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328 samples were collected.

This concluded the 1977 program.

### Regional Geology

G.S.C. Memoir 324, Nechako Map Area, British Columbia, describes the regional geology of the area embracing the Capoose claims. According to Memoir 324, four major geologic formations underlie the Capoose claim block. These are:

- |                               |   |
|-------------------------------|---|
| Ootsa Lake Group (Lower Unit) | - Upper Cretaceous and<br>(?) Paleocene |
| Capoose Batholith             | - Jurassic and/or<br>Cretaceous         |
| Hazelton Group                | - middle and (?) Lower<br>Jurassic      |
| Takla Group                   | - upper Triassic and Lower<br>Jurassic  |

The Takla Group is described as consisting of andesitic and basaltic flows, tuffs and breccias, and interbedded argillite and minor limestone. This formation follows the core of the Fawnie Range, through the middle of the Capoose Project claim block. Memoir 324 does not describe rhyolite as being present in the Takla Group.

The Memoir 324 geologic map shows a small block of Hazelton Group rocks over-lying the Takla Group from the southern edge of the "D" claim to approximately 5 kilometers to the southeast. The Hazelton Group is divided into upper and lower units. The lower unit is described as being composed of andesite and related tuffs and breccias, chert pebble conglomerate, shale and sandstone. The Memoir states that "calcareous shales and limestone are not known in the unit". The upper Hazelton unit is composed of greywacke, argillite, conglomerate, tuff, breccia, andesite, arkose and minor rhyolite.

Certain discrepancies exist between the above description of the Takla and Hazelton formations and that observed by the writer while mapping the property. Approximately 40% of the rocks mapped

from Green Lake to the Hazelton contact, described by Memoir 324, are felsic in composition. Some are quite light in color and are probably rhyolite. The argillite, mapped by the writer, should belong to the Hazelton, according to Memoir 324, but contains calcareous beds. Fine grained rhyolite occurs on Fawnie Nose, approximately 2 kilometers southeast of the southeast corner of the "F" claim, and is mentioned in Memoir 324 as belonging to the upper unit of the Hazelton Group.

Because similar felsic rocks occur continuously through the Hazelton - Takla contact, as described by Memoir 324, the writer feels that this contact has been misplaced. The writer is uncertain as to which formation the rocks belong that are outcropping on the "D", "E" and "F" claims.

The Capoose Batholith underlies the Ned, "J", "K" and "L" claims and western portion of the "A" claim. It continues to the west, for at least 15 kilometers, where it outcrops along the Entiako River. It is composed of white to pink biotite granite and grey granodiorite according to Memoir 324.

The lower unit of the Ootsa Lake Group underlies the east end of the claim block. It consists of basalt, andesite and related tuffs and breccias, and minor rhyolite and dacite.

#### LOCAL GEOLOGY

During the 1977 program geologic mapping was completed over the area considered to contain the prime soil anomalies on the "D", "E" and "F" claims. Mapping was done using a scale of 1:2500 and covered the area from 5N to 9S and from 5W to 15W. A geologic map has been prepared to accompany this report. Some geology has been added to this map, on the north west corner and the east side, from the 1976 program geologic map.

### Takla Group

For a description of these rocks occurring north of the 1977 map area, refer to Report on Capoose Project 1976 Program. Under the heading of General Geology in this report, the writer has mentioned that some doubt exists as to whether the rocks outcropping within the 1977 map area belong to the Takla or Hazelton Group. These rocks have been assigned to the Hazelton by G.S.C. Memoir 324 because of the rhyolite present. The location of their Takla-Hazelton contact does not appear valid because the felsic volcanics continue through it and on to Green Lake approximately 1.5 kilometers to the north.

### Hazelton Group

The description of Hazelton rocks on the property in the 1976 Capoose report has been largely invalidated by mapping completed in 1977. The rocks mapped in the 1977 program will be discussed under this heading because G.S.C. Memoir 324 describes these outcrops as belonging to the Hazelton Formation.

The major portion of outcrops in the map area are rhyolitic agglomerate with some rhyolitic tuff. Andesite occurs extensively north and south of the map area, and the edges of these exposures are just covered by the 1977 map. A small unit of poorly exposed argillite occurs in the area centered at 2N, 6W.

The rhyolitic rocks vary in color from white to dark grey. The light colored rocks predominate. The increase in shades of grey may be due to very fine grained chlorite alteration. Fragments occur in the agglomerate up to 2 centimeters across, and many are rounded. The groundmass grain size, in general, is similar to that of coarse sandstone and picked samples resemble sandstone. These rocks may have been mistaken for a unit of Hazelton Formation quartz pebble conglomerate by G.S.C. personnel, which would be an additional reason for their classifying the rocks here as Hazelton.

Well rounded volcanic bombs are common at several locations and have been observed up to 5 centimeters in diameter. Lamination in these rocks is rare and where observed is obscure. An exception to this occurs in the rhyolite exposed in the pit at 11W, 3S, where lamination is well developed. No distinct horizons or marker beds were found within the rhyolitic rocks. A variety of rhyolitic agglomerate was mapped as a separate member. It is characterized by a very fine grained grey ground mass which resembles chert. The largest zone of this rock type mapped is centered at 1S, 10W.

The presence of these unsorted pyroclastic rocks suggest that they occur in or in close proximity to a caldera.

A few small outcrops of andesite occur within the rhyolitic unit. One of these exposures at 2+60S, 12+45W contains abundant small crystals of arsenopyrite. An exposure at 2N, 8W, hosts the highest grade mineralization found to date on the property.

The andesite north and south of the rhyolitic unit is mainly dark green to black tuff. Minor exposures of andesite porphyry were observed.

A small area of black sedimentary rocks occur centered around 2N, 6W. They consist primarily of black noncalcareous argillite, but exposures are few and poor. Several small exposures of light coloured tuff were mapped within the argillite. Also observed were a few very small outcrops and/or large angular pieces of float of dark, very calcareous agglomerate with a ground mass resembling coarse grained greywacke.

#### Capoose Batholith


A few small, poorly exposed outcrops of quartz monzonite were found near 8W, 2S on the Ned claim. The orthoclase crystals are up to one centimeter long. The plagioclase is finer grained and quartz is abundant. These rocks contain zones, up to 0.25 meters thick, of fine grained white rock. These appear, at this


time to be dykes which have been preferentially silicified.

Ootsa Lake Group.

A few small outcrops of coarse grained andesite were mapped along the "G" and "I" claim boundary from 2S to 4S, 75E. A large area of outcrop occurs immediately east of the "I" claim and passes into the claim for a short distance at 5N, 95E. These rocks are all andesitic and consist primarily of andesitic breccia.

MINERALIZATION

 On the "D.", "E", and "F" claims mineralization in the largest zone of interest occurs as disseminated specks in rhyolitic agglomerate. The specks vary in size from minute up to occasional blebs 1 centimeter across, and they are commonly rimmed by garnet. The minerals present are pyrite, sphalerite and galena. Assay results suggest that some arsenic is present. On the basis of alteration, abundance of limonite and abundance of vugs due to leaching, two zones of above average mineralization and/or alteration have been outlined by geologic mapping. The two zones are centered around 1S, 8W and 3S, 12W. Both zones are approximately 500 meters long and up to 250 meters wide. Assay results completed to date suggest that there may be large zones present which will grade about 1 to 2% combined lead and zinc and 2 oz/ton silver. Further work could lead to finding economic values outside of the two mapped alteration zones. Visual determination has obvious limitations and interesting mineral specimens were found outside the zones.

 An east - west area of mineralization, about 200 meters long, occurs centered at 2N, 8W. This area has produced the highest assay results to date. The mineralization is shear controlled and occurs in black andesite. The minerals present are sphalerite, galena, pyrite and arsenopyrite. They occur mainly along fractures which have been solidly filled up to 2 centimeters

in width. One highly mineralized zone, about 0.3 meters wide, is exposed in the pit at 2+15N, 8W. The wall rocks are barren (visible inspection). The area is mostly masked by overburden. The area may prove to contain enough mineralized veinlets over sufficient widths to make ore but because of the relatively large amounts of barren wall rock exposed, the writer views this area as less promising than the disseminated zones to the southwest.

Massive, stratigraphically controlled sulphides have not been found on the property, but it appears, at this time, that the mineralization on the "D" - "F" claims is a type of volcanogenic deposit.

Additional prospecting on the Ned claim disclosed several very obscure outcrops of quartz monzonite near 8W, 2S. The quartz monzonite was cut by silicious zones up to 0.25 meters thick. Molybdenite occurs as blebs up to 1 centimeter across in the silicious zones and was particularly conspicuous along the contacts. Molybdenite was also observed sporadically disseminated through the quartz monzonite in blebs up to 0.5 centimeters long. Minute amounts of chalcopyrite were observed in the quartz monzonite. Pyrite is present primarily concentrated along fractures or lineations and constitutes up to 4% of some hand specimens. The best assay from this area was on a chip sample across 5 meters which returned 0.046% MoS<sub>2</sub> and 0.03% copper. Other assays from this showing ranged from 0.002 to 0.017% MoS<sub>2</sub> and 0.02 to 0.05% copper with negligible values in gold and silver. The showing is considered to be of great interest in as much as strong copper and molybdenum soil anomalies and interesting induced polarization anomalies occur nearby and the area is entirely overburden covered except for the showing.

#### ALTERATION

On the "D" - "F" claims, mapping alteration was primarily a matter of visually estimating the intensity of silicification and pyritization as indicated by the amount of limonite present.

NED  
X

Reference  
(instead of sheet)

The rhyolitic agglomerate was separated into zones of intense, moderate and relatively low alteration. In areas of high alteration, samples can be found with little or no limonite and minor silicification. The reverse is true of areas mapped as moderate or low alteration. Samples were examined under the binocular scope. Alteration appears to consist only of silicification with accompanying sulphide minerals. In the area centered at 2N, 8W, the wall rock (andesite) does not appear altered.

On the Ned claim, relatively fresh quartz monzonite bands occur within very rotten, weathered quartz monzonite. In the fresh quartz monzonite, minor chloritization and silicification were noted. Feldspars are unaltered. It is assumed that the weathered quartz monzonite has broken down due to its being altered to some extent, but solid samples suitable for study could not be collected. As noted earlier in this report, silicious bands, up to 0.25 meters, are present and they transect both fresh and weathered quartz monzonite.

#### DISCUSSION OF RESULTS AND RECOMMENDATIONS FOR 1978

##### Silt Sampling - Entiako Area

A small area east of the "I" claim was silt sampled and the results were negative.

An area from Mt. Swannell to Entiako Lake was silt sampled, and samples assayed for copper, molybdenum and silver. An anomalous area was indicated by this work, primarily in molybdenum values. A few spotty highs in copper were also disclosed.

The anomalous area is roughly seven kilometers long in an east-west direction and a maximum of five kilometers wide. It is bounded on the north and west of the Entiako River and on the east by the lower section of Capoose Creek, below Capoose Lake.