

9/24/66

Willmot Property

Molybdenum

NAME OLD NAMES PRINCIPAL ORE MINOR MINERALS

4 S 44 E SW 1/4 10 T R S

PUBLISHED REFERENCES

Bull 144 page 120

Willowa..... COUNTY

Willowa Range..... AREA

about 7500..... ELEVATION

Hurricane Creek Trail..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S)	H.F. Gress.....	Address	Joseph, Oregon.....
.....
.....
.....
OPERATOR

Name of claims	Area	Pat.	Unpat.
.....
.....
.....
.....

EQUIPMENT ON PROPERTY

.....

Wilnot Group (Matterhorn Group)

Willow

The Matterhorn Peak Molybdenum Prospect is located near the base of the Western slope of Matterhorn Peak on the east wall of Hurricane Canyon near the section line between secs. 3 and 10, T. 4 S., R. 44 E.; and is approximately 1100 feet east of the new log cabin built at the lower end of the meadow which starts in the NW $\frac{1}{4}$ of sec. 10. A forest service road extends approximately two miles into Hurricane Canyon and a pack trail follows the creek through the canyon and into the Lake Basin. The claim is about 10 miles from the road terminus.

The east wall of Hurricane Canyon, near the prospect, is steep to precipitous. Three shallow gullies trending east of north produce irregularities in the slope. Because the deep snows remain unmelted until early summer, the area is generally not accessible until June.

Light colored medium grained granodiorite intrudes fine-grained gray to black siliceous hornfels and crystalline limestone. ~~Basalt dikes~~ Basalt dikes formed by three successive intrusions cross-cut the other rocks. Dips and strikes in the metamorphics are variable. The strikes are northeasterly, and dips are north-westerly. Basalt dikes have been intruded along shale-marble and metamorphic-granodiorite contacts and have cut across these rocks as well as somewhat earlier dikes. Displacement of intruded rocks by the dikes seems to be limited to offsets normal to local dike trends. Flow lines that may or may not be remnants of bedding planes are well developed and are indicative of the deformation to which the limestone was subjected. Bending of flow lines around metamorphosed dike inclusions may be due to "dilatation" of the dikes or maybe due to flow in the limestone during deformation.

Mineralization along the metamorphic-granodiorite contact, in this area, is not well developed and is more or less spotty. Garnetization occurs to some extent along shale-marble contacts, but is well developed in two places where stringers of granodiorite penetrate thin interbedded shale and marble as at cuts 1 and 2 (see plate No. ____). Sparse metallization has taken place in many isolated spots.

Primary metallic sulphides include molybdenite, pyrite and chalcopyrite. Primary non-metallics present are garnet, epidote, quartz, calcite, and some scheelite. Secondary minerals are fracture fillings of calcite and occasional coating of molybdenite on molybdenite, and malachite around chalcopyrite. Graphite is present along flow lines or bedding in marble for as much as 10 feet from the mineralized zone at pit 2. Mineralized zones at cuts 1 and 2 stand out as cliffs 15 to 20 feet high. In other places, mineralization has not been as extensive and must be searched for by exploratory cuts. Numerous small exposures of garnet are to be found along the contact where it is not covered by talus. The zones either parallel the vertical dip of marbles and shales (cut 1); or the vertical contact of dike-shale-marble (cut 2); or the granodiorite-metamorphic contact (cut 3). In one or two places garnetization occurs along granodiorite stringers that cut across the bedding planes in shales.

Mineralized zones are closely associated with the granodiorite-metamorphic contact generally fading out with increasing distance from the intrusive. Mineralization was not seen above the 7400 foot contour. The two tactite bodies (cuts 1 & 2) examined were formed in thin marble lens (2 to 3 feet thick) interbedded with shales. The vertical attitude suggests replacement of marble by solutions ascending parallel to the dip from the underlying intrusive.

Of the primary minerals present, only scheelite and garnet are of restricted occurrence being associated with high temperatures or pressures, or both; the others

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are "persistent minerals" found in deep to shallow environments. Limonite, malachite and molybdenite are oxidation products of the primary minerals.

No molybdenite or scheelite deposits of possible economic importance have yet been discovered. The development work has been restricted to three shallow cuts which show thin tactite zones with a paucity of metallics. At Cuts 1 and 2, the tactite may contain more metallics at depth, but the limited size of the zones is not sufficiently encouraging to warrant deeper exploration. Of the two mineralized zones, the one at Cut 2 is the larger. It is a thin vertical lens having dimensions of 10 ft. wide x 3 ft. thick x 15 ft. high. It is unlikely that the metamorphics extend to any great depth in the granodiorite; so a deeper continuation of mineralization should not be expected.

Conclusions: 1. Geologic conditions were such that sparse metallization and abundant garnetization took place.

2. The restricted size of metallized spots suggests a paucity of metalliferous solutions in the magma.

3. Molybdenite and other metallic sulphide occurrences in the immediate area are scattered, are of small extent, and apparently are not connected. Evidently each occurrence was due to metasomatic solutions having been diffused by the magma at scattered points and not concentrated before migration. Channel samples assayed for molybdenum gave the following results:

<u>Sample No.</u>	<u>Location</u>	<u>Molybdenum</u>
S-1	Cut 1 (tactite)	Trace
S-1	" (shale)	Nil
S-1	" 2 (tactite)	0.09%
S-2	" (shale)	Nil
2	" 3 (shale & granite)	Trace
3	" 2 (shale & granite)	1.33%
4	Outcrop (tactite on ridge)	Nil
5	Outcrop (tactite) in gulch west of stream	Nil
6	Outcrop (tactite) on ridge	Trace
7	Outcrop (tactite) on ridge	Nil

State Department of Geology and Mineral Industries *FWZ*

702 Woodlark Building
Portland, Oregon

Western Union Mining and Development Co.

Imnaha District
Wallowa Co.

Owner: I. E. Dill, 4006 Center St., Tacoma, Washington

Location

and Area: The Western Union Group consists of eight patented claims lying in sections 24, 25 and 26, T4N, R 48E Wm. All of the claims are southwest of the Imnaha River and join the river about 3/4 miles from its mouth.

History: Mr. Dill acquired the claims through judgment for fees due him. (No data in Parks and Swartley or 14A.)

Equipment: There is no equipment on the property except a couple of cabins, which are in ruins.

Geology: The region is made up of altered basic igneous rocks, which appear to be altered gabbro. These are capped by basalt. The gabbro is exposed in the canyons, where some work has been done on fracture zones striking S 15° to 20° W. and dipping 70 to 80 degrees to the east.

In these fracture zones copper stains were evident which was what probably attracted the original locator. The tunnels were covered with dust, which made it impossible to get a clear picture of what had been mined. The dumps, however, contained magnetite with minor amounts of pyrite and chalcopyrite. Samples taken from the dump contained no gold and silver and a trace in copper. To date no other analysis has been run.

The canyons are steep and rather deep. No timber is present. Water appears to be absent, except at the Imnaha River.

Hugh K. Lancaster
Hugh K. Lancaster,
Field Engineer
12/21/41.

No description of development work
FWZ