

Oregon Chief

Gold - Silver

PRINCIPAL ORE

MINOR MINERALS

NAME OLD NAMES

T R S

Baker

COUNTY

Cable Cove

AREA

high

ELEVATION

on Sumpter Valley RR

ROAD OR HIGHWAY

11 mi. Sumpter

DISTANCE TO SHIPPING POINT

PRESENT LEGAL OWNER (S) A.M. Donely ?

Address

OPERATOR

Name of claims	Area	Pat.	Unpat.
4 lode claims			x

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

PUBLISHED REFERENCES

Parks & Swartley 16:171

Oregon Metal Mines Handbook 14A pg.21

MISCELLANEOUS RECORDS

DEPARTMENTAL RECORDS on file in

DEPARTMENTAL AND VESSEL RECORDS

U.S. G.S.

REPORTS

*Dep. Chief Mine - Fred E. Mudge*

x

SHIPMENT AND ASSAY RECORDS

MAPS

## REPORT ON

### THE OREGON CHIEF MINE

in Cable Cove, Baker County, Oregon

#### Location

The Oregon Chief Mine is located in Cable Cove near the source of Silver Creek, one of the headwaters of Powder River, at a distance of 12 miles northwest of Sumpter, Oregon. A fair mountain road, considerably traveled, leads from Sumpter, which is a station on the Sumpter Valley Railway, up Silver Creek into Cable Cove; from this point there is a branch road, about three fourths of a mile in length, to the portal of the lower tunnel, but this has not been used for many years and would require some repairing.

The high backbone that forms the divide between the drainage basins of Silver Creek and the North Fork of the John Day River, culminating in the peak of Bald Mountain (elevation 8330 feet) about two miles to the west, lies a short distance northwest of the property. The elevation at the lower tunnel is 6880 feet, aneroid barometer reading. On account of this elevation the winters are necessarily long and rigorous, but it is possible to operate in the district through the winter season, as has been proven by the operators in former years. The road can be kept open for hauling ore and supplies by team or tractor, except possibly for a period of four weeks during the spring breakup when the roads become soft due to the melting snows.

#### Claims

The property consists of four patented mining claims. Three of these, the Anaconda, Oregon Chief, and Homestake claims, cover a length of 4500 feet on the strike of the main vein. The fourth claim, the Maid of Erin, covers a smaller parallel vein on the northwest side of the main vein. Beginning in the bottom of a small branch draw of Silver Creek, just south of Cable Cove, the claims extend southwestward nearly parallel to the direction of the main divide or backbone, and cut across two southeasterly

projecting spurs from it, and the draw of Meadow Creek between them. The claims contain a considerable amount of timber where they cross the Meadow Creek bottom. The canyon of Silver Creek below the property is heavily wooded and can furnish an abundance of timber for mining purposes.

### Geology

The geological features of Cable Cove are very simple, since the district lies wholly within the granodiorite of the Bald Mountain batholith, a great intrusion of igneous rock into the older surrounding series of argillites. The granodiorite area extends for many miles to the northward, the contact with the sedimentary series is about two miles distant to the south.

Numerous quartz-filled fractures traverse the granodiorite. They are all more or less mineralized and approximately parallel to one another, and are often extremely persistent in length along the strike. The largest and most prominent of these quartz veins, both as regards width and known strike length, is the Oregon Chief,-Herculean-Eagle vein, which can be traced on the surface for a distance of more than two miles, through eight mining claims. Its average strike is North 20 degrees East, and the usual dip is steep to the northwest. The Oregon Chief group covers the southwest end of the vein; thence to the northeast the Midnight claim follows; in the Herculean claim, the vein is exposed on the banks of Silver Creek, where it shows a width of 15 feet between granitic walls including streaks of heavily mineralized sulphide ore; on the northeast side of Silver Creek, it enters the Miner and Eagle claims of the Imperial Mine, productive in early days.

The Imperial, California, and Crown Point veins are found in the order named as one goes northwest from the Eagle vein; in general, they dip southeast toward the Eagle. They are all narrower than the Eagle vein, but have been the source of the main past production in the district, because small shoots of fairly high grade ore were discovered in them.

In the Oregon Chief claims the vein attains a maximum width of as much as 7 feet. The vein walls are well defined. The filling consists of normal vein quartz with varying amounts of sulphurets, chiefly pyrite, arsenopyrite, and zinc blende. Pyrrhotite is the predominating constituent of the heavy sulphide ore seen on the dump of the lower tunnel; galena and chalcopyrite frequently occur in the ores of the district. The hanging wall side of the vein appears to carry the best values in gold and silver. The percentage of free gold in the ore is small; the values are associated with the sulphide particles to great extent, so that the ore is of a concentrating rather than a free-milling type.

The oxidized zone is very shallow and rarely extends as much as 50 feet below the croppings, probably because erosion by glaciers has taken place in times not long past in the geological history. The valley of Silver Creek for the first three miles below Cable Cove shows the characteristic U-shaped cross section produced by glaciation.

#### Surface Showing

The vein cropping stands out in bold relief, with a width of 5 to 6 feet, over a length of 200 feet at the top of the ridge between Silver and Meadow Creeks, near the common end-line of the Anaconda and Oregon Chief claims. Quartz also crops out near the portal of the middle tunnel, 150 feet northeast of this showing. On the southwest side, there is continuous mantle of surface debris, but the vein has been exposed by open cuts at short intervals all the way down to Meadow Creek, showing widths of 12 inches to four feet of quartz. These exposures prove the persistence of the vein for a strike length of 1400 feet.

#### Developments

The most important development works on the property are three small tunnels on the Anaconda claim, driven southwesterly from the Silver Creek slope, and one tunnel on the Oregon Chief claim, driven northeastward from Meadow Creek (see longitudinal section).

The upper tunnel, located just below the top of the ridge, consists of a crosscut tunnel 20 feet long from the foot wall side, cutting the vein 15 feet below the outcrop, and a few drift rounds along the vein. It exposes a width of 5 feet 3 inches of oxidized quartz. A winze sunk a short distance below the floor of the tunnel is reported to contain 7 feet of vein, including 18 inches of shipping grade ore along the hanging wall.

The middle tunnel is driven on the vein for a length of 250 feet, and is connected with the upper tunnel by a raise 47 feet high. The face shows a vein width of 7 feet, consisting of three feet of good ore on the hanging wall side and four feet of low grade ore on the foot wall. The first 200 feet of the tunnel are timbered and tightly lagged, but could be easily sampled by cutting samples along the bottom.

The lower tunnel, 68 feet lower in elevation, is reported to be 464 feet long, entering and following the same ore shoot that was explored in the two tunnels above it; it is connected with the middle tunnel by a raise. This tunnel is caved at the mouth and inaccessible at the present time, but the material in evidence on the dump indicates that it encountered, in addition to the regular vein filling of quartz and sulphurets, some heavy sulphide ore in which pyrrhotite and pyrite are the predominant minerals. The face attains a depth of 180 feet below the croppings at the top of the ridge.

The Meadow Creek tunnel is approximately 600 feet long, and is a few feet below the level of the lower tunnel on the Silver Creek side. Although it was started from the portal in fair vein material, this tunnel lost the vein at about 100 feet in, and was continued for a long distance along an insignificant stringer in the footwall of the main vein. A crosscut, 25 feet long to the left from the face, regained the vein, which shows a width where cut of 5 feet of quartz with a heavy gouge streak along the hanging wall. In 50 feet of drifting northeastward from this point, the vein pinches to a width of 15 inches of low grade material.

Similar behavior of the vein is noted in the surface cuts above this tunnel, where considerable variation in the width of quartz from place to place is indicated.

The development on the parallel vein in the Maid of Erin claim consists of one short tunnel and several surface cuts. The vein is similar in character to the Oregon Chief vein but is smaller in size, its width being about 18 inches.

The property has never been equipped with a concentrating plant, and no stoping has yet been done or production made. One small test lot of 3300 pounds of selected high-grade ore, referred to below, was sent to sampling works in early days. Nearly all the ore taken out in driving the tunnels remains today on the dumps; with the exception of these tunnels, the property is still all virgin ground.

#### Values

The samples listed below were taken during my reconnaissance of the property and yielded the assay values given (NOTE-All assays are calculated with gold at \$35 per oz. and silver at \$0.645 per oz):

- No. 1. Upper tunnel, hanging wall side of vein over the crosscut, sample width 2 feet, \$25.20 in gold and \$1.61 in silver, total value \$26.81
- No. 2. Upper tunnel, full width of vein in south face, 5 ft. 3 in. wide, \$2.80 in gold and \$0.06 in silver, total value \$2.86. The vein is oxidized and appears leached and impoverished at this point.
- No. 3. Middle tunnel, face, hanging wall side of vein, sample width 2 ft. 10 in., \$35.00 in gold and \$2.06 in silver, total value \$37.06
- No. 4. Middle tunnel, face, foot wall side of vein, sample width 3 ft. 6 in., \$2.80 in gold and \$1.55 in silver, total value \$4.35
- No. 5. Middle tunnel, 15 feet north of face, hanging wall side of vein, sample width 2 feet, \$9.10 in gold and \$0.71 in silver, total value \$9.81
- No. 6. Middle tunnel, grab sample from dump, \$21.00 in gold and \$0.58 in silver, \$21.58 total value.
- No. 7. Middle tunnel, grab sample of quartz fines from top of dump, \$1.75 in gold and \$1.03 in silver, total value \$2.78
- No. 8. Lower tunnel, heavy sulphide ore from dump, \$18.20 in gold and \$7.09 in silver, total value \$25.29
- No. 9. Meadow Creek tunnel, face, 15 inches wide, \$5.60 in gold and \$0.77 in silver, total value \$6.33

The average of all the samples is \$13.49 in gold and \$1.72 in silver, total value \$15.21. Although the sampling is by no means complete, and further sampling should be done as soon as the tunnels are cleaned out and put in condition, this figure gives an approximate measure of the value of the vein. The presence of a considerable quantity of material which will average better than \$20 in value per ton appears to be indicated. In 1902 a small lot of ore was sent to sampling works which assayed 3.94 oz. in gold and 10.14 oz, in silver, value \$86.50 per ton at the metal prices current at that time.

#### Probable Ore-shoots

The workings described above demonstrate the existence in the Oregon Chief vein of one main ore shoot which extends from the portal of the middle tunnel southwesterly towards the face of the Meadow Creek tunnel but evidently does not quite reach it. The prospect tunnels have not been driven far enough to determine the position of the southwest limit of the ore shoot. The present developed length in the middle tunnel is 250 feet, and the face is in good ore. The lower tunnel is not at present open for inspection, but is also reported to be in ore. The ultimate length of this ore shoot which may be expected on driving ahead these two faces will be something between 400 and 700 feet. Assuming a length of 500 feet, and an average width of 4 feet, the tonnage per vertical foot of depth would be 167 tons. On this basis, the portion of the ore shoot above the present lower level would be expected to furnish 23,000 tons of ore.

In addition to the main ore shoot, there is a possibility that one or more small shoots may occur further southwest in the vicinity of the Meadow Creek tunnel, where the vein has not been fully opened up.

200 feet of additional backs below the present lowest tunnel can be easily secured by a crosscut tunnel approximately 600 feet in length, driven from the Silver Creek side at a point directly below the lower tunnel. Other deep level tunnels to tap





Gold Belt of the Blue Mountains of Oregon

by Waldemar Lindgren, Geologist of the U.S. Geological Survey

Page 672. The mines of Cable Cove are among the earliest discoveries in the Blue Mountains, being found in 1872 by the Cable Brothers. Some rich ore was shipped in these early years, but the great expense rendered this impracticable for the ordinary run of ore. The development of the district was slow, owing to its inaccessibility. When the overland railroad was completed, about 1885, new activity followed and many claims were worked. Shipments of ore continued at intervals, and one concentrating mill was erected. During 1900 there was more activity than at any previous time. Development work was in progress upon a great number of claims and about ten carloads of ore were shipped to smelting works. Deeper exploration will soon determine the value of the district. At present ore is hauled to Sumpter, the distance being 14 miles, and sent by rail from that point.

The deposits are normal fissure veins with northeasterly strike. One strong lode the Eagle, is traceable for at least two miles, and dips steeply northwest. Most of the other veins are located on the hanging side of the Eagle and generally dip southeast, following an extensive system of parallel shearing planes. One branch of the vein system extends across to the head of Cracker Creek. The ores consist of heavy sulphurets, chiefly pyrite, arsenopyrite, and zinc blende, with smaller quantities of galena and chalcopyrite. Their value is chiefly in gold, and very little of it is free. Two or three miles to the northwest a nearly parallel vein system appears..... The oxidized zone with free gold is only 30 to 50 feet deep, no doubt owing to the ice sheet which once covered this region and which has swept away the decomposed vein croppings. The sulphurets below the water level contain a little free gold.

Eagle vein.- The Eagle, which is considered as the mother lode of the district, continuing in strong development for 2 or 3 miles, is the first vein met with going up the road from Sumpter. The developments and production of the Eagle are as yet comparatively small, but great hopes are placed in it for the future. It is traceable with a north-northeast strike through the Homestake and Oregon Chief. The Oregon Chief has 800 feet of developments and an ore shoot claimed to be 8 feet wide and containing \$12 per ton.

The vein on the Herculean claim is well exposed by a surface cut at Silver Creek, showing a width of 15 feet between granitic walls. The vein material is an altered granodiorite, traversed by at least two streaks of arsenical pyrite half a foot wide. The vein now turns more nearly northeast, and on the adjoining claim, the Black Dwarf, preparations were made in 1900 to sink a 300-foot shaft.

On the northwest side of Silver Creek the Herculean is covered by the Eagle claim, on which a 400-foot tunnel has been driven. In a width of altered granite the vein here contains overlapping pay streaks of from 2 to 3 feet wide, reported to average something like \$12 per ton.

Page 610. Depth attained and the question of permanency.

Regarding the permanency of the veins, there are very good reasons for believing that the strong, well-defined veins upon which most of the important mines are located will continue to the greatest depths yet attained in gold mining. Judging from analogy with other regions, it is also probable that the pay shoots will continue in depth, though the unbroken continuation of one and the same ore shoot should not be relied upon with confidence. It has

been the experience of most deep gold-mining properties that barren levels will occasionally interrupt the richest and most extensive ore shoots. Smaller fissure veins, members of a great number of veins in close contiguity and which have no great length, are not to be relied upon with as much certainty. But, taken as a whole, the strength of the vein systems and the mineralizing action are important factors in favor of the future of this mining region.

OREGON CHIEF

CABLE COVE

DISTRICT: Is 11 miles from shipping point, Sumpter, on the Sumpter Valley Railway. Located 25 years ago by A. M. Donley and consists of 4 unpatented lode claims and a mill site, ~~re-~~ ~~corded~~ in Baker county. Located in a high mountain area; country rock is granite; hanging wall of granite and granite foot; vein strata bearing southwest and northeast; width 7 feet, length 4500 feet. Minerals are gold, silver, lead and copper, assays at \$20. Water ~~is~~ ample; power ~~is~~ available from the Eastern Oregon Light & Power Company; timber on claims. Four men are employed at the mine. M. F. Howe has a lease on the property, which has mining tools and is developed with 1400 feet of tunnels. (Prescott---6/1/37).

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