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DETAILED GEOLOGICAL MAPPING  
OF  
N.E. CORNER OF BIG FOOT CLAIMS

For McIntyre Mines

By

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July, 1977

Summary

From June 1 to July 8, geological mapping, at a scale of 1"=200' was conducted over the northeast corner of the Big Foot Claims, held by McIntyre Mines Ltd. These claims are located on the west side of Harrison Lake and lie within the Middle Jurassic Harrison Lake Formation. An attempt was made to locate all outcrops on the property, but lack of time prohibited this. There are still areas where fill in work must be completed.

Geological units appear to be trending  $N30^{\circ} - 60^{\circ}W$  and dipping to the northeast, which means that the northern contact of the rhyolite and rhyodacite tuffs would be the most favourable horizon to find a massive sulphide ore body. Further work should be directed to locating top indicators such as graded bedding, cross bedding, etc. and to outlining the rhyolite and rhyodacite tuffs horizons and their immediate hanging wall rocks.

Status and Location

The McIntyre Mines claims group consists of the Big Foot block of claims, optioned from Delphi Resources early in 1977 and 3 claims BF 1, BF 2, BF 3 staked by McIntyre in the fall of 1976, which surrounds the Big Foot block on the land side.

This group of claims is located on the west side of Harrison Lake, approximately 12 miles north of Harrison Mills. Access is via the Morris Valley Road, which passes through the centre of the property.

Work Done on Property (1977)

Geological mapping(at 1" = 200') was carried out along all roads, streams and along the power line in the northeast corner of the claims area. Pace and compass traverse lines, some at 400 foot and some at 200 foot line spacings were used for fill in work. This fill in work had not been completed when work was terminated for the summer.

Simms and Walian Creeks as well as several of their tributaries were silt sampled at 400 foot intervals.

The soil sampling grid, set up by G. Noel in the latter part of 1976 was extended to the SE to Harrison Lake and also to the NW by 4 lines. Samples were taken at 100 foot intervals on lines spaced 200 feet apart.

## Geology

The area is underlain by intermediate to acidic pyroclastics and flows of the Middle Jurassic Harrison Lake Formation. Within the property limits, this formation has been broken down into four basic units. From oldest to youngest these are dacite to andisite tuffs, rhyolite and rhyodacite tuffs, sediments, and andisitic to basaltic flows. The dacite to andisite tuffs have been combined because of the numerous intermediary compositions present, which makes it difficult, in many cases, to separate one from the other. Basically, these are lapilli tuffs with chloritized and/or felsic, subangular clasts. Crystal tuffs have also been included within this category.

Overlying this intermediate unit there are rhyolite and rhyodacite tuffs. Once again clasts are mostly lapilli sized, but these outlines have been obliterated by secondary silicification throughout most of the unit. Sericite alteration is also present in several localities, usually associated with heavy pyritization.

On top of the rhyolite and rhyodacite tuffs, and only locally present, is a thin unit of fine grained sediments, consisting primarily of a medium grey, poorly sorted sandstone. Within this unit, some grey and black chert beds can also be seen.

The youngest rocks on the property are andisitic to basaltic flows. They are generally medium to dark green in colour and amygdaloidal. Some of the andisites are pillowed. This unit appears to be very thick and covers most of the northeast corner of the property.

The stratigraphy trends generally  $N30^{\circ} - 60^{\circ}W$  and dips to the northeast, however dips to the southeast are not uncommon.

To this date, no good evidence of stratigraphic tops has been located. The sandstones are generally fine grained, poorly graded, with

no visible cross bedding, while the shape of pillow structures within the andisites are so vague that they cannot be used to accurately determine tops.

A fault along Simms Creek was suggested as a possibility by G.Noel in earlier work, but no conclusive evidence for this could be found.

There are some slickensides present locally, indicating lateral movement parallel to the stream, but these appear to be the result of movement of small individual blocks.

#### Mineralization

Pyrite, sphalerite and chalcopyrite occur with quartz and barite in stringer and veins within the rhyolite and rhyodacite tuffs. These veins go up to several inches in thickness and trend generally  $N30^{\circ} - 60^{\circ}W$  with steep dips to the northeast.

The best showing occurs along the main road, where it meets the north road to the Lineham Logging Company camp. This vein type mineralization can be traced in outcrops and trenches for at least 2000 feet along strike.

Rocks similar to this were encountered at several localities on the property, but they show little to no sign of mineralization.

### Geochemistry

Mineralized rock samples, mainly from the rhyolite and rhyodacite tuffs were analysed for Cu, Pb, Zn Ag and An. Most of the visible mineralization was pyrite. Results received so far, appear to indicate that the copper and zinc mineralization is confined strictly to veins.

Stream sediment and soil samples were also taken and analysed for Cu, Pb, Zn and Ag. Results of these analysis have not yet been received.

### Conclusions and Recommendations

When work on the Big Foot project was abruptly terminated for the summer, geological mapping of the property had not proceeded very far, and much of the geochemical data from samples sent in for analysis, had not returned at the time of writing this report. Therefore, very few conclusions can be reached at this stage.

From stratigraphic relationships i.e. sequence and attitude of the units, it would appear that the contact between the rhyolite and rhyodacite tuffs and the andisite flows (or sediments, where they occur locally) would be the most favourable when looking for a massive sulphide deposit. Good top indication however, must still be found to show that the units have not been overturned. It will also help in determining whether the sphalerite and chalcopyrite in veins is stringer ore or is mineralization sweated out of an underlying massive sulphide body.

Geological mapping should be continued over the entire property with more detailed work centered around areas underlain by the rhyolite and rhyodacite tuffs, which seems to be the most favourable host rock. Soil sampling grids should also be set up over these more favourable areas.