, Inc.	3, 15
Beaverhead mine	20	Cable placer	15
Belmont	7	Campbell, Tom	15
Belue, Travis	9	Canyon Creek quarry	20
Belus, Martin L.	1	Carver, Herb	2
Berg, Carl	9	Chartam mine	2
Bessie and Golden Wave mine	8	Chelsea Resources (U.S.) Inc.	3, 4
BHP-Utah International	8	Chevron Mansville	13
Big Horn Calcium Co.	18	Chevron Resources	13
Big Horn Limestone Co.	18	Chorney, Elton	18
Big Mary mine	5	Choteau project	13
Big Nugget placer	16	Clark Gulch quarry	19
Big Sky mine	22	Clendennin group	7
Bigler group	9	Clopton, Earl	8
Billern Corp.	5, 6	Coates, Florence, and others	2
Black Butte mine	13	Cobben, Bob	2
Black Canyon placers	15	CoCa Mines, Inc.	4

Comet group	5	East Ridge group	5
Cominco American, Inc.	19	Easton-Pacific	8
Concorde Mines Ltd.	5	Ecker, Pete	19
Consolidated Minerals Corp.	8	Edgley, Robert L.	9
Constellation deposit	21	Edna mine	2
Construction Products Division	21	Eichert, Doris	17
Contact Mining Co.	4	Eichert, Marvin	17
Contact Mining Custom mill	4	Eldorado Bar	15
Continental Lime, Inc.	18	El Dorado Bar Sapphire mine	19
Continental Lime, Inc. plant	18	Elk Creek mine	18
Continental Pit	12, 13	Elkhorn Project	5
Cooper, Bill	16, 19	Elkhorn Queen	5
Cooper, Dewey H.	2, 15	Elk Peak project (Gies mine)	3
Cope, Robert W.	22	Elliston Consolidated group	11
Copper group	10	Elliston Consolidated Mining Co.	11
Coster, Tom	7	Emery mine	11
Cougau	4	Emma mine	12
Counts, J. H., Jr.	10	Engh, Palmer (Mrs.)	2
Counts, Silase	10	Ericksmoen, Bill	7
Counts, Steven J.	10	Ermont mines	1
Cripe, Donald C.	16	Erskine, T.	12
Cripe, Marie O.	16	Erskine, Terry	7
Croff, G. A., and others	7	Espe, William, Jr.	5, 6
Croff and Montague	7	Federal Reserve group	3
Crowley, Frank	12	Fish Creek placer	17
Crown Butte Mines, Inc.	10	Florence, Streak of Luck and Sunnyside group	5
Cruse, Thomas, Mining Co.	7	Follman, H.	5
Crystal mine	5	Fontaine, Del	10
Cullen, Bill	2	Forbes, W. G.	8, 21
Cutbirth, Don	21	Four V's claims	20
Cyprus Industrial Minerals	18, 20, 21	Fourth Estate mine	12, 18
Dale Bros.	9	Foust, A. G.	5
Dale, Richard	20	Frankovich, Frank	5
Dearcorn, Dave	21	Freeport-McMoran Gold Co.	11
Decker Coal Co.	21	French Bar Industries	15
Decker Coal Co. (East pit)	21	French Bar Mine	15
Decker Coal Co. (West pit)	21	French Bar placer	15, 19
Decker, Robert C., Sr.	8	French Bar underwater section	15, 19
Dert Gulch mine	7	Frida Marie group	8
Diamond Hill mine	2	Fulgham Mining Co.	7
Dick, Evans R., III	7	Gardner, Frank	12, 13
Dillon Exploration, Inc.	18	Garrand Corp.	14
Dinsdale, Dan	16	Garrand, Len	14
Dinsdale, Kinne	16	Gem Mountain Sapphire	19
Dixon, James R.	11	Gem Mountain Sapphire mine	19
Dobler mine	5	George, Richard K.	9
Dobrin, Stanley R.	8, 9	Gies family	3
Dominic group	1	Gildersleeve, Fern	18
Don-A-Vera and Jayhill group	8	Gildersleeve, G. M.	10
Eagle Black group	8	Gildersleeve, George	17, 18
Earthsearch, Inc.	13	Gilliam vermiculite deposit	21
East Coeur d'Alene silver mine	10	Gilt Edge	3
East Coeur d'Alene Silver Mines, Inc.	10	Giulio, Harold J.	6
East Pacific mine	2	Gleason, Danny	17
East Pacific Mining Co.	2		

Gleason, Wright	17	Ideal Basic Industries	18
Glittering Hill mine	5	Industrial Chemical Div.	20
Gloria Alice placer	17	Infinite group	6
Goldbug group	2	Inspiration Consolidated Copper Co.	4
Gold Fields Mining Corp.	5, 6	Iron Age group	2
Gold Nugget placer group	14		
Gold Ranch Mining Corp.	8	Janney Construction Co., Inc.	20
Goldrock Corporation	12	Jay Dee No. 3	3
Golden Assets	5	Jayhill Group	8
Golden Chalice Mines, Inc.	9	Jefferson Mining	19
Golden Curry (Sourdough) mine	6	Jeske, G. C.	21
Golden Dawn mine	1	Johnson, Gwendlyn Couch, and others	2
Golden Jubilee mine	5		
Golden Sunlight group	6	Kady Gulch group	6
Golden Sunlight Mines, Inc.	5, 6	Kane, Douglas	22
Good Chance	7	Kearsarge group	8
Grace, W. R., and Co.	21	Kendall venture	3
Grass Hopper claims No. 1	1	Kennett-Bertha mine	8
Grasshopper mine	1	Kennett Gold Corp.	8
Gray Rock mine	7	Keyhold group	8
Great Eastern mine	3	Kiewit Mining and Engineering Co.	21
Green Campbell mine	8	Kindt, Francis	15
Gulf Titanium, Inc.	7	Kinne, Roy C.	16
		Klies, Forrest L.	20
Hallett Minerals Co.	13	Klondike Ore #1 placer	17
Hand group	1	Knife River Coal Co.	22
Hand, William M.	1, 14	Knife River Coal Mining Co.	22
Hange, Dennis	15	Kolberg, Arnold J.	2
Hanley, Jerry	3	Kolberg mill	2
Hanley, Selma	3	Kralicek, George	6
Hansen, Kurtis	7	Kunisaki, Ronald H.	19
Harris, David M.	4		
Harry Howard group	16	Laber, Stewart	20
Hatton, Clifford	11	Lamplighter group	1
Hatton, Clifford, and others	11	Landusky	11
Hawkeye placer	15	Lark placer	16
Helburn, Mary	9	Larson, Lewis	8
Helburn, Steve	9	Last Chance group (Beaverhead Co.)	1
Helehan, Tom	12, 18	Last Chance mine (Silver Bow Co.)	12
Heller, Marion E.	4	Lawrence, John C.	1
Hendricks, Tracy	22	LBJ, Pic and Per groups	11
Herrigg Creek Mining Co., Inc. group	4	Leber, J.	6
Hess, T. R.	19	Leber Mining Co.	5, 6
Hidden Lake	5	LeFever, Jeff	2, 3
High Hope mine	8	LeMieux, Allen	6
Highland Gold Properties, Inc.	17	Lentung group	14
Hill, W. Ray	9	Libby Operations	21
Hoekema, Roy	1	Lindquist, Enard	11
Hog Heaven project	4	Lindquist, Lester	5, 6
Holmes, Don	2, 3	Lively Mining Co.	8, 17
Holter, Del	10	Lively's, Inc.	12
Hope and Bullion group	6	Livingston marble and granite quarry	20
Hope group	10	Livingston Marble and Granite Works	20
Huckaba, Ralph	10	Lord, Nettie	3
Hughes Mining Co., Inc.	8	Lost Gulch placer	16
Hughs, Vern	8	Love Stone placer	16, 19
		Lucky Dollar mine	9

Lucky Luke group	6	Mortensen, Audrey	9
Lunan, Larry	15	Mortensen, Steve	9
Lykins, Betty	1	MT Con-Kelley Project	12
Lynn, Paul L.	15	MT Gold and Silver Co.	15
Lynn, R. L.	15	Mule Shoe Mining	2, 15
Lynn, Robert L.	6	Myranda claim	3
MacDonald, Dan A.	1	Nellie Bly group	9
Mackeg placer	17	Nelson Associates/Yellow Band Mines, Inc.	2
Madden group	8	Nelson, E. E.	2
Mader, MacDonald M., II	15, 19	NERCO, Inc.	21
Madison, Fred	5	Nethercott, Rockie	7
Magdalena group	6	New Butte Mining	12
Magellon Resources, Inc.	3	New Winnetka group	9
Maginnis mine	3	New World project	10
Magnitite group	10	Newman, Dave R.	11
Magnus, John	8, 9	Nielsen, A. C.	5
Maples and Bridgton group	3	Noranda	11
Margret Ann project	12	Norguard Corp.	6
Marietta mine	3	North Butte Project	12
Markham Mountain	11	Nygren, Nels	2
Maronick Construction Co., Inc.	19	Nygren, Rudy	2
Maronick, E. P.	19	O'Hara, R. J.	19
Martin, Gregory	16	Old Baldy group	6
Martin, Ronald I.	20	Olympic #2 placer	17
Martin's Peat, Inc.	20	Oro placer group	14
Maycumber, Guy E.	6, 7	Ott, Larry	8
Mayday	2	P. C. Crystal mine	20
Mayellan Resources, Inc.	3	P. M. Coal Mining Co.	21
McCabe, Mary L.	5	P. M. mine	21
McCanse, Ed	1	Pacific Power and Light Co.	21
McClellan quarry	19	Pangea Mining, Inc.	7
McCurley, Earl	5	Pangea Resources Limited	7
McKnight, Bobby R., and partnership	11	Paproski, John	1
McMaster, James	15, 19	Pathfinder Mines Corp.	8
McQuarrie quarry	20	Paupers Dream project	7
McRomas Mining Co., Inc.	11	Peabody Coal Co.	22
McVeda, Glenn	3	Pearl group	9
McVeda, William	3	Pegasus Gold Corp.	6, 11
Miller, David	8	Pentecost, Matilda	4
Miller, Ken	16	Pentecost, T. A.	4
Mine-X, Inc.	21	Perry, Joy	19
Montana Gold and Sapphires, Inc.	15, 19	Perry, Lanny	19
Montana mine	3	Pfizer, Inc.	20
Montana Mining Properties, Inc.	12	Pierce, Kevin	16, 19
Montana Precision Mining, Ltd.	11	Piermont No. 1 East mine	6
Montana Project	11	Pioneer placer	15
Montana Reserves	11	Pita Mining	4
Montana Resources, Inc.	12, 13	Pita Mining 1, 2, 3, 4, 5	4
Montana, State of	15, 18, 19	Placer fire clay pit	18
Montana Tunnels mine	6	Plainsman mine	12
Montana Tunnels Mining, Inc.	6	Plymate, John	2, 15
Monte Clark group	12	Potter, J.	13
Monument Resources, Inc.	5	Potter, M. O.	5
Moonlight mine	12	Pretty Girl placer	16, 19
Morgan James M.	20		
Morrison-Knudsen Co., Inc.	21		

Princess Ethne	7	Special Lady Mining Company	16, 19
Prospect Mining Co., Inc.	14	Speerstra, Sam	15, 19
Pruett, Paul	20	Spotted Horse mine	4
Rainbow project	12	Springam, Brian K.	12
Red Bluff Quarry	20	Spring Creek Coal Co.	21
Red Bluff Quarry, Inc.	20	Spring Creek mine	21
Red Pine mine	9	Spring Hill	7
Reichel, A. E., Estate	15	Stansbury Mining	21
Reid, Harold	2	Stauffer Chemical Co.	20
Remote Prospecting Services	10	Steel Brothers Canada	18
Republic mines	10	Stemwinder placer	17
Richardson, Alan	12	Stillwater mine	13
Richardson, Allen	6	Stoick, James J.	14
Richings, M. B.	20	Stratton, Howard	12, 17
Ridgeway, Chuck	19	Stratton, Mark	17
Ridgeway, Marie	19	Stratton mine	12
Rife, Delores	3, 4	Strawbridge, J. M.	18
RLTCO	14	Strawn mine	9
Rock Creek project	12	Streak of Luck Sunny Side group	6
Rocky Mountain Minerals, Inc.	9	Striker Gold, Inc.	5
Roncor, Inc.	19	Stringer, Alan	21
Rosebud mine	22	Strong, Greg	20
Rothfuss, John	5, 6	Subis, Mariana	6
Rovig, John	10	Sullivan, Dan	4
Ruby Gold placer	14	Sunlight Development Corp.	19
Ruby Gulch mine	11	Swamp Frog mine	14
Rumley mine	6		
Rust, Bill	4	Tabor Resources	8, 9
S & S Diversified, Inc.	2	Thayer, Lyman	3
St. Joe placer	19	Tibbetts mine	11
St. John group	9	Tietz, Paul	5, 6
Sadd, Martin	7	Tintinger, Douglas E.	7
Sam Bear Mining Co.	9	Tintinger, Vernon	7
Sata Maira Rainbow group	2	Tizer Creek placers	15
Savage mine	22	Toelle, Mike	20
Scott, T.	5	Towner, R. L.	1
Semsak, Arthur	1	Towner, Rob	14
Sewell, Irving	13	Treasure mine and plant.	20
Shafer, Raymond D.	8	Treasure State Mining Corp.	4, 11
Shafer, Stan and others	2	Triangle placer	17
Sheep Mountain mine	4	Trident quarry	18
Shermont Mining Co.	9	Trout Creek placer	17
Siaperias, Ted	2	Troy unit	7
Silver Bell group	10	Twilight group	7
Silver Bell, Inc.	10	Two Lady No. 7	4
Silver King mine	5	Tyrrel, Nila	2
Silver Ridge group	2		
Sky mine	7	Uncle Sam mine	9
S. L. M. C. Mining Corp.	19	U.S. Antimony Corp.	1
Smilodon Exploration and Research, Inc.	9	USMX Minerals Exploration	1
Smith, Arnold	3		
Smith, Theo T.	19	Valley International Products, Inc.	14
Snow Bank mine	9	Valley View	10
Snow, Harold	18	Vanguard group	9
Southern Cross mine	3	Venture Mining Corporation	12
		Vesta #1	9
		Volker, Albert E.	20

Vortex group	19	Westmont Mining Company	20
Vortex Mining	19	Westmont Mining and Meridian Joint Venture	20
Wadsworth, Joe (Mrs.)	17	Westmoreland Resources	21
Wagner, Ray	16	Wild Cat and Line Lode	6
Walnut-Carl E. placer	17	Williams, Debra	17
Walters, Norman	16	Williams, Jim	17
Wapita mine	2	Wilson, Horace	5, 15
Warburton, Blaine	21	Wilson, Horace and others	15
War Eagle mine	4	Wright, Victor D.	17
Warm Springs mine	19	Wrong Font group	12
Warren quarry	18	Yellowband group	2
Watseca mine	9	Yellowstone (Cameron) mine	21
Weaver, James	18	Yogo Sapphire mine	19
Wellborn, Ned	1	Young, Bill E.	17
West Butte project	12	Young, Ernest H.	17
Western Energy Co.	2, 3, 22	Zonolite mine	21
Western Resources Co.	21	Zortman-Landusky Mining Co.	11
Western Resources Company of Montana ..	21		

Back Pocket

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

Front Cover

Reproduced from
the Mineralogical Record