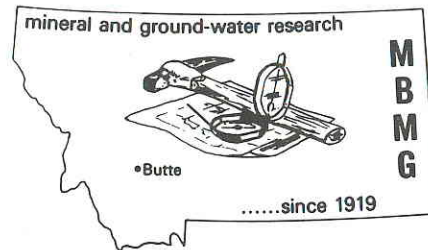


# Bulletin 130



# MONTANA MINING DIRECTORY 1991

Compiled by  
Robin McCulloch



# 1992

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**Front Cover**

*Gold pour at Beal Mountain Mine near Butte, Montana  
Courtesy: Pegasus Gold Corporation*

by

*Manley-Prim Photography  
Tucson, Arizona*

## Preface

Recent renewed activity in the mineral industries of Montana have shown a need for more detailed data on each project. The directory format has been changed to accommodate those needs. Properties actually producing or developing with production anticipated in the foreseeable future are listed with nearly all available data. Exploration projects are listed in a separate section with substantially less data. Both sections will be expanded as additional data is requested by the readers.

The data presented are gathered by the compiler through property visits and telephone interviews of both regulatory agency and company professionals. The mining properties are listed by mines, quarries and developing properties. Entries are listed alphabetically and contain engineering, geologic, geographic and economic data. Exploration projects are listed alphabetically by county. Data includes location, company, activities, project status and property status. A complete index listing of all mines, operators and owners is available in the back of the volume, as well as a listing for new mines and exploration projects.

**Table 1** (following page) represents the most recent available data from the U.S. Bureau of Mines on mineral production in Montana for the years 1989 and 1990 with estimated production for 1991. Commodity values are from average annual prices featured in *Commodity Profiles*, also available from the U.S. Bureau of Mines.

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 requests for necessary information. Nevertheless, in most cases, the missing data have been supplied from the best sources available.

If any additional facts or corrections are known, please submit such information to Robin McCulloch, Montana Bureau of Mines and Geology, Butte, Montana 59701-9981, phone 406/496-4171.

The compiler wishes to thank the many Montana property owners who have provided data for this publication as well as assistance from the Bureau of Land Management and U.S. Forest Service.

The abbreviations and symbols used in the *Directory* are: (sec.), section; (T.), township; (R.), range; (ST), short ton; (TPY), tons per year; (TPM), tons per month; (TPD), tons per day; (TPH), tons per hour; (g/d), gallons per day; (yd<sup>3</sup>/hr), cubic yards per hour; (yd<sup>3</sup>/d), cubic yards per day.

*Robin McCulloch*  
Staff Mining Engineer  
Montana Bureau of Mines and Geology

Butte  
May 28, 1992

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

Mineral	Measure	1989			1990			1991**		
		Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	
§Clays	metric tons	95,743	\$1,835	29,741	\$193	27,793	\$127			
Gem stones	n/a	n/a	2,500	n/a	3,692	n/a	3,695			
†Gold	kilograms	12,434	152,941	13,012	161,861	12,863	153,015			
***Palladium metal	do.	4,850	22,454	5,930	21,735	5,900	21,625			
***Platinum metal	do.	1,430	23,310	1,810	26,331	1,800	26,331			
Sand and gravel (construction)	thousand short tons	± 5,800	± 13,900	5,114	14,319	± 4,800	± 13,700			
†Silver	metric tons	194	34,367	220	34,114	228	29,370			
Stone, crushed	thousand short tons	2,846	9,718	± 4,000	± 15,300	3,000	11,500			
Talc and pyrophyllite	metric tons	453,978	12,718	430,125	18,883	431,639	19,842			
Combined value of barite (1989-90), cement, clay (bentonite [1990-91], fire clay [1989]), copper, graphite (natural 1989), gypsum (crude 1989), iron ore, lead, lime, molybdenum, peat, phosphate rock, sand and gravel (industrial), stone (dimension), vermiculite, and zinc		x	292,394	x	271,109	x	252,641			
<b>TOTAL</b>		x	\$566,137	x	\$667,684	x	531,846			

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

\*\* Preliminary.

\*\*\* Separated from platinum group metals in 1990. Data for 1989 is revised.

† Estimated.

§ Excludes certain clays; kind and value included with "combined value" figure.

† Recoverable content of ores, etc.

n/a Not available.

x Not applicable.

# Part I

## Mines, Quarries And Developing Properties

### Metal Mines

#### Baldy Mountain Claims

*Mining district*—Gould-Stemple

*General location*—5 miles south of Lincoln

*Tract (PLS)*—NE 1/4 Sec. 8, T.13 N., R.8 W.

*County*—Lewis and Clark

*Commodities produced*—Gold, lead

*Status*—Intermittent production

*Mining method*—Open stope

*Ore production*—1-5 TPD

*Waste production*—None

*Acres disturbed*— <1

*Acres reclaimed*—0

*Mineral ownership*—100% federal

*Ore processing method*—Gravity mill

*Processing capacity*—5

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—Family operation

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Quartz-calcite breccia containing free gold.

*Geologic deposit model*—Ore is in a flat-lying quartz-calcite breccia containing clay-filled karst features, including native lead and gold-encrusted quartz crystals.

*Published reserves*—None

*Owner*—Elwood Hiatt

*Operator*—Elwood Hiatt

*Address*—Box 516, Lincoln, MT 59639

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

**Basin Creek Mine  
(Paupers Dream Project)**

*Mining district*—Rimini

*General location*—Head of Basin Creek (15 miles southwest of Helena)

*Tract (PLS)*—Sec. 24, 25, T.8 N., R.6 W.; Sec. 19, 30, T.8 N., R.5 W.

*County*—Lewis and Clark

*Commodities produced*—Gold, silver

*Status*—Ceased mining 1990; \$34 million write-off; continuing to pump solution; (for sale)

*Mining method*—Open pit

*Ore production*—None

*Waste production*—None

*Acres disturbed*—384

*Acres reclaimed*—25

*Mineral ownership*—7% public, 93% private (100 acres National Forest, 1,300 acres private)

*Ore processing method*—Crush, agglomeration, cyanide heap leach, carbon-in-pulp recovery

*Processing capacity*—750 gal/min

*Mine life at startup*—Unknown

*Starting date*—1988

*Discovery date*—1892

*Initial investment*—\$26 million

*Employees*—4

*Annual payroll*—\$150,000

*Production cost*—\$421/oz. Au (1990)

*Commodity production*—5,000-7,000 oz. Au/yr.

*Ore type*—Structurally controlled disseminated gold in rhyolitic tuff.

*Geologic deposit model*—280-300-foot-thick rhyolitic tuff which caps the tops of ridges. The tuff is composed of a lithic-tuff sequence on top of pumice fragments. The lower levels are composed of a tuffaceous unit which extends to the quartz monzonite.

*Published reserves*—5 million tons @ 0.040 oz./ton gold and 7.5 million tons @ 0.042 oz./ton gold

*Owner*—Pegasus Gold Corporation

*Address*—Executive Office, Suite 400, North 9 Post, Spokane, WA 99201

*Operator*—Basin Creek Mining

*Address*—5944 Highway 12 W., Helena, MT 59601

*Telephone*—449-0666

*Mine manager*—Dan Adams, Box 180, Basin MT 59631

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Beal Mountain Mine (German Gulch)

*Mining district*—Siberia

*General location*—German Gulch (west of Butte)

*Tract (PLS)*—Sec. 6, T.2 N., R.10 W.

*County*—Silver Bow

*Commodities produced*—Gold, silver (1:1 ratio)

*Status*—Producing

*Mining method*—Open pit

*Ore production*—8,000 TPD, 1.8 million TPY

*Waste production*—10,400 TPD (1.1:1 ratio), 2.0 million TPY

*Acres disturbed*—239

*Acres reclaimed*—96

*Mineral ownership*—100% private

*Ore processing method*—Crush, agglomerated; and leach pad (carbon-in-pulp)

*Processing capacity*—1.9 millionTPY

*Mine life at startup*—11 years

*Starting date*—March 1, 1989

*Discovery date*—1800s

*Initial investment*—\$16 million (mine); \$5 million (exploration)

*Employees*—120 (contractors and company)

*Annual payroll*—\$3.5 million

*Production cost*—\$230/oz. gold-\$6.75/ton (1990)

*Commodity production*—Expected to produce 47,000 oz. gold

*Ore type*—Disseminated gold and silver in a skarn; prograde disseminated gold; retrograde and adularia gold vein system.

*Geologic deposit model*—Ore hosted by Late Cretaceous continental clastic rocks thermally metamorphosed to pyroxene hornfels facies quartzites, hornfelses, and metaconglomerates by granodiorite and diorite intrusions.

*Published reserves*—11.2 million tons at a grade of 0.050 oz./ton gold.

*Owner*—Pegasus Gold, Inc.

*Address*—Suite 400, North 9 Post Street, Spokane, WA 99201

*Operator*—Beal Mountain

*Address*—1806 Fairmont Road, Anaconda, MT 59711

*Telephone*—797-3215

*Mine manager*—C. Rife

*Mine superintendent*—T. Dale

*Mill superintendent*—

*Plant manager*—

*General manager*—

**Bigler-Snowbank Mine  
(Bigler Group)**

*Mining district*—Thompson Creek

*General location*—West of White Sulphur Springs

*Tract (PLS)*—Sec. 28, T.9 N., R.4 E.

*County*—Meagher

*Commodities produced*—Gold

*Status*—Seasonal production

*Mining method*—Open and stull stoping

*Ore production*—10 TPD

*Waste production*—15 TPD

*Acres disturbed*—2

*Acres reclaimed*—0

*Mineral ownership*—100% federal

*Ore processing method*—Gravity and flotation

*Processing capacity*—Approximately 10 TPD

*Mine life at startup*—Unknown

*Starting date*—1987

*Discovery date*—1880s

*Initial investment*—\$75,000

*Employees*—4

*Annual payroll*—\$60,000

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Free gold in a weathered vein

*Geologic deposit model*—Ore is in a flat-lying, highly oxidized vein which appears to be formed within a thrust fault. It is associated with a three way contact of igneous intrusive, limestone, and tan shales of the Newland Formation (Belt Supergroup). Vein width is a function of the wall rock type and characteristics while the fault zone intercepts varying rock types.

*Published reserves*—None

*Owner/Address*—A.J. Burchak and Travis Belvue (Bigler), 213 Collins, Lavina, MT 59046 —  
American Independent Mining, P.O. Box 84, Townsend, MT 59644

*Operator*—American Independent Mining

*Address*—P.O. Box 84, Townsend, MT 59644

*Telephone*—(406) 266-4252

*Mine manager*—Doug Baker

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—



## Black Pine Mine

*Mining district*—Black Pine

*General location*—Northwest of Philipsburg

*Tract (PLS)*—Sec. 7, 8, 16, 17, 18, T.8 N., R.14 W.

*County*—Granite

*Commodities produced*—Silica, silver, copper, gold and lead (silica flux for East Helena smelter)

*Status*—Closed 1989; seasonal operations 1990; intermittent operations dependent on smelter need for flux.

*Mining method*—Room and pillar stoping (underground)

*Ore production*—8,000-10,000 TPY

*Waste production*—Unknown

*Acres disturbed*—20 acres

*Acres reclaimed*—0

*Mineral ownership*—5% federal, 99.5% private

*Ore processing method*—None

*Processing capacity*—None

*Mine life at startup*—Unknown

*Starting date*—1885

*Discovery date*—1882

*Initial investment*—Unknown

*Employees*—7

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Mixed oxide and sulfide copper minerals containing silver credits.

*Geologic deposit model*—Stratabound ore in quartz-filled fissure between bedding planes in quartzite of the Spokane Formation (Belt Supergroup).

*Published reserves*—2 million tons @ 5.2 Troy ounces silver per ton

*Owner*—ASARCO, Inc.

*Operator*—ASARCO, Inc.

*Address*—Box 440, Wallace, ID 83873

*Telephone*—(208) 752-1116

*Mine manager*—Wade Bristol

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Contact Mining Custom Mill

*Mining district*—Flint Creek

*General location*—One-half mile south of Philipsburg

*Tract (PLS)*—Sec. 36, T.7 S., R.14 W.

*County*—Granite

*Commodities produced*—Sulfide concentrates (ores); free gold (oxide ores)

*Status*—Intermittant production

*Mining method*—N/A

*Ore production*—N/A

*Waste production*—N/A

*Acres disturbed*— <40

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Flotation circuit—crush/grind/ball mills in two parallel closed circuits/flotation/gougher/scavenger: Gravity circuit— crush/grind/ball/mills/cyclone/jig/table

*Processing capacity*—1,000 TPD flotation circuit, 500 TPD gravity circuit

*Mine life at startup*—N/A

*Starting date*—1981

*Discovery date*—N/A

*Initial investment*—Unknown

*Employees*—12

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—N/A

*Geologic deposit model*—N/A

*Published reserves*—N/A

*Owner*—Contact Mining Company

*Operator*—Contact Mining Company

*Address*—P.O. Box 337, Philipsburg, MT 59858

*Telephone*—859-3827

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—Bill Antonioli

*Plant manager*—

*General manager*—

## Continental Pit

*Mining district*—Summit Valley  
*General location*—Butte

*Tract (PLS)*— Sec. 5-8, 18, T.3 N., R.7 W.

*County*— Silver Bow  
*Commodities produced*—Molybdenum, copper, gold, silver

*Status*—Producing

*Mining method*—Open pit

*Ore production*—48,000 TPD

*Waste production*—44,000 TPD

*Acres disturbed*—429 (1986-1991)

*Acres reclaimed*—28

*Mineral ownership*—100% private

*Ore processing*—Leach pads with sulfuric acid (oxide ores); flotation (sulfide ores)

*Processing capacity*—48,000 TPD (flotation mill)

*Mine life at startup*—25 years (present reserves will extend mine life to 2027)

*Starting date*—1981

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—332

*Annual payroll*—\$8.1 million

*Production cost*—Unknown

*Commodity production*—87.5 million lbs. copper, 15 million lbs. molybdenum, 877,030 oz. silver

*Ore type*—Sulfide ore consisting of chalcocite, chalcopyrite, pyrite and molybdenite; copper oxide ores near surface.

*Geologic deposit model*—Copper/molybdenite porphyry, Cretaceous age (78 million years); occurs in Butte Quartz Monzonite.

*Published reserves*—393 million short tons at 0.296% copper and 0.042% molybdenum, and 0.065 oz./ton silver

*Owner*—Montana Resources, Inc.

*Operator*—Montana Resources, Inc.

*Address*—600 Shields, Butte, MT 59701

*Telephone*—723-4081

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—Charlie Palagi

*Plant manager*—

*General manager*—J. F. Gardiner

**Geis Mine  
(Elk Peak Project)**

*Mining district*—Cone Butte

*General location*—East of Lewistown (near Maiden)

*Tract (PLS)*—Sec. 22, T.17 N., R.20 E.

*County*—Fergus

*Commodities produced*—Gold, silver, lead

*Status*—Closed 1991; (for sale)

*Mining method*—Open, stull and shrink stoping

*Ore production*—150 TPD

*Waste production*—50 TPD

*Acres disturbed*— <5 acres

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Crushed on site; flotation plant with secondary cyanide circuit at Heath; high-grade ore shipped direct to smelter.

*Processing capacity*—400 TPD

*Mine life at startup*—Unknown

*Starting date*—September, 1986

*Discovery date*—1885

*Initial investment*—\$2.25 million

*Employees*—100

*Annual payroll*—\$1.8 million

*Production cost*—Unknown

*Commodity production*—12,000 oz. gold, 120,000 oz. silver annually

*Ore type*—Free gold, tellurides (sylvanite), galena, sphalerite, and pyrite

*Geologic deposit model*—Hydrothermal veins along structural controls; Cretaceous-age Kootenai Formation (host rock); Tertiary syenite sills and dikes.

*Published reserves*—48,000 tons of 0.30 oz. silver/ton (proven)

*Owner*—Geis family

*Address*—P.O. Box 163, Lewistown, MT 59457

*Operator*—Blue Range Mining Company

*Address*—56 E. Mercury, Butte, MT 59701

*Telephone*—782-9754

*Mine manager*—John Stevenson

*Mine superintendent*—Arnold Buchannon

*Mill superintendent*—Terry Downing

*Plant manager*—

*General manager*—Larry Hoffman

## Golden Sunlight

*Mining district*—Cardwell

*General location*—5 miles northeast of Whitehall (south flank of Bull Mountain)

*Tract (PLS)*—Sec. 17-20, T.2 N., R.3 W.

*County*—Jefferson

*Commodities produced*—Gold, silver

*Status*—Producing

*Mining method*—Open pit

*Ore production*—9,380 TPD, 2.5 million TPY

*Waste production*—131,000 TPD, 31 million TPY

*Acres disturbed*—1,609

*Acres reclaimed*—9 (test plots); 40 acres

*Mineral ownership*—100% private

*Processing method*—Agitated vat leach (cyanide); carbon in pulp recovery; spiral section for pyrite recovery and regrind.

*Processing capacity*—6,750 TPD

*Mine life at startup*—22 years

*Starting date*—1983

*Discovery date*—1890

*Initial investment*—\$60 million

*Employees*—260

*Annual payroll*—\$9.5 million

*Production cost*—\$247/oz. cash costs (total costs \$332/oz.)

*Commodity production*—90,000 to 100,000 oz. gold/yr

*Ore type*—Shallow epigenetic epithermal system associated with latite porphyry magmatism.

*Geologic deposit model*—Free gold in pyrite; gold mineralization occurs in pipe-shaped breccia approximately 700 feet in diameter and over 1,200 feet deep. Breccia plunges at 35° W-SW and is open at depth. Both disseminated and structurally controlled mineralization exist within the deposit. Free gold occurs between pyrite grains. Other minerals are auriferous tellurides, chalcopyrite, galena, sphalerite, marcasite, and tennantite.

*Published reserves*—42 million tons of 0.048 oz. gold/ton (demonstrated) 1992

*Owner*—Placer Dome, Inc.

*Operator*—Golden Sunlight Mines, Inc.

*Address*—453 Montana Highway 2E, Whitehall, MT 59759

*Telephone*—287-3257

*Mine manager*—Don Wilson

*Mine superintendent*—Tony Jensen

*Mill superintendent*—V. Lofftuss

*Plant manager*—

*General manager*—

## Groundhog Mine

*Mining district*—Argenta

*General location*—West of Dillon (near Mayday mine)

*Tract (PLS)*—Sec. 18, T.6 S., R.10 W.

*County*—Beaverhead County

*Commodities produced*—Gold, silver, lead

*Status*—Operating Leach plant

*Mining method*—Open pit

*Ore production*—None

*Waste production*—None

*Acres disturbed*—<3

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Cyanide heap leach (agglomerated ore)

*Processing capacity*—Unknown

*Mine life at startup*—Unknown

*Starting date*—1987

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—Family operation

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Unknown

*Geologic deposit model*—Unknown

*Published reserves*—None

*Owner*—William M. Hand

*Operator*—William M. Hand

*Address*—70 South Arizona, Dillon, MT 59725

*Telephone*—683-4420

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Kendall Mine

*Mining district*—North Moccasin

*General location*—24 miles north of Lewistown

*Tract (PLS)*—Sec. 31, T.18 N., R.18 E.

*County*—Fergus

*Commodities produced*—Gold, silver

*Status*—Producing

*Mining method*—Open pit

*Ore production*—1.3 million/year, 10,000 TPD

*Waste production*—30,000 TPD (3:1 strip ratio)

*Acres disturbed*—242

*Acres reclaimed*—10

*Mineral ownership*—3.6% federal (40 acres), 96.4% private

*Ore processing method*—Agglomeration, cyanide heap leach, (Merrill Crowe Recovery Plant)

*Processing capacity*—1.3 million ST ore/year

*Mine life at startup*—Ore reserves proven until 1993

*Starting date*—1988

*Discovery date*—1898

*Initial investment*—\$21,162,000 total to date

*Employees*—71 (80% local employees)

*Annual payroll*—\$2,280,808

*Production cost*—Unknown

*Commodity production*—Assays show 0.05 oz./ton gold; recovery 80-85%, 43,000 oz./yr gold;  
35,000 oz./yr. silver

*Ore type*—Disseminated gold

*Geologic deposit model*—Production from Muleshoe deposit; ore controlled by fracture-induced porosity in Lodgepole limestone (Madison Group), hydrothermal solutions were trapped at impermeable layers (Kibbey Formation) below Madison Group limestone (Mississippian age).

*Published reserves*—3.3 million tons at 0.050 oz. gold/ton (indicated)

*Owner*—Canyon Resources

*Operator*—C.R. Kendell

*Address*—P.O. Box 799, Hilger, MT 59451

*Telephone*—538-2501

*Mine manager*—Bob Benbow

*Mine superintendent*—Kevin Ryan

*Mill superintendent*—Larry Jennings

*Plant manager*—

*General manager*—

## Kolberg Mill

*Mining district*—Toston Flat district

*General location*—South of Toston

*Tract (PLS)*—Sec. 5, T.4 N., R.2 E.

*County*—Broadwater County

*Commodities produced*—Free milling (preferred)

*Status*—Producing

*Mining method*—N/A

*Ore production*—N/A

*Waste production*—N/A

*Acres disturbed*—N/A

*Acres reclaimed*—N/A

*Mineral ownership*—N/A

*Ore processing method*—Gravity and flotation

*Processing capacity*—40 TPD

*Mine life at startup*—N/A

*Starting date*—N/A

*Discovery date*—N/A

*Initial investment*—N/A

*Employees*—Family operation

*Annual payroll*—None

*Production cost*—Confidential

*Commodity production*—N/A

*Ore type*—N/A

*Geologic deposit model*—N/A

*Published reserves*—N/A

*Owner*—Arnold J. Kolberg

*Operator*—Kevin Pierce

*Address*—66 Lone Mountain Road, Toston, MT 59643

*Telephone*—Unknown

*Mine manager*—None

*Mine superintendent*—None

*Mill superintendent*—Kevin Pierce

*Plant manager*—

*General manager*—



## Mineral Hill Mine

*Mining district*—Sheepeater

*General location*—5 miles northeast of Gardiner

*Tract (PLS)*—Sec. 9, T.9 S., R.9 E.

*County*—Park

*Commodities produced*—Gold, silver, tungsten (not recovered)

*Status*—Producing

*Mining method*—Cut and fill (using borrow material), shrinkage

*Ore production*—600

*Waste production*—Minimal after initial development

*Acres disturbed*—16

*Acres reclaimed*—10

*Mineral ownership*—100% private

*Ore processing method*—Agitated vat leach (cyanide); Merrill Crowe recovery plant

*Processing capacity*—530 TPD

*Mine life at startup*—7 years

*Starting date*—1989

*Discovery date*—1880

*Initial investment*—\$29 million

*Employees*—85

*Annual payroll*—\$4.2 million

*Production cost*—\$267 million (cash operating costs)

*Commodity production*—Annual: 39,000 oz. of gold (1990)

*Ore type*—Arsenopyrite, pyrite, pyrrhotite, loellingite, chalcopyrite, galena, scheelite, gersdorffite and electrum in a silica matrix.

*Geologic deposit model*—Archean-age metamorphic rocks of the Jardine Formation.

*Published reserves*—484,000 tons @ .33 oz. gold/ST (gold to silver ratio approximately 6:1)

*Owner*—50% TVX; 50% Homestake Mining Company

*Operator*—Mineral Hill mine

*Address*—P.O. Box 92, Gardiner, MT 59030

*Telephone*—848-7421

*Mine manager*—M. McLean

*Mine superintendent*—Greg Struble

*Mill superintendent*—Jeff Butwell

*Plant manager*—

*General manager*—

## Montana Tunnels Mine

*Mining district*—Wickes

*General location*—23 miles south of Helena

*Tract (PLS)*—Sec. 8, T.7 N., R.4 W.

*County*—Jefferson

*Commodities produced*—Lead, zinc, gold, silver

*Status*—Producing

*Mining method*—Open pit

*Ore production*—12,200 TPD, 4.2 million TPY

*Waste production*—24,400 TPD, 1.4:1-2:1 strip ratio

*Acres disturbed*—823

*Acres reclaimed*—48

*Mineral ownership*—99% private; 5 acres of BLM in pit

*Ore processing method*—Flotation

*Processing capacity*—12,500 TPD

*Mine life at startup*—11

*Starting date*—1987

*Discovery date*—1864

*Initial investment*—\$52 million

*Employees*—180 (including mining contractor)

*Annual payroll*—\$6.8 million (including mining contractor)

*Production cost*—\$48/oz. gold, unit cost \$10.42/ton

*Commodity production*—59,100 oz. gold; 1,191 oz. silver; 17,095 tons zinc; 6,649 tons lead

*Ore type*—Galena, sphalerite, pyrite, chalcopyrite, argentite, and gold electrum.

*Geologic deposit model*—Eocene-age breccia pipe in volcanics.

*Published reserves*—Indicated - 34.3 million ST @ .019 oz. gold/ST, .31 oz. silver/ST, .24% lead, .60% zinc

*Owner*—Pegasus Gold Corporation

*Address*—Suite 400, North 9 Post, Spokane, WA

*Operator*—Montana Tunnels Mining

*Address*—P.O. Box 176, Jefferson City, MT 59638

*Telephone*—933-8314

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—B. Banning

*Plant manager*—

*General manager*—Tom Weitz

**Montanore Mine  
(Rock Lake deposit, Noxon Project)**

*Mining district*—Noxon (unorganized)

*General location*—East of Noxon

*Tract (PLS)*—Sec. 17, 29, 30, T.27 N., R.31 W.

*County*—Sanders

*Commodities produced*—Copper, silver

*Status*—Development and permitting stage

*Mining method*—Room and pillar (proposed)

*Ore production*—20,000 TPD

*Waste production*—Minimal after development

*Acres disturbed*—20

*Acres reclaimed*—0

*Mineral ownership*—20 acres private; remainder federal land

*Ore processing method*—Flotation

*Processing capacity*—20,000 TPD

*Mine life at start up*—16 years (proposed)

*Starting date*—1994

*Discovery date*—1983

*Initial investment*—\$250 million (proposed)

*Employees*—450 (proposed)

*Annual payroll*—\$12.5 million (proposed)

*Production cost*—Unknown

*Commodity production*—None

*Ore type*—Bornite, chalcocite and native silver in quartzite.

*Geologic deposit model*—Stratabound mineralization in lower Revett quartzite of the Ravalli Formation (Belt Supergroup).

*Published reserves*—142 million tons @ 1.9 oz. silver; .9% copper

*Owner*—Noranda, Inc.; Montana Reserves Company

*Operator*—Noranda Montanore

*Address*—101 Woodland Road., P.O. Box 1486, Libby, MT 59923

*Telephone*—293-8795

*Mine manager*—

*Mine superintendent*—John Stroiazzo

*Mill superintendent*—

*Plant manager*—

*General manager*—Mark Petersmeyer

## Mustang Mine

*Mining district*—West Fisher River

*General location*—Standard Creek

*Tract*—Sec. 1, T.27 N., R.31 W.

*County*—Lincoln

*Commodities produced*—Gold

*Status*—Seasonal production

*Mining method*—Open stope

*Ore production*—3 TPD

*Waste production*—9 TPD

*Acres disturbed*—2

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Screening to 5/8" after blasting (and shipping)

*Processing capacity*—3 TPD

*Mine life at startup*—Unknown

*Starting Date*—1987

*Discovery date*—1970s

*Initial Investment*—Unknown

*Employees*—None (partnership)

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Free gold in quartz

*Geologic deposit model*—Quartz veins (containing pod-like structures) between bedding planes of argillites/siltites of the Prichard Formation; minor galena and pyromorphite observed.

*Published reserves*—None

*Owner*—Standard Creek Mining

*Operator*—Standard Creek Mining

*Address*—P.O. Box 302, Libby, MT 59923

*Telephone*—No business phone

*Mine Manager*—Rocky Nethercott

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## New Butte Mining (Rainbow Project)

*Mining district*—Summit Valley  
*General location*—Butte

*Tract (PLS)*—Sec. 12, T.3 N., R.8 W.

*County*—Silver Bow  
*Commodities produced*—Lead, zinc, gold, silver

*Status*—Closed (1991); equipment for sale

*Mining method*—Modified sublevel retreat (non-mechanized)  
*Ore production*—450 TPD  
*Waste production*—100 TPD  
*Acres disturbed*— <10  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Flotation (custom plant)

*Processing capacity*—1,000 TPD  
*Mine life at startup*—Unknown  
*Starting date*—1987  
*Discovery date*—1870s  
*Initial investment*—\$6.5 million  
*Employees*—135  
*Annual payroll*—\$1.5 million  
*Production cost*—Unknown  
*Commodity production*—Confidential

*Ore type*—Veins containing sulfides.  
*Geologic deposit model*—Classic hydrothermal emplacement with zoning of galena, sphalerite, rhodonite, pyritic quartz, and wire silver in fissure-filling vein systems.

*Published reserves*—450,000 tons grading 15.3 oz./ton silver; 0.083 oz./ton gold; 7.72% zinc; 2.08% lead

*Owner*—New Butte Mining

*Operator*—New Butte Mining  
*Address*—P.O. Box 188, Butte, MT 59703  
*Telephone*—723-4051

*Mine manager*—C. Tatman  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## New Departure Custom Vat Leach

*Mining district*—Bannack

*General location*—South of Badger Pass (southwest of Dillon)

*Tract (PLS)*—Sec. 26, T.7S., R.11W., NW 1/4, NW 1/4

*County*—Beaverhead

*Commodities produced*—Gold, silver

*Status*—Producing

*Mining method*—N/A

*Ore production*—N/A

*Waste production*—N/A

*Acres disturbed*—< 5

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Custom vat leach (cyanide) custom mill

*Processing capacity*—700 TPM

*Mine life at startup*—N/A

*Starting date*—Unknown

*Discovery date*—N/A

*Initial investment*—Unknown

*Employees*—None

*Annual payroll*—Unknown

*Production cost*—Confidential

*Commodity production*—Confidential

*Ore type*—Gold and byproduct silver

*Geologic deposit model*—N/A

*Published reserves*—N/A

*Owner*—Carl Brown

*Operator*—Carl Brown

*Address*—307 Janney Road, Dillon, MT 59725

*Telephone*—683-4046

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Rock Creek Mine

*Mining district*—Noxon (unconsolidated)

*General location*—Near Elephant Peak Mountain (Cabinet Mountains Wilderness)

*Tract (PLS)*—Sec. 33, 34, T.27 N., R.32 W.

*County*—Sanders

*Commodities produced*—Copper, silver

*Status*—Permitting stage

*Mining method*—Room and pillar (proposed)

*Ore production*—10,000 TPD (proposed)

*Waste production*—Minimal after development

*Acres disturbed*—N/A

*Acres reclaimed*—N/A

*Mineral ownership*—100% private

*Ore processing method*—Flotation

*Processing capacity*—10,000 TPD

*Mine life at startup*—30 years (proposed)

*Starting date*—2,000

*Discovery date*—1963

*Initial investment*—\$130 million (proposed)

*Employees*—355 (proposed)

*Annual payroll*—\$10.5 million (proposed)

*Production cost*—N/A

*Commodity production*—None

*Ore type*—Bornite, chalcocite and native silver.

*Geologic deposit model*—Ore zone is a flat-lying deposit approximately 12,000 feet long and 6,000 feet wide and averaging 27 feet thick. Stratabound mineralization occurs in the Revett Formation quartzite (Belt Supergroup).

*Published reserves*—143,760,000 tons @ 2.2 ounces silver/ton; 0.8% Copper

*Owner*—ASARCO, Inc.

*Operator*—ASARCO, Inc.

*Address*—Box 868, Troy, MT 59935

*Telephone*—295-5882

*Mine manager*—D. Miller

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Stillwater Mine

*Mining district*—Nye

*General location*—5 miles south of Nye

*Tract (PLS)*—Sec. 21, 22, T.5 S., R.15 E.

*County*—Stillwater

*Commodities produced*—Platinum, palladium, rhodium, gold

*Status*—Producing

*Mining method*—Coeur d'Alene-style cut and fill

*Ore production*—300,000 TPY

*Waste production*—300,000 TPY

*Acres disturbed*—65

*Acres reclaimed*—20

*Mineral ownership*—1,206 acres permitted; percentage public (unknown)

*Ore processing method*—Flotation

*Processing capacity*—1,000 TPD

*Mine life at startup*—Unknown

*Starting date*—1987

*Discovery date*—1974

*Initial investment*—\$89 Million

*Employees*—361

*Annual payroll*—\$17.0 million

*Production cost*—Unknown

*Commodity production*—215,000 oz. platinum and palladium; gold and rhodium credits

*Ore type*—Sulfide zones containing chalcopyrite, pyrrhotite, pentlandite.

*Geologic deposit model*—Magmatic differentiation of an ultramafic intrusive.

*Published reserves*—900,000 tons @ .8 oz./ton combined platinum - palladium; ratio = 1 platinum:  
3.4 palladium

*Owner*—P&M Coal; Manville Sales Corporation

*Operator*—Stillwater Mining Company

*Address*—County Route 2, Box 365, Nye, MT 59061

*Telephone*—328-6400

*Mine manager*—C. M. Tilley

*Mine superintendent*—

*Mill superintendent*—G. Hodges

*Plant manager*—

*General manager*—Jay Reynolds



## Troy Unit

*Mining district*—Troy (unconsolidated)

*General location*—South of Troy (east of Heron, approximately 5 miles west from Montana Highway 56)

*Tract (PLS)*—Sec. 12-14, 23-26, 35, 36, T.29 N., R.34 W.; Sec. 6, T.28 N., R.33 W.

*County*—Lincoln

*Commodities produced*—Copper, silver

*Status*—Producing

*Mining method*—Room and pillar

*Ore production*—8,500 TPD

*Waste production*—Minimal

*Acres disturbed*—600

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Flotation

*Processing capacity*—9,500 TPD

*Mine life at startup*—16 yrs.

*Starting date*—1981

*Discovery date*—1940s

*Initial investment*—\$90 million

*Employees*—320

*Annual payroll*—\$10 million

*Production cost*—Unknown

*Commodity production*—Capacity to produce concentrates containing 4.2 million oz. silver and 20,000 tons copper annually.

*Ore type*—Quartzites and siltites silica-rich hosts of mineralization consisting of native silver, bornite, chalcopyrite, covellite, malachite with minor amounts of pyrite, and galena.

*Geologic deposit model*—Stratabound deposit in Revett Formation (Belt Supergroup); slab-like ore zone 7,400 feet x 1,800 feet x 60 feet.

*Published reserves*—64 million tons; 1.54 Troy oz./ton silver and 0.75% Copper (1976)

*Owner*—ASARCO, Inc.

*Operator*—ASARCO, Inc. (Troy unit)

*Address*—Box 868, Troy, MT 59935

*Telephone*—295-5882

*Mine manager*—Doug Miller

*Mine superintendent*—Dave Young

*Mill superintendent*—L. R. McKinney

*Plant manager*—

*General manager*—

## U.S. Antimony Smelter and Refinery

*Mining district*—Prospect Creek

*General location*—Stibnite Hill, in Antimony and Cox gulches (approximately 18 miles southwest of Thompson Falls)

*Tract (PLS)*—Sec. 17, T.21 N., R.31 W.

*County*—Sanders

*Commodities produced*—Antimony

*Status*—Producing, processing purchased ore concentrates

*Mining method*—Not Producing

*Ore production*—N/A

*Waste production*—N/A

*Acres disturbed*—10

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Smelter and refinery

*Processing capacity*—250 TPD

*Mine life at startup*—Unknown

*Starting date*—1967

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—12

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Purchases concentrates from China and various other foreign producers.

*Geologic deposit model*—None

*Published reserves*—Concentrates purchased from China & Sunshine Mining Company.

*Owner*—U.S. Antimony Corporation

*Operator*—U.S. Antimony Corporation

*Address*—Box 643, Thompson Falls, MT 59873

*Telephone*—827-3523

*Mine manager*—John C. Lawrence

*Mine superintendent*—

*Mill superintendent*—T. Campbell

*Plant manager*—

*General manager*—John C. Lawrence

## Zortman-Landusky

*Mining district*—Little Rockies

*General location*—Southwest of Malta

*Tract (PLS)*—Sec. 14, 15, 22, T.25 N., R.24 E.; Sec. 7, T.25 N., R.25 E.

*County*—Phillips

*Commodities produced*—Gold, silver

*Status*—Producing at full capacity; expansion in Zortman area planned for 1993/1994

*Mining method*—Open pit

*Ore production*—50,000 TPD-12 million TPY

*Waste production*—15,000 TPD, 50:1 stripping

*Acres disturbed*—Zortman 401; Landusky 747.4 = total 1,148.4

*Acres reclaimed*—115

*Mineral ownership*—90% private, 10% federal

*Ore processing method*—Course ore heap leach; activated carbon and Merrill Crowe recovery methods

*Processing capacity*—50,000 TPD to 120,000 TPD

*Mine life at startup*—4 years (5-year planning periods)

*Starting date*—1979

*Discovery date*—1884

*Initial investment*—\$2-5 million (\$35 million proposed cost for Zortman expansion)

*Employees*—160 mine, 80 contract (changed to company mining in October 1991)

*Annual payroll*—\$7 million

*Production cost*—\$258/oz. gold-\$2.35/ton

*Commodity production*—1990 = 96,400 oz. gold; 195,200 oz. silver, 1991 (expected) = 115,000 oz. gold; 120,000 oz. silver

*Ore type*—Structurally controlled epithermal systems (stockworks, breccia, fractured "sheeted" zones).

*Geologic deposit model*—Free gold with silver in oxide ores. Little Rocky Mountains were formed when a calc-alkalic to alkalic magma penetrated through the Precambrian basement into overlying Paleozoic and Mesozoic sedimentary rocks. This intrusive center is part of the central Montana alkalic province.

*Published reserves*—Landusky (oxide) \$45.6 million @ 0.015 oz. gold/ton; Zortman (sulfide) \$56.8 million @ 0.019 oz. gold/ton

*Owner*—Pegasus Gold Corporation

*Address*—Executive Office, Suite 400, North 5 Post, Spokane, WA 99201

*Operator*—Zortman/Landusky

*Address*—P.O. Box 313, Zortman, MT 59546

*Telephone*—673-3252

*Mine manager*—Jim Geyer

*Mine superintendent*—Roland Erickson

*Mill superintendent*—Frances Kolezak

*Plant manager*—

*General manager*—

## Placer Mines

### Avalanche Creek Placer

*Mining district*—Missouri River

*General location*—Upper Avalanche Creek

*Tract*—Sec. 8, T.11 N., R.2 E.

*County*—Broadwater

*Commodities produced*—Placer gold

*Status*—Producing

*Mining method*—Open cut

*Ore production*—50-60 yd<sup>3</sup>/day

*Waste production*—8'-10' overburden; 4' pay; 2.5:1 stripping ratio

*Acres disturbed*—1 ½

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Trommel and sluice

*Processing capacity*—80 yd<sup>3</sup>/day

*Mine life at startup*—Unknown

*Starting Date*—1990

*Discovery date*—1800s

*Initial Investment*—Unknown

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold

*Geologic deposit model*—Paleoplacer gravels lying in elevated benches composed of tan shales overlying quartzite cobbles and boulders of older gravels.

*Published reserves*—None

*Owner*—Steve Adams

*Operator*—Steve Adams

*Address*—P.O. Box 742, Townsend, MT 59644

*Telephone*—No business phone

*Mine Manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

**B & S Placer**

*Mining district*—Ninemile

*General location*—Mouth of Favorite Gulch

*Tract (PLS)*—Sec. 15, T.16 N., R.23 W.

*County*—Missoula

*Commodities produced*—Gold

*Status*—Producing

*Mining method*—Open cut

*Ore production*—75-80 yd<sup>3</sup>/d

*Waste production*—240 yd<sup>3</sup>/d

*Acres disturbed*—1

*Acres reclaimed*—4

*Mineral ownership*—100% public

*Ore processing method*—Portable wash plant (trommel and sluice)

*Processing capacity*—75-80 yds<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Alluvial placer gold deposit

*Published reserves*—None

*Owner*—Buddy Ellis

*Operator*—Buddy Ellis

*Address*—1810 Ninemile Creek, Huson, MT 59846

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Bonnecord Placer

*Mining district*—Bannack

*General location*—Southwest of Dillon

*Tract*—Sec. 16, T.8 S., R.11 W.

*County*—Beaverhead

*Commodities produced*—Placer gold

*Status*—Seasonal production

*Mining method*—Open cut

*Ore production*—50-100 yd<sup>3</sup>/hr

*Waste production*—None

*Acres disturbed*— < 5

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Trommel and sluices

*Processing capacity*—100 yd<sup>3</sup>/hr

*Mine life at startup*—Unknown

*Starting Date*—1988

*Discovery date*—1860s

*Initial Investment*—Unknown

*Employees*—3-4

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold

*Geologic deposit model*—Bench gravels in quaternary alluvium.

*Published reserves*—None

*Owner*—RLT Company

*Operator*—Del Rio Corporation

*Address*—P.O. Box 5527, Helena, MT 59604

*Telephone*—227-7334

*Mine Manager*—Roger Goddard

*Mine superintendent*—Garland Ashe

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Cedar Creek Placer

*Mining district*—Cedar Creek  
*General location*—South of Superior

*Tract (PLS)*—Sec. 17, T.15 N., R.27 W.

*County*—Mineral  
*Commodities produced*—Placer gold

*Status*—Seasonal production

*Mining method*—Stripping with a 2.5 yard dragline  
*Ore production*—Unknown  
*Waste production*—Unknown  
*Acres disturbed*—4-5  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Trommel and sluice

*Processing capacity*—45 yd/hr  
*Mine life at startup*—Unknown  
*Starting date*—Unknown  
*Discovery date*—1880s  
*Initial investment*—Unknown  
*Employees*—None  
*Annual payroll*—None  
*Production cost*—Unknown  
*Commodity production*—Confidential

*Ore type*—Placer gold  
*Geologic deposit model*—Quaternary placer consists of both valley and bench deposits.

*Published reserves*—None

*Owner*—Vaughn Brockbank

*Operator*—Vaughn Brockbank  
*Address*—Rt. 1, Box 310A, Provo, UT 84160  
*Telephone*—No business phone

*Mine manager*—  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## Douglas Creek Placer

*Mining district*—Unorganized  
*General location*—Douglas Creek

*Tract*—Sec. 3, T.12 N., R.13 W.

*County*—Powell  
*Commodities produced*—Placer gold

*Status*—Seasonal

*Mining method*—Open cut  
*Ore production*—50-75 yd<sup>3</sup>/d  
*Waste production*—400-500 yd<sup>3</sup>/d  
*Acres disturbed*—4  
*Acres reclaimed*—0.5  
*Mineral ownership*—100% public  
*Ore processing method*—Trommel and sluices

*Processing capacity*—150 yd<sup>3</sup>/d  
*Mine life at startup*—Unknown  
*Starting Date*—1989  
*Discovery date*—1870s  
*Initial Investment*—Unknown  
*Employees*—None  
*Annual payroll*—Unknown  
*Production cost*—Unknown  
*Commodity production*—Unknown

*Ore type*—Placer gold  
*Geologic deposit model*—Quarternary alluvium

*Published reserves*—None

*Owner*—Bill Wheeler  
*Address*—4604 Graham St., Missoula, MT 59802

*Operator*—Tykie Kriticos  
*Address*—  
*Telephone*—

*Mine Manager*—  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—



## Eldorado Bar Placer

*Mining district*—Missouri River

*General location*—Northeast of Helena

*Tract (PLS)*—Sec. 17, T.11 N., R.2 W.

*County*—Lewis and Clark

*Commodities produced*—Free gold, sapphires

*Status*—Producing (recreational and commercial)

*Mining method*—Open pit

*Ore production*—Unknown

*Waste production*—None

*Acres disturbed*—<5

*Acres reclaimed*—Unknown

*Mineral ownership*—100% private

*Ore processing method*—Commercial (wash plant, trommel and jigs; recreation, dry screening with jig concentrate)

*Processing capacity*—Unknown

*Mine life at startup*—Unknown

*Starting date*—1989

*Discovery date*—1880s

*Initial investment*—Unknown

*Employees*—Unknown

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold and sapphires

*Geologic deposit model*—Elevated ancient river terrace

*Published reserves*—None

*Owner*—Unknown

*Address*—Unknown

*Operator*—Sam Speerstra

*Address*—Box 4308, Helena, MT 59604

*Telephone*—

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Fish Creek Placer

*Mining district*—Highland

*General location*—South of Butte

*Tract (PLS)*—Sec. 27, 28, 33, 34, T.1 N., R.7 W

*County*—Silver Bow

*Commodities produced*—Placer gold

*Status*—Closed 1990 (reclaiming)

*Mining method*—Open cut

*Ore production*—250 yd<sup>3</sup>/hr 1990

*Waste production*—Minimal

*Acres disturbed*—5

*Acres reclaimed*—4

*Mineral ownership*—75% private; 25% public

*Ore processing method*—Bodenson wash plant (trommel and sluices)-1989; screening plant, sluices and jigs-1990

*Processing capacity*—250 yd<sup>3</sup>/hr-1990

*Mine life at startup*—Unknown

*Starting date*—1880s

*Discovery date*—1870s

*Initial investment*—Unknown

*Employees*—Unknown

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary-age gold and gravel deposit; gravel thicknesses average from 6-9 feet with no overburden. Course gold is common.

*Published reserves*—None

*Owner*—Highland Gold Properties, Inc.

*Operator*—Highland Gold Properties, Inc.

*Address*—

*Telephone*—

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## French Bar Placer

*Mining district*—Missouri River  
*General location*—East of Helena

*Tract (PLS)*—Sec. 4, 5, T.10 N., R.1 W.

*County*—Lewis and Clark  
*Commodities produced*—Sapphires, gold

*Status*—Producing (recreational)

*Mining method*—Open cut  
*Ore production*—Unknown  
*Waste production*—None  
*Acres disturbed*— < 5  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Wash plant (vibrating screens and jigs)

*Processing capacity*—Unknown  
*Mine life at startup*—Unknown  
*Starting date*—Unknown  
*Discovery date*—Unknown  
*Initial investment*—Unknown  
*Employees*—Unknown  
*Annual payroll*—Unknown  
*Production cost*—Unknown  
*Commodity production*—Unknown

*Ore type*—Placer gold and sapphires  
*Geologic deposit model*—Ancient river terrace

*Published reserves*—None

*Owner*—Ron McLean

*Operator*—Ron McLean  
*Address*—7032 Canyon Ferry Road, Helena, MT 59601  
*Telephone*—Unknown

*Mine manager*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## Hughes Creek Placer

*Mining district*—Hughes Creek

*General location*—Southwest of Darby

*Tract (PLS)*—Sec. 33, 34; T25, R21W, Sec. 3, 4, T35, R21W

*County*—Ravalli

*Commodities produced*—Gold, tin (not recovered)

*Status*—Seasonal production

*Mining method*—Open cut

*Ore production*—75 yd<sup>3</sup>/d

*Waste production*—350-400 yd<sup>3</sup>/d

*Acres disturbed*—5

*Acres reclaimed*—1

*Mineral ownership*—100% private

*Ore processing method*—Floating plant consisting of vibrating screen and sluices.

*Processing capacity*—50-100 yd<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—1970s

*Discovery date*—1860s

*Initial investment*—Unknown

*Employees*—Partnership

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary-age gravel; gold occurs in thin flakes in pay streaks 1-2 feet thick on a clay layer above bedrock. Cassiterite is also recovered.

*Published reserves*—None

*Owner*—E.A. Cox and Wade Cox

*Operator*—E.A. Cox and Wade Cox

*Address*—Star Route West, Darby, MT 59829

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Hughes Creek Placer (Underground) (Larrigon)

*Mining district*—Hughes Creek

*General location*—Southwest of Darby

*Tract (PLS)*—SW ¼ Sec. 34, T25, R21W

*County*—Ravalli

*Commodities produced*—Gold, tin (not recovered)

*Status*—Seasonal production

*Mining method*—Open stope

*Ore production*—20 yd<sup>3</sup>/d

*Waste production*—minimal

*Acres disturbed*—1

*Acres reclaimed*—0

*Mineral ownership*—100% federal

*Ore processing method*—Stationary trommel and sluice box

*Processing capacity*—20 yds<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1860s

*Initial investment*—Unknown

*Employees*—Partnership

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold

*Geologic deposit model*—Indurated paleoplacer on Belt Supergroup rocks containing thin flat flakes of gold and reniform stream tin.

*Published reserves*—None

*Owner*—

*Operator*—

*Address*—

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Lincoln Gulch Placer

*Mining district*—Lincoln

*General location*—Northwest of Lincoln

*Tract (PLS)*—Sec. 8, T.14 N., R.9 W.

*County*—Lewis and Clark

*Commodities produced*—Placer gold

*Status*—Producing

*Mining method*—Open cut

*Ore production*—70 YPD

*Waste production*—100 YPD

*Acres disturbed*—4

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Trommel and sluice wash plant

*Processing capacity*—150-200 YPD

*Mine life at startup*—Unknown

*Starting date*—1988

*Discovery date*—1870s

*Initial investment*—Unknown

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary alluvium

*Published reserves*—None

*Owner*—Bill Lewis

*Operator*—Bill Lewis

*Address*—3867 Wolverine Street NE, Suite 12, Building F., Salem, OR 97305

*Telephone*—No Business Phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Lovestone Placer

*Mining district*—Missouri River

*General location*—East of Helena (north of Canyon Ferry Dam)

*Tract (PLS)*—Sec. 5, T.10 N., R.1 W.

*County*—Lewis and Clark

*Commodities produced*—Sapphires and free gold

*Status*—Closed temporarily

*Mining method*—Open cut

*Ore production*—Intermittent contract runs

*Waste production*—Unknown

*Acres disturbed*—< 5

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Screening plant with jigs; fines processed on a table and spirals

*Processing capacity*—Unknown

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1800s

*Initial investment*—

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold and sapphires

*Geologic deposit model*—Ancient alluvial terrace

*Published reserves*—None

*Owner*—Jerry Lorbeck, Lovestone Mining

*Operator*—Jerry Lorbeck

*Address*—4448 Jim Town Road, Helena, MT 59601

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Oregon Gulch Placer

*Mining district*—York

*General location*—East of Helena

*Tract (PLS)*—Sec. 22, 27, T11N, R1W

*County*—Lewis and Clark

*Commodities produced*—Placer gold

*Status*—Produced (closed July); operated 2 months

*Mining method*—Open cut

*Ore production*—150-200 yd<sup>3</sup>/d

*Waste production*—60 yd<sup>3</sup>/d

*Acres disturbed*—7

*Acres reclaimed*—7, not completed

*Mineral ownership*—100% public

*Ore processing method*—6' diameter trommel; stationary plant screens, jigs for coarse gold; vulcan table for fines

*Processing capacity*—25-50 yd<sup>3</sup>/hr

*Mine life at startup*—Unknown

*Starting date*—May 1991

*Discovery date*—1880s

*Initial investment*—Unknown

*Employees*—2 shifts, 5-6 per shift

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary alluvium

*Published reserves*—None

*Owner*—Cherill Resources

*Address*—State Capital Credit Union Building, Helena, MT 59601

*Operator*—

*Address*—

*Telephone*—

*Mine manager*—

*Mine superintendent*—Joe Armstrong

*Mill superintendent*—

*Plant manager*—

*General manager*—



## Quartzite Placer

*Mining district*—Elk Creek

*General location*—Elk Creek (east of Missoula)

*Tract*—Sec. 1, T.12 N., R.14 W.

*County*—Granite

*Commodities produced*—Placer gold

*Status*—Seasonal production

*Mining method*—Open cut

*Ore production*—30-40 yd<sup>3</sup>/d

*Waste production*—180-240 yd<sup>3</sup>/d

*Acres disturbed*—4

*Acres reclaimed*—0.5

*Mineral ownership*—100% public

*Ore processing method*—Trommel and sluices

*Processing capacity*—60-80 yd<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting Date*—1987

*Discovery date*—1870s

*Initial Investment*—Unknown

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary alluvium

*Published reserves*—None

*Owner*—Breed Leikem

*Operator*—Breed Leikem

*Address*—Star Drive, East Missoula, MT 59802

*Telephone*—

*Mine Manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Sauerkraut Creek Placer

*Mining district*—Lincoln

*General location*—Lower Sauerkraut Creek (southwest of Lincoln)

*Tract (PLS)*—Sec. 5, T.13 N., R.9 W.

*County*—Lewis and Clark

*Commodities produced*—Placer gold

*Status*—Seasonal production

*Mining method*—Open cut

*Ore production*—120-180 yd<sup>3</sup>/d

*Waste production*—120-200 yd<sup>3</sup>/d

*Acres disturbed*—5

*Acres reclaimed*—4.5

*Mineral ownership*—100% private

*Ore processing method*—Wash plant (grizzly, trommel, sluice)

*Processing capacity*—50 yd<sup>3</sup>/hr.; 100-150 yd<sup>3</sup>/d

*Mine life at startup*—3-5 years

*Starting date*—1987

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—(Partnership)

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary alluvial deposit overlying older placer deposit containing magnetite, hematite, pyrite, and possible eluvial placer from veins that crosscut the valley that are weathering in place. Gold placer deposit is 2 feet above weathered bedrock.

*Published reserves*—None

*Owner*—Unknown

*Operator*—Clay and Bob Lewis

*Address*—Box 593, Lincoln, MT 59636

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Seahawk Placer (B and B Mine)

*Mining district*—Indian Creek

*General location*—Northwest of Townsend

*Tract (PLS)*—Sec. 22, 23, 28, T.7N., R.1E.

*County*—Broadwater

*Commodities produced*—Placer gold

*Status*—Intermittent production

*Mining method*—Open cut

*Ore production*—120-130 yd<sup>3</sup>/day

*Waste production*—50-100 yd<sup>3</sup>/day (25' pay gravel, 8' overburden)

*Acres disturbed*—15

*Acres reclaimed*—45

*Mineral ownership*—100% private

*Ore processing method*—Trommel and sluice

*Processing capacity*—200 yd<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1880s

*Initial investment*—Unknown

*Employees*—6-10)

*Annual payroll*—Unknown

*Production cost*—Confidential

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Alluvial placer deposit in Quaternary gravels (alluvial fan).

*Published reserves*—None

*Owner*—B and B Mining, Ltd.

*Operator*—Larry Lunan

*Address*—Box 1138, Townsend, MT 59644

*Telephone*—No business number

*Mine manager*—Butch Harper

*Mine superintendent*—Don McLavey

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Vermont Gulch Placer

*Mining district*—Unknown

*General location*—Head of Vermont Gulch (east side of Big Belt Mountains)

*Tract (PLS)*—Sec. 31, T.11N., R.3E.

*County*—Meagher

*Commodities produced*—Placer gold

*Status*—Producing

*Mining method*—Open cut

*Ore production*—110-115 yd<sup>3</sup>/d

*Waste production*—None

*Acres disturbed*—1

*Acres reclaimed*—5

*Mineral ownership*—100% public

*Ore processing method*—Trommel to jig to sluice

*Processing capacity*—110-115 yd<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—1985

*Discovery date*—1979

*Initial investment*—Unknown

*Employees*—None

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary placer deposit in glacial outwash; pay streak is 80 feet across, between a lateral moraine and outcrop; values are spotty. Black sands contain magnetite and cinnabar.

*Published reserves*—None

*Owner*—Harvey McConnel

*Operator*—Harvey McConnel

*Address*—221 Third Street East, Roundup, MT 59072

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Walnut Placer

*Mining district*—Silver Butte

*General location*—East of Trout Creek

*Tract (PLS)*—Sec. 4 9, T24N, T25N, R30W

*County*—Sanders

*Commodities produced*—Placer gold

*Status*—Seasonal production

*Mining method*—Open cut

*Ore production*—10 yd<sup>3</sup>/hr

*Waste production*—Minimal

*Acres disturbed*—1

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Trommel, sluices and jigs

*Processing capacity*—20 yd<sup>3</sup>/hr

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—None (partnership)

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—

*Ore type*—Placer gold

*Geologic deposit model*—Quaternary placer deposit; gravel bar in Vermillion River flood plain.

*Published reserves*—None

*Owner*—Marvin and Doris Eichert, Jim and Debra Williams

*Operator*—Jim Williams

*Address*—1457 Bluestide Road, Thompson Falls, MT 59873

*Telephone*—

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Barite Mine

### Elk Creek Mine

*Mining district*—Elk Creek

*General location*—30 miles east of Missoula

*Tract (PLS)*—Sec. 16, T.13 N., R.14 W.

*County*—Missoula

*Commodities produced*—Barite

*Status*—Intermittent operations

*Mining method*—Underground

*Ore production*—3,000 TPY

*Waste production*—None

*Acres disturbed*— < 1

*Acres reclaimed*—0

*Mineral ownership*—100% State land

*Ore processing method*—Gravity (jigs) located in Lethbridge, Alberta, Canada

*Processing capacity*—40 TPH

*Mine life at startup*—Unknown

*Starting date*—1951

*Discovery date*—1940s

*Initial investment*—Unknown

*Employees*—Contract mining

*Annual payroll*—Unknown

*Production cost*—Confidential

*Commodity production*—3,000 tons crude barite

*Ore type*—Vein barite

*Geologic deposit model*—Fissure filling along faults

*Published reserves*—None

*Owner*—State of Montana (lease)

*Operator*—Rocky Mountain Minerals

*Address*—P.O. Box 700, Lethbridge, Alberta, Canada T1J 3Z6

*Telephone*—(403) 329-0443

*Mine manager*—Steve Butrenchuk

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Chlorite Mine

### Antler Mine

*Mining district*—Silver Star

*General location*—South of Silver Star

*Tract (PLS)*—Sec. 14, R.2 S., R.6 W.

*County*—Madison

*Commodities produced*—Chlorite

*Status*—Intermittent production

*Mining method*—Open pit

*Ore production*—9,681 TPY

*Waste production*—636,000 TPY

*Acres disturbed*— <10

*Acres reclaimed*—Unknown

*Mineral ownership*—100% private

*Ore processing method*—Hand sort

*Processing capacity*—4,000 TPM; 2 shifts, 5 day/week

*Mine life at startup*—10 years (proven reserves)

*Starting date*—1980

*Discovery date*—Unknown

*Initial investment*—\$1 million

*Employees*—10

*Annual payroll*—\$276,000

*Production cost*—Unknown

*Commodity production*—9,681 TPY

*Ore type*—Chlorite

*Geologic deposit model*—Solution replacement

*Published reserves*—160,000 tons (processed product)

*Owner*—Cyprus Industrial Minerals

*Operator*—Cyprus Industrial Minerals

*Address*—P.O. Box 99, Alder, MT 59103

*Telephone*—684-5836

*Mine manager*—Mike Toelle

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Limestone Quarries

### Indian Creek Mine

*Mining district*—Indian Creek

*General location*—Northwest of Townsend

*Tract (PLS)*—Sec. 28, 33, T.7 N., R.1 E.

*County*—Broadwater

*Commodities produced*—Limestone (burnt lime)

*Status*—Producing

*Mining method*—Open pit

*Ore production*—1 million TPY

*Waste production*—Minimal (no stripping)

*Acres disturbed*—50

*Acres reclaimed*—10

*Mineral ownership*—100% public (patent process)

*Ore processing method*—Crushing, screening and kilns

*Processing capacity*—1,000 TPD

*Mine life at startup*—30+ years

*Starting date*—1982

*Discovery date*—1800s

*Initial investment*—\$10 million, 12 million subsequent investment

*Employees*—50 mine, 15 contract (Grayrock Construction)

*Annual payroll*—\$2.2 million

*Production cost*—Unknown

*Commodity production*—300,000 tons of finished product per year

*Ore type*—Limestone

*Geologic deposit model*—Mission Canyon limestone (Madison Group)

*Published reserves*—13 million tons

*Owner*—Continental Lime, Inc. (Subsidiary of Graymount Mining, Inc.)

*Operator*—Continental Lime, Inc.

*Address*—P.O. Box 550, Townsend, MT 59644

*Telephone*—266-5221

*Mine manager*—Elton Chorney

*Plant Manager*—Elton Chorney

*Mine superintendent*—

*Mill superintendent*—

*General manager*—



## McClellan Quarry

*Mining district*—McClellan

*General location*—South of East Helena

*Tract (PLS)*—Sec. 7, T.9 N., R.2 W

*County*—Jefferson

*Commodities produced*—Limestone

*Status*—Producing

*Mining method*—Open pit

*Ore production*—30,000 TPY

*Waste production*—None

*Acres disturbed*—10

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Crushing -1/4"

*Processing capacity*—100

*Mine life at startup*—Unknown

*Starting date*—1932

*Discovery date*—1890s

*Initial investment*—50,000

*Employees*—4-5

*Annual payroll*—\$30,000

*Production cost*—Unknown

*Commodity production*—30,000 TPY

*Ore type*—Limestone

*Geologic deposit model*—Meagher Formation (Cambrian age)

*Published reserves*—Unknown

*Owner*—ASARCO

*Address*—Box 1230, East Helena, MT 59635

*Operator*—Maronick Construction Company, Inc.

*Address*—Box 1100, East Helena, MT 59635

*Telephone*—442-1185

*Mine manager*—E.P. Maronick

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Montana City Quarry

*Mining district*—Montana City

*General location*—South of Helena

*Tract (PLS)*—Sec. 12, 13, T.9 N., R.2 W.

*County*—Jefferson

*Commodities produced*—Limestone (Portland Cement)

*Status*—Producing

*Mining method*—Open pit (mined on 20-foot benches)

*Ore production*—2,500 TPD

*Waste production*—Minimal

*Acres disturbed*—77

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Jaw crusher, rock house-hammer mill, ball mills, slurry tanks, kilns

*Processing capacity*—1,000 TPD

*Mine life at startup*—Unknown

*Starting date*—1962

*Discovery date*—1880s

*Initial investment*—Unknown

*Employees*—83

*Annual payroll*—\$2.8 million

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Limestone

*Geologic deposit model*—Altered limestone

*Published reserves*—Unknown

*Owner*—Ash Grove Cement West, Inc.

*Operator*—Ash Grove Cement West, Inc.

*Address*—Montana City, MT 59602

*Telephone*—442-8855

*Mine manager*—Dan Peterson

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Trident Quarry

*Mining district*—Unorganized

*General location*—Northeast of Three Forks

*Tract (PLS)*—Sec. 9, 10, T.2 N., R.2 E.

*County*—Gallatin

*Commodities produced*—Cement

*Status*—Producing

*Mining method*—Open pit

*Ore production*—534,538 TPY

*Waste production*—Minimal

*Acres disturbed*—256

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Crush, raw grind, burn (kilns), finish grind

*Processing capacity*—300,000 TPY

*Mine life at startup*—150+ years

*Starting date*—1902

*Discovery date*—1890s

*Initial investment*—Unknown

*Employees*—100

*Annual payroll*—\$3.0 million

*Production cost*—Unknown

*Commodity production*—534,538 TPY

*Ore type*—Limestone

*Geologic deposit model*—Madison Group limestone

*Published reserves*—None

*Owner*—Cement Division - Ideal Basic Industries

*Operator*—Cement Division - Ideal Basic Industries

*Address*—4070 Trident Road, Three Forks, MT 59752

*Telephone*—285-3241

*Mine manager*—Bill Springlan

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Pipestone Mine

*Mining district*—Little Pipestone

*General location*—East of Butte

*Tract (PLS)*—Sec. 35, T2N, R6W

*County*—Jefferson

*Commodities produced*—Chemical grade calcium carbonate (92-98% pure)

*Status*—Producing

*Mining method*—Open pit

*Ore production*—3,000 TPY

*Waste production*—Minimal

*Acres disturbed*—3.5

*Acres reclaimed*—0

*Mineral ownership*—100% federal

*Ore processing method*—Crushing (cone 3-deck screen); feed 6", 4 products: -3"-3/4", -3/4" - + 4 mesh, -4 mesh- + 400 mesh, -400 mesh

*Processing capacity*—50 TPH

*Mine life at startup*—Unknown

*Starting date*—1990

*Discovery date*—Unknown

*Initial investment*—Unknown

*Employees*—6

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Crystalline calcite

*Geologic deposit model*—Derived from contact metamorphism

*Published reserves*—50 millions tons proven; 200 million tons provable

*Owner*—Natures Calcium Products Company

*Operator*—Natures Calcium Products Company

*Address*—P.O. Box 512, Whitehall, MT 59759

*Telephone*—723-4569

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Phosphate Mine

### Warm Springs Mine

*Mining district*—Garrison

*General location*—Northwest of Garrison

*Tract (PLS)*—Sec. 11, 13, 24, T.10 N., R.10 W.; Sec. 19, T.10N., R.9 W.

*County*—Powell

*Commodities produced*—Phosphate

*Status*—Producing

*Mining method*—Open slope

*Ore production*—800 TPD

*Waste production*—Minimal

*Acres disturbed*—38

*Acres reclaimed*—5

*Mineral ownership*—100% public (lease)

*Ore processing method*—Dry grinding

*Processing capacity*—1,000 TPD

*Mine life at startup*—Unknown

*Starting date*—1929

*Discovery date*—1928

*Initial investment*—\$12 million

*Employees*—133

*Annual payroll*—\$3 million

*Production cost*—Unknown

*Commodity production*—Confidential

*Ore type*—Bedded phosphate rock

*Geologic deposit model*—Phosphoria Formation (Permian age)

*Published reserves*—15 years (minimum)

*Owner*—Cominco American, Inc.

*Operator*—Cominco American, Inc.

*Address*—Garrison, MT 59731

*Telephone*—846-2084

*Mine manager*—Martin Dippold

*Mine superintendent*—Hugh Moore

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Gem And Semiprecious Minerals

### Eldorado Bar Placer

*Mining district*—Missouri River

*General location*—Northeast of Helena

*Tract (PLS)*—Sec. 17, T.11 N., R.2 W.

*County*—Lewis and Clark

*Commodities produced*—Free gold, sapphires

*Status*—Producing (recreational and commercial)

*Mining method*—Open pit

*Ore production*—Unknown

*Waste production*—None

*Acres disturbed*— 5

*Acres reclaimed*—Unknown

*Mineral ownership*—100% private

*Ore processing method*—Commercial (wash plant, trommel and jigs; recreation, dry screening with jig concentrate)

*Processing capacity*—Unknown

*Mine life at startup*—Unknown

*Starting date*—1989

*Discovery date*—1880s

*Initial investment*—Unknown

*Employees*—Unknown

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Placer gold and sapphires

*Geologic deposit model*—Elevated river terrace

*Published reserves*—None

*Owner*—Unknown

*Address*—Unknown

*Operator*—Sam Speerstra

*Address*—Box 4308, Helena, MT 59604

*Telephone*—

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Four V's Claims

*Mining district*—Unorganized  
*General location*—North of Lolo Pass

*Tract (PLS)*—Sec. 22, T.11 N., R.24 W.

*County*—Missoula  
*Commodities produced*—Smoky quartz crystals

*Status*—Producing

*Mining method*—Hand work  
*Ore production*—Unknown  
*Waste production*—Unknown  
*Acres disturbed*— <1  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Hand sorting

*Processing capacity*—Unknown  
*Mine life at startup*—Unknown  
*Starting date*—1970s  
*Discovery date*—Unknown  
*Initial investment*—Unknown  
*Employees*—None  
*Annual payroll*—Unknown  
*Production cost*—Unknown  
*Commodity production*—Unknown

*Ore type*—Quartz  
*Geologic deposit model*—Unknown

*Published reserves*—None

*Owner*—Albert E. Volker

*Operator*—Albert E. Volker  
*Address*—1806 S. 10th West, Missoula, MT 59801  
*Telephone*—543-3992

*Mine manager*—  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## French Bar Placer

*Mining district*—Missouri River  
*General location*—East of Helena

*Tract (PLS)*—Sec. 4, 5, T.10 N., R.1 W.

*County*—Lewis and Clark  
*Commodities produced*—Sapphires, gold

*Status*—Producing (recreational)

*Mining method*—Open cut  
*Ore production*—Unknown  
*Waste production*—None  
*Acres disturbed*—< 5  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Wash plant (vibrating screens and jigs)

*Processing capacity*—Unknown  
*Mine life at startup*—Unknown  
*Starting date*—Unknown  
*Discovery date*—Unknown  
*Initial investment*—Unknown  
*Employees*—Unknown  
*Annual payroll*—Unknown  
*Production cost*—Unknown  
*Commodity production*—Unknown

*Ore type*—Placer gold and sapphires  
*Geologic deposit model*—River terrace

*Published reserves*—None

*Owner*—Ron McLean

*Operator*—Ron McLean  
*Address*—7032 Canyon Ferry Road, Helena, MT 59601  
*Telephone*—Unknown

*Mine manager*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—



## Gem Mountain Sapphire Mine

*Mining district*—Rock Creek

*General location*—West Fork of Rock Creek (near Skalkaho Pass)

*Tract (PLS)*—Sec. 16, T.6 N., R.16 W.

*County*—Granite

*Commodities produced*—Sapphires

*Status*—Producing

*Mining method*—Open cut

*Ore production*—124 yd<sup>3</sup>/day

*Waste production*—100 yd<sup>3</sup>/day (average)

*Acres disturbed*—<5

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Sluice and trommel

*Processing capacity*—124 yd<sup>3</sup>/d

*Mine life at startup*—Unknown

*Starting date*—1800s

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—13

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—400 lbs. annually

*Ore type*—Alluvial/colluvial gravel deposits

*Geologic deposit model*—Quaternary-age placer deposits in drainages; elevated paleoplacer bench deposits on ridges.

*Published reserves*—Unknown

*Owner*—Theo T. Smith

*Address*—27207 N. 39th Drive, Glendale, AZ 85308

*Operator*—Gem Mountain Sapphire

*Address*—P.O. Box 701, Philipsburg, MT 59856

*Telephone*—859-3530

*Mine manager*—T. R. Hess

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—T. R. Hess

**P.C. Crystal Mine**

*Mining district*—Basin Creek

*General location*—North of Basin

*Tract (PLS)*—Sec. 22, 23, 24, T.7N., R.6W.

*County*—Jefferson

*Commodities produced*—quartz crystals (Japanese twin law).

*Status*—Producing

*Mining method*—Open cut

*Ore production*—Unknown

*Waste production*—Minimal

*Acres disturbed*—1

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Crystal collecting (hand processing)

*Processing capacity*—Unknown

*Mine life at startup*—Unknown

*Starting date*—Unknown

*Discovery date*—Unknown

*Initial investment*—Unknown

*Employees*—None

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Unique quartz crystals

*Geologic deposit model*—Breccia pipe (Elkhorn Mountains Volcanics)

*Published reserves*—None

*Owner*—Forrest L. Klies

*Operator*—Forrest L. Klies

*Address*—P.O. Box 153, Basin, MT 59631

*Telephone*—No business phone

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Sapphire Grazing Association Sapphire Mine

*Mining district*—Rock Creek

*General location*—West Fork of Rock Creek (near Skalkaho Pass)

*Tract (PLS)*—Sec. 16, T.6 N., R.16 W.

*County*—Granite

*Commodities produced*—Sapphires

*Status*—Produced 1989; developed 1990; inactive 1991

*Mining method*—Processing previously stockpiled ore

*Ore production*—1200 yd<sup>3</sup>/d

*Waste production*—None

*Acres disturbed*—2

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Screening plant, sluices, gravel pump, jig

*Processing capacity*—1200 yd<sup>3</sup>/d

*Mine life at startup*—1 year

*Starting date*—May, 1989

*Discovery date*—1880s

*Initial investment*—\$500,000

*Employees*—3

*Annual payroll*—\$100,000

*Production cost*—Confidential

*Commodity production*—Confidential

*Ore type*—Sapphire-bearing gravel

*Geologic deposit model*—Quaternary-age placer gravel

*Published reserves*—Unknown

*Owner*—Skalkaho Grazing Association

*Operator*—Skalkaho Grazing Association

*Address*—Hamilton, MT 59840

*Telephone*—No business phone

*Mine manager*—J. Higgins

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Vortex Group

*Mining district*—Yogo

*General location*—Southwest of Utica

*Tract (PLS)*—Sec. 19, 20, T.13 N., R.11 E.

*County*—Judith Basin

*Commodities produced*—Sapphires

*Status*—Producing

*Mining method*—Open stope and stull

*Ore production*—20 TPD

*Waste production*—30 TPD

*Acres disturbed*— < 2

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Trommel and sluice

*Processing capacity*—100 YPD

*Mine life at startup*—Unknown

*Starting date*—1984

*Discovery date*—1920

*Initial investment*—\$200,000

*Employees*—(Partnership)

*Annual payroll*—None

*Production cost*—Confidential

*Commodity production*—Sapphires

*Ore type*—Sapphires occurring in weathered dike.

*Geologic deposit model*—Intrusive into limestone

*Published reserves*—Unknown

*Owner*—Lanny and Joy Perry, Chuck and Marie Ridgeway, Pete Ecker

*Address*—Utica, MT 59452

*Operator*—Vortex Mining

*Address*—Utica, MT 59452

*Telephone*—423-5390

*Mine manager*—Charles Ridgeway

*Mine superintendent*—Pete Ecker

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Yogo Sapphire Mine

*Mining district*—Yogo

*General location*—Yogo Creek in Little Belt Mountains (southwest of Lewistown)

*Tract (PLS)*—Sec. 19-22, T.13 N., R.11 E.

*County*—Judith Basin

*Commodities produced*—Sapphires

*Status*—Producing

*Mining method*—Systematic cleanup of remnant surface reserves remaining from previous operations.

*Ore production*—Unknown

*Waste production*—Unknown

*Acres disturbed*— < 5 acres

*Acres reclaimed*—Unknown

*Mineral ownership*—100% private

*Ore processing method*—Stationary wash plant, trommel, and sluices

*Processing capacity*—500 YPD

*Mine life at startup*—Unknown

*Starting date*—1896

*Discovery date*—1896

*Initial investment*—Unknown

*Employees*—(Partnership)

*Annual payroll*—None

*Production cost*—Unknown

*Commodity production*—Unknown

*Ore type*—Blue sapphires occurring in an intrusive dike.

*Geologic deposit model*—Nearly vertical sapphire-bearing lamprophyre dike cutting through gently dipping limestone.

*Published reserves*—Unknown

*Owner*—Roncor, Inc.

*Operator*—Roncor, Inc.

*Address*—2056 South Barrington Avenue, Los Angeles, CA 90025

*Telephone*—

*Mine manager*—Ronald H. Kunisaki

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Silica Mine

### Canyon Creek Quarry

*Mining district*—Melrose

*General location*—Canyon Creek (southwest of Butte)

*Tract (PLS)*—Sec. 32, T.1 S., R.9 W.

*County*—Beaverhead

*Commodities produced*—Metallurgical silica

*Status*—Producing

*Mining method*—Open pit

*Ore production*—45,000 TPY

*Waste production*—None

*Acres disturbed*—3

*Acres reclaimed*—Unknown

*Mineral ownership*—100% private

*Ore processing method*—Crush and screen (-3" + ½")

*Processing capacity*—100 TPH

*Mine life at startup*—Unknown

*Starting date*—1968

*Discovery date*—1952

*Initial investment*—Unknown

*Employees*—2

*Annual payroll*—\$60,000

*Production cost*—Unknown

*Commodity production*—45,000 TPY

*Ore type*—Silica

*Geologic deposit model*—Pennsylvanian-age quadrant Formation (quartzite)

*Published reserves*—1 million tons @ 98% SiO<sub>2</sub>

*Owner*—Rhone-Poulenc Basic Chemicals Company

*Operator*—Rhone-Poulenc Basic Chemicals Company

*Address*—Box 3146, Butte, MT 59701

*Telephone*—782-7300

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—Greg Gorton

## Peat Mine

### Martin's Peat, Inc.

*Mining district*—Unorganized  
*General location*—Northeast of Whitefish

*Tract (PLS)*—Sec. 16, T.24 N., R.17 W.

*County*—Lake  
*Commodities produced*—Peat

*Status*—Producing

*Mining method*—Open pit  
*Ore production*—5,000 yd<sup>3</sup>/yr  
*Waste production*—None  
*Acres disturbed*— < 1  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Screen plant

*Processing capacity*—30 yd<sup>3</sup>/hr  
*Mine life at startup*—25 yrs  
*Starting date*—1975  
*Discovery date*—1974  
*Initial investment*—\$320,000  
*Employees*—3  
*Annual payroll*—\$3,000  
*Production cost*—Unknown  
*Commodity production*—2000 TPY

*Ore type*—Peat  
*Geologic deposit model*—Peat bog

*Published reserves*—None

*Owner*—Martin's Peat, Inc.

*Operator*—Martin's Peat, Inc.  
*Address*—Swan Route, Bigfork, MT 59911  
*Telephone*—837-5086

*Mine manager*—Ronald I. Martin  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## Stone Quarries

### Essex

*Mining district*—Unorganized  
*General location*—70 miles east of Kalispell

*Tract (PLS)*—Sec. 33, T.30 N., R.16 W.

*County*—Flathead  
*Commodities produced*—Rail ballast and highway products

*Status*—Seasonal production

*Mining method*—Open pit  
*Ore production*—250,000 TPY  
*Waste production*—70,000 TPY  
*Acres disturbed*—70  
*Acres reclaimed*—0  
*Mineral ownership*—100% private  
*Ore processing method*—Crushing and screen

*Processing capacity*—600 TPH (two 10-hour shifts/d)  
*Mine life at startup*—80 yrs  
*Starting date*—1940s  
*Discovery date*—1930s  
*Initial investment*—2.5 million (portable plant located 25% of year at site)  
*Employees*—34 temporary, 2 permanent  
*Annual payroll*—\$220,000  
*Production cost*—Unknown  
*Commodity production*—250,000 TPY

*Ore type*—Quartzite  
*Geologic deposit model*—Precambrian quartzite

*Published reserves*—None

*Owner*—Meridian Minerals Company  
*Address*—Englewood, CO

*Operator*—Weaverstone Products  
*Address*—1506 Thiel Road, Laurel, MT 59044  
*Telephone*—628-8641

*Mine manager*—Ken Pike  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—



## Livingston Marble And Granite Quarry

*Mining district*—Unorganized

*General location*—East of Gardiner

*Tract (PLS)*—Sec. 14, 24, T.9 S., R.8 E.

*County*—Park

*Commodities produced*—Ashlar, cut stone, rubble

*Status*—Producing

*Mining method*—Open pit

*Ore production*—2,000 TPY

*Waste production*—3,000 TPY

*Acres disturbed*—10

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Sawed into slabs or tiles

*Processing capacity*—N/A

*Mine life at start up*—135+ yrs.

*Starting date*—1955

*Discovery date*—1910

*Initial investment*—Unknown

*Employees*—7

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—N/A

*Ore type*—Travertine

*Geologic deposit model*—Travertine and marble associated with hot springs deposits and vulcanism.

*Published reserves*—None

*Owner*—Greg Strong

*Address*—711 E. Park, Livingston, MT 59047

*Operator*—Livingston Marble and Granite Works

*Address*—Livingston, MT 59047

*Telephone*—222-1342

*Mine manager*—

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## McQuarrie Quarry

*Mining district*—Clinton (Wallace)

*General location*—North of Clinton

*Tract (PLS)*—Sec. 17, T.12 N., R.17 W.

*County*—Missoula

*Commodities produced*—Ballast and roadbed material

*Status*—Producing

*Mining method*—Open pit

*Ore production*—200,000 TPY

*Waste production*—80,000 TPY (road metal for highway projects)

*Acres disturbed*—60

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Drill-blast-crush - 2½" + ¾", - ¾"

*Processing capacity*—600 TPH (two 10-hour shifts/d)

*Mine life at startup*—80 yrs

*Starting date*—1940s

*Discovery date*—1940s

*Initial investment*—\$2.5 million (portable plant located 25% of year at site)

*Employees*—34 temporary, 2 permanent

*Annual payroll*—\$220,000

*Production cost*—Unknown

*Commodity production*—200,000 TPY

*Ore type*—Quartzite

*Geologic deposit model*—Precambrian quartzite

*Published reserves*—None

*Owner*—Meridian Minerals

*Address*—Englewood, CO

*Operator*—Weaverstone Products

*Address*—1506 Thiel Road, Laurel, MT 59044

*Telephone*—628-8641

*Mine manager*—Ken Pike

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Red Bluff Quarry

*Mining district*—Unorganized

*General location*—Between Paradise and St. Regis

*Tract (PLS)*—NE 1/4, SE 1/4 of Sec. 14, T.18 N., R.26 W.

*County*—Sanders

*Commodities produced*—Flagstone, trap rock

*Status*—Producing

*Mining method*—Open pit

*Ore production*—Unknown

*Waste production*—Unknown

*Acres disturbed*— <3 acres

*Acres reclaimed*—0

*Mineral ownership*—100% public

*Ore processing method*—Hand stacking

*Processing capacity*—N/A

*Mine life at startup*—Unknown

*Starting date*—1970s

*Discovery date*—Late 1960s

*Initial investment*—Unknown

*Employees*—4

*Annual payroll*—Unknown

*Production cost*—Unknown

*Commodity production*—

*Ore type*—Flat, thin, decorative stone

*Geologic deposit model*—Prichard Formation (Belt Supergroup); separated into thin slabs along bedding planes.

*Published reserves*—Unknown

*Owner*—Red Bluff Quarry, Inc.

*Operator*—Red Bluff Quarry, Inc.

*Address*—Box 237, St. Regis, MT 59866

*Telephone*—Unknown

*Mine manager*—James Morgan

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Warren Quarry

*Mining district*—Unorganized

*General location*—South of Billings (at Warren)

*Tract (PLS)*—Sec. 24, 25, T.8 S., R.25 E.; Sec. 19, 30, T.8 S., R.26 E.

*County*—Carbon

*Commodities produced*—Limestone

*Status*—Producing (seasonally)

*Mining method*—Open pit

*Ore production*—300,000 tons (September-December)

*Waste production*—150,000 TPY (average)

*Acres disturbed*—33.18

*Acres reclaimed*—0

*Mineral ownership*—100% private

*Ore processing method*—Crushing and screening; various products ( 6" to 2"); hammermill ( 3/8" to 200 mesh)

*Processing capacity*—60 TPH-16 hour/d

*Mine life at startup*—Unknown

*Starting date*—1940s

*Discovery date*—1800s

*Initial investment*—2.1 million

*Employees*—12

*Annual payroll*—\$175,000

*Production cost*—Unknown

*Commodity production*—300,000 tons (various limestone products)

*Ore type*—High-purity limestone

*Geologic deposit model*—Madison Group limestone

*Published reserves*—1 billion tons (6 x 40 miles)

*Owner*—Big Horn Limestone Company (Western Sugar & Holly Sugar)

*Address*—Colorado Springs, CO

*Operator*—Montana Limestone Company

*Address*—1506 Thiel Road, Laurel, MT 59044

*Telephone*—628-8641, Warren plant-764-2511

*Mine manager*—Ken Pike

*Office Manager*—Ken Pike

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Talc Mines

### Beaverhead Mine

*Mining district*—Unorganized  
*General location*—South of Alder

*Tract (PLS)*—Sec. 11, 14, T.7 S., R.6 W.

*County*—Madison  
*Commodities produced*—Talc

*Status*—Producing

*Mining method*—Underhand (cemented backfill using borrow material)  
*Ore production*—12,108 TPY  
*Waste production*—33,000 TPY  
*Acres disturbed*— <1  
*Acres reclaimed*—0  
*Mineral ownership*—100% federal  
*Ore processing method*—Hand sorting

*Processing capacity*—200 tons per shift; 10 shifts per month  
*Mine life at startup*—15 years  
*Starting date*—1987  
*Discovery date*—Unknown  
*Initial investment*—\$3 million  
*Employees*—10  
*Annual payroll*—\$337,000  
*Production cost*—Unknown  
*Commodity production*—12,108 TPY

*Ore type*—Talc  
*Geologic deposit model*—Solution replacement of dolomitic marble.

*Published reserves*—150,000 tons (proven)

*Owner*—Cyprus Industrial Minerals

*Operator*—Cyprus Industrial Minerals  
*Address*—P.O. Box 99, Alder, MT 59103  
*Telephone*—683-4611

*Mine manager*—Mike Toelle  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## Johnny Gulch Mine

*Mining district*—Unorganized  
*General location*—South of Ennis

*Tract (PLS)*—Sec. 9, T.9 S., R.1 W.

*County*—Madison  
*Commodities produced*—Talc

*Status*—Producing

*Mining method*—Open pit  
*Ore production*—100,000 TPY (four 10-hour shifts/week) (500 TPD)  
*Waste production*—1,600,000 (16:1 strip ratio) (7,820 TPD)  
*Acres disturbed*— <139  
*Acres reclaimed*—6.5  
*Mineral ownership*—100% private  
*Ore processing method*—Hand sorting

*Processing capacity*—75,000 TPY  
*Mine life at start up*—12 years  
*Starting date*—1984  
*Discovery date*—1940s  
*Initial investment*—\$12 million  
*Employees*—92  
*Annual payroll*—\$2.5 million  
*Production cost*—Unknown  
*Commodity production*—75,000 TPY

*Ore type*—Talc  
*Geologic deposit model*—Solution replacement of dolomitic marble.

*Published reserves*—Unknown

*Owner*—Costain Minerals Inc.

*Operator*—Montana Talc Company  
*Address*—28769 Sappington Road, Three Forks, MT 59752  
*Telephone*—285-3286 (main office); 682-4100 (mine)

*Mine manager*—Fred Earnest  
*Mine superintendent*—  
*Mill superintendent*—Mike Cerino  
*Plant manager*—  
*General manager*—Ron Shelton

## Treasure Chest Mine

*Mining district*—Unorganized

*General location*—Barrett siding plant (south of Dillon)

*Tract (PLS)*—NE 1/4, NE 1/4 Sec. 14, T.7 S., R.6 W.

*County*—Beaverhead

*Commodities produced*—Talc

*Status*—Producing

*Mining method*—Open pit

*Ore production*—180,000 TPY

*Waste production*—4,300,000 TPY

*Acres disturbed*—< 50

*Acres reclaimed*—0

*Mineral ownership*—90% private, 10% State (dumps)

*Ore processing method*—Mechanical sorting plant (flotation plant under construction)

*Processing capacity*—150,000 TPY

*Mine life at startup*—40 years

*Starting date*—1966

*Discovery date*—1950s

*Initial investment*—\$8.5 million

*Employees*—112

*Annual payroll*—\$3.5 million

*Production cost*—Unknown

*Commodity production*—140,000 TPY

*Ore type*—Talc

*Geologic deposit model*—Solution replacement of dolomitic marble.

*Published reserves*—4 million tons (proven)

*Owner*—Pfizer, Inc.

*Operator*—Pfizer, Inc.

*Address*—Box 1147, Dillon, MT 59725

*Telephone*—Plant: 683-4231, Mine: 683-6791

*Mine manager*—Jim Taitale

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—Jerry Haack

## Yellowstone Mine

*Mining district*—Unorganized

*General location*—South of Ennis

*Tract (PLS)*—Sec. 4, T.9 S., R.1 W.

*County*—Madison

*Commodities produced*—Talc

*Status*—Producing

*Mining method*—Open pit

*Ore production*—200,000 TPY

*Waste production*—4,000,000 TPY (20:1 strip ratio)

*Acres disturbed*— < 300

*Acres reclaimed*—10

*Mineral ownership*—50% federal, 50% private

*Ore processing method*—Mechanical and hand sorting

*Processing capacity*—300,000 TPY

*Mine life at startup*—5 years

*Starting date*—1947

*Discovery date*—1940s

*Initial investment*—\$15 million

*Employees*—103

*Annual payroll*—\$4 million

*Production cost*—Unknown

*Commodity production*—200,000 TPY

*Ore type*—Talc

*Geologic deposit model*—Solution replacement of dolomitic marble.

*Published reserves*—3 million tons (recoverable product)

*Owner*—Cyprus Industrial Minerals

*Operator*—Cyprus Industrial Minerals

*Address*—P.O. Box 572, Cameron, MT 59720

*Telephone*—682-4882

*Mine manager*—R. J. Piniakiewicz

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—



## Vermiculite Mine

### Zonolite Mine

*Mining district*—Rainy

*General location*—Northeast of Libby

*Tract (PLS)*—Sec. 14, 15, 22, 23, T.31N., R.30W.

*County*—Lincoln

*Commodities produced*—Vermiculite

*Status*—Closed October 1990; reclaiming and dismantling; 90% complete by December 1991

*Mining method*—None

*Ore production*—None

*Waste production*—None

*Acres disturbed*—800 (approximately)

*Acres reclaimed*—500

*Mineral ownership*—100% private

*Ore processing method*—Mill dismantled

*Processing capacity*—0

*Mine life at startup*—140 years

*Starting date*—1923

*Discovery date*—1923

*Initial investment*—\$21,253,000

*Employees*—8

*Annual payroll*—\$250,000

*Production cost*—None

*Commodity production*—None

*Ore type*—Vermiculite

*Geologic deposit model*—Hydrothermally altered ultramafic rocks containing high volumes of biotite.

*Published reserves*—Unknown

*Owner*—W.R. Grace & Company

*Operator*—W.R. Grace & Company

*Address*—P.O. box 609, Libby, MT 59923

*Telephone*—293-3746

*Mine manager*—Alan Stringer

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Monolite Mine

*Mining district*—Sweetwater  
*General location*—East of Dillon

*Tract (PLS)*—Sec. 35, 36, T8S, R7W; Sec. 1, 2, 12T9S, R7W

*County*—Beaverhead and Madison  
*Commodities produced*—Vermiculite

*Status*—Producing

*Mining method*—Open pit  
*Ore production*—150 TPD (90% ore)  
*Waste production*—15 TPD  
*Acres disturbed*—3.82  
*Acres reclaimed*—0  
*Mineral ownership*—100% public  
*Ore processing method*—Air classifiers

*Processing capacity*—1-3.9 TPH  
*Mine life at startup*—Unknown  
*Starting date*—1989  
*Discovery date*—1970s  
*Initial investment*—1.5 million  
*Employees*—6  
*Annual payroll*—\$126,000  
*Production cost*—Confidential  
*Commodity production*—400 TPM

*Ore type*—Vermiculite  
*Geologic deposit model*—Hydrothermally altered ultramafic rocks containing high volumes of biotite.

*Published reserves*—Unknown

*Owner*—Mineral Products Inc.

*Operator*—Mineral Products Inc.  
*Address*—3750 Sweetwater Road, Dillon, MT 59725  
*Telephone*—683-2238

*Mine manager*—  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

## Coal Mines

### Absaloka Mine

*Mining district*—Unorganized

*General location*—30 miles east of Hardin

*Tract (PLS)*—Sec. 25, T.1N., R.37E.

*County*—Big Horn

*Commodities produced*—Coal

*Status*—Producing

*Mining method*—Strip mine

*Ore production*—4,101,847 TPY

*Waste production*—13,536,095 TPY (3.3:1 stripping ratio)

*Acres disturbed*—1,870

*Acres reclaimed*—844.5

*Mineral ownership*—60-70% Crow Indian Reservation, 30% State

*Ore processing method*—Crush (-6"), Crush (-2")

*Processing capacity*—2,400 TPD

*Mine life at startup*—20 years

*Starting date*—1973

*Discovery date*—1800s

*Initial investment*—Unknown

*Employees*—92

*Annual payroll*—4.6 million

*Production cost*—Confidential

*Commodity production*—4,101,847 TPY

*Ore type*—Subbituminous (class C)

*Geologic deposit model*—Rosebud-McKay combined coal seam

*Published reserves*—100 million tons

*Owner*—Westmoreland Resources

*Address*—Box, 430, Hardin, MT 59034

*Operator*—Morrison-Knudsen Company, Inc.

*Address*—Box 529, Hardin, MT 59034

*Telephone*—342-5241

*Mine manager*—J.V. O'Laughlin

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Big Sky Mine

*Mining district*—Unorganized

*General location*—Near Colstrip

*Tract (PLS)*—Sec. 27, T.1 N., R.41 E.

*County*—Rosebud

*Commodities produced*—Coal

*Status*—Producing

*Mining method*—Strip mine

*Ore production*—3,104,829 TPY

*Waste production*—6,706,431 TPY (2.16:1 stripping ratio)

*Acres disturbed*—105

*Acres reclaimed*—254

*Mineral ownership*—50% private, 50% federal

*Ore processing method*—Crush (-2")

*Processing capacity*—2,000 TPH

*Mine life at startup*—36 years

*Starting date*—1969

*Discovery date*—1900s

*Initial investment*—Unknown

*Employees*—94

*Annual payroll*—\$3.98 million

*Production cost*—Unknown

*Commodity production*—3,104,829 TPY

*Ore type*—Subbituminous

*Geologic deposit model*—Rosebud coal bed

*Published reserves*—57 million tons (Rosebud)

*Owner*—Peabody Coal Company

*Address*—301 N. Memorial Drive, St. Louis, MO 63102

*Operator*—Peabody Coal Company

*Address*—Box 97, Colstrip, MT 59323

*Telephone*—748-2321 (mine), (602) 774-5253 (home office)

*Mine manager*—Tracy Hendricks

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—Kurt Beldon

**Decker Coal Company  
(East & West Pits)**

*Mining district*—Unorganized  
*General location*—Southeast of Hardin

*Tract (PLS)*—Sec. 11, 12, 14, T.9 S., R.40 E.

*County*—Big Horn  
*Commodities produced*—Coal

*Status*—Producing

*Mine method*—Strip mine  
*Ore production*—9.98 million TPY  
*Waste production*—34.9 million TPY (3.5:1 stripping ratio)  
*Acres disturbed*—4,000  
*Acres reclaimed*—Unknown  
*Mineral ownership*—30% State, 70% federal  
*Ore processing method*—Crush (-2')

*Processing capacity*—2 plants (3,000 TPH; 3,600 TPH)  
*Mine life at startup*—20 years (total 45 to date)  
*Starting date*—1971  
*Discovery date*—1950s (by present company)  
*Initial investment*—\$340 million  
*Employees*—340  
*Annual payroll*—\$11 million  
*Production cost*—Unknown  
*Commodity production*—9.98 million tons TPY

*Ore type*—Subbituminous (class B)  
*Geologic deposit model*—Anderson-Dietz seam

*Published reserves*—250 million tons

*Owner*—Joint venture of NERCO and Kiewit Mining Group Inc.  
*Address*—1000 Kiewit Plaza, Omaha, NE 68131

*Operator*—Decker Coal Company  
*Address*—Box 12, Decker, MT 59025  
*Telephone*—757-2561

*Mine manager*—Frank Kawalok  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—

**P. M. Mine**

*Mining district*—Unorganized  
*General location*—Near Roundup

*Tract (PLS)*—Sec. 13, T.6 N., R.26 E.

*County*—Musselshell  
*Commodities produced*—Coal

*Status*—Producing

*Mining method*—Transition from strip mine to underground mine  
*Ore production*—12,202 TPY  
*Waste production*—85,414 TPY  
*Acres disturbed*—4  
*Acres reclaimed*—10  
*Mineral ownership*—100% private  
*Ore processing method*—Crush (1 ½"); wash (heavy media separation)

*Processing capacity*—100 TPH  
*Mine life at startup*—Unknown  
*Starting date*—1932  
*Discovery date*—1800s  
*Initial investment*—Unknown  
*Employees*—8  
*Annual payroll*—\$160,000  
*Production cost*—Unknown  
*Commodity production*—12,202 TPY

*Ore type*—Subbituminous coal (12,500-13,000 BTU)  
*Geologic deposit model*—Mammoth coal seam

*Published reserves*—Unknown

*Owner*—Meridian Minerals  
*Address*—Unknown

*Operator*—RBM Mining Inc.  
*Address*—127 P.M. Coal Road, Roundup, MT 59072  
*Telephone*—323-1131

*Mine manager*—Bob Morehead  
*Mine superintendent*—  
*Mill superintendent*—  
*Mine manager*—  
*General manager*—

## Rosebud Mine

*Mining district*—Unorganized

*General location*—Colstrip

*Tract (PLS)*—Sec. 1-5, 12, T.1 N., R.40 E.; Sec. 1-10, 12, 18, T.1 N., R.41 E.; Sec. 29, 32, 33, 35, T.2 N., R.41 E.

*County*—Rosebud

*Commodities produced*—Coal

*Status*—Producing

*Mining method*—Strip mine

*Ore production*—13,802,840 TPY

*Waste production*—48,862,054 TPY

*Acres disturbed*—9,918

*Acres reclaimed*—171

*Mineral ownership*—50% private, 50% federal

*Ore processing method*—Crush (-3")

*Processing capacity*—4,800 TPH, 20 million TPY

*Mine life at startup*—52 years

*Starting date*—1968

*Discovery date*—Early 1900s

*Initial investment*—\$61 million

*Employees*—422

*Annual payroll*—\$16.2 million

*Production cost*—Unknown

*Commodity production*—13,802,840 TPY

*Ore type*—Subbituminous, (class C)

*Geologic deposit model*—Rosebud seam

*Published reserves*—400+ million tons

*Owner*—Western Energy Company

*Operator*—Western Energy Company

*Address*—Box 99, Colstrip, MT 59323

*Telephone*—748-2366

*Mine manager*—R. W. Cope

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Savage Mine

*Mining district*—Unorganized  
*General location*—West of Savage

*Tract (PLS)*—Sec. 27, T.20 N., R.57 E.

*County*—Richland  
*Commodities produced*—Lignite

*Status*—Producing

*Mining method*—Strip mine  
*Ore production*—282,641 TPY  
*Waste production*—1,271,885 TPY  
*Acres disturbed*—130  
*Acres reclaimed*—19.3  
*Mineral ownership*—50% private, 50% federal  
*Ore processing method*—Crush (-3")

*Processing capacity*—900-1200 TPD  
*Mine life at startup*—Unknown  
*Starting date*—1958  
*Discovery date*—Early 1900s  
*Initial investment*—Unknown  
*Employees*—13  
*Annual payroll*—\$630,000  
*Production cost*—Unknown  
*Commodity production*—282,641 TPY

*Ore type*—Lignite  
*Geologic deposit model*—Pust lignite bed

*Published reserves*—35-40 million tons

*Owner*—Knife River Coal Mining Company  
*Address*—1915 Kavaney Drive, Bismarck, ND 58501

*Operator*—Knife River Coal Mining Company  
*Address*—Box 37, Savage, MT 59262  
*Telephone*—(406) 798-3651

*Mine manager*—  
*Mine superintendent*—  
*Mill superintendent*—  
*Plant manager*—  
*General manager*—Rod Nibbe



## Spring Creek Mine

*Mining district*—Unorganized

*General location*—11 miles north of Decker

*Tract (PLS)*—Sec. 16, T.8 S., R.40 E.

*County*—Big Horn

*Commodities produced*—Coal

*Status*—Producing

*Mining method*—Strip mine

*Ore production*—6,740,401 TPY

*Waste production*—7,414,441 TPY (1.1 stripping ratio)

*Acres disturbed*—1,787

*Acres reclaimed*—12

*Mineral ownership*—100% federal

*Ore processing method*—Crush (-2")

*Processing capacity*—3,200 TPH

*Mine life at startup*—Unknown

*Starting date*—1979

*Discovery date*—1950s

*Initial investment*—Unknown

*Employees*—160

*Annual payroll*—\$9 million

*Production cost*—Confidential

*Commodity production*—6,740,401 TPY

*Ore type*—Subbituminous (class C)

*Geologic deposit model*—Anderson-Dietz seam

*Published reserves*—254,793,000 tons

*Owner*—NERCO, Inc.

*Address*—111 SW Columbia, Portland, OR 97201

*Operator*—Spring Creek Coal Company

*Address*—Box 67, Decker, MT 59025

*Telephone*—757-2581

*Mine manager*—David E. Dearcorn

*Mine superintendent*—

*Mill superintendent*—

*Plant manager*—

*General manager*—

## Iron Mine

### Black Butte Mine

*Mining district—*

*General location—* North of White Sulphur Springs

*Tract (PLS)—* Sec. 34, T.12 N., R.6 E.

*County—* Meagher

*Commodities produced—* Iron

*Status—* Producing

*Mining method—* Open pit

*Ore production—* 15,000 TPY

*Waste production—* 2,000 TPY

*Acres disturbed—* 12 acres

*Acres reclaimed—* 0

*Mineral ownership—* 100% private

*Ore processing method—* Unknown

*Processing capacity—* None

*Mine life at startup—* Unknown

*Starting date—* 1980

*Discovery date—* 1917

*Initial investment—* \$300,000

*Employees—* 3

*Annual payroll—* \$90,000

*Production cost—* Unknown

*Commodity production—* 15,000

*Ore type—* Hematite

*Geologic deposit model—* Gossan Cap

*Published reserves—* 1 million tons proven; 2 million tons (hypothetical @ 60% iron)

*Owner—* R. Borland and J. Potter

*Address—* White Sulphur Springs, MT 59645

*Operator—* Hallett Minerals Company

*Address—* Box 169, Livingston, MT 59047

*Telephone—* 222-1446

*Mine manager—* Irving Sewell

*Mine superintendent—*

*Mill superintendent—*

*Plant manager—*

*General manager—*

## Part II

### New Mining Companies Incorporated in Montana 1991

Abraxas Production Corporation  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
Box 1166  
Helena, MT 59624

American Copper & Nickel Company, Inc.  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
Helena, MT 59624

American Independent Mining, Inc.  
Registered Agent: Don C. St. Peter  
111 North Higgins  
Box 4747  
Missoula, MT 59806

Amwest Exploration Company  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Aspen Exploration Corporation  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Bulldog Mining, Inc.  
Registered Agent: Ned Hardy  
1205 Round Butte Road, West  
Ronan, MT 59864

CoCo Mines, Inc.  
Registered Agent: C.T. Corporation  
406 Fuller Ave.  
Box 1166  
Helena, MT 59624

Conda Mining, Inc.  
Registered Agent: Washington Contractors  
Group, Inc.  
101 International Way  
Soda Springs, ID 83776

Conwest Exploration (Delaware) Inc.  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624-1166

D.J. Minerals, Inc.  
Registered Agent: Duane Lee Johnson  
1001 South Montana  
Box 761  
Butte, MT 59701

Dakota Coal Company  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Dodd Mining Company, Inc.  
Registered Agent: Byron C. Dodd  
301 North Higgins Avenue  
Missoula, MT 59802

Flore Properties, Inc.  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Glacier Industrial Materials, Inc.  
Registered Agent: Ardine L. Bjerke  
21 North Last Chance Gulch  
Suite 103  
Helena, MT 59701

Gold Mining Ventures, Inc.  
Registered Agent: W.D. Murray Jr.  
54 West Galena Street  
Butte, MT 59701

Goldworks of Montana, Inc.  
Registered Agent: M. Mark Rudio  
341 Lump Gulch Route  
Glancy, MT 59634

Hallett Mineral Company  
Registered Agent: Irving R. Sewell  
River Run  
Box 169  
Livingston, MT 59047

Harrison Western Mining Corporation  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

High Lonesome Mining, Inc.  
Registered Agent: Marty Puryer  
244 Wintercrest Drive  
P.O. Box 2468  
Kalispell, MT 59903

Kolberg No.1 Mining, Inc.  
Registered Agent: John E. Owens  
P.O. Box 1217  
Indian Creek, MT 59664

Majesty Mining, Inc.  
Registered Agent: George Mungas  
4891 Skalkaho Road  
P.O. Box 236  
Philipsburg, MT 59858

Memorial Exploration Company  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Mine and Mineral Development Corporation  
Registered Agent: Bill McCallister  
101 Main Street  
P.O. Box 910  
Ennis, MT 59729

Mining and Milling Corporation of America  
Registered Agent: Everett G. Burt  
831 Milwaukee Avenue  
Deer Lodge, MT 59722

Modil Exploration & Producing U.S., Inc.  
Registered Agent: Prentice Hall Corporation  
System  
26 W Sixth Avenue  
P.O. Box 604  
Helena, MT 59254

Olympic Exploration and Production Company  
Registered Agent: Loren J. O'Toole  
209 North Main  
P.O. Box 529  
Plentywood, MT 59254

Parker Mining Inc.  
Registered Agent: John E. Owens  
P.O. Box 1217  
Indian Creek, MT 59644

Pathfinder Exploration Corporation  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. 1166  
Helena, MT 59624

Placer Center, Inc.  
Registered Agent: Ronald F. Thompson  
1828 North Main  
Helena, MT 59601

Rare Earth Unlimited, Inc.  
Registered Agent: Leon I. Sloan  
25 Yellowstone Avenue  
West Yellowstone, MT 59758

RBM Mining, Inc.  
Registered Agent: Robert B. Morehead Jr.  
127 Coal Mine Road  
Roundup, MT 59072

Red Mountain Resources, Inc.  
Registered Agent: Monte Ballou  
3281 Rimini Road  
Helena, MT 59601

Rock Products, Inc.  
Registered Agent: Roland Rees  
2400 Michael Road  
Missoula, MT 59802

Sheffield Exploration Company, Inc.  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Silvertip-Raven Mining, Inc.  
Registered Agent: George E. Shaw  
346 Autumn Road  
Libbey, MT 59923

Swansea Gold Mines, Inc.  
Registered Agent: William M. Kebe Jr.  
One Norwest Bank Building  
Butte, MT 59701

Tahoe Exploration, Inc.  
Registered Agent: C.T. Exploration System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

The Great Rocky Mountain Mining  
Corporation  
Registered Agent: Kenneth R. Hamilton  
P.O. Box 171  
Alder, MT 59710

The Pittsburg & Midway Coal Mining Company  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

The State Mining Company  
Registered Agent: Jerry Carr  
Drawer 766  
Plains, MT 59859

Tobacco Mountain Gold, Inc.  
Registered Agent: Don Tripp  
Tripp Lane  
P.O. Box 69  
Lolo, MT 59847

Underground Contractors of Perham, Inc.  
Registered Agent: Jerry Friedsam  
1298 Louis Street  
East Helena, MT 59635

United Oil & Minerals, Inc.  
Registered Agent: C.T. Corporation System  
406 Fuller Avenue  
P.O. Box 1166  
Helena, MT 59624

Viking Exploration, Inc.  
Registered Agent: Timothy J. O'Hare  
701 East Main, Suite A  
Lewistown, MT 59457

Whaley Mining, Inc.  
Registered Agent: Mary L. Dougherty  
2418 Murray  
Missoula, MT 59802

White Gold Resources Ltd.  
Registered Agent: Lawco  
490 North 31st Street  
P.O. Box 2529  
Billings, MT 59103

## Part III

### Exploration Projects in Montana—1991

#### Beaverhead County

**Project Name: Badger Pass**

*Location (PLS):* Sec. 33, 34, T6S, 11W; Sec. 3, 4; T7S, R11W

*Drainage:* Beaverhead River

*Company:* James E. Lunbeck

*Activities:* Induced polarization; resistivity survey exploration

*Commodity:* Gold, silver

*Activity Status:* Unknown

*Property Status:* Unknown

**Project name: China Town**

*Location (PLS):* Sec. 9, T11S, R13W

*Drainage:* Jeff Davis Creek, Horse Prairie Creek, Beaverhead River

*Company:* Phelps Dodge Corporation

*Activities:* Drilling

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Dry Creek**

*Location (PLS):* Sec. 19, T4S, R16W

*Drainage:* Rock Creek

*Company:* Earl Flaherty

*Activities:* Trenching and sampling; exploration

*Commodity:* Gold

*Activity status:* Available

*Property status:* Unknown

**Project name: Dyce Creek**

*Location (PLS):* Sec. 20, 26, 35, T6S, R12W

*Drainage:* Dyce Creek, Grasshopper Creek, Beaverhead River

*Company:* John Atkins

*Activities:* Rework old placer tailings; trenching

*Commodity:* Placer gold

*Activity status:* Available

*Property status:* Unknown

**Project name: Ermont**

*Location (PLS):* Sec. 35, T6S, R11W

*Drainage:* Beaverhead River

*Company:* Joseph (Ned) Welborn

*Activities:* Trenching; exploration

*Commodity:* Gold and antimony

*Activity status:* Available

*Property status:* Unknown

**Project name: Garrett Hill**

*Location (PLS):* Sec. 16-22, T6S, R12W

*Drainage:* Seudder Creek, Grasshopper Creek, Beaverhead River

*Company:* Thomas P. Sarantos

*Activities:* Exploration

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Golden Era/Ground Hog**

*Location (PLS):* Sec. 18, T6S, R10W

*Drainage:* Rattlesnake Creek, Beaverhead River

*Company:* Bill Hand

*Activities:* Ore dump will be moved from Golden Era mine to Ground Hog heap leach facility; upgrade road on BLM and Forest Service property

*Commodity:* Gold

*Activity status:* Ongoing

*Property status:* Available

**Project name: Jake Canyon**

*Location (PLS):* Sec. 17, T10S, R7W

*Drainage:* Blacktail Creek, Beaverhead River

*Company:* Kennecott Exploration

*Activities:* Exploration, drilling

*Commodity:* Gold and silver

*Activity status:* Unknown

*Property status:* Unknown

**Project name: MON Placer**

*Location (PLS):* Sec. 5-8, T7S, R10W

*Drainage:* Grasshopper Creek, Beaverhead River

*Company:* Scott Gaffri, Charles Kern

*Activities:* Exploration; backhoe pits and testing

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Old Faithful**

*Location (PLS):* Sec. 24, T6S, R12W

*Drainage:* Dyce Creek, Grasshopper Creek, Beaverhead River

*Company:* Cyprus Metals Exploration Company

*Activities:* Trenching and drilling on BLM and private lands

*Commodity:* Gold and silver

*Activity status:* Completed

*Property status:* Unavailable

*Project name:* **Southmont**  
*Location (PLS):* Sec. 8, T8S, R11W  
*Drainage:* Grasshopper Creek, Beaverhead River  
*Company:* Bill Hand, Howard Begin  
*Activities:* Road construction to gain access to mine adit  
*Commodity:* Gold  
*Activity status:* Unknown  
*Property status:* Unknown

## Broadwater County

*Project name:* **Bar Gulch**  
*Location (PLS):* Sec. 17-19, T11W, R1E  
*Drainage:* Bar Gulch  
*Company:* Independence Mining  
*Activities:* Drilling  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Jimmy's Gulch (Rattlesnake Bar)**  
*Location (PLS):* Sec. 35, T10N, R2E  
*Drainage:* Jimmy's Gulch  
*Company:* Merv Reykdal; tested by RLTCO  
*Activities:* Placer Mining  
*Commodity:* Placer gold  
*Activity status:* Inactive  
*Property status:* Unknown

*Project name:* **Diamond Hill**  
*Location (PLS):* Sec. 6, T7N, R1E  
*Drainage:* Indian Creek  
*Company:* Pegasus Gold Corporation  
*Activities:* One RVC hole  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Available

*Project name:* **Miller Mountain**  
*Location (PLS):* Sec. 13, 18, 19, 22, 24, T10N, R2E  
*Drainage:* Confederate Gulch  
*Company:* Pegasus Gold Corporation  
*Activities:* 80 drill RVC holes; construction of 7,700 feet of new road.  
*Commodity:* Gold  
*Activity status:* Completed three  
*Property status:* Unavailable

*Project name:* **Graphite mine**  
*Location (PLS):* Sec. 28, T7N, R1W  
*Drainage:* Indian Creek  
*Company:* United Minerals  
*Activities:* Drilled two holes  
*Commodity:* Graphite  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Radersburg**  
*Location (PLS):* Sec. 13, 18, T5N, R1W  
*Drainage:* Keating Gulch, Charity Gulch  
*Company:* Placer Dome  
*Activities:* Six RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Irish Gulch**  
*Location (PLS):* Sec. 8, T10N, R3E  
*Drainage:* Cement Gulch  
*Company:* Noranda  
*Activities:* One DD hole; three permitted  
*Commodity:* Base metals (lead, zinc)  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Silverwave**  
*Location (PLS):* Sec. 26, 27, T6N, R1W  
*Drainage:* Indian Creek  
*Company:* George Levingood, Mike Powers  
*Activities:* Reopened an adit  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:*

*Project name:* **Iron Mask**  
*Location (PLS):* Sec. 30, T7N, R1E  
*Drainage:* Indian Creek  
*Company:* Mining Inc.  
*Activities:* Reopening tunnel; underground drilling/sampling  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **York**  
*Location (PLS):* Sec. 17, 18, T11N, R1E  
*Drainage:* Bar Gulch (Magpie Gulch)  
*Company:* Independence Mining  
*Activities:* Six RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unavailable

## Fergus County

*Project name:* **Abbey**  
*Location (PLS):* Sec. 20, T18N, R18E  
*Drainage:* Unknown  
*Company:* C.R. Kendall  
*Activities:* 13 RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Judith Mountain Drilling**  
*Location (PLS):* T16N, R19E, T16N, R20E  
*Drainage:* Various  
*Company:* C.R. Kendall  
*Activities:* 25 RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **North Moccasin**  
*Location (PLS):* Sec. 24, T18N, R17E  
*Drainage:* Plum Creek  
*Company:* C.R. Kendall  
*Activities:* Six RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

*Project name:* **Tailholt**  
*Location (PLS):* Sec. 30, T17N, R20E  
*Drainage:* Collar Creek  
*Company:* Vince Carp, Charles Collier  
*Activities:* Reopening adits  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Available

## Flathead County

*Project name:* **Star Meadow**  
*Location (PLS):* Sec. 19, T30N, R24W  
*Drainage:* Griffon Creek  
*Company:* Dorthey Davis  
*Activities:* Four core holes  
*Commodity:* Copper, gold, silver  
*Activity status:* Ongoing  
*Property status:* Unknown

## Granite County

*Project name:* **Alder Bar**  
*Location (PLS):* Sec. 31, 30, 19, T8N, R15W  
*Drainage:* Miners Gulch, Alder Gulch (upper Willow)  
*Company:* FMC/American Gold Resources Corporation  
*Activities:* Trenching on BLM  
*Commodity:* Gold  
*Activity status:* Uncompleted  
*Property status:* Unknown

*Project name:* **Brewster**  
*Location (PLS):* Sec. 26, 27, T10N, R16W  
*Drainage:* Brewster Creek  
*Company:* FMC  
*Activities:* 500 feet of road; 20 RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Day Creek**  
*Location (PLS):* Sec. 1, T12N, R14W  
*Drainage:* Day Creek  
*Company:* Day Creek Resources (Richard Kombrec)  
*Activities:* Placer exploration (in fractured bedrock)  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Debbie Jo**  
*Location (PLS):* Sec. 15, 16, T8N, R12W  
*Drainage:* Gold Creek  
*Company:* Keith Graybell  
*Activities:* Placer test pits  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown



**Project name: Elkhorn and Mardell Group**

*Location (PLS):* Sec. 8, T12N, R13W  
*Drainage:* Deep Creek  
*Company:* Ralph Smith  
*Activities:* Placer testing  
*Commodity:* Placer Gold  
*Activity status:* Unknown  
*Property status:* Unknown

**Project name: Garnet/Coloma**

*Location (PLS):* Sec. 3, 4, T12N, R14W; Sec. 33, 29, T13N, R14W  
*Drainage:* Various  
*Company:* Pegasus Gold Corporation  
*Activities:* Trenched; multiple holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

**Project name: HB/McCoy Claims**

*Location (PLS):* Sec. 13, T6N, T13W  
*Drainage:* Showers Lake  
*Company:* Echo Bay (Richard Sherry)  
*Activities:* Eight trenches  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

**Project name: Hidden Lake**

*Location (PLS):* Sec. 34, 35, T6N, R13W  
*Drainage:* Warm Springs Creek  
*Company:* Pegasus Gold Corporation  
*Activities:* Drilling activities  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

**Project name: Londonderry**

*Location (PLS):* BLM reference  
*Drainage:* Flint Creek (lower Willow)  
*Company:* COMECO  
*Activities:* Two trenches; two RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

**Project name: Londonderry**

*Location (PLS):* Sec. 32, T9N, R13W; Sec. 4, T8N, R13W  
*Drainage:* Flint Creek  
*Company:* COMECO  
*Activities:* Four trenches; seven RVC holes  
*Commodity:* Gold  
*Activity status:* Completed trenches  
*Property status:* Unavailable

**Project name: Miner Gulch Placer**

*Location (PLS):* Sec. 31, 30, 19, T8N, R15W  
*Drainage:* Miners Gulch, Alder Gulch, Sawpit Gulch  
*Company:* Yellow Eagle  
*Activities:* Placer gold  
*Commodity:* Placer test pits  
*Activity status:* Completed  
*Property status:* Unknown

**Project name: Northern Cross**

*Location (PLS):* Sec. 8, 9, T6N, R12W  
*Drainage:* Warm Springs Creek  
*Company:* Independence Mining  
*Activities:* 24 RVC holes (drilled 7)  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

**Project name: Rat**

*Location (PLS):* Sec. 1, T12N, R14W  
*Drainage:* Elk Creek  
*Company:* John Dorazi  
*Activities:* Placer testing  
*Commodity:* Placer gold  
*Activity status:* Ongoing (one month per year)  
*Property status:* Unknown

**Project name: Robinson**

*Location (PLS):* Sec. 26, 23, T6N, R13W  
*Drainage:* Warm Springs Creek  
*Company:* Independence Mining  
*Activities:* 14,000 feet of new road; 32 drill holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

**Project name: Stoney Creek**

*Location (PLS):* Sec. 6, T6N, R16W  
*Drainage:* Stoney Creek  
*Company:* FMC  
*Activities:* Drilled six RVC holes; 2,000 feet of new road.  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

**Project name: Unknown**

*Location (PLS):* Sec. 29, 32, 20, T8N, R15W  
*Drainage:* Upper Willow Creek  
*Company:* Everett Miller/Yellow Eagle Mining  
*Activities:* Placer testing  
*Commodity:* Placer gold  
*Activity status:* Completed  
*Property status:* Unknown

**Project name: Upper Willow Creek, Miners Gulch**

*Location (PLS):* Sec. 20, T8N, R15W  
*Drainage:* Willow Creek  
*Company:* FMC/American Gold Resources Corporation  
*Activities:* Four trenches  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

## Jefferson County

*Project name:* **Homestake Package**  
*Location (PLS):* Sec. 7, 6, T2N, R6W  
*Drainage:* Lyon Gulch  
*Company:* Randall Eaton  
*Activities:* Placer testing (trenching)  
*Commodity:* Placer gold  
*Activity status:* Uncompleted  
*Property status:* Unknown

*Project name:* **Swan**  
*Location (PLS):* Sec. 22, 23, 26, T6N, R3W  
*Drainage:* Tributaries to Elkhorn Creek  
*Company:* Newmont Exploration Limited  
*Activities:* 15 drill sites; 7,000 feet of new road  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Infinite-Index**  
*Location (PLS):* Sec. 22, T6N, R7W  
*Drainage:* Boyles Gulch, Boulder River  
*Company:* Harvey Allen  
*Activities:* Dump processing  
*Commodity:* Gold  
*Activity status:* Incomplete  
*Property status:* Unknown

## Judith Basin County

*Project name:* **Blue Dick**  
*Location (PLS):* Sec. 30, T14N, R10E  
*Drainage:* Lyon Gulch  
*Company:* Amax  
*Activities:* 16 RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Snow Creek Placer**  
*Location (PLS):* Sec. 2, T14N, R9E  
*Drainage:* Snow Creek  
*Company:* Lee Bliss  
*Activities:* Exploration trench (washed ~ 20 yd<sup>3</sup>)  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

## Lake County

*Project name:* **Jumbo Mines**  
*Location (PLS):* Sec. 6, T25N, R21W  
*Drainage:* None  
*Company:* Gerald Hefner, Earnest Learn  
*Activities:* Drift development to old workings  
*Commodity:* Copper  
*Activity status:* Ongoing  
*Property status:* Unknown

## Lewis and Clark County

*Project name:* **Unknown**  
*Location (PLS):* Sec. 11, T11N, R7W  
*Drainage:* Faith Gulch  
*Company:* Cary Murdock  
*Activities:* Placer mining  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Bar Gulch**  
*Location (PLS):* Sec. 17-19, T11W, R1E  
*Drainage:* Bar Gulch  
*Company:* Independence Mining  
*Activities:* Drilling  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Butcher Knife**  
*Location (PLS):* Sec. 35, T10N, R2E  
*Drainage:* Butcher Knife  
*Company:* Dick Shreves  
*Activities:* Dry placer (nugget hunting)  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Ethel Gulch**  
*Location (PLS):* Sec. 9, 10, T13N, R8W  
*Drainage:* Ethel Gulch  
*Company:* Phelps Dodge Corporation  
*Activities:* Six RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Heddleston**  
*Location (PLS):* Sec. 29, T15N, R6W  
*Drainage:* Blackfoot River (Anaconda Creek)  
*Company:* ASARCO  
*Activities:* One drill hole  
*Commodity:* Copper, molybdenum  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Keep Cool**  
*Location (PLS):* T15N, R8W  
*Drainage:* Keep Cool Creek  
*Company:* Phelps Dodge Corporation  
*Activities:* RVC drilling  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Lincoln Gulch Placer**  
*Location (PLS):* Sec. 8, T14N, R9W  
*Drainage:* Lincoln Gulch  
*Company:* Bill Lewis  
*Activities:* Placer mining  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

*Project name:* **McDonald Meadows**  
*Location (PLS):* Sec. 5, 6, T14N, R7W  
*Drainage:* Blackfoot River  
*Company:* Phelps Dodge Corporation  
*Activities:* Core and RVC  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Omo**  
*Location (PLS):* Sec. 27, T16N, R7W  
*Drainage:* Alice Creek  
*Company:* Leonard Orr  
*Activities:* Four RVC holes  
*Commodity:* Copper, silver  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **7-Up Pete**  
*Location (PLS):* Sec. 20, 29, 28, T14N, R7W  
*Drainage:* 7-Up Pete  
*Company:* Phelps Dodge Corporation  
*Activities:* Exploratory drilling  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

*Project name:* **Spring Fever Placers**  
*Location (PLS):* Sec. 14, T11N, R6W  
*Drainage:* Hope Gulch  
*Company:* Gary Murdock  
*Activities:* Small placer production  
*Commodity:* Placer gold  
*Activity status:* Reclaiming  
*Property status:* Unknown

*Project name:* **Toehead Gulch**  
*Location (PLS):* Sec. 8, T13N, R3W  
*Drainage:* Toehead Gulch  
*Company:* Ken Seager  
*Activities:* Slate mining  
*Commodity:* Slate  
*Activity status:* Ongoing (assessment work)  
*Property status:* Unknown

*Project name:* **Uncle Ben Placer**  
*Location (PLS):* Sec.13, T11N, R7W  
*Drainage:* Uncle Ben Gulch  
*Company:* Marvin Ratcliff  
*Activities:* Placer production  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **York**  
*Location (PLS):* Sec.17, 18, T11N, R1E  
*Drainage:* Bar Gulch of Magpie Gulch  
*Company:* Independence Mining  
*Activities:* Six RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unavailable

## Lincoln County

**Project name: Can-Am***Location (PLS):* Sec.5, 8, T37N, R33W*Drainage:* Hawkins Creek*Company:* Cominco American Resources, Inc.*Activities:* Proposed drilling*Commodity:* Lead, zinc*Activity status:* Forthcoming*Property status:* Unknown**Project name: Flower Creek Mining***Location (PLS):* Sec.19, T30N, R31W; Sec.35, T31N, R32W*Drainage:* Flower Creek, Cedar Creek*Company:* Sidney Switzer*Activities:* Shaft and drift exploration*Commodity:* Gold*Activity status:* Completed (October 15)*Property status:* Unknown**Project name: Houghton Creek***Location (PLS):* Sec. 14, T26N, R29W, E½*Drainage:* Houghton Creek*Company:* Warren Siltner*Activities:* Outcrop creation*Commodity:* Gold, silver*Activity status:* Completed*Property status:* Unavailable**Project name: Libbey Gold***Location (PLS):* Sec. 29, 30, 32, 33, T20N, R31W; Sec. 4-6, T29N, R31W*Drainage:* Between Flower and Granite creeks*Company:* U.S.M.X.*Activities:* 16 RVC holes planned; 1,000 feet of trenching, 6,530 feet of new road*Commodity:* Gold*Activity status:* Reclamation finished by October 1992*Property status:* Unknown**Project name: Lost Grouse***Location (PLS):* Sec.14, T27N, R31W*Drainage:* Libbey Creek*Company:* Henry Skranak*Activities:* Dozer Exploration*Commodity:* Placer gold*Activity status:* Ongoing*Property status:* Unknown**Project name: Midas***Location (PLS):* Sec.19, 30, T27N, R30W*Drainage:* Standard Creek*Company:* A.C. Lewis*Activities:* Reopened and sampled portals*Commodity:* Gold*Activity status:* Has not started*Property status:* Unknown**Project name: Mount Vernon***Location (PLS):* Sec.36, 16, 17, 1, T29N, R34W; Sec.5, 6, T28N, R34W*Drainage:* Mount Vernon/Spar Lake*Company:* ASARCO*Activities:* Planned 14 DD holes*Commodity:* Copper, silver*Activity status:* Ongoing*Property status:* Unknown**Project name: Raven***Location (PLS):* Sec.6, T28N, R31W*Drainage:* Snowshoe Creek*Company:* George, Dwight Shaw*Activities:* Driving drifts*Commodity:* Gold*Activity status:* Ongoing*Property status:* Unknown**Project name: Ruby Star***Location (PLS):* Sec.12, 13, T32N, R35W*Drainage:* Star Creek*Company:* Charles Doten*Activities:* Trench*Commodity:* Placer gold*Activity status:* Uninitiated*Property status:* Unknown**Project name: Tip Top***Location (PLS):* Sec.1, T26N, R31W*Drainage:* Bramlete Creek (west Fisher)*Company:* Newmont Exploration Ltd.*Activities:* RVC drilling; seven holes*Commodity:* Gold*Activity status:* Completed*Property status:* Unknown**Project name: "YF"***Location (PLS):* Sec.33, 34, T33N, R34W; Sec.33, 34, T33N, R33W*Drainage:* Yaak River*Company:* Burrel*Activities:* Placer trench*Commodity:* Placer gold*Activity status:* Ongoing*Property status:* Unknown**Project name: Zigler***Location (PLS):* Sec.6, T32N, R28W*Drainage:* Kootenai River*Company:* Boris Brinkerhoff, Nugget Nevada, Inc.*Activities:* Mining and development*Commodity:* Building stone*Activity status:* Ongoing*Property status:* Unknown

## Madison County

**Project name: A & P Mine**

*Location (PLS):* Sec.20, T2S, R3W

*Drainage:* Cataract Creek

*Company:* 2900 Development Corporation

*Activities:* Hauling heap to mill

*Commodity:* Gold

*Activity status:* Ongoing

*Property status:* Unknown

**Project name: Brown's Gulch**

*Location (PLS):* Sec.21, 28, T6S, R3W

*Drainage:* Brown's Gulch, Alder Creek, Ruby River

*Company:* David Hansen

*Activities:* Open existing mine adit; testing; exploration

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Atlantic and Pacific Mine Road**

*Location (PLS):* Sec.13-15, 21-23, T2S, R3W

*Drainage:* Cataract Creek

*Company:* 2900 Development Corporation

*Activities:* Proposed road construction to A&P mine (U.S. Forest Service)

*Commodity:* Gold

*Activity status:* Ongoing

*Property status:* Unavailable

**Project name: Dark Hollow**

*Location (PLS):* Sec.6, T8S, R3W

*Drainage:* Dark Hollow Creek

*Company:* United Catalyst

*Activities:* Hand bulk sampling

*Commodity:* Talc project

*Activity status:* Completed

*Property status:* Unknown

**Project name: Battle Mountain**

*Location (PLS):* Sec.25, T4S, R4W

*Drainage:* Current Creek

*Company:* Battle Mountain Exploration

*Activities:* Reclaimed one drill hole

*Commodity:* Gold

*Activity status:* Completed

*Property status:* Unknown

**Project name: Dougherty Butte**

*Location (PLS):* Sec.17, T2S, R7W

*Drainage:* Jefferson River

*Company:* John Coleman

*Activities:* Trenching and sampling

*Commodity:* Gold and silver

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Bing Mine**

*Location (PLS):* Sec.8, T5S, R3W

*Drainage:* California Creek

*Company:* H & H Gold

*Activities:* Production from lode

*Commodity:* Gold

*Activity status:* Completed

*Property status:* Unknown

**Project name: Dry Georgia**

*Location (PLS):* Sec.27, T3S, R5W

*Drainage:* Dry Georgia

*Company:* Cordex Exploration

*Activities:* Reclamation

*Commodity:* Gold

*Activity status:* Completed

*Property status:* Unknown

**Project name: Bins Mine**

*Location (PLS):* Sec.13, 23, 24, T5S, R4W

*Drainage:* California Creek, Alder Gulch Creek, Ruby River

*Company:* Goldstream Corporation

*Activities:* Road access to haul ore; exploration

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Iron Rod Mine/Bull Dog Mountain**

*Location (PLS):* Sec.15, 22, T2S, R6W

*Drainage:* Jefferson River

*Company:* Goldenrod Mining Company

*Activities:* Exploration trenches

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Brown's Gulch**

*Location (PLS):* Sec.28, T6S, R3W

*Drainage:* Brown's Gulch, Alder Creek, Ruby River

*Company:* Bruce Scharf

*Activities:* Placer testing

*Commodity:* Gold

*Activity status:* Unknown

*Property status:* Unknown

**Project name: Johnny Gulch**

*Location (PLS):* Sec.8, T9S, R1W

*Drainage:* Madison River

*Company:* Cyprus Metals Exploration Corporation

*Activities:* Trenching and drilling

*Commodity:* Talc

*Activity status:* Completed

*Property status:* Unknown

**Project name: Nez Pierce Creek/Greiss**  
**Location (PLS):** Sec.33, T3S, R7W  
**Drainage:** Nez Pierce Creek, Jefferson River  
**Company:** Cominco American Resources, Inc.  
**Activities:** Trenching exploration  
**Commodity:** Gold  
**Activity status:** Available  
**Property status:** Unknown

**Project name: Nicholson**  
**Location (PLS):** Sec.7, T3S, R3W  
**Drainage:** South Boulder River  
**Company:** Tobacco Root Gold Company  
**Activities:** Bulk testing of ore; drift development  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unavailable

**Project name: North Meadow Trench**  
**Location (PLS):** Sec.2, T4S, R3W  
**Drainage:** North Meadow Creek  
**Company:** O.J. Taylor  
**Activities:** One hand-dug trench  
**Commodity:** Gold  
**Activity status:** Completed  
**Property status:** Unknown

**Project name: Pacific Mine Project**  
**Location (PLS):** Sec.10, T7S, R3W  
**Drainage:** Brown's Gulch, Alder Creek, Ruby River  
**Company:** Battle Mountain Exploration  
**Activities:** Exploration; construction of pads and drilling  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Paymaster Heir**  
**Location (PLS):** Sec.31, T4S, R3W  
**Drainage:** Bivens Creek  
**Company:** Tom Green  
**Activities:** Driving drift  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Peidra Blanca Lode Claim**  
**Location (PLS):** Sec.33, T4S, R4W  
**Drainage:** Horse Creek, Ruby River  
**Company:** Decor Stone  
**Activities:** Exploration and development of lode claim on Forest Service property.  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Smith Claims**  
**Location (PLS):** Sec. 15, 16, T3S, R5W  
**Drainage:** Jefferson River  
**Company:** Reynolds/Compass Metals  
**Activities:** Drilling; road construction; exploration  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unavailable

**Project name: South Meadow Creek (Missouri McKee)**  
**Location (PLS):** Sec.30, T5S, R2W  
**Drainage:** South Meadow Creek  
**Company:** Burt Hunt  
**Activities:** Five diamond drill holes  
**Commodity:** Gold  
**Activity status:** Uninitiated  
**Property status:** Unknown

**Project name: Strawberry Extension**  
**Location (PLS):** Sec.14, T2S, R3W  
**Drainage:** None  
**Company:** Gene Nellis  
**Activities:** Road improvement  
**Commodity:** Gold development  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Strawberry Ridge**  
**Location (PLS):** Sec.14, T2, R3  
**Drainage:** Pony Creek  
**Company:** Gene M. Nellis  
**Activities:** Trenching; adit opening; road construction  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Strawn Mine**  
**Location (PLS):** Sec.18, T2S, R4W  
**Drainage:** Beal Creek  
**Company:** Hal Dale, Mark Raffanelli  
**Activities:** Multiple diamond drill holes from a single site  
**Commodity:** Gold  
**Activity status:** Uncompleted  
**Property status:** Unknown

**Project name: Tom Graham Pass - Heloise Claim**  
**Location (PLS):** Sec.4, T4S, R4W  
**Drainage:** Noble Fork  
**Company:** Golden Chalice, Inc.  
**Activities:** Underground development work  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Triplets (near Rochester)**  
**Location (PLS):** Sec.29-32, T2S, R8W  
**Drainage:** Rochester Creek, Jefferson River  
**Company:** FMC Gold Company  
**Activities:** Drilling and trenching  
**Commodity:** Gold  
**Activity status:** Ongoing  
**Property status:** Unknown

**Project name: Uncle Sam**  
**Location (PLS):** Sec.9, T4S, R3W  
**Drainage:** Mill Creek  
**Company:** Koval  
**Activities:** Drilled one hole  
**Commodity:** Gold  
**Activity status:** Completed  
**Property status:** Unknown

## Meagher County

*Project name:* **Atlanta Placer**  
*Location (PLS):* Sec.8, T9N, R3E  
*Drainage:* Atlanta Creek  
*Company:* Roy Kinne  
*Activities:* Placer testing  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Benton Placer**  
*Location (PLS):* Sec. 32, T10N, R3E  
*Drainage:* Benton Gulch  
*Company:* John Zawada  
*Activities:* Placer testing (50-60 yds<sup>3</sup> washed)  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Moose Mountain**  
*Location (PLS):* Sec.14, 13, 24, T12N, R7E; Sec.19, T12N, R8E  
*Drainage:* Adams Creek  
*Company:* BHP-Utah International/Kennecott Exploration  
*Activities:* Five RVC holes  
*Commodity:* Copper, cobalt  
*Activity status:* Completed two  
*Property status:* Unknown

*Project name:* **Sheep Creek**  
*Location (PLS):* Sec.3, 10, T11N, R7E  
*Drainage:* Sheep Creek  
*Company:* Cominco American Resources, Inc.  
*Activities:* 15 RVC holes  
*Commodity:* Copper, cobalt  
*Activity status:* Completed seven  
*Property status:* Unknown

*Project name:* **Thompson Gulch Placer**  
*Location (PLS):* Sec. 27, T9N, R4E  
*Drainage:* Thompson Gulch  
*Company:* Don Shearer  
*Activities:* 3-5 yds<sup>3</sup>/day  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Vermont Gulch**  
*Location (PLS):* Sec.6, T10N, R3E  
*Drainage:* Vermont Gulch  
*Company:* Merve Reykdal  
*Activities:* 5-6 trenches  
*Commodity:* Placer gold  
*Activity status:* Completed  
*Property status:* Unknown

## Missoula County

*Project name:* **Copper Cliff**  
*Location (PLS):* Sec.10-14, T12N, R15W  
*Drainage:* Union Creek  
*Company:* Newmont Exploration, Ltd.  
*Activities:* 13 RVC, 2 DD  
*Commodity:* Copper, gold  
*Activity status:* Ongoing  
*Property status:* Unknown

## Park County

*Project name:* **Crevasse**  
*Location (PLS):* Sec.9, 16, 17, T9S, R9E  
*Drainage:* Bear Creek  
*Company:* America Copper and Nickel Corporation/Jardine  
 Joint Venture  
*Activities:* Helicopter support drill holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

*Project name:* **Emigrant**  
*Location (PLS):* Sec.5, 6, T7S, R9E  
*Drainage:* Emigrant Creek  
*Company:* Pegasus Gold Corporation  
*Activities:* RVC drill holes; 3 new holes proposed; 8 - 10  
 helicopter support DD holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Emigrant Placer**  
*Location (PLS):* Sec.5, 6, T7S, R9E  
*Drainage:* Emigrant Creek  
*Company:* Harrison Western/Montana Mining and Reclamation  
*Activities:* 10 sonic drill holes  
*Commodity:* Placer gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Independence**  
*Location (PLS):* Sec.21, 15, 16, T7S, R12E  
*Drainage:* Basin Creek  
*Company:* Pathfinder  
*Activities:* Geophysics  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unavailable

*Project name:* **Independence**  
*Location (PLS):* Sec.21, 15, 16, T7S, R12E  
*Drainage:* Basin Creek  
*Company:* Pegasus Gold Corporation  
*Activities:* Geophysics  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unavailable

*Project name:* **New World**  
*Location (PLS):* Sec.11, 2, 14, T9S, R14E  
*Drainage:* Fischer Creek, Miller Creek  
*Company:* Noranda/Crown Butte Mines  
*Activities:* Numerous holes  
*Commodity:* Gold, silver, copper  
*Activity status:* Ongoing  
*Property status:* Unavailable

*Project name:* **Stillwater Complex**  
*Location (PLS):* T5S, R13E (25-mile trend)  
*Drainage:* Iron Mountain Creek, Graham Creek, Iron Creek  
*Company:* Stillwater PGM Resources  
*Activities:* 10 winkie holes; 7 diamond drill holes (for patent work)  
*Commodity:* Platinum group minerals  
*Activity status:* Completed  
*Property status:* Unavailable

## Phillips County

*Project name:* **Little Rockies**  
*Location (PLS):* T25N, R24E; T25N, R25E  
*Drainage:* Multiple  
*Company:* Pegasus Gold Corporation  
*Activities:* Numerous drill holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

## Powell County

*Project name:* **Blackfoot City**  
*Location (PLS):* Sec.30, T11N, R7W  
*Drainage:* Ophir Creek, Carpenter Creek  
*Company:* Phelps Dodge/Western Energy  
*Activities:* Two trenches  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unknown

*Project name:* **Blue Ribbon Resources**  
*Location (PLS):* Sec.10, 15, T8N, R11W  
*Drainage:* Gold Creek  
*Company:* Blue Ribbon Resources  
*Activities:* 23 drill holes; 400 feet of trench  
*Commodity:* Gold  
*Activity status:* Unintiated  
*Property status:* Unknown



*Project name:* **Dry Cottonwood**  
*Location (PLS):* Sec.4-6, T6N, R8W  
*Drainage:* Dry Cottonwood  
*Company:* Randy Eaton, Jess Smith  
*Activities:* Placer; 20 test pits  
*Commodity:* Gold  
*Activity status:* Completed 10 pits  
*Property status:* Unknown

*Project name:* **Emery**  
*Location (PLS):* Sec.10, 11, T7N, R8W  
*Drainage:* Cottonwood Creek, Bogs Creek  
*Company:* Hecla  
*Activities:* 8 trenches; 15 RVC holes  
*Commodity:* Gold  
*Activity status:* Completed  
*Property status:* Unavailable

*Project name:* **Johnny B. Good placers**  
*Location (PLS):* Sec.14, T9N, R6W  
*Drainage:* Mike Renig Creek  
*Company:* John Fee  
*Activities:* Placer testing  
*Commodity:* Placer gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Karger**  
*Location (PLS):* Sec.6, 7, T8N, R6W  
*Drainage:* Little Blackfoot River  
*Company:* P.D. Mining Company  
*Activities:* Planned 64 RVC holes  
*Commodity:* Gold  
*Activity status:* Partially completed  
*Property status:* Available

*Project name:* **Meadow Creek**  
*Location (PLS):* Sec.34, T11N, R6W  
*Drainage:* Meadow Creek  
*Company:* FMC Gold Company  
*Activities:* 12 RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Ophir Group**  
*Location (PLS):* Sec.20, T11N, R7W  
*Drainage:* Ophir Gulch  
*Company:* ACNC  
*Activities:* Seven RVC holes  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unknown

*Project name:* **Unknown**  
*Location (PLS):* Sec.22, T10N, R6W  
*Drainage:* Dog Creek  
*Company:* Sieben Company/Battle Mountain Gold  
*Activities:* Two RVC holes  
*Commodity:* Gold  
*Activity status:* One hole completed  
*Property status:* Available

*Project name:* **Viking Mine**  
*Location (PLS):* Sec. 5, T8N, R6W  
*Drainage:* None  
*Company:* John Heron  
*Activities:* Reopening adits; underground sampling  
*Commodity:* Gold  
*Activity status:* Ongoing  
*Property status:* Unavailable

## Ravalli County

*Project name:* **Mine Creek**  
*Location (PLS):* Sec.21, T2S, R21W  
*Drainage:* Mine Creek  
*Company:* Eric Wolf Montana Logging and Mining  
 Company  
*Activities:* Trench and drifting  
*Commodity:* Gold  
*Activity status:* Ongoing exploration and development  
*Property status:* Unknown

*Project name:* **Rob Gulch Placer**  
*Location (PLS):* Sec.3, T2S, R21W  
*Drainage:* Rob Gulch (Hughs Creek)  
*Company:* Unknown  
*Activities:* Placer mining  
*Commodity:* Gold  
*Activity status:* Inactive (old hydraulic operation)  
*Property status:* Unknown

## Sanders County

**Project name: Clearwater Stone Company**

*Location (PLS):* Sec.19, T18N, R25W

*Drainage:* Clark Fork River

*Company:* Ralph Jackson

*Activities:* Mining; road work

*Commodity:* Flat stone

*Activity status:* Ongoing

*Property status:* Unknown

**Project name: Fork**

*Location (PLS):* Sec.5, T18N, R25W

*Drainage:* Sheep Creek

*Company:* Cominco American, Inc.

*Activities:* One diamond drill

*Commodity:* Base metals

*Activity status:* Completed

*Property status:* Unknown

**Project name: Kohler**

*Location (PLS):* Sec.23, T21N, R32W

*Drainage:* Prospect Creek

*Company:* Kohler family

*Activities:* Open old drift

*Commodity:* Unknown

*Activity status:* Unsuccessful

*Property status:* Unknown

**Project name: Red Bluff**

*Location (PLS):* Sec.14, T18N, R26W

*Drainage:* Clark Fork

*Company:* Mike Morgan

*Activities:* Repair road; mined small amount of rock

*Commodity:* Flat stone

*Activity status:* Ongoing

*Property status:* unknown

**Project name: Snake**

*Location (PLS):* Sec.5, 4, T27N, R32W; Sec.32, T28N, R32W

*Drainage:* East Fork Bull River (Snake Creek Pass)

*Company:* Kennecott Exploration

*Activities:* Two drill holes

*Commodity:* Copper, silver

*Activity status:* Completed

*Property status:* Unknown

## Silver Bow County

**Project name: Beefstraight**

*Location (PLS):* Sec.4, T2N, R6W

*Drainage:* Beefstraight Creek

*Company:* Jess Smith

*Activities:* Placer trenches for property evaluation

*Commodity:* Placer gold

*Activity status:* Uncompleted

*Property status:* Unknown

**Project name: Horse Creek**

*Location (PLS):* Sec.28, T1N, R7W

*Drainage:* Fish Creek

*Company:* Highland Gold

*Activities:* Placer testing (one trench)

*Commodity:* Placer gold

*Activity status:* Uncompleted

*Property status:* Unknown

**Project name: Negro Mountain**

*Location (PLS):* Sec.20, T1S, R8W

*Drainage:* McLean Creek, Moose Creek

*Company:* Lively's Inc.

*Activities:* Reopening adits

*Commodity:* Gold

*Activity status:* Ongoing

*Property status:* Unknown

## Stillwater County

*Project name:* **Benbow**

*Location (PLS):* Sec.31, T5S, R15

*Drainage:* Little Rocky Creek

*Company:* Chrome Corporation of America

*Activities:* One DD hole

*Commodity:* Platinum group minerals (chromite zones)

*Activity status:* Completed

*Property status:* Seeking a JV partner

*Project name:* **Picket Pin**

*Location (PLS):* Sec.33, T4S, R14E

*Drainage:* Picket Pin Creek

*Company:* Keith Martin, Dave Russel

*Activities:* One DD hole

*Commodity:* Rhodium in chromite beds

*Activity status:* Completed

*Property status:* Unknown

*Project name:* **Unknown**

*Location (PLS):* Sec.13-15, T5S, R14E

*Drainage:* West Stillwater River

*Company:* Stillwater PGM Resources

*Activities:* Drilling for patent application

*Commodity:* Platinum group minerals

*Activity status:* Completed

*Property status:* Unavailable

## Sweet Grass County

*Project name:* **Stillwater Complex**

*Location (PLS):* T5S, R13E, (25-mile trend)

*Drainage:* Iron Mountain, Graham Creek, Iron Creek

*Company:* Stillwater PGM Resources

*Activities:* Ten winkie holes; seven diamond drill holes (for patent work)

*Commodity:* Platinum group minerals

*Activity status:* Completed

*Property status:* Unavailable

## Part IV

### Agencies Affecting Mining in Montana

#### Department of Agriculture

14th and Independence Ave., S.W.  
Washington, DC 20250  
Secretary - Clayton K. Yeutter  
(202) 447-3631

Forest Service  
South Bldg., 12th and Independence Ave., S.W.  
P.O. Box 96090  
Washington, DC 20090-6090  
Chief - F. Dale Robertson  
(202) 447-6661  
Associate Chief - George Leonard  
(202) 447-7491

Administration  
South Bldg., 12th and Independence Ave. S.W.  
P.O. Box 96090  
Washington, DC 20090-6090  
Deputy Chief - William L. Rice  
(202) 447-6707

National Forest System  
South Bldg., 12th and Independence Ave., S.W.  
P.O. Box 96090  
Washington DC 20090-6090  
(202) 447-3523  
Deputy Chief - James C. Overbay  
Assoc. Deputy Chief - David G. Unger  
Assoc. Deputy Chief - Larry Henson  
Lands Director - Gordon Small  
Minerals and Geology Director - G. Lynn Sprague  
Timber Management Director - Dave Hessel  
Watershed Management Director - Vacant

Programs and Legislation  
South Bldg., 12th and Independence Ave., S.W.  
P.O. Box 96090  
Washington, DC 20090-6090  
Deputy Chief - Jeff M. Sirmon  
(202) 447-6663

Research  
USDA - Forest Service  
P.O. Box 96090  
Washington, DC 20090-6090  
Deputy Chief - Jerry A. Sesco

State and Private Forestry  
South Bldg., 12th and Independence Ave., S.W.  
P.O.Box 96090  
Washington, DC 20090-6090  
Deputy Chief - Allan J. West  
(202) 447-6657

Regional Office Northern Region (Montana, northern Idaho, North Dakota, northwestern South Dakota)  
Federal Bldg.  
P.O. Box 7669  
Missoula, MT 59807  
Regional Forester - John W. Mumma  
(406) 329-3315

Lands, Minerals and Geology  
Federal Bldg.  
P.O. Box 7669  
Missoula, MT 59807  
Director - Charles E. Wassinger  
(406) 329-3595

Beaverhead National Forest  
610 N. Montana Street  
Dillon, MT 59725  
Forest Supervisor - Ronald C. Prichard  
(406) 683-3900

Wise River Ranger District  
Box 100 Wise River, MT 59762  
Ranger - Marvin (Ed) Levert  
(406) 832-3178

Wisdom Ranger District  
Box 238  
Wise River, MT 59761  
Ranger - Dennis Havig  
(406) 689-3243

Sheridan Ranger District  
Box 428  
Sheridan, MT 59749  
Ranger - Ronald Stellingwerf  
(406) 842-5432

Madison Ranger District  
5 Forest Service Road  
Ennis, MT 59729  
Ranger - Mark Petroni  
(406) 682-4253

Bitterroot National Forest  
316 North 3rd Street  
Hamilton, MT 59840  
Forest Supervisor - Bertha C. Gillam  
(406) 363-3131

Stevensville Ranger District  
88 Main Street  
Stevensville, MT 59870  
Ranger - Dale S. Thacker  
(406) 777-5461

Darby Ranger District  
Darby, MT 59829  
Ranger - Forest E. Hayes  
(406) 821-3913

Sula Ranger District  
Sula, MT 49871  
Ranger - Wayne A. Avants  
(406) 821-3201

West Fork Ranger District  
Darby, MT 59829  
Ranger - Dean R. Byrne  
(406) 821-3269

Trapper Creek Job Corps Civilian Conservation Center  
Darby, MT 59829  
Program Manager - H.C. Labrier  
(406) 821-3286

Custer National Forest  
2602 First Avenue North  
P.O. Box 2556  
Billings, MT 59103  
(406) 657-6361

Beartooth Ranger District  
Rt. 2, Box 3420  
Red Lodge, MT 59068  
Ranger - Phillip H. Jaquith  
(406) 446-2103

Ashland Ranger District  
Box 168  
Ashland, MT 59003  
Ranger - John A. Macivor  
(406) 784-2344

Deer Lodge National Forest  
Federal Building  
P.O. Box 400  
Butte, MT 59703  
Acting Forest Supervisor - Richard J. Call  
(406) 496-3400

Deer Lodge Ranger District  
91 Frontage Road  
Deer Lodge, MT 59722  
Ranger - Chuck Sundstrom  
(406) 846-1770

Jefferson Ranger District  
405 E. Legion, P.O. Box F  
Whitehall, MT 59759  
Ranger - Roger M. Siemens  
(406) 287-3223

Phillipsburg Ranger District  
P.O. Box H  
Phillipsburg, MT 59858  
Ranger - Michael J. Paterni  
(406) 859-3211

Butte Ranger District  
2201 White Blvd.  
Butte, MT 59701  
Ranger - Merrill Davis  
(406) 494-2147

Anaconda Civilian Conservation Center  
1407 Foster Creek Road  
Anaconda, MT 59711  
Director - Bill Case  
(406) 563-3476

Flathead National Forest  
1935 Third Avenue East  
Kalispell, MT 59901  
Forest Supervisor - Edgar B. Brannon, Jr.  
(406) 755-5401

Swan Lake Ranger District  
P.O. Box 370  
Bigfork, MT 59911  
Ranger - William Pederson  
(406) 837-5081

Spotted Bear Ranger District  
P.O. Box 310  
Hungry Horse, MT 59919  
Ranger - Bert Stout  
(406) 752-7345

Hungry Horse Ranger District  
P.O. Box 340  
Hungry Horse, MT 59919  
Ranger - Allen Christopherson  
(406) 387-5243

Glacier View Ranger District  
P.O. Box W  
Columbia Falls, MT 59912  
Ranger - Tom Hope  
(406) 892-4372

Tally Lake Ranger District  
1335 Hwy 93  
Whitefish, MT 59937  
Ranger - Vacant  
(406) 862-2508

Gallatin National Forest  
P.O. Box 130, Federal Building  
Bozeman, MT 59771  
Forest Supervisor - Robert S. Gibson  
(406) 585-4701

Big Timber Ranger District  
P.O. Box A  
Big Timber, MT 59011  
Ranger - Bill Timko  
(406) 932-5155

Livingston Ranger District  
Route 62, Box 3197  
Livingston, MT 59047  
Ranger - Fred Salinas  
(406) 222-1892

Gardiner Ranger District  
P.O. Box 5  
Gardiner, MT 59030  
Ranger - Larry N. Lewis  
(406) 848-7375

Bozeman Ranger District  
601 Nikles  
Bozeman, MT 59715  
Ranger - Robert S. Dennee  
(406) 587-6920

Hebgen Lake Ranger District  
P.O. Box 520  
West Yellowstone, MT 59758  
Ranger - Ralph O. Meyer  
(406) 646-7369

Helena National Forest  
301 S. Park, Drawer 10014  
Federal Office Bldg., Room 334  
Helena, MT 59626  
Forest Supervisor - Ernest R. Nunn  
(406) 449-5201

Townsend Ranger District  
415 S. Front, Box 29  
Townsend, MT 59644  
Ranger - Barb Beck  
(406) 266-3425

Helena Ranger District  
2001 Poplar Street  
Helena, MT 59601  
Ranger - Denis Hart  
(406) 449-5490

Lincoln Ranger District  
Box 219  
Lincoln, MT 59639  
Ranger - Tom Liebscher  
(406) 362-4265

Kootenai National Forest  
506 U.S. Hwy. 2, West  
Libby, MT 59923  
Forest Supervisor - James F. Rathbun  
(406) 293-6211

Rexford Ranger District  
Eureka Ranger Station  
1299 Hwy. 93 North  
Eureka, MT 59917  
Ranger - H. Drew Bellon  
(406) 296-2536

Fortine Ranger District  
Murphy Lake Ranger Station  
P.O. Box 116  
Fortine, MT 59918  
Ranger - Thomas Puchlerz  
(406) 882-4451

Three Rivers Ranger District  
Troy Ranger Station  
1437 N. Hwy. 2  
Troy, MT 59935  
Ranger - John R. Righter  
(406) 295-4693

Libby Ranger District  
Libby Ranger Station  
1263 Hwy. 37  
Libby, MT 59923  
Ranger - Gary N. Rahm  
(406) 293-7741

Fisher River Ranger District  
Canoe Gulch Ranger Station  
12557 Hwy. 37  
Libby, MT 59923  
Ranger - Lawrence A. Froberg  
(406) 293-7773

Cabinet Ranger District  
Cabinet Ranger Station  
2693 Hwy. 200  
Trout Creek, MT 59874  
Ranger - James I. Mershon  
(406) 827-3534

East Engineering Zone  
12557 Hwy. 37  
Libby, MT 59923  
Zone Engineer - David D. Erwin  
(406) 293-7773

West Engineering Zone  
1437 N. Hwy. 2  
Troy, MT 59935  
Zone Engineer - Paul A. Stantus  
(406) 295-4693

Lewis and Clark National Forest  
1101 15th Street North  
Box 871  
Great Falls, MT 59403  
Forest Supervisor - John (Dale) Gorman  
(406) 791-7700

Rocky Mountain Ranger District  
1102 Main Ave., N.W.  
Box 340  
Choteau, MT 59422  
Ranger - Robert J. Casey  
(406) 466-5341

Judith Ranger District  
109 Central Ave.  
Box 484  
Stanford, MT 59479  
Ranger - Jerome E. Dombrowske  
(406) 566-2292

Musselshell Ranger District  
809 2 NW  
Box F  
Harlowton, MT 59036  
District Ranger - Carl Fager  
(406) 632-4391

Kings Hill Ranger District  
204 W. Folsom  
Box A  
White Sulphur Springs, MT 59645  
District Ranger - Victor C. Standa  
(406) 547-3361

Belt Creek Information Station  
U.S. Highway 89 - North  
Neihart, MT 59465  
(406) 236-5511

Lolo National Forest  
Building 24, Fort Missoula  
Missoula, MT 59801  
Forest Supervisor - Orville L. Daniels  
(406) 329-3797

Missoula Ranger District  
Building 24-A, Fort Missoula  
Missoula, MT 59801  
Minerals - Ron Wachsmuth  
(406) 329-3976

Ninemile Ranger District  
Box 616  
Huson, MT 59846  
Ranger - Gregory L. Munther  
(406) 626-5201

Plains/Thompson Falls Ranger District  
Plains, MT 59859  
Ranger - George W. Leighton  
Plains - (406) 826-3821  
Thompson Falls - (406) 827-3589

Seeley Lake Ranger District  
Drawer G  
Seeley Lake, MT 59868  
Ranger - Dennis L. Johnson  
(406) 677-2233

Superior Ranger District  
Superior, MT 59872  
Ranger - Ellen L. Vollmer  
(406) 822-4233

Soil Conservation Service  
South Bldg., Twelfth and Independence Ave., S.W.  
P.O. Box 2890  
Washington, DC 20013  
Chief - Wilson Scaling  
(202) 447-4525

## Department of the Army

Corps of Engineers  
North Pacific Division  
P.O. Box 2870  
Portland, OR 97208-2870  
Division of Engineering - Maj. Gen. Ernest J. Harrell  
(503) 326-3700

Walla Walla District  
Bldg. 602  
Walla Walla, WA 99362-9265  
District Engineer - LTC Robert D. Volz  
(509) 522-6506

## Department of Commerce

14th St., at Constitution Ave. and Pennsylvania Ave., N.W.  
Washington, DC 20230  
Secretary of Commerce - Robert A. Mosbacher  
(202) 377-2000

Bureau of Census  
101 Stewart St., #500  
Seattle, WA 98101-1098  
Regional Director - Leo C. Schilling  
(206) 728-5300

Economic Development Administration  
Main Commerce Bldg.  
Washington, DC 20230  
Assistant Secretary - L. Joyce Hampers  
(202) 377-5081

International Trade Administration  
U.S. and Foreign Commercial Service  
One World Trade Center  
121 SW Salmon, Ste. 242  
Portland, OR 97204  
Director - Bill Schrag  
(503) 326-3001

## Department of Energy

1000 Independence Ave., S.W., Rm. 162  
Washington, DC 20585  
Secretary - James D. Watkins  
(202) 586-5000

Alaska Power Administration  
2770 Sherwood Lane  
Juneau, AK 99801  
Administrator - Robert J. Cross  
(907) 586-7405

Bonneville Power Administration  
905 NE 11th  
P.O. Box 3621  
Portland, OR 97200  
Administrator - James Jura  
(503) 230-3000

Upper Columbia Area (Spokane)  
U.S. Courthouse, Room 561  
W. 920 Riverside Drive  
Spokane, WA 99201  
Area Manager - Wayne R. Lee  
(509) 353-2518

Federal Energy Regulatory Commission  
825 N. Capitol St., N.E.  
Washington, DC 20426  
Chairman - Martin L. Allday  
(202) 208-0000

Grand Junction Projects Office  
P.O. Box 2567  
Grand Junction, CO 81502  
Manager - Michale K. Tucker  
(303) 248-6001

## Environmental Protection Agency

401 M St., S.W., Waterside Mall  
Washington, DC 20460  
Administrator - William K. Reilly  
(202) 382-4700

Region 8 Office  
999 18th St., Ste. 500  
Denver, CO 80202-2405  
Administrator - James J. Scherer  
(303) 293-1603

Montana Operations Office  
301 S. Park  
Drawer 10096  
Helena, MT 59626  
Director - John F. Wardell  
(406) 449-5432

## Federal Communications Commission

1919 M St., N.W.  
Washington, DC 20554  
Chairman - Alfred C. Sikes  
(202) 632-6600

Seattle Region  
11410 NE 122nd Way, Bldg.A-1, Ste.312  
Kirkland, WA 98034  
Regional Director - W.E. Johnson  
(206) 764-3649

Seattle Office (northern Idaho, Montana,  
Washington)  
11410 NE 122nd Way, Bldg.A-1, Ste.312  
Kirkland, WA 98034  
Engineer in Charge - Gary P. Soulsby  
(206) 821-9037



## Federal Trade Commission

Pennsylvania Ave./Sixth St., N.W.  
Washington, DC 20580  
Chairman - Janet D. Steiger  
(202) 326-2100

Pacific Northwest  
Federal Bldg., Rm.2806  
915 Second Ave.  
Seattle, WA 98174  
Regional Director - Charles A. Harwood  
(206) 553-4656

## Department of the Interior

Interior Bldg.  
18th & C Sts., N.W.  
Washington, DC 20240  
Secretary - Manuel Lujan, Jr.  
(202) 208-7351  
Deputy Secretary - Frank Bracken  
(202) 208-5183

Special Assistant - Curtis V. McVee  
Office of the Secretary  
Alaska Land Use Council  
1689 C St., Ste. 100  
Anchorage, AK 99501-5151  
(907) 271-5485 or 272-3422

Congressional and Legislative Affairs  
1849 C St., N.W.  
Washington, DC 20240  
Director - James M. Hughes  
(202) 208-7693

Water and Science  
Interior Bldg., Rm. 6640  
1849 C St., N.W.  
Washington, DC 20240  
Assistant Secretary - John M. Sayre  
(202) 208-3186

Bureau of Mines  
810 7th St. N.W.  
Washington, DC 20241  
Director - T. S. Ary  
(202) 501-9300

Field Office  
Spokane Research Center  
E. 315 Montgomery Ave.  
Spokane, WA 99207  
Research Director - D.D. Bolstad  
(509) 484-1610

Western Field Operations Center  
E. 360 Third Ave.  
Spokane, WA 99202-1413  
Chief - Richard G. Grabowski  
(509) 353-2726  
State Mineral Officer - Rod Minarik (MT, ID, OR,  
WA, WY)  
(509) 353-2726

Geological Survey  
National Center Bldg.  
12201 Sunrise Valley Dr.  
MS101  
Reston, VA 22092  
(703) 648-4000  
Director - Dallas L. Peck  
(703) 648-7411  
Chief Geologist - Benjamin A. Morgan, III  
(703) 648-6600

Regional Offices  
Central Region  
Box 25046,  
Denver Federal Center  
Denver, CO 80225-0046  
Assistant Chief Geologist - Harry A. Tourtelot  
(303) 236-5438

Western Region  
345 Middlefield Rd., MS 919  
Menlo Park, CA 94025  
(415) 853-8300  
Assistant Chief Geologist - William Normark  
(415) 329-5101

Geologic Survey Field Office  
Spokane Field Center  
W. 920 Riverside Ave.  
Spokane, WA 99201  
Deputy Chief - Ron Worl  
(509) 353-2641

Office of Mineral Resources  
National Center, MS 913  
Reston, VA 22092  
Chief - Glenn Allcott  
(703) 648-6100

Branch of Central Mineral Resources  
Box 25046, MS 905  
Denver Federal Center  
Denver, CO 80225  
Chief - David Lindsey  
(303) 236-5568

Branch of Geochemistry  
Box 25046, MS 973  
Denver Federal Center  
Denver, CO 80225  
Chief - David B. Smith  
(303) 236-1800

Branch of Geophysics  
U.S. Geological Survey  
Box 25046, MS 964  
Denver, CO 80225  
Chief - David L. Campbell  
(303) 236-1212

Branch of Resource Analysis  
National Center, MS 920  
Reston, VA 22092  
Chief - W. David Menzie  
(703) 648-6125

Branch of Western Mineral Resources  
345 Middlefield Rd., MS 941  
Menlo Park, CA 94025  
Chief - William C. Bagby  
(415) 329-5400

Spokane Field Office  
920 Riverside Ave.  
Spokane, WA 99201  
Deputy Chief - Ron Worl  
(509) 353-2641  
Map Sales - (509) 353-2524  
Public Inquiries Office - (509) 353-2524  
Water Resources Division - (509) 353-2633

Minerals Information Offices  
Main Interior Bldg.  
1849 C St., N.W., Rm. 2647-MIB  
Washington, DC 20240  
Geologist-In-Charge - Maureen Sherlock  
U.S. Geological Survey Geologist - Jane E. Jenness  
(202) 208-5512  
U.S. Bureau of Mines Mineral Industry Specialist - Linda Carrico  
(202) 208-5520

Regional Office  
U.S. Courthouse Bldg.  
Room 651  
W. 920 Riverside Ave.  
Spokane, WA 99201  
Geologist-in-charge - Kathleen M. Johnson  
(509) 353-3113

Function: Mineral experts provide information and access to U.S. Geological Survey and U.S. Bureau of Mines databases; commodity specialists; publications for the benefit of the public; industry and state and federal officials. The office also seeks to improve the exchange of information between federal agencies and other known information generators and users.

Minerals Management Service  
Dept. of Interior  
1849 C St., N.W., Rm. 4210  
Washington, DC 20240  
Director -S. Scott Sewell  
(202) 208-3500

Royalty Management  
Dept. of Interior  
Denver Federal Center, Bldg. 85, MS 3000  
P.O. Box 25165  
Denver, CO 80225  
Associate Director for Royalty Management - Jerry D. Hill  
(303) 231-3058

## Fish, Wildlife and Parks

Interior Bldg.  
Washington, DC 20240  
Assistant Secretary - Constance B. Harriman  
(202) 208-4416

Fish and Wildlife Service  
Main Interior Bldg., Rm. 3256  
Washington, DC 20240  
Director - John F. Turner  
(202) 208-4717

Regional Offices  
Region 1  
911 N.E. 11th Ave.  
Portland, OR 97232-4181  
Regional Director - Marvin L. Plenert  
(503) 231-6118

Region 6  
P.O. Box 25486, DFC  
Denver, CO 80225  
Regional Director -Galen Buterbaugh  
(303) 236-7920

National Park Service  
P.O. Box 37127  
Washington, DC 20013-7127  
Director -James M. Ridenour  
(202) 208-4621

Regional Offices  
Pacific Northwest Region  
83 S. King St., Ste. 212  
Seattle, WA 98104  
Regional Director - Charles Odegaard  
(206) 442-5565

Rocky Mountain Region  
12795 W. Alameda Pkwy  
P.O. Box 25287  
Denver, CO 80225-0287  
Regional Director - Robert M. Baker  
(303) 969-2630

Bureau of Indian Affairs  
18th & C Streets, N.W.  
M/S 4140 MIB  
Washington, DC 20240  
Assistant Secretary (Indian Affairs)- Eddie Brown  
(202) 208-7163

Billings Area  
316 N. 26th St.  
Billings, MT 59101  
Director - Richard C. Whitesell  
(406) 657-6315

Land and Mineral Management  
Mail Stop 6628  
Interior Bldg., 1849 C St. N.W.  
Washington, DC 20240  
Assistant Secretary - David O'Neal  
(202) 208-5676

Bureau of Land Management  
Interior Bldg., Rm. 5660  
1849 C St., N.W.  
Washington, DC 20240  
Director - Cy Jamison  
(202) 208-3801

State Director  
Montana  
Granite Tower  
222 N. 32nd St.  
P.O. Box 36800  
Billings, MT 59107-6800  
Acting State Director - Thomas P. Lornie  
(406) 255-2904

Acting Deputy State Director for Mineral  
Resources - Donald L. Gilchrist  
406 255-2805

District Offices:

Butte - (406) 494-5059  
Geologist - Dave Williams  
Dillon - (406) 683-2337  
Minerals Administration - Bob Bump  
Missoula - (406) 329-3914  
Geologist - Mindy Mason  
Lewistown - (406) 538-7461  
Geologist - Scott Haight

Bureau of Reclamation  
Main Interior Bldg.  
1849 C St., N.W.  
Washington, DC 20240  
Commissioner - Dennis B. Underwood  
(202) 208-4157

Great Plains  
316 North 26th St.  
P.O. Box 36900  
Billings, MT 59107-6900  
Acting Regional Director - Neil Stessman  
(406) 657-6214

Pacific Northwest Region  
Federal Bldg., U.S. Courthouse  
Box 043, 550 W. Fort St.  
Boise, ID 83724  
Regional Director - John Keys  
(208) 334-1908

## Interstate Commerce Commission

Interstate Commerce Commission Bldg.  
12th and Constitution Ave.  
Washington, DC 20423  
Chairman - Edward J. Philbin  
(202) 275-7582

All Western States  
211 Main St., Ste. 500  
San Francisco, CA 94105  
Regional Director - John H. Kirkemo  
(415) 744-6520

## Department of Labor

Frances Perkins Bldg.  
200 Constitution Ave., N.W.  
Washington, DC 20210  
Secretary - Lynn Martin  
(202) 523-8271

Region X  
1111 Third Ave. Ste., 920  
Seattle, WA 98101-3212  
Regional Representative - Paula Rinta Stewart  
(206) 553-0574

1111 Third Ave., Ste. 805  
Seattle, WA 98101-3212  
Regional Director for Public Information - Mike Shimizu  
(206) 553-7620

Employment Standards Administration  
1111 Third Ave., Ste. 755  
Seattle, WA 98101-3212  
District Director - Gordon Wilson  
(206) 442-4482

Office of Federal Contract Compliance Programs  
1111 Third Ave., Ste. 745  
Seattle, WA 98101-3212  
District Director - Constance Moorehead  
(206) 553-7182

Mine Safety & Health Administration (MSHA)  
4015 Wilson Blvd.  
Arlington, VA 22203  
Assistant Secretary - William J. Tattersall  
(703) 235-1385

Safety & Health Technology Center  
P.O. Box 25367, Federal Center  
Denver, CO 80225  
Chief - Vacant  
(303) 231-5425

Rocky Mountain District  
P.O. Box 25367  
Denver Federal Center  
Denver, CO 80225-0367  
District Manager - Vernon R. Gomez  
(303) 231-5465  
Supervisory Mine Inspector - Arle Brown  
(406) 449-5357 (Montana)

Occupational Safety and Health Administration  
1111 Third Ave., Ste. 715  
Seattle, WA 98101-3212  
Regional Administrator - James W. Lake  
(206) 553-5930 Fax (206) 553-6499

Montana Area Office  
19 N. 25th St.  
Billings, MT 59101  
Area Director - David J. DiTommaso  
(406) 657-6649

## Securities and Exchange Commission

3040 Jackson Federal Building  
450 Fifth St., N.W.  
Washington, DC 20549  
Chairman - Richard C. Breeden  
(202) 272-2000

Seattle Region (AK, ID, MT, OR, WA)  
3040 Federal Bldg.  
Seattle, WA 98174  
Regional Administrator - Jack H. Bookey  
(206) 442-7990

## Department of Transportation

400 Seventh St., S.W.  
Washington, DC 20590  
Secretary - Samuel K. Skinner  
(202) 366-4000

Seventeenth Coast Guard District  
P.O. Box 3-5000  
Juneau, AK 99802-1217  
Commander - Rear Admiral David A. Ciancaglini  
(907) 463-2025

Coast Guard  
P2100 Second St., S.W.  
Washington, DC 20593-0001  
Commandant - Admiral J. William Kime  
(202) 267-2390  
Public Affairs Office - 202 267-1587

Federal Aviation Administration (FAA)  
800 Independence Ave., S.W.  
Washington, DC 20591  
Administrator - Admiral James B. Busey  
(202) 267-3111

Thirteenth Coast Guard District  
Jackson Federal Bldg.  
915 Second Ave.  
Seattle, WA 98174-1067  
Commander - Rear Admiral J.E. Vorbach  
(206) 553-5078

Northwest Mountain Region  
1601 Lind Ave. S.W.  
Renton, WA 98055-4056  
Regional Administrator - Frederick M. Isaac  
Public Affairs Officer - Richard Meyer  
(206) 227-2005

Federal Highway Administration  
400 Seventh St., S.W.  
Washington, DC 20590  
Federal Highway Administrator - Thomas D. Larson  
(202) 366-0650

Office of Hazardous Materials - Transportation  
400 Seventh St., S.W.  
Washington, DC 20590  
Associate Administrator - Alan I. Roberts  
(202) 366-0656

Region VIII (MT, UT, CO, ND, SD)  
555 Zang, Rm. 400  
Lakewood, CO 80228  
Regional Administrator - Louis N. MacDonald  
(303) 969-6722

## Department of Treasury

U. S. Customs Service  
1301 Constitution Ave., N.W.  
Washington, DC 20229  
Commissioner - Carol B. Hallett  
(202) 566-2101

## Congressional Delegation

### Montana

#### Senators

Max S. Baucus (D)  
SH-706 Hart Senate Office Bldg.  
Washington, DC 20510-2602  
(202) 224-2651

Conrad Burns (R)  
SD-183 Dirksen Senate Office Bldg.  
Washington, DC 20510-2603  
(202) 224-2644

#### Representatives

Pat Williams (D-1)  
2457 Rayburn House Office Bldg.  
Washington, DC 20515-2601  
(202) 225-3211

Ron Marlenee (R-2)  
2465 Rayburn House Office Bldg.  
Washington, DC 20515-2602  
(202) 225-1555

## Committee Assignments

### Senate Committees

Agriculture, Nutrition and Forestry  
SR-328A Russell Senate Office Bldg.  
Washington, DC 20510-6000  
(202) 224-2035  
Chairman - Patrick J. Leahy (D-VT)

Appropriations  
S-128 Capitol Bldg.  
Washington, DC 20510-6025  
(202) 224-3471  
Chairman - Robert C. Byrd (D-WV)

Armed Services  
SR-228, Russell Senate Office Bldg.  
Washington, DC 20510-6050  
(202) 224-3871  
Chairman - Sam Nunn (D-GA)

Banking, Housing and Urban Affairs  
SD-534 Dirksen Senate Office Bldg.  
Washington, DC 20510-6075  
(202) 224-7391  
Chairman - Donald W. Riegle, Jr. (D-MI)

Budget  
SD-621 Dirksen Senate Office Bldg.  
Washington, DC 20510-6100  
(202) 224-0642  
Chairman - Jim Sasser (D-TN)

Commerce Science and Transportation  
SD-508 Dirksen Senate Office Bldg.  
Washington, DC 20510-6125  
(202) 224-5115  
Chairman - Ernest F. Hollings (D-SC)

Energy and Natural Resources  
SD-364 Dirksen Senate Office Bldg.  
Washington, DC 20510-6150  
(202) 224-4971  
Chairman - J. Bennett Johnston (D-LA)

Environment and Public Works  
SD-458 Dirksen Senate Office Bldg.  
Washington, DC 20510-6175  
Chairman - Quentin N. Burdick (D-ND)  
(202) 224-6176

Finance  
SD-205 Dirksen Senate Office Bldg.  
Washington, DC 20510-6200  
(202) 224-4515  
Chairman - Lloyd Bentsen (D-TX)

Foreign Relations  
SD-446 Dirksen Senate Office Bldg.  
Washington, DC 20510-6225  
(202) 244-4651  
Chairman - Claiborne Pell (D-RI)

Governmental Affairs  
SD-340 Dirksen Senate Office Bldg.  
Washington, DC 20510-6250  
(202) 224-4751  
Chairman - John Glenn (D-OH)

Judiciary  
SD-224 Dirksen Senate Office Bldg.  
Washington, DC 20510-6275  
(202) 224-5225  
Chairman - Joseph R. Biden, Jr. (D-DE)

Labor and Human Resources  
SD-428 Dirksen Senate Office Bldg.  
Washington, DC 20510-6300  
Chairman - Edward M. Kennedy (D-MA)  
(202) 224-5375

Rules and Administration  
SR-305 Russell Senate Office Bldg.  
Washington, DC 20510-6325  
Chairman - Wendell H. Ford (D-KY)  
(202) 224-6352

Small Business  
SR-428A Russell Senate Office Bldg.  
Washington, DC 20510-6350  
(202) 224-5175  
Chairman - Dale Bumpers (D-AR)

Veterans' Affairs  
SR-414 Russell Senate Office Bldg.  
Washington, DC 20510-6375  
(202) 224-9126  
Chairman - Alan Cranston (D-CA)

### House Committees

Agriculture  
1301 Longworth House Office Bldg.  
Washington, DC 20515-6001  
(202) 225-2171  
Chairman - E. (Kika) de la Garza (D-TX)

Appropriations  
H-218 Capitol Bldg.  
Washington, DC 20515-6015  
(202) 225-2771  
Chairman - Jamie L. Whitten (D-MS)

Armed Services  
2120 Rayburn House Office Bldg.  
Washington, DC 20515-6035  
(202) 225-4151  
Chairman - Les Aspin (D-WI)

Banking, Finance and Urban Affairs  
2129 Rayburn House Office Bldg.  
Washington, DC 20515-6050  
(202) 225-4247  
Chairman - Henry B. Gonzalez (D-TX)

Budget  
214 O'Neill House Office Bldg.  
Washington, DC 20515-6065  
(202) 226-7200  
Chairman - Leon E. Panetta (D-CA)

District of Columbia  
1310 Longworth House Office Bldg.  
Washington, DC 20515-6070  
(202) 225-4457  
Chairman - Ronald V. Dellums (D-CA)

Education and Labor  
2181 Rayburn House Office Bldg.  
Washington, DC 20515-6100  
(202) 225-4527  
Chairman - William D. Ford (D-MI)

Energy and Commerce  
2125 Rayburn House Office Bldg.  
Washington, DC 20515-6115  
(202) 225-2927  
Chairman - John D. Dingell (D-MI)

Foreign Affairs  
2170 Rayburn House Office Bldg.  
Washington, DC 20515-6128  
(202) 225-5021  
Chairman - Dante B. Fascell (D-FL)

Government Operations  
2157 Rayburn House Office Bldg.  
Washington, DC 20515-6143  
(202) 225-5051  
Chairman - John Conyers, Jr. (D-MI)

House Administration  
H-326 Capitol Bldg.  
Washington, DC 20515-6157  
(202) 225-2061  
Chairman - Charlie Rose (D-NC)

Interior and Insular Affairs  
1324 Longworth House Office Bldg.  
Washington, DC 20515-6201  
(202) 225-2761  
Chairman - Morris K. Udall (D-AZ)

Judiciary  
2138 Rayburn House Office Bldg.  
Washington, DC 20515-6216  
(202) 225-3951  
Chairman - Jack Brooks (D-TX)

Merchant Marine and Fisheries  
1334 Longworth House Office Bldg.  
Washington, DC 20515-6230  
(202) 225-4047  
Chairman - Walter B. Jones (D-NC)

Post Office and Civil Service  
309 Cannon House Office Bldg.  
Washington, DC 20515-6243  
(202) 225-4054  
Chairman - William L. (Bill) Clay (D-MO)

Public Works and Transportation  
2165 Rayburn House Office Bldg.  
Washington, DC 20515-6256  
(202) 225-4472  
Chairman - Robert A. Roe (D-NJ)

Rules  
H-312 Capitol Bldg.  
Washington, DC 20515-6269  
(202) 225-9486  
Chairman - John Joseph (Joe) Moakley (D-MA)

Science, Space and Technology  
2320 Rayburn House Office Bldg.  
Washington, DC 20515-6301  
(202) 225-6371  
Chairman - George F. Brown Jr. (D-CA)

Small Business  
2361 Rayburn House Office Bldg.  
Washington, DC 20515-6315  
(202) 225-5821  
Chairman - John J. LaFalce (D-NY)

Standards of Official Conduct  
HT-2 Capitol Bldg.  
Washington, DC 20515-6328  
(202) 225-7103  
Chairman - Louis Stokes (D-OH)

Veterans Affairs  
335 Cannon House Office Bldg.  
Washington, DC 20515-6335  
(202) 225-3527  
Chairman - G.V. (Sonny) Montgomery (D-MS)

Ways and Means  
1102 Longworth House Office Bldg.  
Washington, DC 20515-6348  
Chairman - Dan Rostenkowski (D-IL)  
(202) 225-3625

### Joint Senate-House Committees

Joint Economic Committee  
SD-Go1 Dirksen Senate Office Bldg.  
Washington, DC 20510  
(202) 224-5171  
Chairman - Paul. S. Sarbanes (D-MD)  
Vice Chairman - Lee H. Hamilton (D-IN)

Joint Committee on Taxation  
1015 Longworth House Office Bldg.  
Washington, DC 20515  
(202) 225-3621  
Chairman - Dan Rostenkowski (D-IL)  
Vice Chairman - Lloyd Bentsen (D-TX)

### State Agencies Affecting Mining in Montana

Office of Governor  
Capitol Station  
Helena, MT 59620  
Governor - Stan Stephens  
(406) 444-3111  
Senior Admin. Assts. for Nat. Res. - Art Wittich and Glenn Marx

Hard-Rock Mining Impact Board/DOC  
Cogswell Bldg., Rm. C-211  
Helena, MT 59620  
Contact - Carol Ferguson  
(406) 444-4478  
Function: Assistance with hardrock mining impacts to local governments and communities.

Department of Fish, Wildlife and Parks  
1420 E. Sixth Avenue  
Helena, MT 59620  
(406) 444-3186

Resource Assessment Unit  
1420 E. Sixth Ave.  
Helena, MT 59620  
Administrator - James Posewitz  
Function: Mining and milling operations as they affect fish and wildlife. No permits.

Department of Health and Environmental Sciences  
Cogswell Bldg.  
Helena, MT 59620  
(406) 444-2544  
Director - Dennis Iverson

Division of Environmental Sciences  
Cogswell Bldg.  
Helena, MT 59620  
(406) 444-3948  
Administrator - Steven L. Pilcher

Air Quality Bureau  
Cogswell Bldg.  
Helena, MT 59620  
(406) 444-3454  
Chief - Jeff Chaffee  
Function: Air quality emission permits and air quality standards.

Solid and Hazardous Waste Bureau  
Cogswell Bldg.  
Helena, MT 59620  
(406) 444-2821  
Chief - Duane Robertson  
Function: Permits relating to hazardous waste.

Water Quality Bureau  
Room A206, Cogswell Bldg.  
Helena, MT 59620  
(406) 444-2406  
Chief - Dan L. Fraser  
Function: Waste water discharge permits and water quality standards.

Department of Labor and Industry  
Labor and Industry Bldg., Rm. 412  
P.O. Box 1728  
Helena, MT 59624  
(406) 444-3555  
Commissioner - Mario A. Micone  
Function: Administers employment, training, labor-management relations; conditions for workers and employee/employer rights.

Division of Workers' Compensation  
Margaret 'Peg' Condon Bldg.  
5 S. Last Chance Gulch  
Helena, MT 59601  
(406) 444-6500  
Administration - Patrick Sweeney

Safety Bureau  
Mining Section  
P.O. Box 1728  
Helena, MT 59624-1728  
(406) 444-6401  
Chief - Ed Gatzemeier  
Function: Mine safety and training; accident investigation.

Department of State Lands  
Capitol Station  
1625 Eleventh Avenue  
Helena, MT 59620  
(406) 444-2074  
Commissioner - Dennis Casey

Division of Lands Administration  
Capitol Station  
Helena, MT 59620  
(406) 444-2074  
Administrator - Jeff Hagener  
Function: Mineral leases.

Reclamation Division  
Capitol Station  
Helena, MT 59620  
(406) 444-2074  
Administrator - Gary Amestoy  
Function: Mine and mill reclamation and exploration permits, environmental assessments, environmental impact statements, bonding requirements. Small metal mine operators excavating, stripping; moving less than 36,500 tons per year and disturbing 5 acres or less exempted from all permits except by letter of agreement to conform to certain conditions.

Hardrock Bureau  
Capitol Station  
1625 11th Ave.  
Helena, MT 59620  
(406) 444-2074  
Bureau Chief - Sandy Olson

Open Cut Bureau  
Capitol Station  
Helena, MT 59620  
(406) 444-2074  
Bureau Chief - Steve Welch

Coal and Uranium Bureau  
Capitol Station  
Helena, MT 59620  
(406) 444-2074  
Bureau Chief - Bonnie Lovelace



Montana Bureau of Mines and Geology  
Montana College of Mineral Science and Technology  
Butte, MT 59701  
(406) 496-4181  
State Geologist and Director - Edward T. Ruppel  
Function: Mineral and ground-water resources research  
and information. No regulatory function.

Department of Natural Resources and Conservation  
1520 E. 6th Ave.  
Helena, MT 59620-2301  
(406) 444-6699  
Director - Karen L. Barclay

Division of Energy  
1520 E. 6th Ave.  
Helena, MT 59620  
(406) 444-6697  
Administrator - Van Jamison  
Function: Analyzes the need for, and alternatives  
to, proposed major facilities as part of  
environmental impact statements called  
for by The Major Facility Siting Act  
and The Montana Environmental Policy  
Act. Has a broad range of responsibili-  
ties in energy planning and analysis,  
renewable energy and conservation.

Division of Water Resources  
1520 E. 6th Avenue  
Helena, MT 59620-2301  
(406) 444-6601  
Administrator - Gary Fritz  
Function: Coordinates the development and use  
of water resources of the State so as  
to effect full utilization, conservation,  
and protection of said resources.

Department of Revenue  
Sam Mitchell Bldg.  
Helena, MT 59620  
(406) 444-2460  
Director - Denis Adams  
Function: Department has several divisions; questions  
on taxes can be referred to proper division  
by director's office.

Office of Secretary of State  
Capitol Station  
Helena, MT 59620  
(406) 444-2034  
Secretary of State - Mike Cooney  
Function: For persons or firms seeking corporate and  
assumed business name information.

## Part V

### Permits And Contacts

#### Department of Health and Environmental Sciences

MPDES Discharge Permit..... 75-5402, MCA  
 MGWPCS Ground-water Pollution Control Permit..... 75-5-402, MCA  
 Contact: Department of Health and Environmental Sciences Water Quality Bureau  
 Cogswell Bldg.  
 Helena, MT 59620  
 (406) 444-2406

MONTANA CLEAR AIR ACT..... 75-2-211, 75-2-204, MCA, 75-20203, MCA  
 Air Pollution Permit, Open Burning Permit  
 Contact: Department of Health and Environmental Science Air Quality Bureau  
 Cogswell Bldg.  
 Helena, MT 59620  
 (406) 444-3454

PERMIT FOR HAZARDOUS WASTE OR STOCKPILES..... 75-10-406, MCA  
 Contact: Department of Health and Environmental Sciences Solid Waste Management Bureau  
 Cogswell Bldg.  
 Helena, MT 59620  
 (406) 444-2821

#### Department of State Lands

HARDROCK MINING ACT..... Title 82, Chapter 4, Part 3, MCA  
 Exploration License, Metalliferous Rock, Operating Permit, Small Miner Exclusion, Placer-Dredge Bonds, Small Miner  
 Cyanide Permits  
 Contact: Department of State Lands  
 Hardrock Bureau  
 Capitol Station  
 Helena, MT 59620  
 (406) 444-2074

OPEN CUT MINING ACT..... Title 82, Chapter 4, Part 4 Montana Codes, MCA 82-4-4 MCA  
 Sand, Gravel, Bentonite, Clay, Scoria, Phosphate Reclamation Contract  
 Contact: Department of State Lands  
 Open Cut Bureau  
 Capitol Station  
 Helena, MT 59620  
 (406) 444-2074

STRIP AND UNDERGROUND MINE SITING ACT..... Title 2, Chapter 4 Part 2 MCA

MONTANA STRIP AND UNDERGROUND MINE RECLAMATION ACT..... Title 2 Chapter 4 Part 1 MCA  
 Coal and Uranium Prospecting Permit, Surface Mining Permit  
 Contact: Department of State Lands  
 Coal and Uranium Bureau  
 Capitol Station  
 Helena, MT 59620  
 (406)444-2047

MONTANA ENVIRONMENTAL POLICY ACT..... Title 75, Chapter 1, Parts 1, 2, 3 MCA  
 Environmental Assessment (EA)  
 Environmental Impact Statement (EIS)  
 Contact: Department of State Lands, Hardrock Bureau

Capitol Station  
 Helena, MT 59620  
 (406) 444-2074

Leasing State Lands For Mining  
 Contact: Department of State Lands  
 Minerals Management Bureau  
 Capitol Station  
 Helena, MT 59620  
 (406) 444-2074

**Department of Natural Resources and Conservation**

PERMIT FOR APPROPRIATION OF GROUND WATER.....85-2-301, 85-2-302, 85-2-306, MCA(1983)

Contact: Department of Natural Resources and Conservation  
 Water Resources Division, Water Rights Bureau  
 1520 E. 6th Ave.  
 Helena, MT 59620-2301  
 (406) 444-6610

PERMIT FOR LARGE MINES RELATED TO MINERAL FUELS.....Major Facility Siting Act

Contact: Department of Natural Resources and Conservation  
 Energy Division  
 1520 E. 6th Ave.  
 Helena, MT 59620-2301  
 (406) 444-6676

**Local Governing Bodies**

Building Codes.....69-2105 et. seq. RCM 1947  
 Burning Permits.....28-114, RCM 1947; 28-601 et. seq. RCM 1947  
 Floodway Regulation-Floodway Management Act.....89-3501 et. seq. RCM 1947  
 Stream Bed Preservation-Stream Bed Preservation Act.....26-1501 et. seq. RCM 1947  
 Timber Removal-Fire Hazard Reduction Agreement.....28-403.1 et. seq. RCM 1947  
 Utility Extensions-Permission to Extend Utility Facilities.....11-3316, RCM 1947  
 Contact: County Commissioners, City Council

## Part VI

### Organizations And Associations

#### AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS

7828 Vance Dr., Ste. 103

Arvada, CO 80003

303 431-0831

1991 President - Hayon H. Murray

1992 President - Daniel N. Miller

Executive Director - William V. Knight

Membership - 4,700 international, 36 sections throughout the U.S.

Publications - The Professional Geologist, monthly; Directory, annually. Issues and Answers, Preiodically.

Annual Meeting - September, 1992, Lake Tahoe, NV.

Chief Interest - Promotion of the profession of geology, as well as the certification of competent and qualified professional geologists.

#### AMERICAN MINING CONGRESS

1920 N Street, N.W., Ste. 300

Washington, DC 20036

202 861-2800 Fax 202 861-7535

President - John A. Knebel

Vice President - Keith R. Knoblock

Membership - 400 national.

Publication - American Mining Congress Journal, monthly.

Annual Meeting - EXPO International, October 18-22, 1992 Mining Convention, Las Vegas, NV.

Chief Interest - National trade association representing the U.S. mining and mine equipment manufacturing industries.

#### COALITION FOR RESPONSIBLE MINING LAW

P.O. Box 469

Wallace, ID 83873

208 752-1131

President - Wallace McGregor

Executive Director - Steve Wheeler

Vice President - Donald Kunz

Secretary - Cheryl Erwin

Treasurer - H.F. Magnuson

Membership - 150 corporate and individual members, primarily representing the western states.

Publications - Periodic brochures.

Annual Meeting - Mid-April

Chief Interest - Preservation of the basic principles of the General Mining Law.

#### GOLD PROSPECTORS ASSOCIATION OF AMERICA

P.O. Box 507

Bonsall, CA 92003

619 728-6620 Fax 619 728-4815

National President - George Massie

Membership - 96,000 national.

Publications - Gold Prospector Magazine and The Pick & Shovel, bimonthly.

Chief Interest - An association of recreational and professional miners interested in enhancing recreational mining and protecting the rights of any individual to prospect for precious metals on public land under the 1872 mining laws. GPAA is an education organization with a platform for exchange of ideas.

**INTERNATIONAL PRECIOUS METALS INSTITUTE**

4905 Tilghman Street, Suite 160

Allentown, PA 18103

215 395-9700 Fax 215 395-5855

President - Frank J. Opet

Executive Director - David E. Lundy

Membership - Approximately 1,000; Europe, Japan, Canada and USA

Publications - News and Reviews, monthly; Membership Directory; proceedings from seminars and conferences.

Annual Meeting - 16th Annual Conference, June 7-11, 1992, Scottsdale, AZ.

Chief Interest - All phases of precious metals.

**MINERALS EXPLORATION COALITION**

2700 Youngfield No.200

Lakewood, CO 80215

303 232-4310

Executive Director - William M. Shepard

Membership - 30 corporate, 60 individuals.

Publications - MEC Advocate, monthly.

Annual Meeting - February, each year.

Chief Interest - Public land issues.

**MINERALS INFORMATION INSTITUTE**

1125 17th Street, Suite 1800

Denver, CO 80202

303 297-3226 Fax 303 297-3526

Executive Director - John W. (Jack) Goth

Deputy Director - Jackie Evanger

Chief Interest - Development of programs for public information about the minerals industry.

**MONTANA COAL COUNCIL**

Colonial Inn

2301 Colonial Drive

Helena, MT 59601

(406) 442-6223 Fax (406) 449-6628

President - Paul Gatzemeier

Executive Director - James D. Mockler

Membership - 65

Publications - News Bulletin, monthly.

Annual Meeting - July each year.

Chief Interest - Promotion of coal industry; public relations

**MONTANA MINING ASSOCIATION**

2301 Colonial Drive

Helena, MT 59601

406 443-7297 Fax 406 443-7299

President - Robert Job

Executive Director - Gary Langley

Membership - 600, State of Montana

Publications - Newsletter, monthly.

**MOUNTAIN STATES LEGAL FOUNDATION**

1660 Lincoln Street, Ste. 2300  
 Denver, CO 80264  
 303 861-0244 Fax 303 831-7379  
 President - William Perry Pendley

**NATIONAL COAL ASSOCIATION**

1130 17th Street N.W.  
 Washington, DC 20036  
 202 463-2625 Fax 202 463-6152  
 President - Richard L. Lawson  
 Secretary - Robert Stauffer  
 Membership - 250, national.  
 Publications - Coal News (weekly); Coal Data, Coal Traffic, Steam Electric Plant FA, International Coal, annually; Facts About Coal, biannual; other weekly and monthly publications.  
 Chief Interest - Legislation, taxation, statistics, public relations, environment, transportation, research, reclamation, foreign trade and education.

**NATIONAL INDEPENDENT COAL OPERATORS ASSOCIATION**

1514 Front Street  
 P.O. Box 354  
 Richlands, VA 24641  
 703 963-9011  
 Chairman of the Board - Ed Mears  
 President - John Bauques  
 Executive Vice President - Louis Hunter  
 Membership - 430 from 12 states; six branch chapters in Kentucky, Pennsylvania, Virginia, and West Virginia.  
 Publications - Independent Coal Leader.  
 Annual Meeting - April 26-28, 1990, Lexington, KY  
 Chief Interest - Provides legal assistance to small mines.

**NORTHWEST MINING ASSOCIATION**

10 N. Post St., Ste. 414  
 Spokane, WA 99201-0772  
 509 624-1158 Fax 509 623-1241  
 Executive Director - Karl W. Mote  
 Membership - 3,200  
 Publications - Bulletin, monthly; Service Directory, yearly  
 Annual Meeting - The first Wednesday, Thursday and Friday in December of each year in Spokane, Washington; Trade Show - Held in conjunction with the annual meeting on the first Wednesday, Thursday and Friday in December of each year.  
 Chief Interest - To provide a means of communication of information and ideas among members, the public and the government to maintain a healthy and productive minerals industry.

**ROCKY MOUNTAIN MINERAL LAW FOUNDATION**

7039 East 18th Ave.  
 Denver, CO 80220  
 303 321-8100  
 President - Richard K. Sager  
 Executive Director - David P. Phillips  
 Membership - National  
 Publications - American Law of Mining, 2nd Ed., Law of Federal Oil and Gas Leases; Gower Federal Services; Mineral Law Newsletter; Water Law Newsletter, Public Land and Resources Law Digest; Digest of Mining Claim Laws; Model Form Mining Venture Agreement; Forms; others. Contact the Foundation.  
 Annual Meeting - July 23-25 1992, Vancouver, B.C. Canada  
 Special Institutes and Workshops - two to three per year on specialized mineral law subjects.  
 Chief Interest - Education in mineral law through institutes and publications.

**ROCKY MOUNTAIN OIL AND GAS ASSOCIATION**

1860 Lincoln St., #404

Denver, CO 80295

303 860-0099 Fax 303 860-0310

President - W.W. Ballard, Balcron Oil Co.

Executive Vice President and General Manager - Jess Cooper

Membership - 400

Chief Interest - Trade association active in public affairs and public relations.

**Montana Division**

2030 - 11th Avenue, Ste.23

Helena, MT 59601

406 442-7582

Executive Director - Janelle K. Fallan

**Billings Office**

P.O. Box 1398

Billings, MT 59103

406 252-3871

**SOCIETY OF ECONOMIC GEOLOGISTS, INC.**

P.O. Box 571

Golden, CO 80402

303 277-1716 Fax 303 236-5448

President - Anthony, J. Naldrett

Secretary - J. F. Murphy

Membership - Approximately 2,700 internationally

Publications - Economic Geology, Bulletin of the Society of Economic Geologists (eight times per year), and Reviews in Economic Geology, (unscheduled).

Annual Meeting - Two meetings per year in conjunction with Geological Society of America (fall) and with AIME (winter).

Chief Interest - Economic geology.

**SOCIETY OF MINING, METALLURGY AND EXPLORATION, INC.**

8307 Shaffer Parkway

P.O. Box 625002

Littleton, CO 80162-5002

303 973-9550 Fax 303 973-3845

President - Ted H. Eyde

Executive Director - Tom Hendricks

Membership - 19,401

Publications - Mining Engineering, monthly; Minerals and Metallurgical Processing, quarterly; and numerous books.

Annual Meeting - February 24-27, 1992, Phoenix, AZ.

Chief Interest - Sponsors meetings, publishes journals and books for the dissemination of technical and professional information, enables its members to participate in all internal and external activities related to the profession and its technology.

**WESTERN ENVIRONMENTAL TRADE ASSOCIATION OF MONTANA**

208 N. Montana Ave., Ste. 104

Helena, MT 59601

406 443-5541

President - Al Solum

Executive Director - Peggy Trenk

Membership - 150 affiliate organizations and corporations.

Publications - Weta News Bulletin, monthly.

Annual Meeting - August

**THE ROCKY MOUNTAIN COAL MINING INSTITUTE**

3000 Youngfield St., Ste. 324

Lakewood, CO 80215-6545

303 238-9099 Fax 303 238-0509

President - William P. Balaz

Executive Secretary - Doris G. Finnie

Vice President - One in each of eight states; Arizona, Colorado, Montana, New Mexico, North Dakota, Texas, Utah and Wyoming

Membership - 1,000 nationally

Publications - Proceedings, annually.

Annual Meeting - Begins the last Sunday in June (3 days)

Chief Interest - Sponsor educational programs pertaining to coal mining technologies and production techniques, mining management and safety, federal, state and local laws, rules and regulations pertaining to coal mining and other energy related issues; to inform the public, educational and scientific institutions on results of study and research into recent developments in coal mining and production techniques.

**WOMEN IN MINING**

1801 Broadway, #400

Denver, CO 80202

303 298-1535 Fax 303 296-3118

President - Wendy Hyyppa

Membership - 400 nationwide. Additional chapters in Denver, CO; St. Louis, MO; Battle Mountain, NV; Evansville, IN; Washington, DC; Sacramento, CA (in formation).

Publications - The National Quarterly, quarterly newspaper.

Annual Meeting - Executive Board meeting held in April each year in selected cities.

Chief Interest - A professional educational organization for people working in, associated with, or interested in the mineral resources, oil and gas, and related industries.

Battle Mountain Chapter  
P.O. Box 1064  
Battle Mountain, NV 89820  
702 635-2973

Ohio Chapter  
P.O. Box 700  
Lancaster, OH 43130  
614 687-3001

California Chapter (Information)  
c/o California Mining Association  
1121 L Street, Ste. 909  
Sacramento, CA 95814  
916 447-1977

St. Louis Chapter  
P.O. Box 14495  
St. Louis, MO 63178  
618 228-6336

Denver Chapter  
1801 Broadway No. 400  
Denver, CO 80202  
303 298-1535

Washington, DC Chapter  
P.O. Box 33086  
Washington, DC 20033  
202 861-2839

Kentuckiano Chapter  
P.O. Box 3654  
Evansville, IN 47735  
812 897-4048

Winnemucca Chapter  
P.O. Box 502  
Winnemucca, NV 89445  
702 625-9400



## Part VII

### Colleges And Universities

#### MONTANA COLLEGE OF MINERAL SCIENCE AND TECHNOLOGY

Butte, MT 59701  
406 496-4101

Engineering Science, Physics, Geophysics  
Ext. 4120  
Division Chairman - Dr. Neil Wahl

Engineering Science  
Ext. 4122  
Program Director - Dr. Leroy Friel

Environmental and Natural Sciences  
Ext. 4188  
Division Chairman - Dr. Tom Waring

Environmental Engineering  
Ext. 4446  
Program Director - Dr. Rod James

Geological Engineering  
Ext. 4395  
Program Director - Dr. H. Peter Knudsen

Industrial Hygiene  
Ext. 4188  
Division Chairman - Dr. Tom Waring

Metallurgy and Mineral Processing  
Ext. 4112  
Program Director - Prof. Ted Jordan

Mining and Minerals Engineering  
Ext. 4395  
Division Chairman - Dr. H. Peter Knudsen

Mining Engineering  
Ext. 4395  
Program Director - Dr. H. Peter Knudsen

Occupational Safety and Health  
Ext. 4188  
Program Director - Dr. Tom Waring

Petroleum Engineering  
Ext. 4254  
Division Chairman - Dr. Daniel Bradley

#### MONTANA MINING & MINERAL RESOURCES RESEARCH INSTITUTE

Montana Bureau of Mines and Geology  
c/o Montana College of Mineral Science and Technology  
Butte, MT 59701  
406 496-4180  
Director, MBMG - Dr. Edward T. Ruppel  
Director of Research - Dr. Sam Worchester

#### MONTANA STATE UNIVERSITY

Bozeman, MT 59717-0001  
406 994-0211  
Department of Earth Sciences  
406 994-3331  
Department Head - Dr. David R. Lageson

#### ROCKY MOUNTAIN COLLEGE

Billings, MT 59102  
406 657-1000

Department of Geology  
406 657-1000  
Summer Field Camp  
Department Head - Dr. Gary Thompson

#### UNIVERSITY OF MONTANA

Missoula, MT 59812  
406 243-2341 Fax 406 243-4028  
Department of Geology  
406 243-2341  
Department Chairman - Dr. Ian M. Lange

## Part VIII

### Mines And Mineral Development Maps

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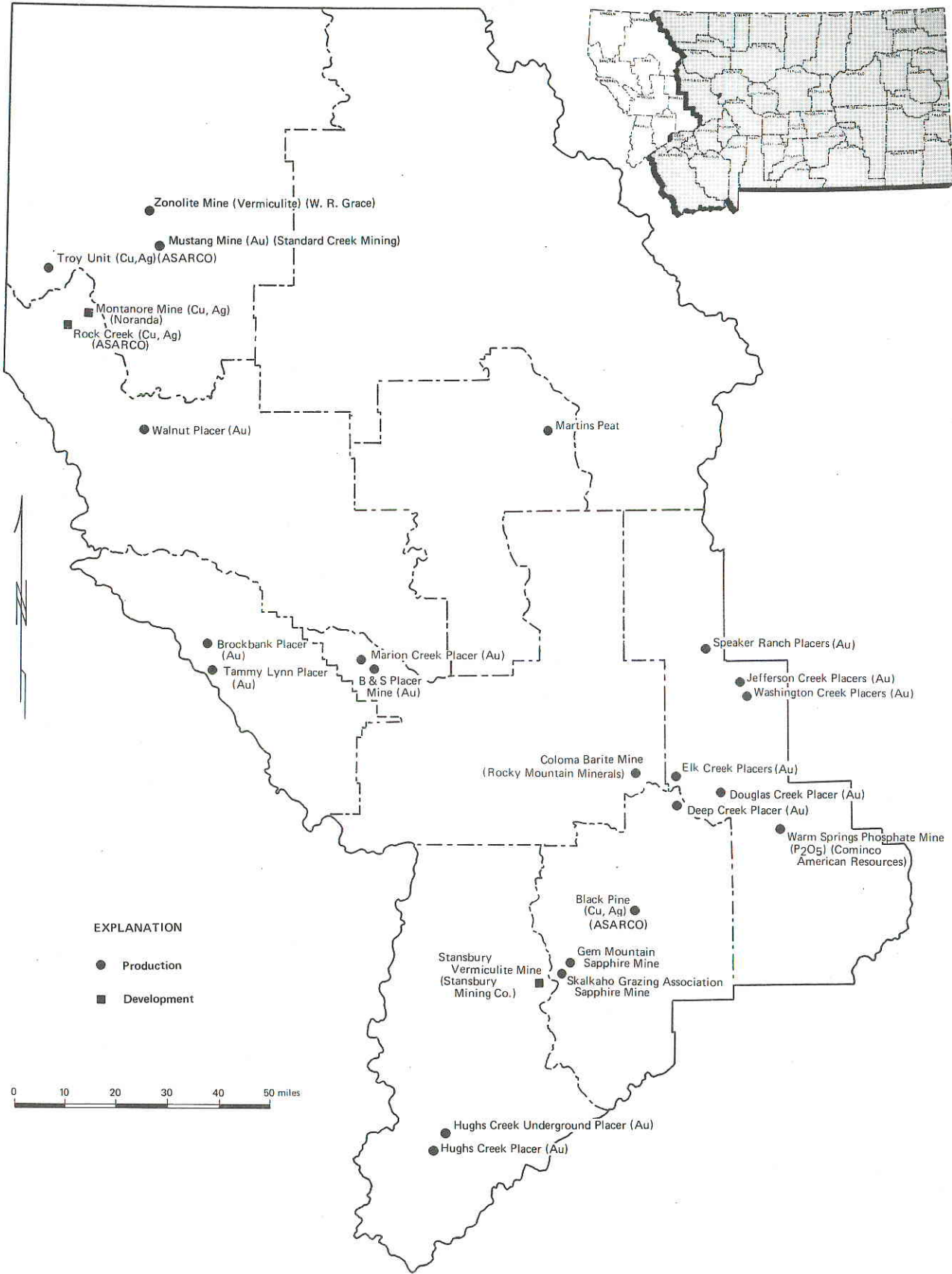


Figure 1. Mines and mineral development in the western region.

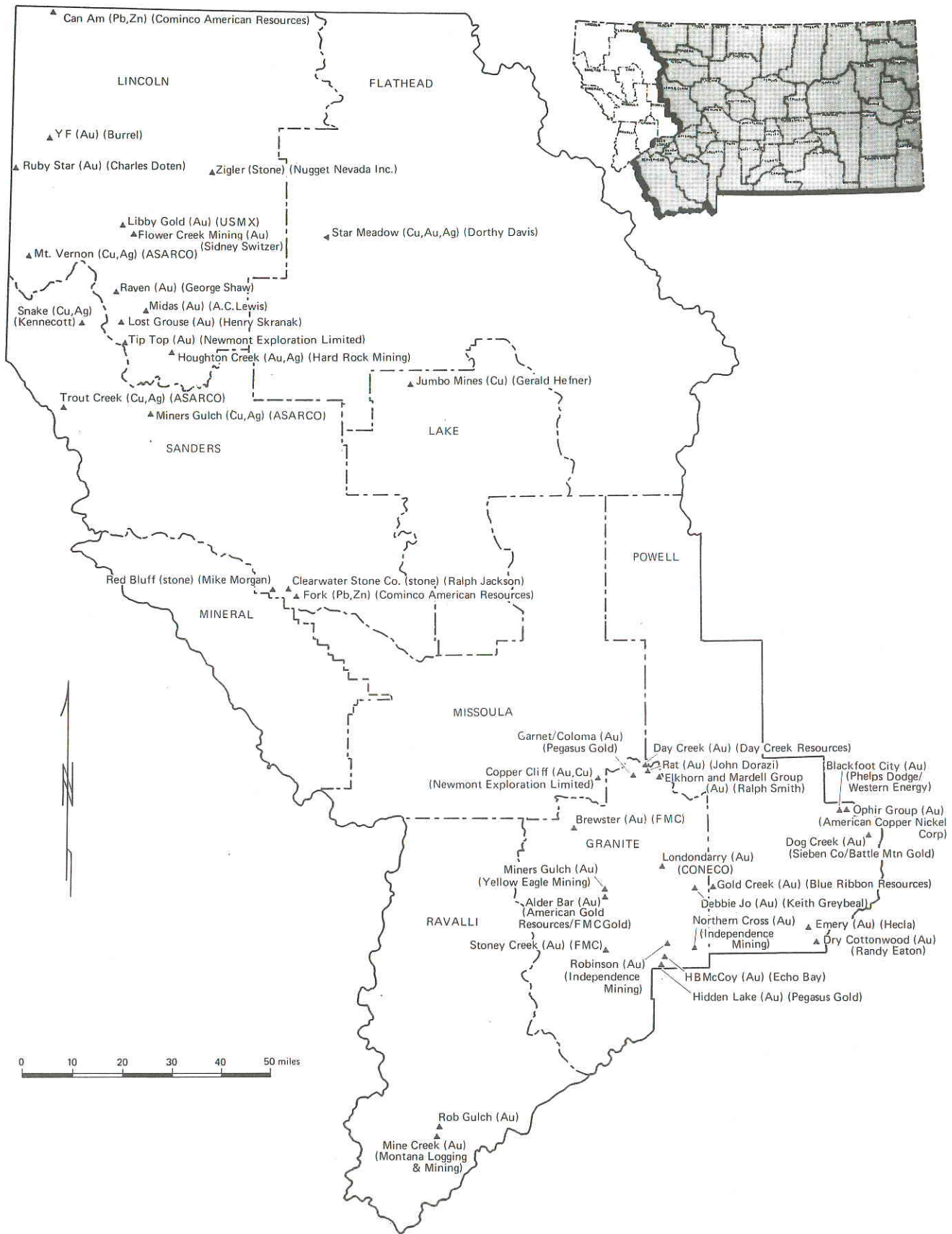


Figure 2. Exploration projects in the western region.

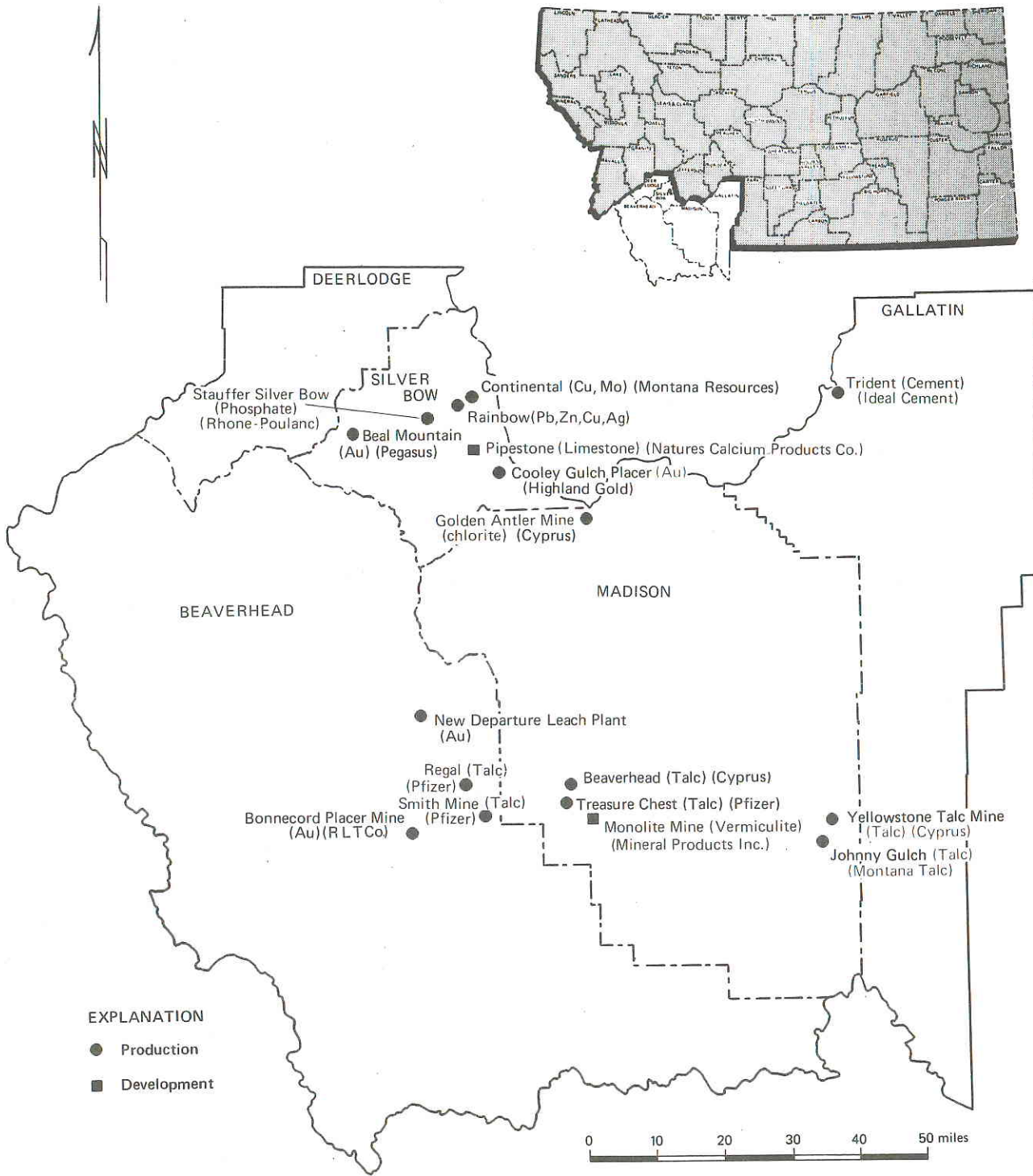


Figure 3. Mines and mineral development in the Butte-Anaconda region.

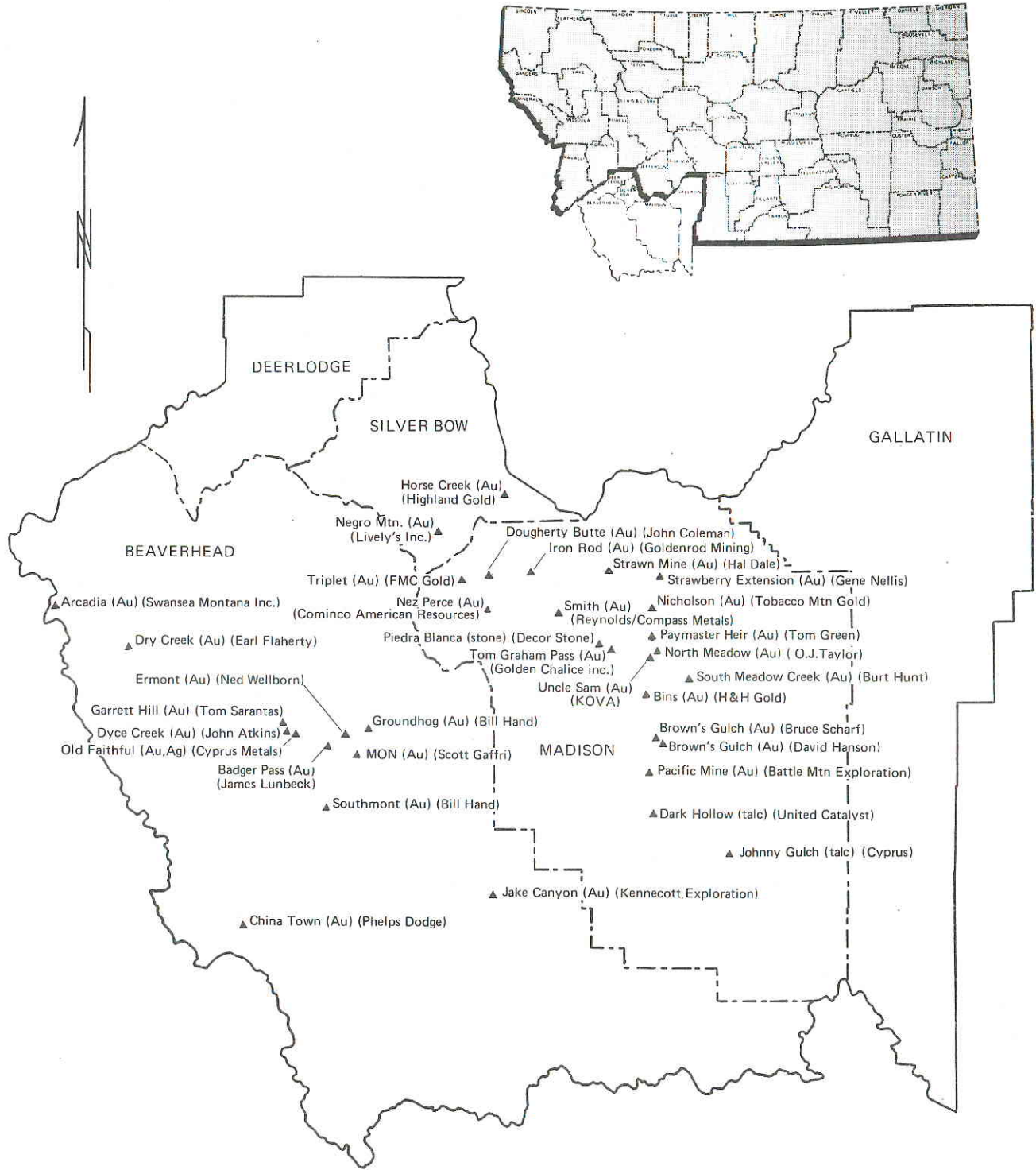


Figure 4. Exploration projects in the Butte-Anaconda region.

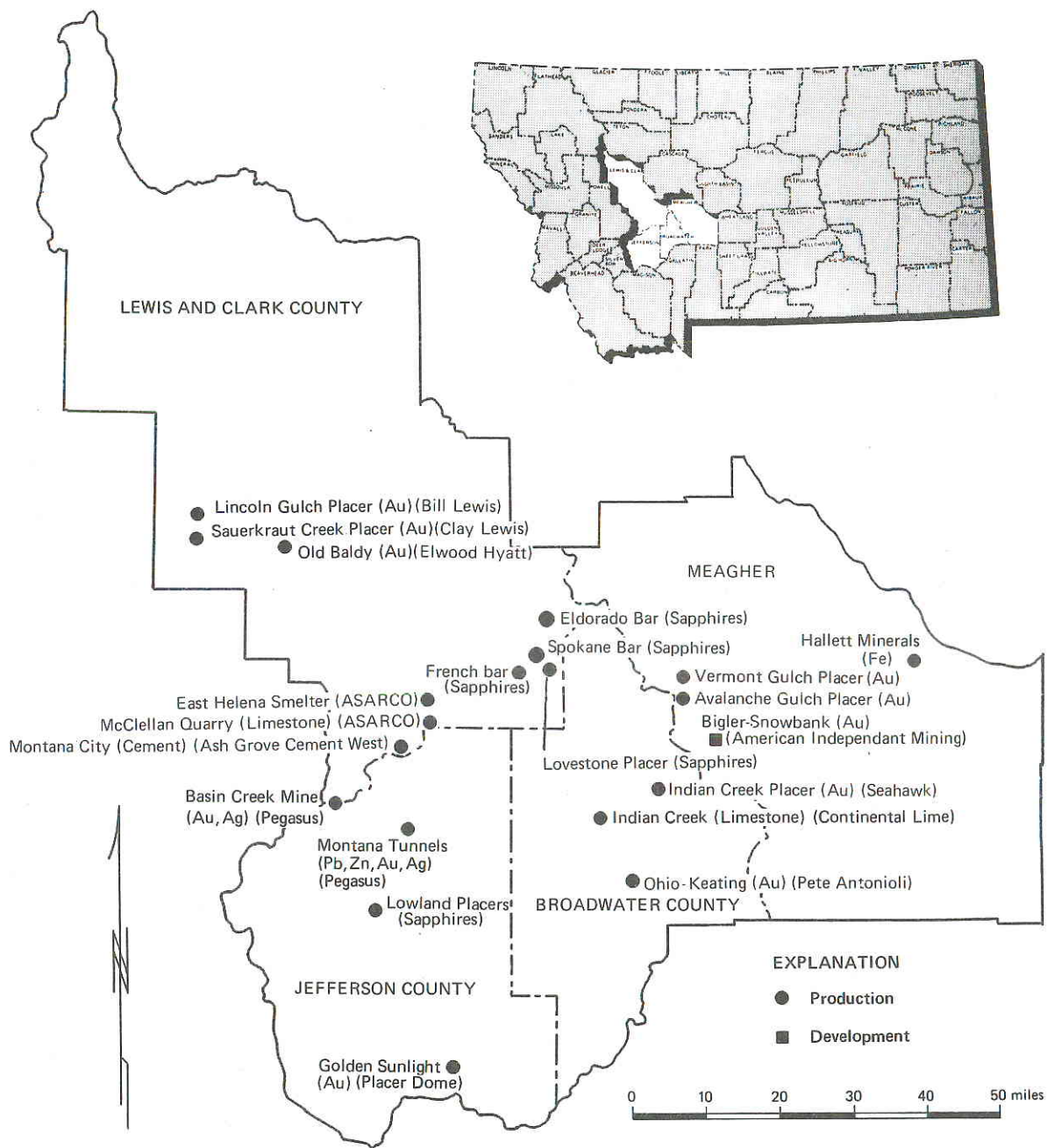


Figure 5. Mines and mineral development in the Helena region.

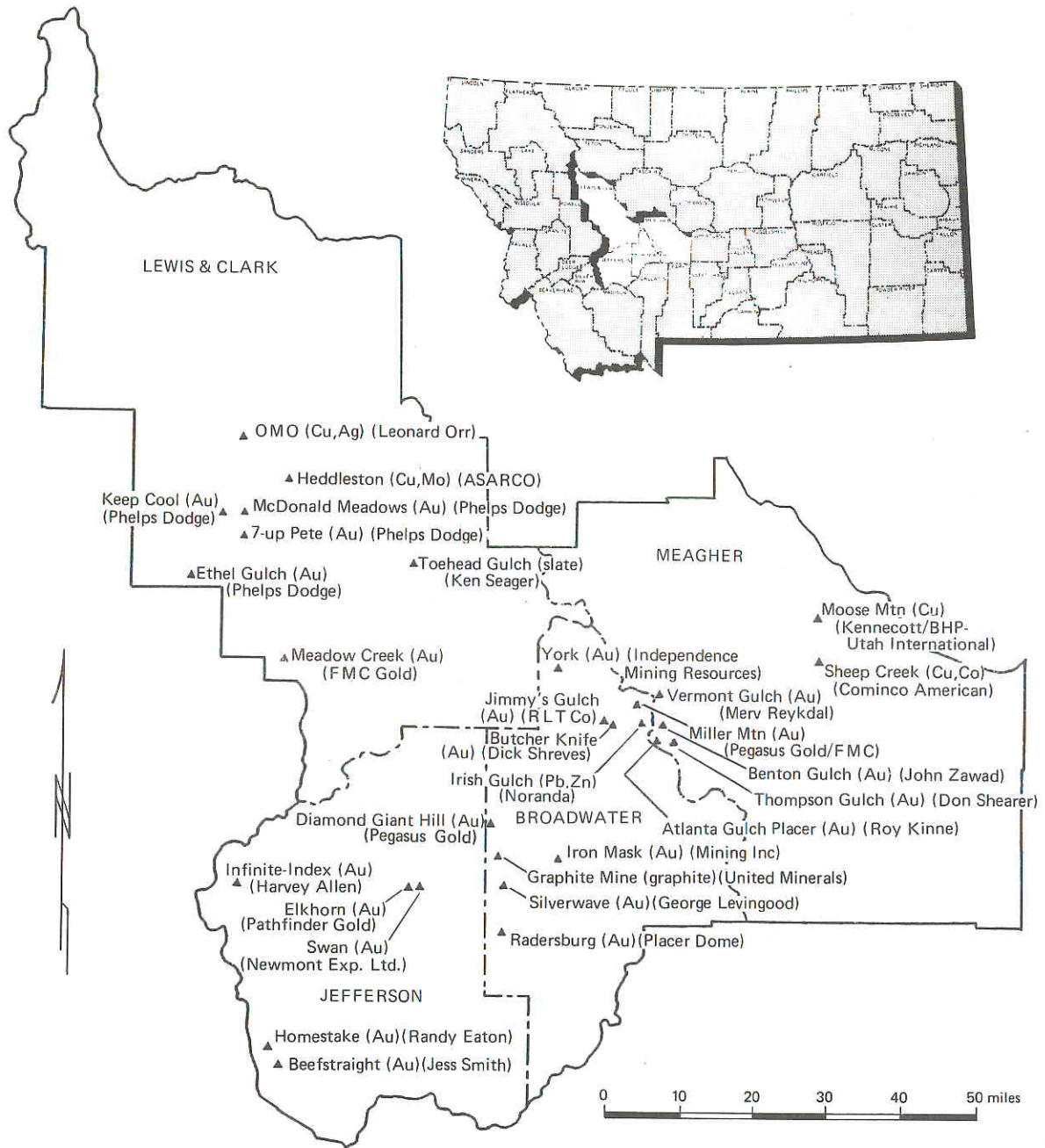


Figure 6. Exploration projects in the Helena region.



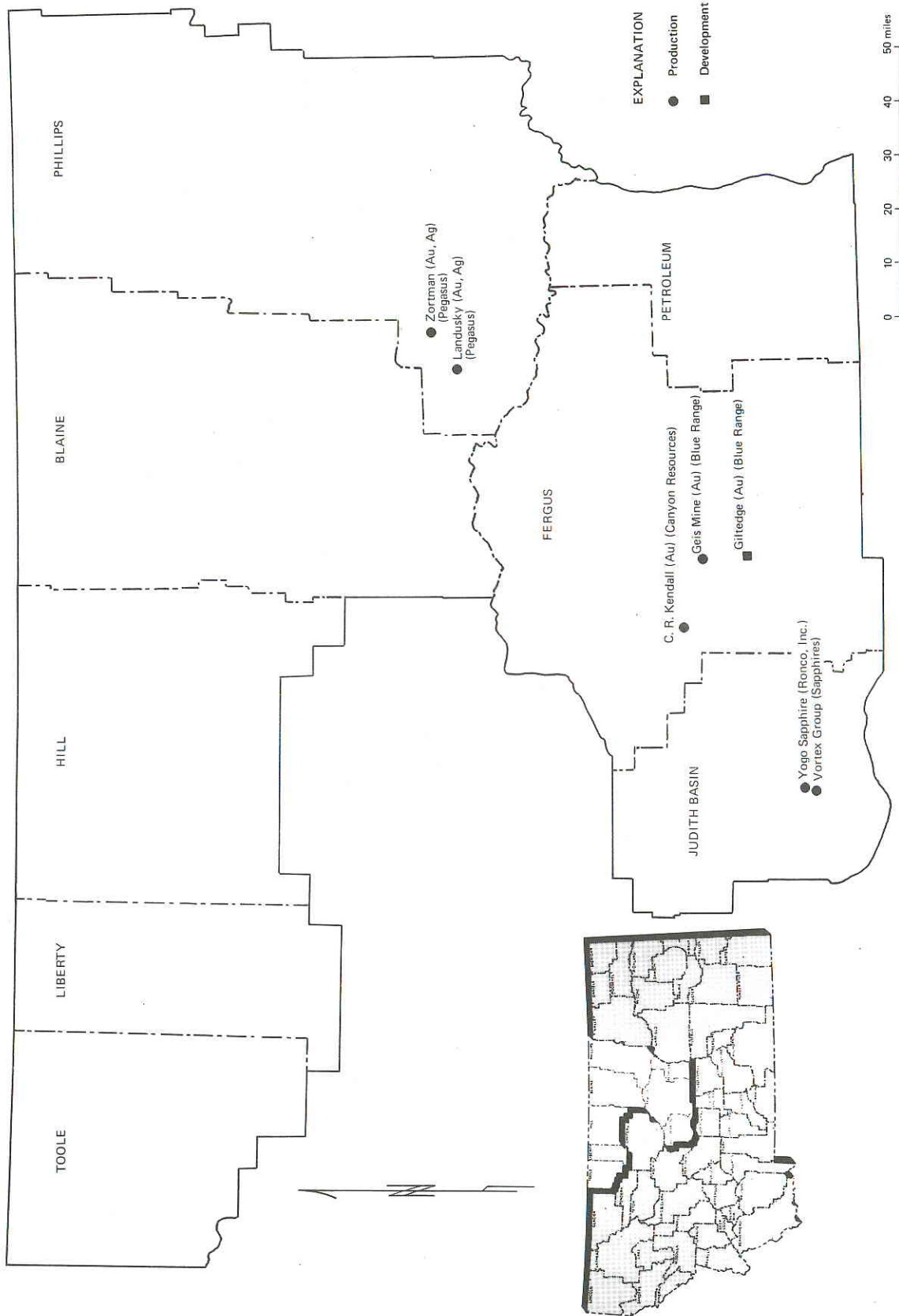


Figure 7. Mines and mineral development in the north central region.

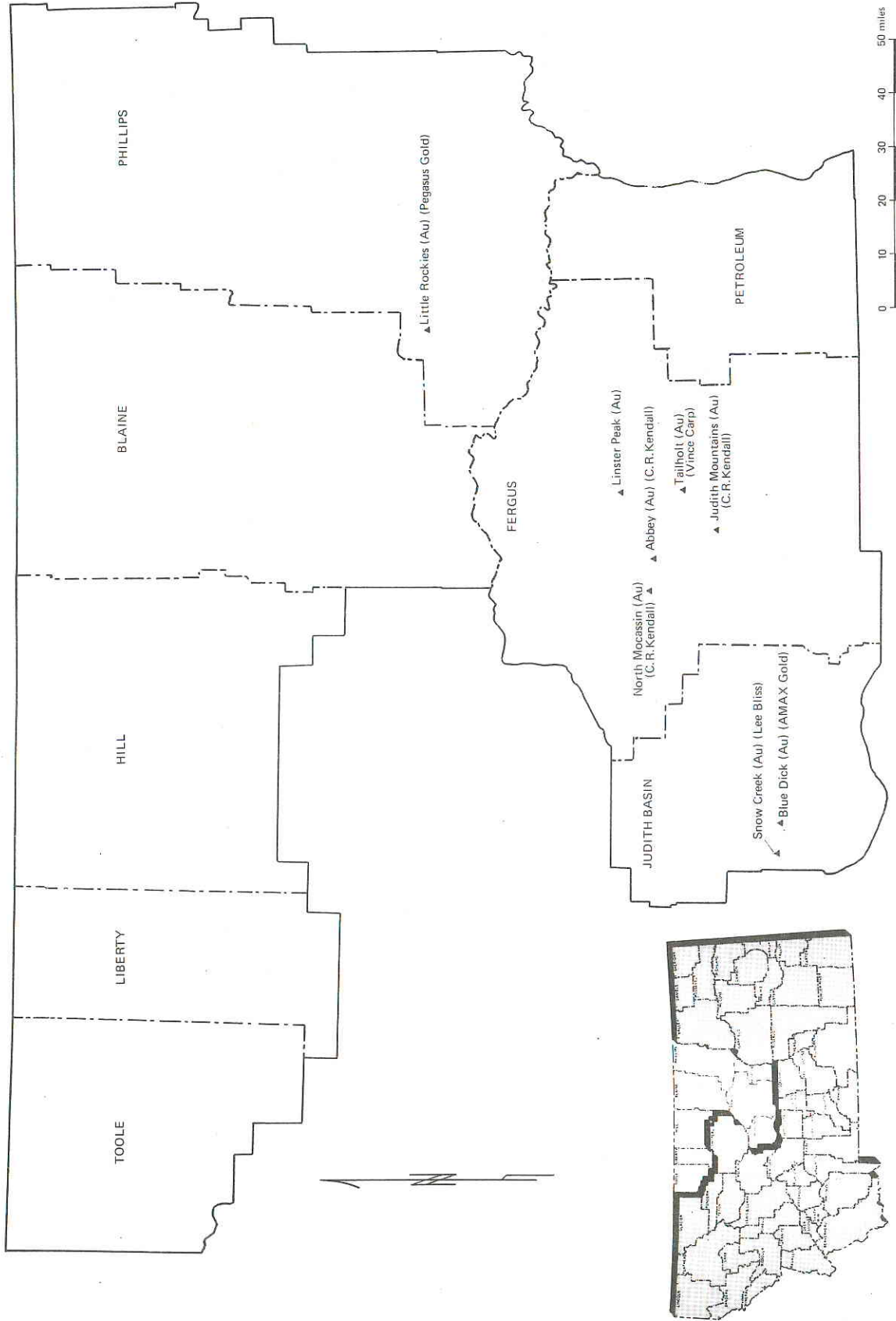


Figure 8. Exploration projects in the north-central region.

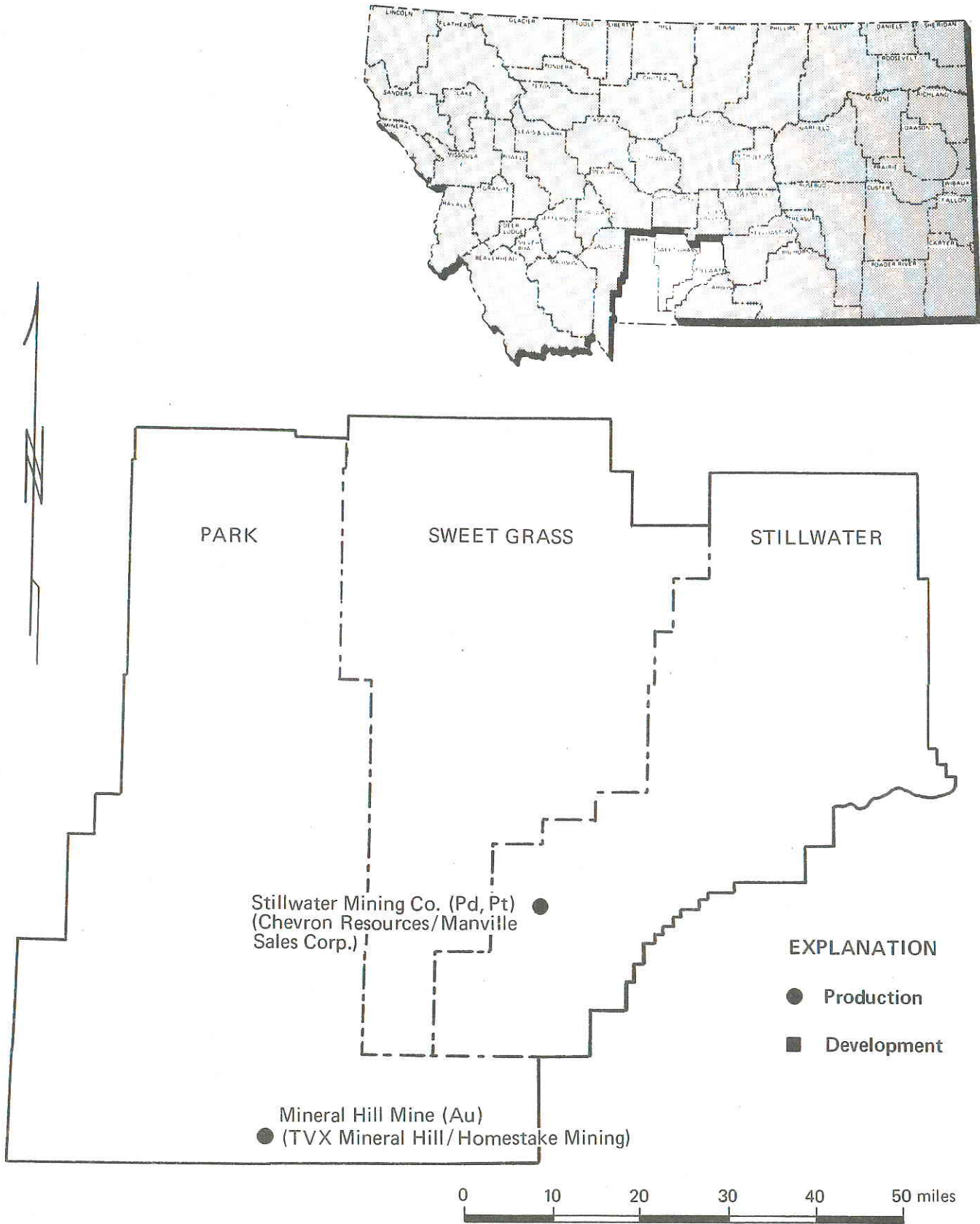


Figure 9. Mines and mineral developments in the Park region.

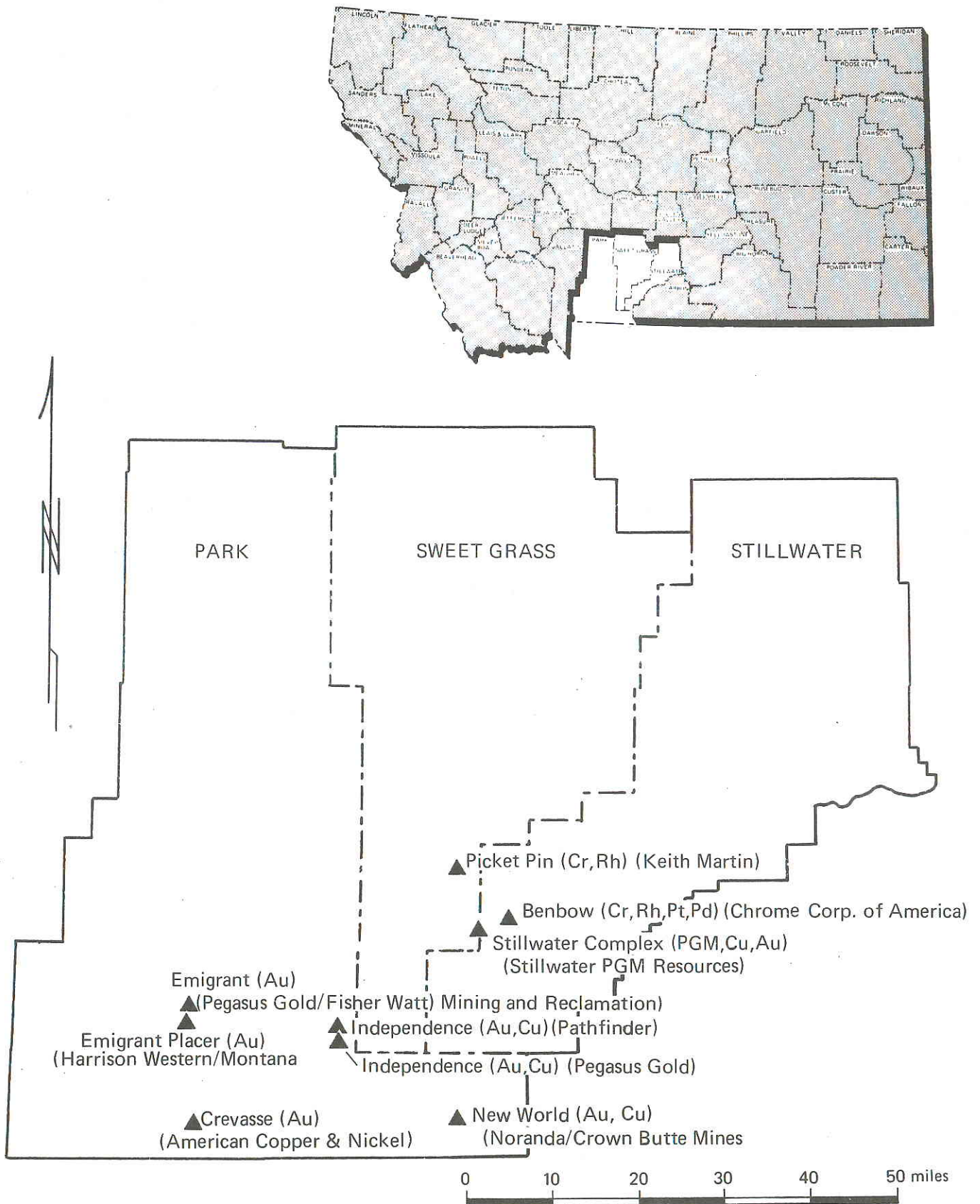


Figure 10. Exploration projects in the Park region.

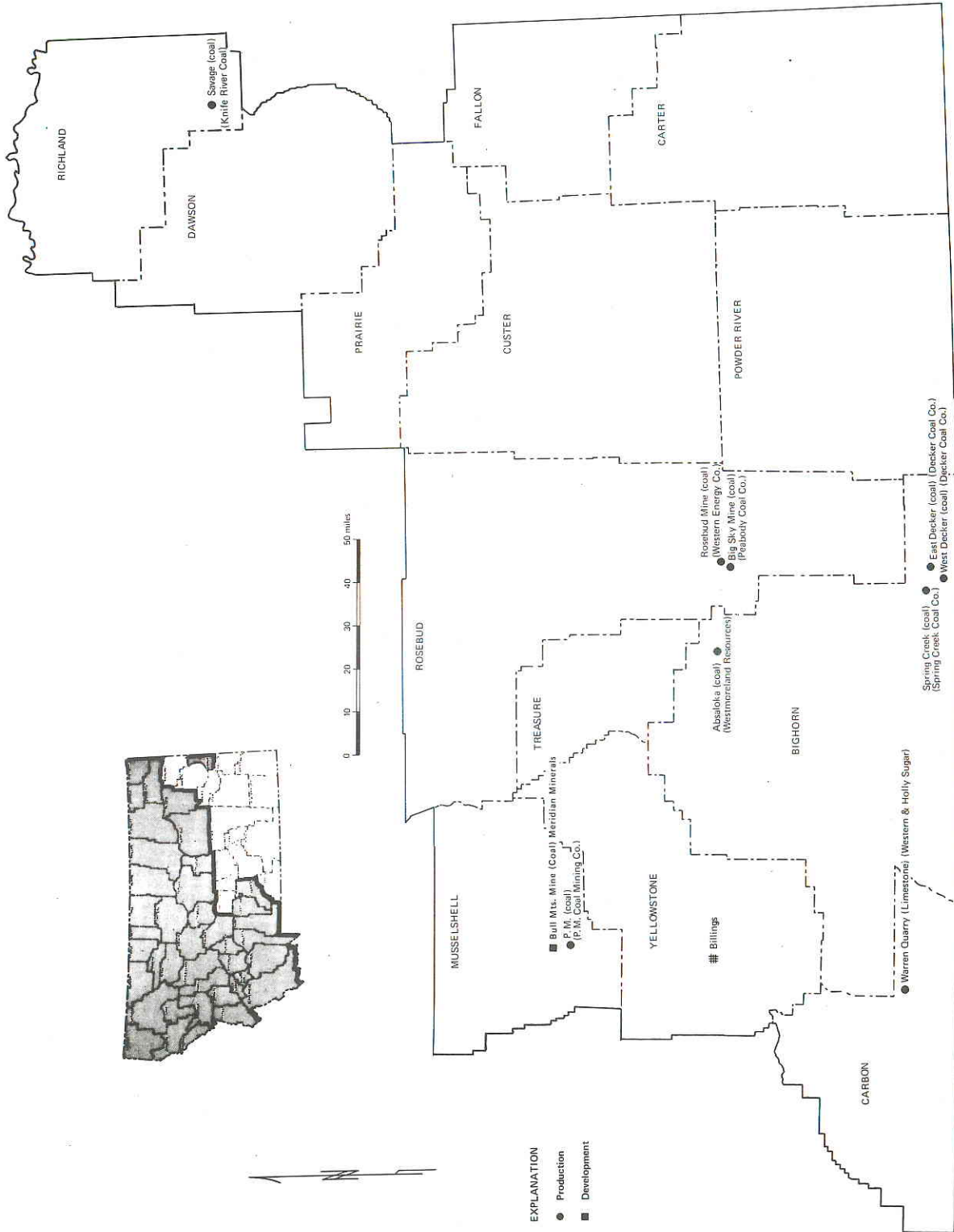


Figure 11. Mines in the Southeastern region.

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