

6/46

Frasier Property

Copper  
Molybdenum - Tungsten

MINOR MINERALS

NAME OLD NAMES

5 S 44 E N<sup>1</sup>/<sub>2</sub> 12  
T R S

PUBLISHED REFERENCES

Hess and Larson 21:308  
Parks and Swartley 16:95  
Bull 14A page 116

..... Wallowa COUNTY  
..... Wallowa Range AREA  
..... 8700 ELEVATION  
12 miles trail and six road  
from Joseph ..... ROAD OR HIGHWAY  
..... DISTANCE TO  
SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) .....

Address .....

OPERATOR .....

Name of claims Area Pat. Unpat.  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of claims Area Pat. Unpat.  
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EQUIPMENT ON PROPERTY

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WALLOWA RANGE  
WALLOWA DISTRICT

Fraser's Property.—At the Fraser property we have a block of limestone or marble several hundred feet long, occupying the top of the same ridge from which the preceding pictures were taken. This limestone outcrop is entirely surrounded by granodiorite and the contact between the two is an irregular ellipse, with its major axis that of the ridge's crest and its greatest vertical distance below the ridge at either side about 200 feet. The contact-metamorphic zone goes all the way round the limestone block, but the northern side of the ridge has the greater amount of mineralization.

The mineralized zone is from 20 to 50 feet wide. The principal gangue minerals are garnet, epidote, calcite and quartz. Much of the garnet and epidote is fine-grained, but when these typical contact-metamorphic minerals had the opportunity, as in vugs and small fissures, they formed into crystals of considerable size. Some of the garnets were found to have a curious zonal structure indicating a change of composition in the outer part of the crystals. Since their exterior is of different composition from their interior which was formed first, the depositing solution must have changed in composi-

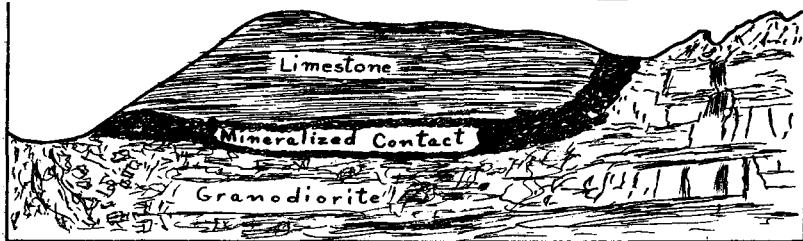


Fig. 40. Sketch showing mineralized contact at Frasers.

Scheelite reported by Mess & Larson, U.S.G.S. in "Contact Deposits of the W.S."

Bull 725- 1420  
245-311

WALLOWA RANGE  
CORNUCOPIA DISTRICT

FRASER CLAIM

tion during the slow building up of these crystal forms. The ore minerals are chalcopryite, pyrite and molybdenite. Chalcopyrite is found in a zone from six to eight feet wide near the actual plane of the contact in what appears to be altered granodiorite. Chalcopryite is also found in bunches filling in the spaces between the fairly well formed zonal type of garnet crystals.

Molybdenite, with some chalcopryite, occurs in the altered granodiorite alongside the chalcopryite, and appears to be the result of fissuring within the contact-metamorphic zone after the zone had been at least partially formed. It appears likely that the feldspar, biotite or black mica, and the hornblende of the granodiorite had been nearly all replaced by silica; molybdenite afterward completing the replacement of these minerals. This highly siliceous molybdenite vein is from one to two feet wide.

There are also irregular lens-like quartz veins. Small amounts of chalcopryite and epidote are found, besides the tabular and for the most part badly-formed crystals of molybdenite.

W. Sutton and associates, of Butte, began last summer the development of this interesting contact deposit, where considerable surface work had previously been done by Mr. Fraser. A crosscut tunnel 300 to 400 feet long is being driven to get well below the surface, not only to determine the extent and value of the deposit below, but to avoid trouble with snow at the present surface workings.

Systematic channel sampling had not been done at the time of the visit to the property, so that no statement can be made as to actual percentages of copper or amounts of gold at various parts of the surface workings, but it is said that there is 20 to 25 cents in gold to each per cent of copper, and that samples contain copper up to moderately high percentages.

