State Department of Geology and Mineral Industries

COLLIER BAR AREA AGNESS

702 Woodlark Building
Portland, Oregon
CURRY

MEMORANDUM REPORT

Report of reconnaissance of several copper-nickel-cobalt prospects in the vicinity of the Hurt cabin, Collier Creek area, Curry County by H. M. Dole, L. Ramp and H. D. Wolfe--August 22-23, 1951.

INTRODUCTION

The purpose of this reconnaissance was principally to investigate the occurrence of cobalt in the Collier Creek area reported by Butler and Mitchell (1916: 96-100).

A total of seven days were required for the investigation with only two days spent in actual field work, the remaining five days being required to get to and from the area of investigation.

Prospects visited included: the Copper City Group near the Hurt cabin located in sec. 2, T. 37 S., R. 12 W. ; Gray Copper No. 8 and the Adams Prospect in sec. 1. T. 37 S., R. 12 W., and Gray Copper No. 10 in sec. 36, T. 36 S., R. 12 W. Gray Copper No. 8 and No. 10 and the Adams Prospect are located near the trail extending from the Hurt cabin to the North Fork of Collier Creek.

It was not possible to determine definitely if any of the properties visited correspond to any of those listed by Butler and Mitchell (1916:96-100). Description of the Bonanza King Copper Group by Butler and Mitchell (1916:99) corresponds closely to the present Copper City Group but the map location given is considerably in variance. It is believed, however, that these represent essentially the same property. The Reid Group mentioned by Butler and Mitchell (1916:100) may correspond to any or all of the other three prospects visited--Gray Copper No. 8 and No. 10 and the Adams Prospect.

The area is reached by some 20-25 miles of dirt and gravelled road (via either Hunters Creek road or the Pistol River road which extend east from the coast highway south of Gold Beach) and then by ten miles of trail extending from the Snow Camp Mt. road to the Hurt cabin via Huntley Springs and Sourdough Camp.

GENERAL GEOLOGY

There was insufficient time on this investigation to make other than very general observations regarding the geology of the Collier Creek area. The area immediately surrounding the Hurt cabin is largely peridotite and serpentine. This is part of a large mass of ultrabasias which extends to the north to and beyond the North Fork of Collier Creek.

GENERAL GEOLOGY (continued)

Sandstone, shale and chert were noted in the area a short distance west of the Hurt cabin and extending west to the vicinity of Saddle Mt. Butler and Mitchell (1916) mapped this as part of the Dothan formation. In the area along the main branch of Collier Creek east of the Hurt cabin they have mapped a body of gneiss, termed the Craggy Gneiss. They proposed that it is a metamorphosed phase of the adjacent Dothan formation.

All prospects examined occur within the ultrabasics in serpentine shear zones. The deposits examined consist of pods or lenses, largely composed of magnetite with associated copper minerals. Cobalt occurring as erythrite is present in some deposits but in relatively minor amounts.

Butler and Mitchell (1916:54-59) in describing this type of deposit and the related shear-zones in Curry County report as follows:

" 'Boulder' or float deposits. These constitute the most interesting and, probably the most important depcsits of copper in Curry county, and are so unusual in many of their features as to deserve somewhat extended description.

The first peculiarity to be noted is that the deposits are confined to serpentine, or to peridotites or allied ultrabasic rocks which have been almost completely altered to serpentine. While copper deposits in such materials are not unknown they are so rare as to make this association in itself a feature of rather unusual interest.

The second point worthy of consideration is the unusual mode of occurrence of the ore, as it is found in more or less boulder-like or lenticular masses which are usually unsystematically distributed throughout the serpentine. These individual masses vary from a few ounces to several tons in weight, and commonly appear to be absolutely unconnected by stringers or anything else. The ore (described later) resists weathering to a notable degree, although exposed portions are sometimes partially converted to limonite, and often outcrops prominently so as to have the appearance of rounded fragments which have broken off from some higher deposit of great size, and have rolled down to their present position. In fact, practically all the prospectors with whom there was opportunity to talk were of the opinion that these masses are merely float, and that, when the mother lode is discovered, it will be found

to be a very large and rich vein of some kind. A little investigation in the field sufficed, however, to prove conclusively that each mass of ore is in place in the serpentine. Although this rock is sometimes more or less sheared and softened around the ore bodies, the ore minerals are usually confined to the nodular masses of ore themselves. In some places these little bodies of ore are comparatively close together, while in others they are widely separated, and often there seems little or no system in their distribution or magnitude.

The third unusual feature shown by these deposits relates to the nature of the minerals found in them. These consist mainly of magnetite (magnetic oxide of iron), which is often rather coarsely crystalline. Cavities frequently show the typical octahedral crystallization of this mineral, but, in at least one locality, the crystals are cubical. Associated with magnetite, are copper minerals of various kinds of which one of the commonest is chalcocite (sulphide of copper). This mineral has an unusually high luster, is notably sectile, and differs from the ordinary type of chalcocite in that the prismatic cleavage is uncommonly distinct.

Other minerals usually present in greater or less abundance are cuprite (red oxide of copper), bornite (a sulphide of copper and iron, which has a brownish color when untarnished), and native copper which is sometimes present in nodular masses weighing several pounds. Less frequently are found malachite (green carbonate of copper), azurite (blue carbonate of copper), chrysocolla (blue silicate of copper), tenorite ? (black oxide of copper), and erythrite (pinkish hydrous arsenate of cobalt). Occasionally thin crusts or films of a bright green chromium mineral of uncertain nature are also present.

In one or two localities, notably in the McKinley group east of Gold Beach, chalcopyrite (sulphide of iron and copper) and pyrrhotite (mono-sulphide of iron) constitute the bulk of the sulphide minerals. Not infrequently chromite replaces the magnetite to varying extent.

Practically no quartz or calcite, and little or no pyrite or other minerals common in ordinary vein deposits are present. In fact, the only gangue in the ore bodies is magnetite, chromite, or one or more of the other minerals already mentioned.

Mr. Frank Berry, of Agness, who has done considerable work on this material, expressed the conviction that the copper ores are always overlain with the magnetite or chromite. It is hard to explain such an occurrence, although it is true that the re-

lationships seen in the field seem to substantiate this theory. It may be that the magnetite or chromite originally formed a core around which the sulphide minerals were deposited, and that the relative ease with which these may be disintegrated and leached away when exposed on the surface of the ground accounts for the fact that the core of magnetite or chromite is the material usually exposed. Unfortunately, most of the ore bodies examined had been so cut up or so largely removed by mining operations as to make it impossible to prove or disprove this hypothesis without the expenditure of more time and labor than could be given to the problem. . . .

"Shear-zones in serpentine. In most of the serpentine areas which contain the boulder-like masses of ore already described, there also occur zones of copper-impregnated serpentine, locally called veins. In these the ore minerals are confined to the joints and slips everywhere plentiful in the serpentine, but which appear to be especially numerous at the points where the copper mineralization is most pronounced.

Surface exposures usually show no copper minerals excepting malachite (carbonate of copper) and chrysocolla (hydrous silicate of copper), but the presence of considerable limonite (hydrous oxide of iron) at some points indicates that the original minerals were sulphides of copper and iron.

The ore resulting from such impregnation as just described is very low-grade, at least where oxidized, but these deposits are of interest since they seem to be the loci of an unusually large number of boulder deposits of the type already described. While the latter are not by any means confined to such shear-zones, in some localities they are so closely connected therewith as to make it appear possible that the systematic development of these zones will expose a sufficiently large number of boulder deposits to make mining profitable.

An interesting feature of the type of deposit under consideration is their common presence parallel and in close proximity to dikes of dacite-porphyry. This suggests that the copper-bearing solutions have come directly from the dacite-porphyry after the serpentinization of the basic rocks into which they have been intruded, or that they have risen along the dacite-porphyry contact and spread into the adjacent sheared serpentine. They may have come from the same magma reservoir as did the dacite-porphyry. It has been suggested that the shear-zone deposits represent contact deposits originally of quite different types, which were later changed to their present condition as a result of the serpentinization process. The fact that the fragments of serpentine between the films of copper minerals do not themselves appear to be cupriferous, makes it appear unlikely that any considerable metamorphism

GENERAL GEOLOGY (continued)

Shear-zones in serpentine (continued)

has occurred after the introduction of the copper minerals; and the small size of some of the dacite-porphyry dikes mitigates against the theory that the mineralizing solutions were expelled directly from them during solidification. As some decidedly sheared zones of serpentine in the neighborhood of boulder deposits show no copper stains, and as it is difficult to understand how serpentinization could produce two such distinctly different types of deposits as the boulders and shear-zones, it seems most likely that the ore solutions have risen along the dacite-porphyry and spread into the adjacent sheared serpentine."

DESCRIPTION OF PROSPECTS

Copper City Group (Cu, Ni, Co)

Old name: Bonanza King Copper Group

Owner: J. B. Myers, Gold Beach, Oregon

Area: 6 lode claims

Location: All claims are near the Hurt cabin with the main workings being located some 700-800 feet southwest of the cabin (see attached sketch map).

History: According to Butler and Mitchell (1916:99) the Bonanza King Group consisted of three claims in 1916 owned by E. G. Hurt of Agness. He purchased one, the Bonanza King, of W. W. Whitton, in 1898, and the second, the Bonanza King extension, in 1912 from R. J. Canfield. A third claim, the Spotted Faun, was located by Hurt in 1912.

The ownership and the name has apparently changed several times since then.

The only reported production was described by Butler and Mitchell (1916:53-54) as follows:

"Mr. E. G. Hurt, of Agness, was interviewed upon the arrival of the party at that point. He claimed that Dr. T. R. Hines took 45 tons of copper ore from Hurt's copper properties near Collier creek, and shipped it to San Francisco in 1908. The ore is said to have been brought to Agness on pack-horses,

DESCRIPTION OF PROSPECTS (continued)

carried to Gold Beach in small boats, and then shipped by water to San Francisco. No information concerning the outcome of this venture was obtainable as Dr. Hines was never heard from after taking out the ore. It is claimed, however, that 2,700 pounds of the ore, which happened to be left in Agness, was shipped by Mr. Ed. Miller in order to secure reimbursement for packing expenses incurred; and that it paid the cost of shipment and treatment, and yielded a net profit of $45. It is said that this ore consisted chiefly of bornite, but contained some native copper."

Geology and Development:

Development work consists of numerous open cuts, three short adits, two of which are partially or completely caved and two shafts, also partially caved. See accompanying sketch map. Apparently most of this work was done during the early 1900's with very little development having been done since that time.

Butler and Mitchell (1916:99-100) reported on the property as follows:

"Lode 21. Bonanza King copper group. . . . Two tunnels, one 60 and the other 48 feet long, were driven on the property, which was also opened up by means of 8 open cuts and shafts. Although work was done as late as 1914, all of the openings have so badly caved as to make it impossible to secure accurate data concerning the deposits. From what observations it was possible to make, they appeared to be largely of the boulder type, although one or more mineralized shear-zones may also be present. In several cases a little moderately deep development has gone under the ore into seemingly barren serpentine, bearing out the conclusion that most of the deposits are of the boulder type. Hurt claims that it was ore on the various dumps of this group which was taken by Dr. T. R. Hines, heretofore mentioned.

The principal ore mineral is undoubtedly chalcocite or copper glance (sulphide of copper), although considerable cuprite (red oxide of copper) and native copper are also present. Magnetite (magnetic oxide of iron) seems to have been invariably associated with the copper ores, and it is claimed that this mineral itself carries copper in every case. This is borne out by the fact that a specimen of seemingly pure magnetite from the Copper King tunnel on the Collier creek group proved to contain 50.05 per cent iron, 2.43 per cent copper, and no sulphur, phosphorous, titanium, or arsenic.

Where the copper ores outcrop on the surface, they have

Geology and Development (continued)

been oxidized to malachite (green carbonate of copper) and azurite (blue carbonate of copper). Occasionally a little erythrite (pink arsenate of cobalt) is also present. These substances are said to give place to chalcocite, cuprite, and native copper a few feet from the surface in every case. Some of the ore still on the dumps is apparently very rich, and a general sample of such material from a number of points on the Bonanza King group yielded 20.137 per cent copper, .06 oz. gold, and .12 oz. silver per ton." . . .

The workings shown on the accompanying sketch map are grouped in three separate locations: The first group (points A-B-C-D-E-F-G on the map) is located about 700-800 feet southwest of the Hurt cabin; the second group (points H and I) is located about 700 feet south of the cabin; and the third group (points J and K) is located about 700-800 feet southeast of the cabin.

The first group is said to be the source of the 45 tons of ore reported to have been shipped from the Bonanza King claims in 1908 (Butler and Mitchell 1916:53). Workings of this group shown on the sketch map are described below.

Point A, shaft in sheared serpentine, caved but reopened to 15 foot depth. Point B, adit reported to be 60 feet in length and to extend to about under the shaft at point A. There are a few tons of ore on the dump composed largely of magnetite with noteable amounts of chalcocite, malachite, azurite and erythrite. Two assay samples (2A and 2B) were taken of this ore. Point C, open cut 10 feet wide, 5 to 10 feet deep and 50 feet long in sheared serpentine. Point D, open cut 30 feet long and a 15 foot adit entirely in sheared serpentine. The shear planes are nearly vertical and show a strike N. 35° E. In places there is considerable malachite present. Point E, caved shaft reported to be 20 feet deep. Dump shows considerable limonite with some magnetite and malachite. Northwest of the shaft about 15 feet, a serpentine outcrop shows a strike of N 10° W and a dip of 40° to the northeast. Point F, caved shaft reported to be about 40 feet deep extending to adit below, and an open cut 15 feet long, 10 feet wide and 5 to 10 feet deep, exposing limonite gossan with some magnetite and malachite. The gossan body trends N. 25° E. Heavy gossan float continues north of the cut a few feet, then ends abruptly. One assay sample (No. 1) was taken of the gossan. Point G, adit reported to be 70 feet long, now caved at 40 feet back. The adit is entirely in serpentine, generally massive, but with some fractures which strike east. There is some malachite staining along the west wall at the portal.

Geology and Development (continued)

Workings of the second group are as follows. Point H, shallow open cut 10 feet long in serpentine showing malachite staining along fracture planes. Point I, two parallel open cuts which trend N. 55° W. West cut exposes sheared serpentine with a minor amount of malachite. East cut is 20 feet long, 5 feet wide and 30 feet deep at the face. A lens of magnetite 2 inches wide and 6 inches long is exposed along the northeast wall. It contains some chalcocite, azurite and malachite. Ore on the dump is magnetite with chalcocite, malachite and erythrite.

Workings of the third group are as follows. Point J, two parallel open cuts which trend north, each 6 feet wide, 15 feet long and 15 feet deep at the face. These cuts expose a zone of gossan 6-8 feet wide in serpentine. The zone strikes east and dips 70° N. Blocks of massive sulphides appear in the gossan. Disseminated light gray sulphides with erythrite appear in places in the gossan. Two assay samples (Nos. 3 and 4) were taken from the gossan zone in the west cut. Point K, open cut 30 feet long and 8 feet wide exposing sheared serpentine and a 3 foot zone of gossan. Ore on the dump contains magnetite, gossan, erythrite and malachite.

Description and assay results of samples taken at the Copper City Group. Location of samples is shown on the accompanying sketch map of the workings:

Sample No.	Description	Au	Ag	Co	Ni	Cu
(1) P-11962	10 foot chip sample across gossan body	Nil	oz./T 0.70	0.10%	0.10%	---
(2A) P-11960	general grab sample of dump	Nil	oz./T 0.30	0.50%	0.50%	5.10%
(2B) P-11961	picked sample from dump showing considerable erythrite	---	----	----	0.50%	----
(3) P-11963	grab sample of massive sulphides in gossan.	oz./T 0.20	Nil	0.20%	----	4.20%
(4) P-11964	picked sample of gossan with disseminated light gray sulphides and erythrite	oz./T 0.28	Tr	0.10%	2.00%	Tr.

DESCRIPTION OF PROSPECTS

GRAY COPPER No. 8 (Cu,Co,Ni)

Owner: Leda Kent

Area: 1 lode claim

Location: The claim is located northeast of the Hurt cabin about 1¼ miles on the trail extending to the North Fork of Collier Creek in sec. 1, T. 37 S., R. 12 W. The location cut is about 500 feet due east of the trail and some 200 feet lower. Elevation at the cut is 1530 feet by aneroid.

Geology and Development: Development work consists of one drift, trending N 10° E, now caved. The size of the dump indicates that the drift was possibly 50 feet or more in length. Rock in the vicinity of the drift is largely massive serpentine with some sheared serpentine.

The dump consists of gossan with magnetite and some malachite. A grab sample (P-11965) from the dump consisting of magnetite and malachite assayed as follows: Au-0.08 oz/T., Ag-trace; Cu-1.0%; Co-0.10% and Ni-0.50%.

DESCRIPTION OF PROSPECTS

ADAMS PROSPECT (Cu)

Owner: Phil Adams, Gold Beach, Oregon

Area: 1 lode claim

Location: The claim is located northeast of the Hurt cabin about 1½ miles on the trail extending to the North Fork of Collier Creek in sec. 1, T. 37 S., R. 12 W. The location cut is about 600 feet east of the trail along the crest of a small ridge which divides the North and Middle Forks of Collier Creek. Elevation at the cut is 1820 feet by aneroid, about 100 feet lower than the trail.

Geology and Development: Development work consists of a small cut 8 feet long, 4 feet wide and 6 feet deep at the face, now badly caved. The dump shows some gossan with some malachite, chalcocite and magnetite. The gossan appears to be brecciated. A grab sample (P-11966) of the gossan assayed as follows: Au-nil; Ag-trace; Cu-3.70%. The predominant rock in the vicinity of the cut is serpentine, usually sheared.

DESCRIPTION OF PROSPECTS

GRAY COPPER No. 10 (Cu, Co, Ni)

Owner: J. B. Myers, Gold Beach, Oregon

Area: 1 lode claim

Location: The claim is located on a series of benches a few hundred feet above the North Fork of Collier Creek in sec. 36, T. 36 S., R. 12 W. It is located just above the trail extending from the Hurt cabin to the North Fork of Collier Creek about 1¾ miles from the Hurt cabin. Elevation of principal cut--1975 feet.

Geology and Development: Development work consists of two small cuts in serpentine. One cut which is located just above the trail shows no mineralization whatsoever. A second cut, about 60 feet elevation above the first is 15 feet long and 4 feet wide and exposes pieces of magnetite with minor malachite. Magnetite is reported to occur at several places on the hillside above this cut. A grab sample (P-11967) of the magnetite from the dump assayed as follows: Cu-3.90%; Co-0.10%; and Ni-0.20%.

REFERENCES: Butler, G. M., and Mitchell, G. J.
1916 Preliminary survey of the geology and mineral resources of Curry County, Oregon: Oregon Bureau of Mines and Geology, Mineral Resources of Oregon No. 2.

Informant: J. B. Myers

Report by: H. D. Wolfe

Date of Report: April 25, 1952

My walking time in there with 60 lb. pack was: From end of road above Oak Flat to Briggs (Frantz) Ranch--3 hours; Briggs Ranch to Silver Creek--1⅛ hours; Silver Creek to south end of Cobalt Group ridge--2½ hours. Total--7 hours. The trail is very good but has not been cleared of down trees beyond the Briggs Ranch.

Al La Chance, who is living at the Briggs Ranch has pack horses and will pack in the supplies for you. He says that it can be handled in two days--one day bringing the supplies in from Oak Flat to his ranch and one day on in. He can be reached by writing to him at Agness. Possibly he also could be reached by phone through the Forest Service as there is a phone at his ranch. He is an old time prospector in that area and together with Mr. Lucas, owner of the Agness Hotel, owns a number of mining properties including the vanadium property on Horse Sign Butte.

If repair supplies are received, the bridge across the Rogue at Agness should be open to car travel at least by July and possibly sooner.

The following was noted in regard to rock types on the way in:

Nancy Creek to point within about 1⅛ miles of Indigo Creek --largely pebble conglomerate with grit and ss. (Knoxville?) Also some dacite, greenstone, serpentine and a few granitic dikes.

Last mentioned point to Indigo Creek and a short distance beyond--mostly peridotite and serpentine. Some platy metavolcanic at Indigo Creek.

Indigo Creek to Black Rock Creek (⅛ mile beyond Briggs Ranch)--mostly gneiss or gneissic granitic rocks.

Black Rock Creek to White Rock Creek (1 mile beyond Briggs Ranch)--predominantly sandstone (Dothan?).

White Rock Creek to beyond Bluff Creek (1⅛ miles beyond Briggs Ranch)--mostly gneiss or gneissic granitic rocks. Also some pegmatite.

Bluff Creek to Silver Creek--mostly sandstone (Dothan?) with local bodies of gneiss. At Silver Creek--light green slickensided metavolcanic.