

Tiller Drew District
Douglas County

Name: Chieftan Mine (gold quartz)

Owners: Chieftan Mines, Inc.
Mrs. Earnest Ward, Colfax, Washington is
the principal stockholder. *still OK*

Area: ^{43.15 Ac.} 40 acres of patented land in the N.E. $\frac{1}{4}$ of
the N.W. $\frac{1}{4}$ of Sec. 20, T. 29 S., R. 3 W.

History: Chieftan Mines, Inc. operated the property
under the direction of Mr. Earnest Ward from
1930 to 1937 (?) at which time Mr. Ward moved
the ball mill and flotation units to Talla-
dego, Alabama. Mr. Ward died in 1938. Noth-
ing has been done with the property since he
left for Alabama.

Development: See Plate 13, Bulletin 830.
Near face in lower addit an incline winze
went down approximately 100 feet then drifted
back to the east. Between this drift and the
lower addit Mr. Ward stoped most of the ore
he run in 1934 and 1935. The lower addit has
been driven in approximately 100 feet farther.
At the time informant visited the property
the portal of the tunnel had sloughed off
damming the water up making the workings in-
accessible.

Equipment: 50 horse power semi-diesel engine, Dodge type
crusher, car, track, mill building and two
cabins.
Latitia Creek will furnish plenty of water
for milling operations the year around.

Informant: J. E. Morrison. 8/1/39.

Mr. W. C. Bates. Myrtle Cr. owners & claims
leased to Finger Hall of Myrtle Cr.
150 ft compressor run by buick engine F.H.

Car & track belong to Bates
paved fence, blacksmith shop mill bldg

D H Ferry - 1930 to 34?

Put in 50 ton mill drove some drift.

Most of his work was mining ore.

ran into fault which dips about same
as hill.

Stratton of Spokane.

clean out old shaft & run 400' drift west.
did not clean east drift out.

never took out anyone.

struck some good ore in 400' drift.

which was lumpy

Equipment moved in 1936

RECORD IDENTIFICATION
 RECORD NO..... M015529
 RECORD TYPE..... XIM
 COUNTRY/ORGANIZATION..... USGS
 MAP CODE NO. OF REC.....

REPORTER
 NAME.....
 DATE.....
 UPDATED.....
 BY.....
 BRADLEY, R.; WALKER, G. W.
 78 10
 81 04
 FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
 DEPOSIT NAME..... CHIEFTAIN

MINING DISTRICT/AREA/SUBDIST. MYRTLE CREEK

COUNTRY CODE..... US
 COUNTRY NAME: UNITED STATES

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

COUNTY..... DOUGLAS
 DRAINAGE AREA..... 17100302 PACIFIC NORTHWEST
 PHYSIOGRAPHIC PROV..... 13 KLAMATH MINS
 LAND CLASSIFICATION..... 00

QUAD SCALE QUAD NO OR NAME
 1: 62500 DIXONVILLE (1954)

LATITUDE LONGITUDE
 43-02-27N 123-05-20W

UTM NORTHING UTM EASTING UTM ZONE NO
 4765150. 492750. +10

TWP..... 029S
 RANGE..... 003W
 SECTION.. 20
 MERIDIAN. WILLAMETTE

ALTITUDE.. 1200 FT

POSITION FROM NEAREST PROMINENT LOCALITY: 12 MILES BY ROAD FROM MYRTLE CREEK

LOCATION COMMENTS: NW 1/4

Files - Drew

CHALCOPYRITE, SPHALERITE, SYLVANITE, PEIZITE, PYRITE

MAIN ORE MINERALS:
CHALCOPYRITE, SPHALERITE, SYLVANITE, PEIZITE

MINOR ORE MINERALS:
PYRITE

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2
YEAR OF DISCOVERY..... 1898

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
VEIN
FORM/SHAPE OF DEPOSIT: LENSES AND DISCONTINUOUS STRINGERS

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX WIDTH..... 4 FT
STRIKE OF OREBODY..... N 80 E
DIP OF OREBODY..... 60 - 75 N
COMMENTS(DESCRIPTION OF DEPOSIT):
CHIEFTAIN AND CONTINENTAL MINES ARE ON THE SAME VEIN WHICH IS ABOUT 3000 FT LONG

DESCRIPTION OF WORKINGS

COMMENTS(DESCRIP. OF WORKINGS):
ABOUT 1500 FT

PRODUCTION
UNDETERMINED

PRODUCTION COMMENTS..... BULK OF PRODUCTION PRIOR TO 1930 . RECORDS INCOMPLETE; PRODUCTION PROBABLY GREATER THAN \$100,000 .

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR
HOST ROCK TYPES..... METAGABBRO
PERTINENT MINERALOGY..... QUARTZ
IMPORTANT ORE CONTROL/LOCUS.. SHEAR ZONE

GEOLOGICAL DESCRIPTIVE NOTES. VEIN IS CUT BY SET OF STEEPLY DIPPING, NORTH TO NORTHEAST STRIKING, FRACTURES AND FAULTS OF SMALL DISPLACEMENT.

CHIEFTAIN MINE (Gold, copper, zinc)

Tiller-Drew Area

Location: On South Myrtle Creek in sec.20, T.29 S., R.3 W.W.M., 12 miles by gravel road from Myrtle Creek.

Dixonville Quad.

Wells 31-32:57-61 gives the following description:

Metagabbro: Except a small body of dacite, the only rock exposed in the area is metagabbro. As described by Diller, this rock throughout the greater part of its mass has a granitoid texture. Its original pyroxene has been changed into hornblende or chlorite; less commonly the original lime-soda feldspar has been changed to an aggregate of quartz, muscovite, and epidote or kaolin. Although in much of the rock these changes are more or less complete, there are large masses that have especially fine-grained and somewhat diabasic textures in which pyroxene and feldspar remain practically unaltered. The relative proportion of feldspar and pyroxene is in general nearly the same, the feldspar being somewhat more abundant than pyroxene, but in a few places the rock is made up almost exclusively of either feldspar or pyroxene. Quartz is a rather abundant primary constituent in a few places.

"The rock in the immediate vicinity of the mines is coarse-grained, and its feldspar and black minerals are present in about equal amounts. Under the microscope the feldspar, which is bytownite, is seen to be but slightly altered, though the pyroxene or hornblende has been largely altered to chlorite.

"Diller believes that the metagabbro is intrusive into the Myrtle formation and hence must be younger than that portion of the Cretaceous.

"The only structural features observed in the metagabbro are the east-west fractures, which are followed by the veins, and faults of small displacement that range in strike from northeast to northwest and have offset the veins. Both the fractures and faults are characterized by steep dips. Several of the veins in greenstone to the south - for instance, those of the Greenback, Daisy, and Corporal G. Mines - strike approximately east and have in some places been offset by faults that strike from northeast to northwest.

Dacite: Dacite crops out about 3 miles a little west of north of the Chieftain mine. It is fine grained and contains phenocrysts of quartz. The groundmass has been completely altered to quartz and sericite. According to Diller, two varieties of dacite occur near the town of Myrtle Creek. One is decidedly porphyritic, with well-developed crystals of quartz and feldspar, and the other is nonporphyritic and closely resembles quartzite. The second variety is found, under the microscope, to consist of quartz and feldspar, largely plagioclase, with numerous shreds of hornblende. The groundmass of the first variety is similar but much finer grained. Diller states that the age of these rocks can not be determined but that some masses of them are apparently younger than the metagabbro and serpentine."

"According to Edward Law, the present manager, the Little Chieftain deposit was discovered about 1898 and developed by Armitage & White, who shipped some good ore. They sold it to Hamilton & Cramer, who did further development work and put it in a stamp mill some time between 1903 and 1905. The production to the end of 1905 includes about 1,000 tons of ore ranging in value from \$55 to \$175 a ton, which was shipped to the Tacoma smelter. Mr. Law obtained the property in 1928 and, after some development work, shipped 20 tons of ore running \$110 a ton in gold and silver. Since March 5, 1930, the property has been operated by a company called the Chieftain Mines (Inc.)."

"The Chieftain mine is on the west bank of Letitia Creek in the NW $\frac{1}{4}$ sec. 20, T. 29 S., R. 3 W. The lower adit is a few feet above the creek, at an altitude of about 1,100 feet. The accessible workings include a lower adit 330 feet long, an intermediate or "mill" adit 555 feet long, and an upper adit 80 feet long. The lower and mill adits are connected by a raise along a stope. There are other workings, which are now caved, including an old drift on the lower level, which extended beyond a fault mentioned below.

"The mine is on a quartz vein of variable width, which strikes S. 80° W. and dips 65°-75° N. This vein has been traced by discontinuous outcrops and surface float for a distance of $1\frac{1}{4}$ miles. The most easterly outcrop is at a short adit a few hundred feet east of the Chieftain mine; the most westerly outcrop is marked by two shafts on the Hall homestead.

"The lower and mill adits of the Chieftain mine explore the vein for a length of about 640 feet and to a maximum depth of 170 feet. So far as explored the vein consists of lenses and discontinuous stringers of quartz. These lie in a shear zone bounded by slickensided walls that are from less than a foot to about 4 feet apart. Locally the walls are lined with a thin layer of gouge. In some places the zone is composed entirely of quartz; in others it is mostly altered rock. The wall rock is cut by many veinlets of quartz and contains a little pyrite near the vein. In general, however, it is free from sulphides. Horseshoes of rock included in the vein are largely altered to sericite. The vein itself has been strongly sheared, as is shown by the strain shadows and many microscopic fractures in the vein quartz as well as by the ease with which it shatters.

"Irregular grains, patches, and streaks of sulphides in places form as much as 10 percent of the vein. Coarsely crystalline pyrite is the predominant sulphide. Chalcopyrite and sphalerite occur in subsidiary amounts. The pyrite is mostly bright, though in part dull and dirty, probably owing to granulation. Chalcopyrite forms small patches near the pyrite but is rarely associated directly with it. Sphalerite is likewise commonly associated with the chalcopyrite.

"Under the microscope the sphalerite is seen to contain blebs and veinlets of chalcopyrite. Sylvanite and petzite (tellurides of gold and silver) occur as small irregular patches or threads in both the chalcopyrite and sphalerite and here and there by themselves in the quartz. Neither was found, however, in the pyrite. Petzite contains a smaller amount of tellurium than sylvanite, and the silver content of both is variable; in the specimens from the Chieftain mine it is low, probably less than 25 percent. No free gold was seen. During the period of mineralization the deposition of quartz was continuous. Pyrite is the oldest sulphide. Sphalerite was deposited next and was succeeded by chalcopyrite. Sphalerite was deposited next and was succeeded by chalcopyrite. Sylvanite and petzite were deposited last. The tellurides are almost exclusively associated with chalcopyrite and sphalerite, and the abundance of these sulphides, which are readily seen, is therefore some indication of the value of the ore.

"The vein is cut 300 feet from the portal of the main level by a fault zone that strikes due north and dips at a high angle to the west. It has produced a horizontal displacement of 80 feet distributed over a series of slips. Elsewhere some horizontal faults have displaced the vein a few feet.

"On the upper level, as well as in an old glory hole that extended down to it, the vein is a typical vuggy iron-stained gossan, and some of the ore in its oxidized portion was probably free milling. On the mill level the vein has been completely oxidized to the east of the fault. West of the fault it shows only slight oxidation and on the lower level none.

"The character of the vein and the minerals described indicate that the deposit falls into the mesothermal type of Lindgren. Though the sulphide minerals that carry the gold are abundant in spots they are not concentrated in definite shoots but are distributed irregularly throughout the vein. Much of the quartz now showing carries considerable sulphide, and the vein on the main level beyond the fault is well mineralized. From these facts it is reasonable to assume that the ore continues in depth and that within the limits imposed by the size and tenor of the vein a considerable tonnage can be mined."