

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION

RECORD NO..... M020020  
RECORD TYPE..... XIM  
INFORMATION SOURCE... I  
MAP CODE NO. OF REC..

REPORTER

NAME..... FERNS, MARK L. (BROOKS, HOWARD C.)  
AFFILIATION..... DDGMI  
DATE..... 81 01

NAME AND LOCATION

DEPOSIT NAME..... SCHOOL CREEK PROSPECT

COUNTRY CODE..... JS  
COUNTRY NAME: UNITED STATES

STATE CODE..... OR  
STATE NAME: OREGON

COUNTY..... LAKE  
DRAINAGE AREA..... 18010202 CALIFORNIA  
PHYSIOGRAPHIC PRDV..... 12 BASIN AND RANGE  
LAND CLASSIFICATION..... 41

QUAD SCALE            QUAD NO OR NAME  
1: 24000            HARVEY CK (1966)

LATITUDE            LONGITUDE  
42-38-13N            120-49-08W

UTM NORTHING        UTM EASTING        UTM ZONE NO  
4722600            678840            +10

TWP..... 034S  
RANGE..... 016E  
SECTION.. 10  
MERIDIAN. WILLAMETTE

COMMODITY INFORMATION

COMMODITIES PRESENT..... HG AU

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):

POTENTIAL.....  
OCCURRENCE.....

EXPLORATION AND DEVELOPMENT  
STATUS OF EXPLOR. OR DEV. 1

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:

LODE

FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA

SIZE OF DEPOSIT..... SMALL

PRODUCTION

NO PRODUCTION

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... MID-PLIO

HOST ROCK TYPES..... RHYOLITE

AGE OF ASSOC. IGNEOUS ROCKS.. MID-PLIO

IGNEOUS ROCK TYPES..... RHYOLITE

PERTINENT MINERALOGY..... OPAL

LOCAL GEOLOGY

COMMENTS (GEOLOGY AND MINERALOGY):

CINNABAR OCCURS AS FRACTURE COATINGS IN OPALIZED, BLEACHED RHYOLITE

GENERAL REFERENCES

- 1) PETERSON, N.V. AND MCINTYRE, J.R., 1970, THE RECONNAISSANCE GEOLOGY AND MINERAL RESOURCES OF EASTERN KLAMATH AND WESTERN LAKE COUNTIES; OREGON; DOGMI BULL. 66, P. 50



Clush, Oregon

9-16-87

Dept of Geology & Mineral Industries  
Dear Sir:

In your mineral resources map of Oregon, G115-36 you have marked various locations in Oregon where different minerals have been found, among them is an area located in T34 R16 section 10 where you have indicated that gold has been found there. The above location is in the Fremont National Forest in Lake County.

Several years ago someone made several trenches looking for mercury at the above location and also drilled at least one hole.

Could you tell me if the gold was found from samples taken, or from assaying drill cuttings, and also what was the grade of the gold assayed?

(over)

any other information about  
this location would be greatly  
appreciated.

Thanking you for your  
time and consideration, I  
remain,

yours truly  
Don Fitzgerald  
Box 37  
Plush, Oregon  
97637

3979

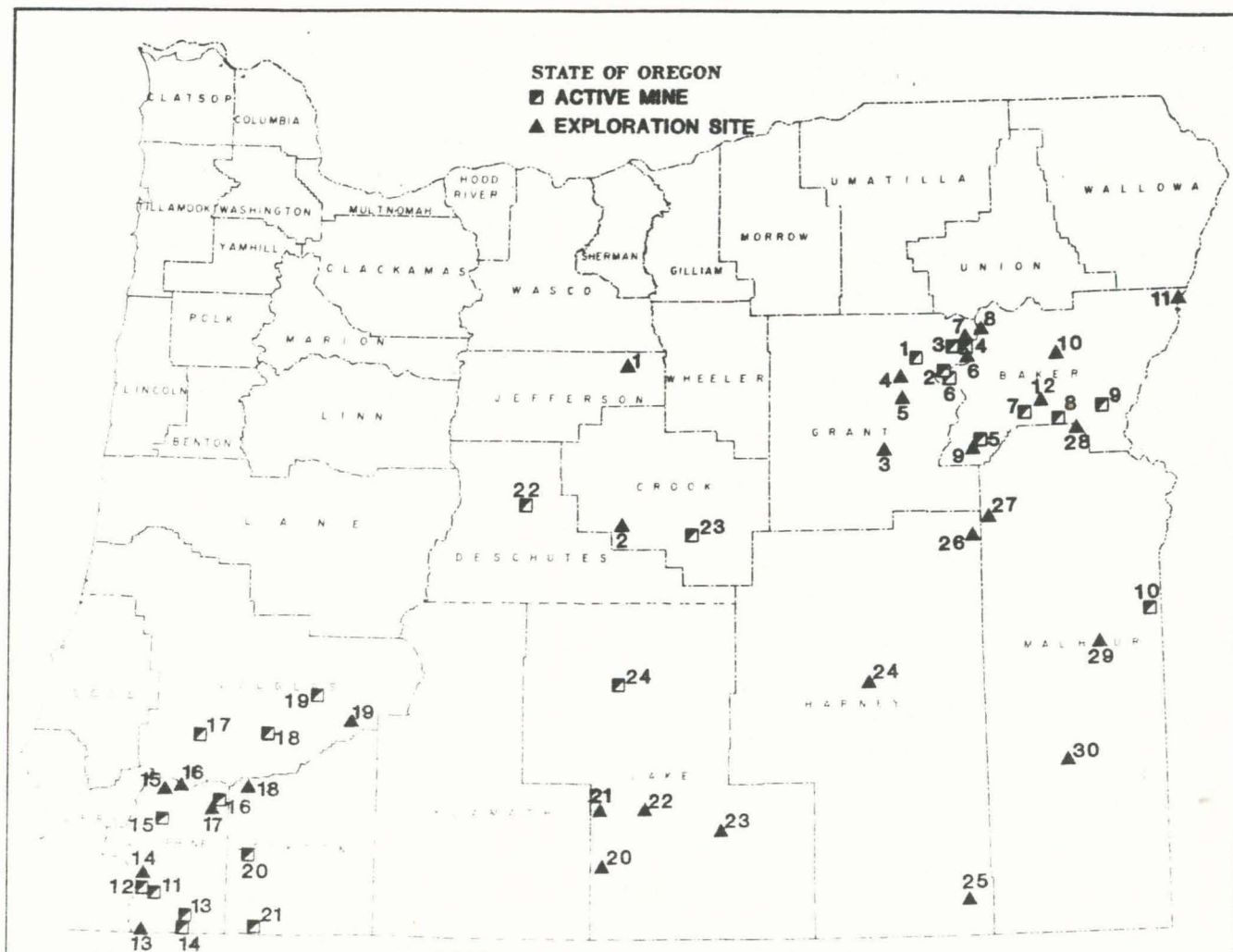
NAME- SCHOOL CREEK REFERENCE NUMBER- 0410370043  
 STATE- OREGON COUNTY- LAKE ELEV:PREC- 2030M: 10M  
 LATITUDE- N 42 38 14 PRECISION- 500M  
 LONGITUDE- W 120 49 08 REFERENCE POINT- ORE BODY  
 UTM: ZONE 10N NORTHING 4722621 EASTING 678829  
 PUBLIC LAND SURVEY TOWNSHIP- 045 S RANGE- 016 E  
 DESCRIPTION SECTION- 16 SECTION SUBDIVISION- NW  
 RIVER BASIN- 73C SPRAGUE RIVER DOMAIN- NAT FOREST  
 STATUS- RAW PROSPECT OPERATION TYPE- PROSPECT  
 MESA ID NO. 35 02588 YEAR FIELD CHECKED- MAP REPOSITORY- FOC  
 MAP NAME- FISHHOLE MTN OREG TYPE- 15 MIN  
 1:250,000 MAP NAME- KLAMATH FALLS MINERAL PROPERTY FILE-  
 PRIMARY NAME- SCHOOL CREEK  
 COMMOD/MOD- MERCURY

3980

NAME- SNAGG SPRING PIT REFERENCE NUMBER- 0410370090  
 STATE- OREGON COUNTY- LAKE ELEV:PREC- 1463M:500M  
 LATITUDE- N 42 11 10 PRECISION- 500M  
 LONGITUDE- W 120 20 36 REFERENCE POINT- TRENCH  
 UTM: ZONE 10N NORTHING 4673643 EASTING 719330  
 PUBLIC LAND SURVEY TOWNSHIP- 039 S RANGE- 020 E  
 DESCRIPTION SECTION- 15 SECTION SUBDIVISION-  
 RIVER BASIN- DOMAIN- UNKNOWN  
 STATUS- UNKNOWN OPERATION TYPE- SURFACE  
 MESA ID NO. 35 00679 YEAR FIELD CHECKED- MAP REPOSITORY- FOC  
 MAP NAME- LAKEVIEW NE TYPE- 7.5 MIN  
 1:250,000 MAP NAME- MINERAL PROPERTY FILE-  
 PRIMARY NAME- SNAGG SPRING PIT  
 COMMOD/MOD- STONE MISCELLANEOUS DM  
 MESA

3981

NAME- STRAWBERRY PIT REFERENCE NUMBER- 0410370026  
 STATE- OREGON COUNTY- LAKE ELEV:PREC- 1722M: 10M  
 LATITUDE- N 42 08 30 PRECISION- 1KM  
 LONGITUDE- W 120 50 33 REFERENCE POINT- ORE BODY  
 UTM: ZONE 10N NORTHING 4607544 EASTING 670291  
 PUBLIC LAND SURVEY TOWNSHIP- 039 S RANGE- 016 E  
 DESCRIPTION SECTION- 32 SECTION SUBDIVISION- MENESE  
 RIVER BASIN- 72A DOMAIN- NAT FOREST  
 STATUS- PRODUCER OPERATION TYPE- SURFACE  
 MESA ID NO. 35 01063 YEAR FIELD CHECKED- MAP REPOSITORY- FOC  
 MAP NAME- STRAWBERRY BUTTE TYPE- 15 MIN  
 1:250,000 MAP NAME- KLAMATH FALLS MINERAL PROPERTY FILE-  
 PRIMARY NAME- STRAWBERRY PIT  
 COMMOD/MOD- STONE MISCELLANEOUS CB  
 MSHA NOV. 1979



## EXPLANATION

### ACTIVE MINES (half-filled square)

1. Tempest (Ag)
2. Pyx (Au)
3. Boulder Creek (Au)
4. Elk Heaven (Au, Ag)
5. Thomason (Au)
6. Burnt River (Au)
7. Pine Creek (Au)
8. Clarks Creek (Au)
9. Ash Grove Cement West (cement, limestone)
10. Teague Mineral Products (bentonite, zeolite)
11. Fall Creek Gold (Au)
12. Josephine Creek and tributaries (Au)
13. Sucker Creek (Au)
14. Althouse Creek (Au)
15. Galice area placers (Au)
16. Greenback (Au)
17. Nickel Mountain (Ni)
18. Coffee Creek (Au)
19. Quartz Mountain Silica (silica)
20. Bristol Silica (silica)
21. Steatite of Southern Oregon (soapstone)
22. Cascade Pumice, Central Oregon Pumice (pumice)
23. Camp Creek (clay)
24. Oil-Dri West (diatomite)

### EXPLORATION SITES AND AREAS (solid triangle)

1. Rejax (Au, Ag)
2. Bear Creek Buttes (Au)
3. Miller Mountain (Au)
4. Susanville (Au, Ag)
5. Dixie Meadows (Au, Ag)
6. Bald Mountain-Ibex (Au, Ag)
7. Cable Cove (Au, Ag)
8. Meadow Lake (Au, Ag)
9. Grouse Spring (Cu, Mo)
10. Flagstaff (Au)
11. Iron Dyke (Au, Ag, Cu)
12. Dooley Mountain (perlite)
13. Turner-Albright (Au, Ag, Zn, Cu, Co)
14. Fall Creek Copper (Au, Ag, Cu, Co)
15. Gold Bug (Au)
16. Goff (Au, Ag, Cu, Pb, Zn)
17. John Hall (Au)
18. Gold Note (Au, Ag, Cu)
19. Foster Creek (clay)
20. Quartz Mountain (Au)
21. Little Baldy (Au)
22. Tucker Hill (perlite)
23. Coyote Hills (Au)
24. Harney prospect (zeolite)
25. Flagstaff Butte (Au)
26. Celatom (diatomite)
27. Castle Rock (Au)
28. Sunday Hill (Au)
29. Red Butte (Au)
30. Rome prospect (zeolite)

Mining and mineral exploration in Oregon in 1985 (excluding sand and gravel and stone). Active mines are keyed to Table 1; exploration sites are keyed to Table 2.



ties near Durkee in southern Baker County. The plant at Durkee was built in 1980 and has an annual production capacity of 500,000 tons of cement. Additional amounts of crushed limestone from the quarry are supplied to sugar manufacturing plants in Idaho.

The new management at Bristol Silica and Limestone Company (20) continued to produce metallurgical-grade silica rock for Dow Corning at its mine in Jackson County. Other products included poultry grit and fine-grained silica used for filtration. Silica production was down from the previous year, and no limestone or dolomite was shipped from the property in 1985.

Hanna Mining Company continued to utilize silica rock from the Quartz Mountain Silica Mine (19) in eastern Douglas County in its nickel smelter. Production was lower than in 1984 due to the smelter shutdown during construction of the new wet-screening plant.

Steatite of Southern Oregon (21) produced block soapstone suitable for carving from its mine on Elliot Creek Ridge in southern Jackson County. Shipments of block soapstone reportedly declined slightly in 1985.

The Oregon Sun Ranch and Central Oregon Bentonite clay pits on Camp Creek (23) in central Oregon were active producers in 1985. Both properties produce low-grade clays that are used primarily in the cat-litter industry.

Teague Minerals Products (10) continued to produce bentonitic clay and zeolite from its pits near Adrian in eastern Malheur County.

Table 1. Active mines in Oregon, 1985

Map no.	Name	Location	Commodity	Comments
1.	Tempest	Sec. 10 T. 9 S., R. 34 E. Grant County	Ag	Newly erected small mill produced small amount of concentrates.
2.	Pyx	Sec. 1 T. 10 S., R. 35 E. Grant County	Au	Continued small, seasonal production.
3.	Boulder Creek	Sec. 34 T. 8 S., R. 35½ E. Grant County	Au	Small placer operation.
4.	Elk Haven	Sec. 16 T. 8 S., R. 36 E. Grant County	Au, Ag	Produced small amount of concentrates.
5.	Thomason	Sec. 6 T. 14 S., R. 37 E. Baker County	Au	Continued small, seasonal operation.
6.	Burnt River	T. 10 S., Rs. 35, 35½ E. Baker County	Au	Several small placer operators.
7.	Pine Creek	T. 12 S., R. 39 E. Baker County	Au	Several small placer operators.
8.	Clarks Creek	Tps. 12, 13 S., R. 41 E. Baker County	Au	Several small placer operators.
9.	Ash Grove Cement West	Sec. 11 T. 12 S., R. 43 E. Baker County	Cement, limestone	Continued production.
10.	Teague Mineral Products	Sec. 29 T. 23 S., R. 46 E. Malheur County	Bentonite, zeolite	Continued production.
11.	Fall Creek Gold	T. 38 S., R. 9 W. Josephine County	Au	Small production from placer and lode by owner Tim Von Pinnon.
12.	Josephine Creek & tributaries	Secs. 30, 36 T. 38 S., Rs. 8, 9 W., Secs. 2, 11 T. 39 S., R. 8 W. Josephine County	Au	Several small placer operators.

Table 1. Active mines in Oregon, 1985 — continued

Map no.	Name	Location	Commodity	Comments
13.	Sucker Creek	Sec. 1 T. 40 S., R. 7 W. Josephine County	Au	Several small placer operators.
14.	Althouse Creek	Secs. 11, 12 T. 41 S., R. 7 W. Josephine County	Au	Several small placer operators.
15.	Galice area (Galice Creek, Taylor Creek, Rocky Gulch)	Secs. 25, 36 T. 34 S., R. 8 W., Secs. 2, 10, 16 T. 35 S., R. 8 W. Josephine County	Au	Several small placer operators.
16.	Greenback	Secs. 32, 33 T. 33 S., R. 5 W. Sec. 5 T. 34 S., R. 5 W. Josephine County	Au	Property returned to owners, Sunny Valley Mining & Development Co., who are currently mining on the Irish Girl vein.
17.	Nickel Mountain	Sec. 17 T. 30 S., R. 6 W. Douglas County	Ni	Mine and smelter reopened in November after installing new wet-screening plant.
18.	Coffe Creek	Sec. 7 T. 30 S., R. 2 W. Douglas County	Au	Small placer operation.
19.	Quartz Mountain Silica	Sec. 2 T. 28 S., R. 1 E. Douglas County	Silica	Reduced production due to smelter shutdown.
20.	Bristol Silica	Sec. 30 T. 36 S., R. 3 W. Jackson County	Silica	Silica production reduced from 1984 level.
21.	Steatite of Southern Oregon	Secs. 10, 11 T. 36 S., R. 3 W. Jackson County	Soapstone	Production of carving-grade soapstone declined from 1984 level.
22.	Cascade Pumice Central Oregon Pumice	Bend area Deschutes County	Pumice	Continued production.
23.	Camp Creek	T. 19 S., R. 21 E. Crook County	Clay	Oregon Sun Ranch, Inc., and Central Oregon Bentonite Co. producing clays.
24.	Oil-Dri West	T. 27 S., R. 17 E. Lake County	Diatomite	Continued production of diatomite used mainly in pet litter.

OREGON'S MINERAL PRODUCTION				
MILLIONS OF DOLLARS				
	METALS &		NATURAL GAS	TOTAL
	ROCK MATERIALS	INDUSTRIAL MINERALS		
	Sand & Gravel, Stone	Cement, Nickel, Pumice, etc.		
1972	54	22	0	76
1973	55	26	0	81
1974	75	29	0	104
1975	73	33	0	106
1976	77	35	0	112
1977	74	35	0	109
1978	84	44	0	128
1979	111	54	+	165
1980	95	65	12	172
1981	85	65	13	163
1982	73	37	10	120
1983	82	41	10	133
1984	75	46	8	129
1985	76	39	10	127

Summary of mineral production in Oregon for the last 16 years. Data for 1985 derived from U.S. Bureau of Mines annual preliminary Mineral Industry Survey and Oregon Department of Geology and Mineral Industries natural gas production statistics.



## EXPLORATION AND DEVELOPMENT ACTIVITY

The level of mineral exploration and development activity in 1985 generally declined from 1984 levels. Industry interests continued an ongoing shift in emphasis from metallic to nonmetallic commodities.

### Metals

State and Federal research teams continued their search for submarine polymetallic sulfide deposits along the Juan de Fuca and Gorda Ridges off the Oregon coast. The Oregon Department of Geology and Mineral Industries released a comprehensive map (GMS-37) showing known offshore mineral resources.

Similar onshore polymetallic sulfide deposits continued to be evaluated in southwest Oregon. The Turner Albright Mine (13)\*\* in extreme southwest Josephine County is one of the best known sulfide deposits in Oregon. The property is now owned by Baretta and is currently being evaluated by Ray Rock Mines, Inc. Ray Rock did a pulse-electromagnetic geophysical survey to determine the downdip extension of the ore zone.

Previous drilling programs by Baretta and Noranda reportedly outlined 3.3 million tons of reserves averaging 0.114 oz per ton of gold, 0.443 oz per ton of silver, 1.46 percent copper, 3.32 percent zinc, and 0.055 percent cobalt.

Ore-dressing research on the complex sulfide ore is being conducted by the U.S. Bureau of Mines (USBM) research center in Salt Lake City, Utah.

The U.S. Geological Survey (USGS) is also conducting a study of the deposit as an onshore example of a submarine black-smoker deposit.

Seneca Exploration of Vancouver, B.C., and Litho-Logic Resources of Grants Pass, Oregon, are conducting a geologic mapping and sampling program on the Fall Creek Copper (14) massive sulfide deposit in Josephine County. The deposit is situated about 10 mi west of Selma along Fall Creek, a tributary of the Illinois River. The massive sulfide deposit is associated with pillow basalts and ultramafic rocks and may be another example of a black-smoker deposit.

Other massive sulfide deposits currently being evaluated in Oregon are hosted by island-arc volcanic rocks. Amselco is conducting a drilling project on one of these deposits, the Goff Mine (16), located in Josephine County about 2 mi north of Grave Creek between Rock Creek and Reuben Creek. The deposit is in siliceous tuffs and contains massive sulfides capped by barite. Amselco is drilling on lands leased for exploration from Josephine County.

\*\*All site numbers in this section refer to "Exploration Sites and Areas" on the location map and in Table 2.

Boise Cascade drilled the Gold Note (18) stratabound sulfide deposit on the Josephine-Jackson County line in the upper Grave Creek area.

Activity on similar deposits in northeastern Oregon has been steadily decreasing in recent years. The Iron Dyke Mine (11) on the Snake River in eastern Baker County was inactive through most of 1985. The owner and operator, Silver King Mines, Inc., placed a crew on the property in late fall of 1985 with the expressed intent of mining out a 20,000-ton ore body left from earlier operations. The ore body is reported to run about 0.3 oz per ton of gold and 3 percent copper.

Most of the recent activity in northeast Oregon has focused on vein gold deposits about the margins of the Late Jurassic-Early Cretaceous intrusions. During spring, Rio Algom put down some drill holes on the Sunday Hill Mine (28) located in the old Mormon Basin district in southern Baker County. The property is held by Capri Resources Ltd. of Vancouver, B.C.

Sunshine Mining and Minerals was active in the Virtue Flat district east of Baker. The company sampled some of the accessible underground workings on the old Flagstaff Mine (10). This property explored quartz veins and sheared gouge zones in a metamorphosed intrusive complex of gabbro and quartz diorite.

Inspiration drilled 12 holes at the Dixie Meadows Mine (5) north of Prairie City. Drill results were discouraging, and Inspiration dropped its option on the property which is held by Big Turtle Mines, Inc., of Boise, Idaho.

American Copper and Nickel Company, Inc., a subsidiary of INCO Ltd., continued exploration at its Susanville property (4) in northern Grant County. The property is located adjacent to the southwest margin of the Sunrise Butte stock and contains several sulfide-rich precious metal veins that are hosted in schist and serpentinite. In 1985, American Copper and Nickel continued evaluation of one of those, the Bull of the Woods vein, in a 6,000-ft surface-drilling program.

American Copper and Nickel was also active in and along the margins of the Bald Mountain Batholith. This area has historically been one of the most productive lode gold regions in Oregon. American Copper and Nickel continued its evaluation of the Bald Mountain Mine (6) under the terms of a joint venture agreement with the owners of the property, Ixex Mining Company. The 1985 program consisted of a 9,500-ft surface drilling program on the Bald Mountain-Ixex and Grand Trunk vein systems. The drill program was completed in late November. Other lode properties along the southern margins of the batholith, including the North Pole-Columbia, Cougar-Independence, Buffalo, and Argonaut Mines, were idle in 1985.

Table 2. Exploration sites and areas in Oregon, 1985

Map no.	Name	Location	Commodity	Comments
1.	Rejax	SE part of T. 9 S., R. 17 E. Jefferson County	Au, Ag	Continued exploration by Ocelot Industries Ltd.
2.	Bear Creek Buttes	T. 18 S., R. 17 E. Crook County	Au	Exploration program by Shell Mining Company.
3.	Miller Mountain	Sec. 22 T. 14 S., R. 32 E. Grant County	Au	Sampling of underground workings by CBM.
4.	Susanville	T. 10 S., R. 33 E. Grant County	Au, Ag	Continued diamond drill program by American Copper and Nickel.
5.	Dixie Meadows	Sec. 23 T. 11 S., R. 33 E. Grant County	Au, Ag	Drill program by Inspiration.
6.	Bald Mountain Ixex	Sec. 4 T. 9 S., R. 36 E. Baker, Grant Counties	Au, Ag	Continued diamond drill program by American Copper and Nickel.



Table 2. *Exploration sites and areas in Oregon, 1985—continued*

Map no.	Name	Location	Commodity	Comments
7.	Cable Cove	T. 8 S., R. 36 E. Baker County	Au, Ag	Small drill program by American Copper and Nickel.
8.	Meadow Lake	T. 8 S., R. 37 E. Baker, Grant Counties	Au, Ag	Shell Mining Company joined in joint venture program with Manville Corp.
9.	Grouse Spring	Secs. 24, 25 T. 14 S., R. 36 E. Baker County	Cu, Mo	Small drill program by Manville Corp.
10.	Flagstaff	Sec. 5 T. 9 S., R. 41 E. Baker County	Au	Underground workings sampled by Sunshine.
11.	Iron Dyke	Sec. 21 T. 13 S., R. 45 E. Baker County	Au, Ag, Cu	Reopened by Silver King.
12.	Dooley Mountain	Tps. 11, 12 S., R. 40 E. Baker County	Perlite	Evaluation program by Supreme Perlite.
13.	Turner-Albright	Secs. 3, 15, 16 T. 41 S., R. 9 W. Josephine County	Au, Ag, Zn, Cu, Co	Continued evaluation by Ray Rock.
14.	Fall Creek Copper	Tps. 37, 38 S., R. 9 W. Josephine County	Au, Ag, Cu, Co	Mapping and sampling program by Seneca Exploration and Litho-Logic Resources.
15.	Gold Bug	Sec. 26 T. 33 S., R. 8 W. Josephine County	Au	Old workings reopened by GeoMining Company of Salt Lake City.
16.	Goff	Secs. 20, 29 T. 33 S., R. 7 W. Josephine County	Au, Ag, Cu, Pb, Zn	Drill program by Amselco.
17.	John Hall	Sec. 18 T. 34 S., R. 5 W. Josephine County	Au	David Gaunt and Gene Lattimer of Sunny Valley reopened old workings and set up small mill.
18.	Gold Note	Sec. 30 T. 33 S., R. 3 W. Jackson, Josephine Counties	Au, Ag, Cu	Drill program by Boise Cascade.
19.	Foster Creek	T. 29 S., R. 3 E. Douglas County	Clay	Evaluation of soil amendment material by Cascade Sulfur Company.
20.	Quartz Mountain	T. 37 S., R. 11 E. Lake County	Au	Continued evaluation of large-tonnage epithermal gold deposit.
21.	Little Baldy	T. 34 S., R. 16 E. Lake County	Au	Exploration program by Long Lac.
22.	Tucker Hill	Sec. 35 T. 34 S., R. 19 E. Lake County	Perlite	Continued evaluation by Tenneco.
23.	Coyote Hills	T. 35 S., R. 23 E. Lake County	Au	Drilled and later dropped by Cominco American.
24.	Harney prospect	T. 27 S., R. 31 E. Harney County	Zeolite	Continued drilling by Anaconda.
25.	Flagstaff Butte	T. 39 S., R. 37 E. Harney County	Au	Exploration program by Utah International.
26.	Celatom	Tps. 19, 25 S., Rs. 35, 36, 37 E. Harney, Malheur Counties	Diatomite	Plant construction by Eagle Picher.
27.	Castle Rock	T. 18 S., R. 37 E. Malheur County	Au	Exploration program by Manville Corp.
28.	Sunday Hill	Sec. 17 T. 13 S., R. 42 E. Malheur County	Au	Drilled by Rio Algom.
29.	Red Butte	Secs. 26, 27, 34, 35 T. 25 S., R. 43 E. Malheur County	Au	Tenneco joint-ventured with Manville Corp. on a sampling and mapping program.
30.	Rome prospect	Tps. 31, 32 S., R. 41 E. Malheur County	Zeolite	Continued drilling by Anaconda

STATE OF OREGON  
Department of Geology and Mineral Industries  
1069 State Office Building  
Portland, Oregon 97201

*The Reconnaissance Geology and Mineral Resources of  
Eastern Klamath County and Western Lake County, Oregon*

By  
Norman V. Peterson  
and  
James R. McIntyre

BULLETIN 66

1970



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State Geologist

R. E. Corcoran



## QUICKSILVER

Even though the production has been small, mercury follows uranium in importance as a metallic mineral in the project area. Brooks (1963), in a study of quicksilver in Oregon, shows the recorded production from the project area to be 34 flasks all from one property, the Angel Peak mine near Quartz Mountain. An additional unrecorded  $2\frac{1}{2}$  flasks has been credited to the Currier prospect at the south end of Summer Lake.

The map of mineral deposits (plate 2) shows the scattered nature of the quicksilver occurrences. Mercury occurs in all of them as the mineral cinnabar, associated with intermediate-to-acid intrusive-extrusive rocks (QTvrd). Wherever it occurs, silicification and/or opalization is also abundant. Near Quartz Mountain there is a small concentration of prospects. The quicksilver mineralization occurs with opalized rhyolite, rhyolite tuffs, and silicified rhyolite breccia in a narrow, irregular northwest-trending zone several miles long. Potassium-argon dating of the surrounding glassy rhyolite shows that the mineralization here must be less than about 8 million years old.

The following descriptions of individual quicksilver mines and prospects and the information in table 6 is mainly from Brooks' (1963) study. Map numbers indicate locations on plate 2.

## Angel Peak Mine

The Angel Peak mine was developed and operated from time to time between 1956 and 1959. Total production has been 34 flasks of quicksilver. A 30-inch rotary furnace formerly located at the property has been removed and the mine is now idle. The deposit is at the top of a hill locally known as Angel Peak (see figure 26).

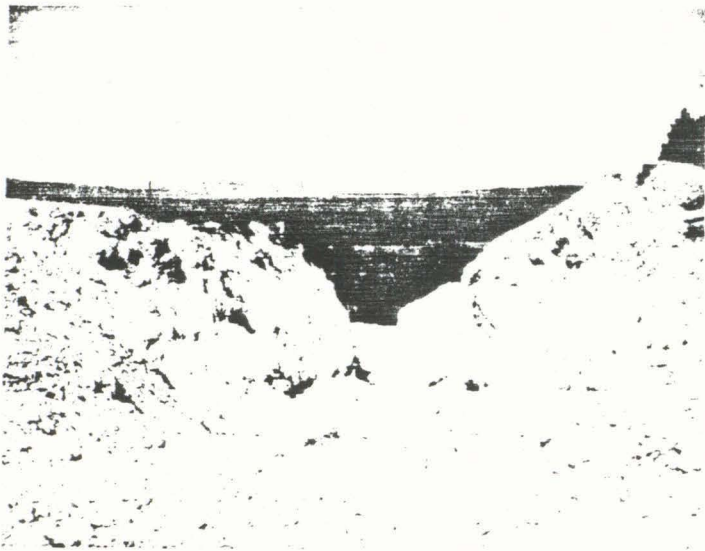


Figure 26.

Large north-trending open cut at the Angel Peak quicksilver mine. Vertically flow-banded rhyolite vitrophyre has been altered to opal and clay.

Brooks (1963, p. 175) described the occurrence as follows:

On the crest of Angel Peak an area about 100 yards in diameter has been stripped of overburden. Much of the rock exposed has been opalized, though some parts of it have been altered to a soft powdery mixture of silica and alunite. Identifiable rocks in the opalized area and along its edges include rhyolite, tuffs, tuff breccias, and glassy andesite. Along the west edge of the opalized area the glassy rocks are interlayered with the opalized material.

Table 6. Quicksilver occurrences in Lake and Klamath Counties.

Map No.	Name	Location	Geologic occurrence	Remarks	Reference
1	Oregon Technical Institute	N. edge sec. 20, T. 38 S., R. 9 E.	Minor disseminated cinnabar in layered opal and agate of hot-spring origin. Pleistocene (?) age.		
2	Klamath Hills	S. edge sec. 35, T. 40 S., R. 9 E.	Minor disseminated cinnabar in siliceous sinter of Pleistocene (?) age.		Department assay rept.
3	Givan ranch prospect	NE $\frac{1}{4}$ sec. 25, T. 36 S., R. 12 E.	Cinnabar assays as high as 16 lbs./ton reported from zones of opalization in layered rhyolite breccias.	No production.	Brooks, 1963
4	School Creek	NE $\frac{1}{4}$ sec. 10, T. 34 S., R. 16 E.	Cinnabar on fractures, in opalized, bleached rhyolite. Grab sample assayed 3.7 lbs./ton.	Discovered in 1968 (?).	No report.
5	Currier mine	Sec. 36, T. 32 S., R. 16 E.	Cinnabar occurs as fracture filling and splotchy aggregates in a sheared brecciated zone 50 ft. wide in andesite.	Production of 2 $\frac{1}{2}$ flasks.	Brooks, 1963; Ross, 1941.
6	O'Leary prospect	Sec. 5, T. 35 S., R. 18 E.	Cinnabar occurs in thin veinlets and coatings on fractures of andesite breccia and massive rhyolite.	No production.	Brooks, 1963
7	Chewaucan River	Secs. 9, 16; T. 34 S., R. 18 E.	Not known.	On banks of Chewaucan River, short adit. No production.	Brooks, 1963
8	Crone prospect	NE $\frac{1}{4}$ sec. 34, T. 37 S., R. 16 E.	Cinnabar occurs sparingly in isolated boulders of silicified rhyolite breccia.	No record of production.	Brooks, 1963; Johns, 1949.
9	Manzanita group	SW $\frac{1}{4}$ sec. 26, NW $\frac{1}{4}$ sec. 35, T. 37 S., R. 16 E.	(See Text)	9 claims. No production.	
10	Angel Peak mine	NW $\frac{1}{4}$ sec. 32, T. 37 S., R. 17 E.	(See Text)	Recorded production of 34 flasks.	Brooks, 1963
11	Rosalite prospect	SE $\frac{1}{4}$ sec. 5, T. 38 S., R. 17 E.	Mineralization similar to the Angel Peak - intense opalization and bleaching of rhyolite.	No production.	Brooks, 1963
12	Digmore or Salt Creek	NE $\frac{1}{4}$ sec. 12, T. 38 S., R. 20 E.	Cinnabar disseminated in clayey altered tuffs and fracture coatings in opalite breccia.	Several bulldozer cuts and prospect pits. No production.	Department open-file report.
13	Pinto group	Sec. 6, T. 41 S., R. 18 E.	Cinnabar occurs disseminated and as fracture fillings in chalcedony and opal in altered pumice tuffs.	No production.	Brooks, 1963
14	Batman prospect	Sec. 4, T. 41 S., R. 18 E.	Bleached and iron-stained pumice tuffs - no cinnabar seen in several open cuts.	No production.	Brooks, 1963.



Controls for the localization of cinnabar are obscure. No persistent fracture trends were noted. Cinnabar is concentrated along poorly defined fractures and coats fragments in brecciated zones within silicified parts of the rock. Small amounts also occur as a fine dispersion in the silica. Most of the ore mined was recovered from a mineralized zone about 40 feet long, 20 feet wide, and 10 to 15 feet deep. Small pods of ore that assay from one to two percent quicksilver were included, but the over-all grade of ore probably would not exceed 0.15 to 0.2 percent quicksilver. Outside this mineralized zone only scattered bunches of cinnabar were found.

### Manzanita Group

The Manzanita group prospect is on the west flank of North Butte and Quartz Butte about  $2\frac{1}{2}$  miles due west of the Angel Peak mine in the Quartz Mountain area. Mineralization is similar to that at Angel Peak. Cinnabar occurs randomly in intensely altered, opalized flow-banded rhyolite, and associated tuffs as thin coatings and minute disseminations. Several deep bulldozer cuts have explored a wide mineralized zone.

The exploration work done so far has not found the small podlike deposits and stringers to be numerous enough or close enough together to constitute a commercial ore body.

### GOLD, SILVER, LEAD, ZINC, AND COPPER

Gold, silver, and associated base metals have been reported from two widely separated locations, the High Grade district and the Brattain district.

#### High Grade District

Free gold was mined from silicified breccia zones and quartz veins in early Tertiary rhyolite in the extreme southeast corner of the project area. This locality is a part of a larger area in Modoc County of northern California known as the High Grade district. In Oregon it includes several prospects in the hills a few miles east of New Pine Creek, a small community on U.S. Highway 395 about 15 miles south of Lakeview. Gay (1966, p. 100) reports production from the district as a whole of about \$85,000 from the period 1909 to 1934.

#### Brattain District

In this area along the east side of the Paisley Hills, about 5 miles south of Paisley, gold is reported to have been discovered in 1875. About 1900, a man named Gaylord dug a tunnel and several shafts that exposed lead, zinc, and copper minerals with some associated gold and silver. Gaylord is reported to have hired a crew and supported his family from the proceeds of his mining. Since that time only assessment work and location work have been done (Appling, 1950, p. 45). The Gaylord tunnel is in the NE $\frac{1}{4}$  sec. 11, T. 34 S., R. 18 E., at the head of Brattain Canyon (plate 2). The tunnel exposes one of a number of narrow siliceous veins that trend N. 30° to N. 45° W. in the immediate area. Galena and sphalerite are the most prominent metallic minerals. Silver accompanies the galena. The metallic minerals are found in discontinuous lenses and minor disseminations in the veins.

In 1965 copper, lead, and zinc minerals were discovered on the east flank of Ennis Butte in secs. 18 and 19, T. 34 S., R. 19 E., associated with a small stock and dikelike masses of diorite and quartz monzonite. The mineralization appears to be confined to narrow fault zones that trend mainly about N. 60° W. with minor N. 20° E. shears. Mineralization at the surface is spotty and comprises the sulfides, pyrite, sphalerite, galena, and minor chalcopyrite. Several mining companies have made

cursory surface examinations, including surface mapping (Muntzert, 1969) and shallow trenching, but so far no extensive exploration or development has been done. Although silicified rhyolite breccias have been sampled for assay in several other areas, none of these metals was detected.

## BLACK SAND

Surface concentrations of black sand containing iron and titanium are present in a broad area about 20 square miles in extent between Scott and Sand Creeks, in T. 31 S., Rs. 7 and 8 E. Thin, lens-shaped concentrations of olivine, augite, hornblende, magnetite, and ilmenite result from the normal fluvial processes as Sand Creek and Scott Creek meander across the flat area of the Antelope Desert. Small amounts of ilmenite-magnetite sand were also observed on a beach along the east side of Klamath Lake (NW $\frac{1}{4}$  sec. 17, T. 36 S., R. 7 E.). The heavy minerals appear to be derived from the breakdown of pumice and scoria of the glowing avalanche deposits of Mount Mazama described by Williams (1942). The magnetite-ilmenite fraction is low and the present surface concentrations do not appear to have economic significance.

Considerable black-sand thicknesses have been reported by drillers in water wells along the west side of Klamath Marsh and adjacent to Agency Lake and north Klamath Lake. From drillers' logs it is not possible to distinguish between ilmenite-magnetite concentrations and sand composed of fine black cinders. Careful sampling of these reported black sands in future drilling will be required before it will be possible to assess their significance.

Table 7. Diatomite analyses, Klamath and Lake Counties.

Location	SiO <sub>2</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	SO <sub>3</sub>	Cl	CO <sub>2</sub>	H <sub>2</sub> O*	Total
North of the town of Sprague River (1) (Sample 227)	65.52	0.86	3.34	14.44	1.56	0.87	0.91	0.42	0.03	0.10	0.04	11.91	100.00
Northeast of Ferguson Mtn., sec. 5, T. 36 S., R. 14 E. (1) (Sample 222)	76.00	0.13	2.03	5.96	0.38	0.23	0.33	0.15	0.17	0.06	0.20	14.36	100.00
Northeast of Merrill NE $\frac{1}{4}$ sec. 25, T. 40 S., R. 11 E. (1) (Sample 232)	75.30	0.45	2.89	8.42	1.90	0.63	0.71	0.32	0.03	0.34	N.R.	9.01	100.00
4 $\frac{1}{2}$ miles southwest of Klamath Falls (1) (Sample 187)	75.56	0.64	2.66	8.64	1.20	0.37	1.08	0.26	0.06	-	0.11	9.42	100.00
Range of composition of commercial grades of diatomite (2)	85-92%	N.R.	0.8-2.0%	4-10%	0.1-2.0%	0.1-2.0%	0.2 - 1.5%		N.R.	N.R.	0-3%	5-8% organ- L.O.I. ic ma- terial	

\* by difference.

(1) From Moore, B. N., (1937).

(2) From Leppia, P. W., 1953, p. 2.



STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

2033 First Street  
Baker, Oregon

1069 State Office Building  
Portland 1, Oregon

239 S.E. "H" Street  
Grants Pass, Oregon

REQUEST FOR SAMPLE INFORMATION

The State law governing analysis of samples by the State assay laboratory is given on the back of this blank. Please supply the information requested herein fully and submit this blank filled out along with the sample.

Your name in full James B. Gerking

Street or P.O. Box Box 56 City & State Paisley, Oregon 97636

Are you a citizen of Oregon? Yes Date on which sample is sent 8/12/63

Name (or names) of owners of the property U. S. Forest Service

Are you hiring labor? No Are you milling or shipping ore? No

Name of claim sample obtained from North Creek #1

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County      Lake      Mining District     

Township 34 S Range 16 E Section 13 Quarter section     

How far from passable road? 1400' Name of road Paisley, Currier Camp

Channel (length) Grab Assay for Description

Sample no. 1           Ag, TiO<sub>2</sub>     

Sample no. 2     

(Samples for assay should be at least 1 pound in weight)

(Signed) James B. Gerking

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Sample Description Manganese-stained porphyritic andesite.

Sample number	GOLD		SILVER		TITANIUM			
	oz./T.	Value	oz./T.	Value	TiO <sub>2</sub>			
P-28680	---	--	Nil	--	0.20%	---	---	---
XG-202								

Report issued      Card filed      Report mailed 8/23/63 Called for

2033 First Street  
Baker, Oregon

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland 1, Oregon

239 S.E. "H" Street  
Grants Pass, Oregon

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Your name in full James B. Gerking

Street or P.O. Box \_\_\_\_\_ City & State Paisley, Oregon 97636

Are you a citizen of Oregon? Yes Date on which sample is sent 7/22/63

Name (or names) of owners of the property U. S. Forest Service

Are you hiring labor? No Are you milling or shipping ore? No

Name of claim sample obtained from North Creek No. 1

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County Lake Mining District \_\_\_\_\_

Township 34 S Range 16 E Section 13 Quarter section \_\_\_\_\_

How far from passable road? 1400' or less Name of road Paisley Currier Camp

Channel (length) Grab Assay for Description

Sample no. 1 \_\_\_\_\_ Au, Ag \_\_\_\_\_

Sample no. 2 \_\_\_\_\_

(Samples for assay should be at least 1 pound in weight)

(Signed) James B. Gerking

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Sample Description Iron-stained banded rhyolite with glassy streaks and pyrite on fractures.

(Black is obsidian & green is the same in part opal).

Sample number	GOLD		SILVER					
	oz./T.	Value	oz./T.	Value				
P-28591 G-179	Trace	--	Trace	--	---	---	---	---

rt issued \_\_\_\_\_ Card filed \_\_\_\_\_ Report mailed 8/2/63 Called for \_\_\_\_\_



STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building - Portland, Oregon 97201

REQUEST FOR SAMPLE INFORMATION

The State law governing free analysis of samples sent to State Assay Laboratories requires that certain information be furnished the laboratory regarding samples sent for assay or identification. A copy of the law will be found on the back of this blank. Please fill in the information requested completely, and submit it along with your sample. Keep a copy of the information on each sample for your own reference.

**H. V. Peterson**  
P.O. Box 417  
Grants Pass, Oregon 97526

Date sample is sent:

7/22/68

Name of claim sampled:

Please print your name and address in space above

Name of property owners \_\_\_\_\_

Are you hiring labor? no Are you milling or shipping ore? no

Location of property or source of sample. (If legal description is not known, give location with reference to known geographical point.)

County Lake Mining district \_\_\_\_\_

Township 34 S Range 16 E Section 13 Quarter section SW corner  
34 S 16 E 16 10

How far from passable road and name of road \_\_\_\_\_

	Channel (length)	Grab	Assay for	Description
Sample No. 1	_____	<u>x</u>	<u>Au, Ag, Hg</u>	<u>near North Creek campground</u>
Sample No. 2	_____	<u>x</u>	<u>Au, Ag, Hg</u>	<u>South Creek</u>

(Samples for assay should be at least 1 lb. in weight; clay samples for ceramic testing at least 5 lbs.) **IMPORTANT:** A vein sample should be taken in an even channel across the vein from wall to wall. Location of sample in the workings, together with the width measured, should be recorded.

(Signed) H. V. Peterson

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Description #1 - Rhyolite breccia & gossan.

#2 - Opalized rhyolite with some cinnabar.

Sample Number	GOLD		SILVER		MERCURY			
	oz./T.	Value	oz./T.	Value	Hg			
P-32094 ACG-133	N11	- -	N11	- -	Trace	- -	- -	- -
P-32995 ACG-140	Trace	- -	N11	- -	3.7 #/ton	- -	- -	- -

Report mailed 7-26-68

2033 First Street  
Baker, Oregon

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 State Office Building  
Portland 1, Oregon

239 S.E. "H" Street  
Grants Pass, Oregon

REQUEST FOR SAMPLE INFORMATION

The State law governing analysis of samples by the State assay laboratory is given on the back of this blank. Please supply the information requested herein fully and submit this blank filled out along with the sample.

Your name in full Frank A. Melvin

Street or P.O. Box P.O. Box 247 City & State Ely, Oregon

Are you a citizen of Oregon? Yes Date on which sample is sent 5/8/59

Name (or names) of owners of the property Ralph Biles, Bernard Nork, Francis Gardner & Martin Larson

Are you hiring labor? No Are you milling or shipping ore? No

Name of claim sample obtained from Schoolgirl Mine

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County Lake Mining District \_\_\_\_\_

Township 34 S Range 16 E Section 10 Quarter section NW

How far from passable road? \_\_\_\_\_ Name of road \_\_\_\_\_

	Channel (length)	Grab	Assay for	Description
Sample no. 1	_____	<u>x</u>	<u>Hg</u>	<u>several chunks</u>
Sample no. 2	_____	_____	_____	_____

(Samples for assay should be at least 1 pound in weight)

(Signed) Frank A. Melvin

DO NOT WRITE BELOW THIS LINE - FOR OFFICE USE ONLY - USE OTHER SIDE IF DESIRED

Sample Description Opalite

Sample number	GOLD		SILVER		MERCURY			
	oz./T.	Value	oz./T.	Value	Hg			
P-24102 TG-101	---	--	---	--	3.70 lb/ton	---	---	---

Report issued \_\_\_\_\_ Card filed \_\_\_\_\_ Report mailed 5-25-59 Called for \_\_\_\_\_