

Hart  
671769

## Introduction

The Hart Property, consisting of six claim blocks having a total perimeter of 6 km. north-south by 5 km. east-west, was staked in early June, 1981. This staking was undertaken due to anomalous quantities of silver, arsenic, and mercury found in samples taken the previous summer. The property covers nearly the entire surface exposure of the Hart Peaks Formation which is a rhyolite overlain by basalt. The claims lie approximately 80 miles south-southwest of Atlin just west of Hart Peaks on the Tulsequah map sheet (NTS 104K).

## General Discussion

Mapping and sampling of the claim blocks was conducted from two locations due to the size and rugged topography of the property. Camp Alpha remained in the valley location from which the staking was performed in order to cover the 'South Hart' area consisting of claim blocks 1, 2 and 3. Camp Charlie was moved above treeline onto a plateau from which the 'North Hart'

area of claim blocks 4, 5 and 6 were accessible. The western part of claim block 5 descends below treeline reducing surface exposure.

Geochemical emphasis was placed on talus sampling the rhyolite slopes at 50 m intervals along a contour. As the size of the talus material increases rapidly downslope most of the samples were taken on the upper portions of the talus slopes.

## Geology

The North Hart geology essentially consists of basalt flows dipping gently to the north-east which are interrupted by outcropping of the Heart Peaks Formation rhyolites to the west, these rhyolites form the peaks on the property all of which are weathering away rapidly forming large talus slopes. These rhyolites weather from a reddish yellow and brick red to a brown colour giving the appearance of a large gossan from the air. These rocks are extensively fractured with the fractures having random strikes but tending to have near vertical dips. Many of the

rhyolites were described in the field as being silica deficient and it is possible that many of them grade into trachytes. Both rhyolites and trachytes are mentioned in the U. S. C. report on the Heart Peaks Formation. ~~The rhyolites range in form~~  
The rhyolites range in form from simple flows to cherts, to agglomerates to brecciated veins. The brecciated veins contain angular fragments of light gray flow rhyolites up to 2 cm. in diameter in a reddish-purple matrix. The 'good quality' rhyolites were light gray or reddish purple on fresh surfaces but this ranged to white in the silica deficient rocks. Rhyolite porphyries were relatively common and occurred in two main types. The most common porphyry consisted of soft, white, possibly kaolinized, rounded phenocrysts in a light gray ~~matrix~~ matrix. Less common were clear, euhedral phenocrysts up to 5 mm long in a light gray or purplish matrix of rhyolite. The phenocrysts were probably a type of feldspar but positive field identification was not possible. The rhyolites were generally not magnetic and occasional outcrops

displayed manganese staining along fractures.

In general visible mineralization of the rhyolites is rare. The most promising rock samples were obtained along the major creek which flows from east to west through claim block 4. As one moves up the creek the float changes from being predominantly rhyolite to being predominantly basalt. Near the transition several blocks of float up to 50 cm. long were observed in which hard, dark gray rhyolite appeared to have intruded light gray, crumbly rhyolite. In the dark gray rhyolite pyrite veins were common (rock sample # 73661). Because of the crumbly nature of the host rhyolite it is unlikely this float travelled far. Also on this stream a very fine grained rhyolite outcrop was found which contained a fair amount of disseminated pyrite associated with small drusy quartz crystals (rock sample # 73660). The correlation between mineralization near the transition in float type and the occurrence of mineralized outcrop fairly near the contact created some interest in the rhyolite - basalt contact in the area. Unfortunately, exposures of this contact were not observed. A north-

south trending, vertical basalt dyke approximately 4 m. wide intrudes the rhyolite near the top of the creek but no mineralization was observed near it. In claim blocks 5 and 6 no substantial mineralization or drusy quartz development was found.

The basalts and olivine basalts which overlie the rhyolite were generally not mineralized. They form relatively level plateaus except where cut by glacial and/or stream valleys. Columnar jointing is commonly observed along the valley walls and the gentle dip to the north-east can be determined in such exposures. Calcite is common along fractures in this rock and was observed in one location as bedded crystals infilling a very large, yellow and/or white, subhedral crystals up to one cm. long occurred frequently in the basalts of claim block 6. These might possibly be altered olivines but positive field identification was not made. A small, black, anhedral mineral displaying conchoidal fractures which may have been obsidian was also common. Rare fluorite crystals were observed in the upper valley of claim block 4. The basalts tended to be moderately

magnetic and manganese staining along fractures was common.

According to the G. S. C. geological map both the rhyolites and the basalts of the Heart Peaks Formation are of Tertiary age with the basalts being younger. This age relationship is supported by the superposition of the basalts over the rhyolites and by the intrusion of basalt dykes into the rhyolite. The rhyolites tend to weather recessively relative to the basalts so most of the contacts are covered by rubble or talus.

## Conclusions

Field observations of the rocks in the North Hart area were not encouraging. The rusty colouration which appears so spectacular from the air may be a gossan caused by very fine grained, disseminated sulphides. However since the colour is only present on the surface it may be just a weathering phenomena of the rhyolites. Reddish-orange and brown lichen also add to the gossan-like appearance from a distance. The veins of well formed drusy quartz which are seen in the South Hart rhyolites are practically absent in the northern part of the property. The area with the greatest economic potential is perhaps the rhyolite - basalt contact in claim block 4 but this will depend on if the geochemical results on of the samples taken there indicate valuable mineralization associated with the pyrite. Future work on the property as a whole will no doubt depend upon the geochemical results obtained by the present sampling program.

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V7J 1W1

Please indicate

|               |   |
|---------------|---|
| Agency (if)   |   |
| Geochim (PPM) | ✓ |

| Sample No. | Location | Type    | Analysis |    |    |    |
|------------|----------|---------|----------|----|----|----|
|            |          |         | Mo       | As | Pb | Zn |
| 706        |          | Soil    | ✓        | ✓  |    | ✓  |
|            |          | (Total) |          |    |    |    |
| 722        |          | Soil    | ✓        | ✓  |    | ✓  |
|            |          | (Total) |          |    |    |    |
|            |          | Soil    | ✓        | ✓  |    | ✓  |
|            |          | Rock    | ✓        |    |    |    |
|            |          | Rock    | ✓        |    |    |    |

Sub

706 22, 15, 13, 1.

722 14, 13, 122.

