

GEOLOGICAL SURVEY OF WYOMING

REPORT ON SELECTED GOLD-BEARING SAMPLES,
SEMINOE MOUNTAINS GREENSTONE BELT,
CARBON COUNTY, WYOMING

by

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OPEN FILE REPORT 82-2

This report has not been reviewed for conformity with the editorial standards of the Geological Survey of Wyoming.

The Penn Copper - Gold Mine

Location

The Penn Mine is located in the Seminoe Mountains in the SE/4 of the NE/4 of sec. 6, T.25 N., R.85 W. on the Bradley Peak 7½-minute quadrangle. Bradley Peak is reached by way of the Seminoe State Park road originating at Sinclair, Wyoming. From Sinclair, the road is paved to the Bradley Peak turnoff (26 miles). The Bradley Peak road is a dirt road which leads to Bradley Peak and then across the western flank of the Seminoe Mountains. The distance on dirt road to the mine site is approximately 6 miles.

Geology

The Penn Mine property is developed by three adits which were drifted into sericitized hornblende and chlorite schist country rock. All three adits were covered by snow drifts at the time of the examination (1/21/81), and I was unable to determine if the mine workings were accessible. A stamp-mill foundation is located below the adits.

Mineralization recognized in dump samples includes malachite, azurite, chalcopyrite, chrysocolla (?), and minor bornite stains associated with limonite-quartz gangue.

The mineralization occurs in fracture filling cemented with quartz gangue and as pore space filling (disseminations). A brecciated quartz vein grab sample with well developed limonite boxworks was assayed for gold. The assay by Wyoming Analytical Laboratories, Inc. gave 2.87 ounces per ton (see attached assay sheet).

W. Dan Hausel
Staff Minerals Geologist

January 22, 1981

RECONNAISSANCE FIELD REPORT - PENN COPPER-GOLD MINE

Location

The Penn Mines lie within the Seminole Mountains in the SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of sec. 6, T.25 N., R.85 W. on the Bradley Peak 7 $\frac{1}{2}$ -minute quadrangle. Bradley Peak is reached by way of the Seminole State Park road originating from Sinclair. From Sinclair, the road is paved to the Bradley Peak turnoff (26 miles). The Bradley Peak road is a dirt road and trends west from the State Park road through private property of the Miller Estate Company. Permission is required from the Miller Estate for access. The distance on dirt road to the mine site is approximately six miles.

Geology

The Penn Mine property is developed by several adits along mineralized quartz veins in metagabbro (hornblende-chlorite schist) country rock. Mineralization at the Penn Mines occurs as sulfide-bearing veins from one inch to one yard thick. The veins trend N to N20°E. All of the adits are caved and inaccessible.

Primary sulfides include chalcopyrite, pyrite, and minor sphalerite. Secondary sulfides, oxides and carbonates include chalcocite, covellite, bornite, digenite, azurite, malachite, hematite, and limonite. Native gold and chrysocolla are uncommon.

Alteration accompanying sulfide mineralization included silicification, carbonatization, and chloritization.

Specimens of dump material were examined for gold occurrences. Four hand specimens collected from the dumps contained visible gold associated with the limonite boxworks. A selected sample was assayed and gave 2.87 ounces per ton. No gold was visible on the assayed sample. This sample was collected from the uppermost adit on the south flank of the drainage.

Two selected chip samples were collected for assay above the Penn Mines. One sample (BP3) was collected adjacent to a prospect pit at the base of an iron formation (altered metagabbro?) in the center of the NE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of sec. 6, T.25 N., R.85 W. The second selected chip (BP4) sample was collected from the same iron formation in the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of sec. 6, T.25 N., R.85 W. Sample BP3 was selected because of the presence of disseminated sulfides and BP4 was selected because of massive carbonate replacements in the iron formation. Resulting assays were 1.14 ounces (BP3) and 1.36 ounces (BP4) per ton.

Summary

Because of the high assay values, the occurrence of gold in volcanic sequences of an Archean greenstone belt, the presence of gold associated with iron formation, this region should be examined in greater detail. The gold assays are interesting, but preliminary. Additional samples should be collected in an attempt to duplicate the initial results.

It should be noted that all of the samples were selected samples, and were collected from rock exhibiting distinctive hydrothermal alteration similar to that reported by Klein (1981). In addition, samples collected by Lovering (1929) contained only trace gold. These two facts suggest that the gold in the Bradley Peak region may be localized and epigenetic. Future examination of these gold deposits should concentrate on zones exhibiting similar hydrothermal alteration. I recommend that several channel samples be collected along the iron formation in order to show that the gold is epigenetic as opposed to syngenetic, and that the Survey then concentrate on examination of altered rock within the Penn Mine area.

W. Dan Hausel
Staff Minerals Geologist

August 1, 1981

References

Klein, T.L., 1981, The geology and geochemistry of the sulfide deposit of the Seminoe District, Carbon County, Wyoming: Unpub. PhD thesis, Colorado School of Mines, 232 p.

Lovering, T.S., 1929, The Rawlins, Shirley, and Seminoe iron-ore deposits, Carbon County, Wyoming: U.S. Geol. Survey, Bull. 811-D, p. 203-235.

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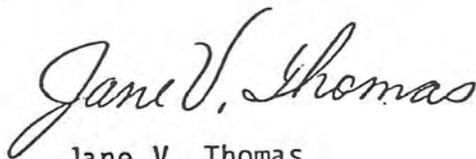
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REPORT OF ANALYSIS

<u>Customer ID</u>	<u>Lab No.</u>		<u>Gold</u>
BP3 Iron Fm(?) - Altered metagabbro(?) sec. 6-25-85.	6761	oz/ton	1.137
BP-4 Silicified & carbonated iron Fm. sec. 6-25-85.	6762	oz/ton	1.363



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President

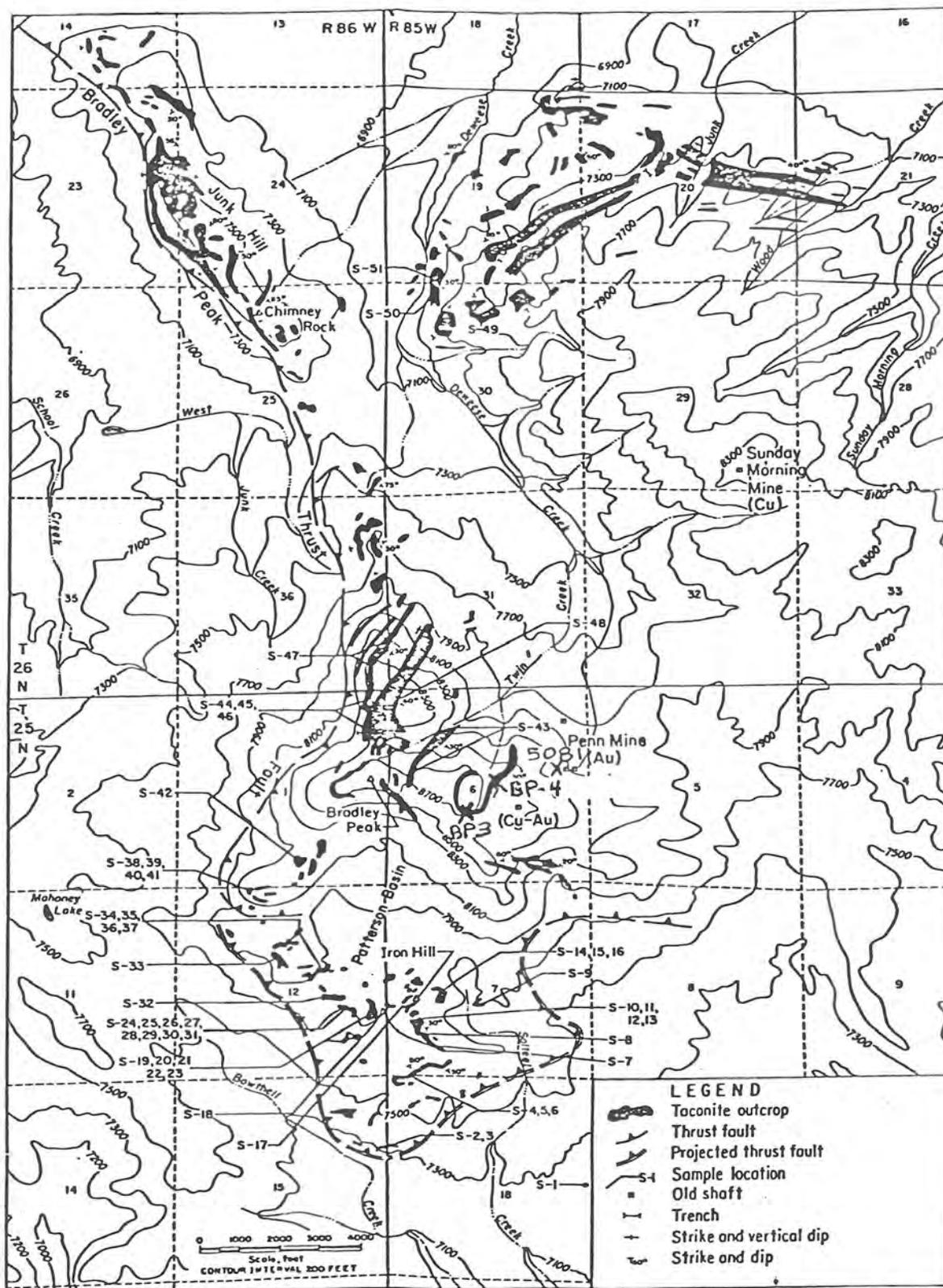


FIGURE 6. - Precambrian Taconite Iron Formation and Sample Locations, Bradley Peak Area, Seminoe Mountains, Carbon County, Wyo. (Adapted from U.S. Geol. Survey Map, R. W. Bayley, 1964.) (From Harter, 1966)