GEOLOGY AND LITHOGEOCHEMISTRY

OF THE

TAH CLAIM GROUP

NTS 92E/15

Consisting of:
Tah 15 Mineral Claim
Tah 18 Mineral Claim
Tah 19 Mineral Claim
Tah 22 Mineral Claim

Alberni Mining Division NTS 92E 15 Latitude 49° 48.5' N Longitude 126° 31' W

HOMESTAKE MINERAL DEVELOPMENT COMPANY (owner - operator)

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,681

Report by: Report Date: Peter A. Ronning May 6, 1985

TABLE OF CONTENTS

			PAGE					
1.		ON						
	1.2.1 1.2.2	Cty Definition	1					
	1.3.1	ry of Work Done	3					
2.	GEOLOGY		4					
	2.1.1 2.1.2 2.1.3 2.1.4	Regional Stratigraphic and Lithologic Setting	4 7 8					
	2.2.1 2.2.2 2.2.3	Lithologic Units	.10 .14 .15					
3.	ROCK GEOCH	HEMISTRY	.19					
4.	SUMMARY AN	ND CONCLUSIONS	.24					
5.	BIBLIOGRAP	РНҮ	.26					
APPENDICES								
APPEI APPEI APPEI APPEI	NDIX II NDIX III	Analytical Procedures Analytical Results Description of Samples Numbers of Samples Collected per Claim Itemized Cost Statement Statement of Qualifications						

LIST OF FIGURES AND MAPS

Map	1	Tah Claims - Location Mapla
Мар	2	Tah Claims - Claims Location Maplb
Мар	3	Tah Claims - Geology and Sample LocationsPocket
Мар	4	Tah Claims - Rock Geochemistry Au/AgPocket
Мар	5	Tah Claims - Rock Geochemistry Cu/ZnPocket
Мар	6	Tah Claims - Rock Geochemistry As/HgPocket

1. INTRODUCTION

1.1 Location and Access

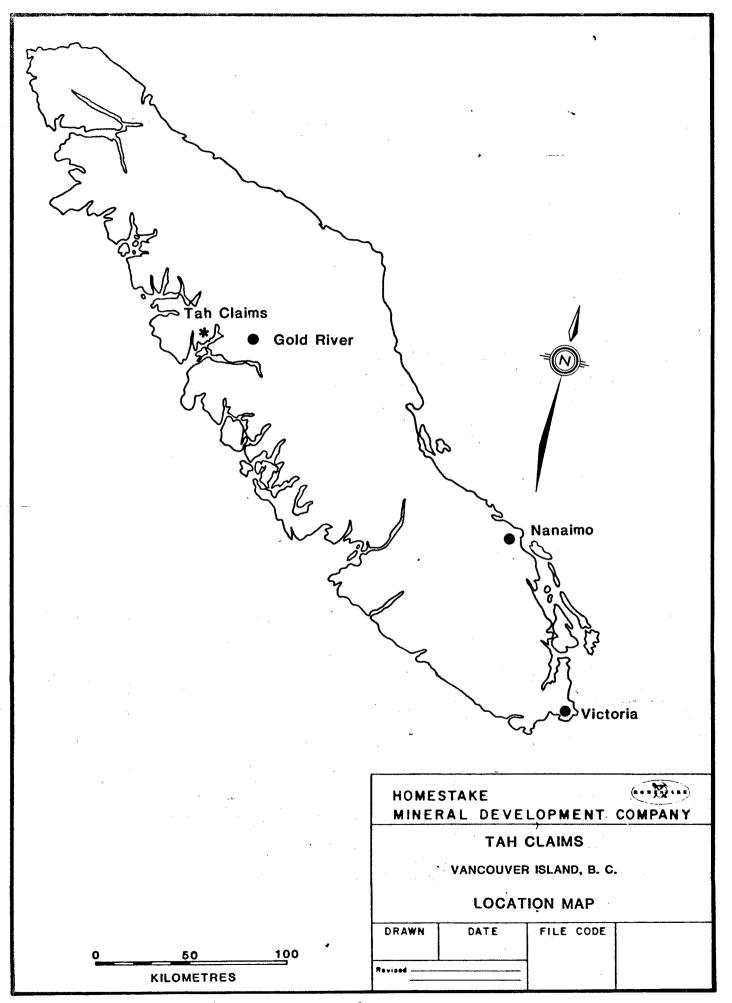
The Tah Claims are located in the Vancouver Island Ranges, south of Tahsis, B.C. (Map 1). At present the property consists of 4 claims, the Tah 15, 18, 19, and 22, which comprise 65 units. Terrain on the claims is mountainous, with relief from about 400 meters to about 1,200 meters above sea level, and densely forested, typical of the western part of Vancouver Island. Parts of the property have been logged off and are now covered by logging slash or young second growth.

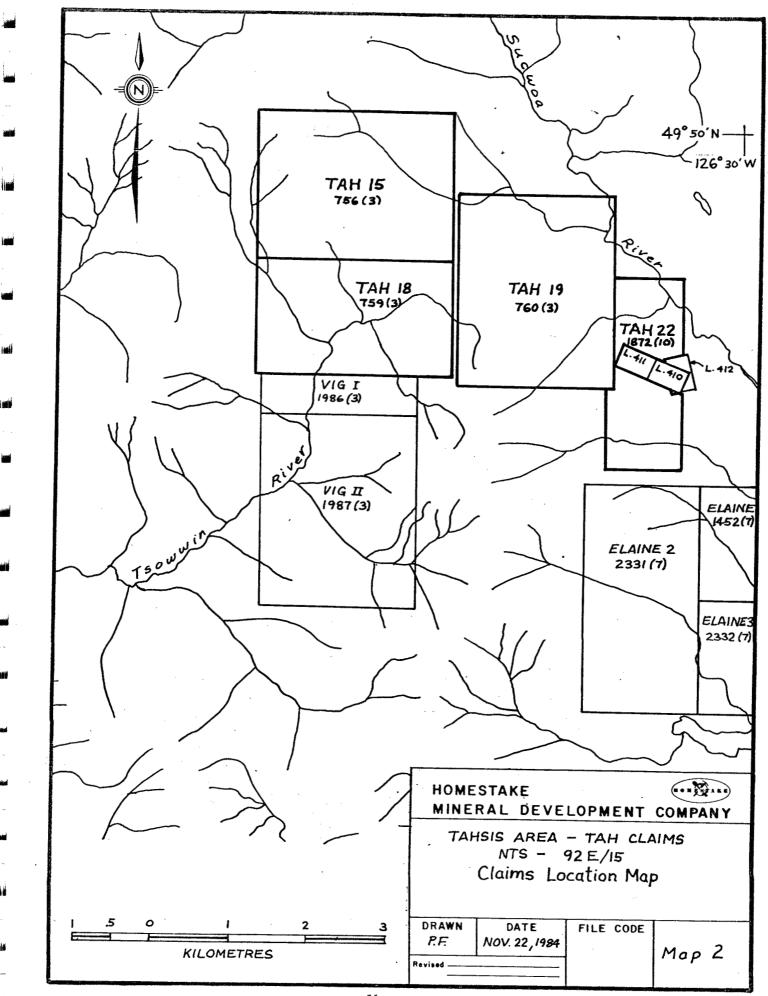
A number of logging roads of the Tahsis Company, including the Stoltze, Tsowwin and Sucwoa Main Lines and some of their branches traverse parts of the claims. They connect to the Head Bay Forest Road, which leads to Highway 28 at Gold River, about 45 km by road east of the property. The property is about 3 km from tidewater at Head Bay and 5 km from tidewater at Tahsis Inlet.

1.2 Property Definition

1.2.1 History

The present phase of exploration activity in the claims area began in 1979 with the commencement of a regional exploration program on Vancouver Island by Pan Ocean Oil Ltd. Prior to that two mineral occurrences were known on what is now the Tah property. The old Vivian Group is near the center of the Tah 18 claim. Hoadley (1953) states that the claims were staked in 1939 and abandoned in 1940. During that period a 15 meter adit was driven, an inclined shaft was sunk, and a number of small pits were dug. The prospect consisted of a 5 to 10 cm quartz vein (see paragraph 2.2.4, Mineralization).





Magnetite skarn deposits in limestone at Head Bay, now surrounded by, but not part of the Tah 22 claim, were discovered in 1902 and crown granted in 1909. In 1951 Japanese interests obtained an option on the property from Canadian Collieries (Dunsmuir) Limited and undertook surface exploration and diamond drilling (Hoadley, 1953). In the early 1960's 62,500 tons of ore were milled and yielded 25,000 tons of magnetite concentrate (Robinson, 1983)

The Tah 1-21 claims were originally staked by Pan Ocean Oil in 1980. During the period 1981-1983 the Tah 1-14, 16, 17, 20, and 21 were allowed to lapse and the remaining claims came to be held by Aberford Resources, a successor of Pan Ocean. The Tah 22 was staked for Aberford in 1983. Work done on the property by Aberford and Pan Ocean included rock chip geochemistry, heavy mineral stream sediment geochemistry and reconnaissance geological mapping. Previous assessment reports filed by Pan Ocean and Aberford include numbers 10157, 09130 and 12058.

1.2.2 Status

Homestake Mineral Development Company explored the property in 1984 under the terms of an option agreement with Aberford Resources.

1.2.3 Economic Potential

In terms of its geological setting the property has speculative geological potential for auriferous skarn deposits,

disseminated bulk tonnage gold deposits in calcareous sediments of the Parson Bay Formation and gold in quartz veins. Work to date has revealed the presence of only the latter type of gold mineralization. Veins located to date are narrow and sparsely distributed and are not felt to have economic potential.

1.3 Summary of Work Done

1.3.1. Geological Survey

Between August 2 and Augst 12, 1984, two geologists spent $10\frac{1}{2}$ days working on the Tah Claims. The work consisted of geological mapping and prospecting using air photographs as a base. The approximate scale of the photos is 1:23,000. Maps 3 to 6 have been prepared from the original photo-based field maps.

1.3.2 Rock Geochemical Survey

During the course of the mapping and prospecting 92 rock chip samples were collected. They are random grab samples or continuous chip samples across veins or stratigraphic horizons. Most of the samples were analyzed for 30 elements using the ICP method, for gold by atomic absorption with a fire assay preconcentration, and for mercury by atomic absorption. Six samples were assayed for gold, and of the six, three were also assayed for silver, copper and zinc. Analytical methods are described in Appendix 1. The number of samples collected on each claim is tabulated in Appendix 4.

2. GEOLOGY

2.1 Regional Setting

2.1.1 Regional Stratigraphic and Lithologic Setting

The region surrounding the Tah Claims is underlain by fault-bounded, variably dipping blocks of volcanic and sedimentary rocks which range in age from middle-upper Triassic to lower Jurassic. These are intruded by small tertiary stocks of variable composition. The following brief descriptions of the stratigraphic and lithologic units are adapted primarily from Muller et al (1981).

Supracrustal Rocks

Lower Jurassic

Bonanza Group:

This basalt-andesite-dacite-rhyolite-sediment assemblage underlies much of the western half of Vancouver Island from the vicinity of the Tah claims northwestward. Smaller areas underlain by similar rocks are found in other parts of the Island. The volcanic rocks from a sequence of interbedded lava, breccia and tuff. Overlying the volcanics is a series of clastic sediments that includes pebble conglomerate, gritty lithic sandstone, calcareous sandstone, platy shale, banded tuffaceous siltstone and minor coaly beds.

The Bonanza Group was deposited in a volcanic island arc environment. The local center of volcanism may have been in the vicinity of Quatsino Sound, about 130 km north of the Tah Claims.

Upper Triassic

Vancouver Group:

Parson Bay Formation: This formation includes the upper Triassic carbonate-clastic sediments of Vancouver Island which overly the Quatsino Limestone and underlie the Bonanza Volcanics. It is distributed in thin northwest-trending, cross-faulted belts on the northern half of the Island. Some limestones on southern Vancouver Island have been correlated with parts of the Parson Bay.

The formation consists of thinly bedded silty limestone and calcareous lithic sandstone, colitic and micritic limestone, feldspathic limestone, calcareous lithic sandstone and massive coralline and reefoid limestone. At the base of the Parson Bay there is a gradual change from the carbonate sedimentation of the Quatsino to the more clastic sedimentation of the Parson Bay. In general, and with significant exceptions, the Parson Bay becomes less calcareous upwards through the section.

Quatsino Formation: This limestone is broadly distributed over the northern part of Vancouver Island, with the largest part of it being in a belt of upper Triassic sediments which stretches northwestward from near the Tah Claims up the central part of the Island.

The formation consists of thick bedded to massive, brown-grey to light grey, fine to microcystalline, commonly stylolithic limestone. In its upper part it becomes darker in colour and contains layers of shale debris. It grades upwards into the more clastic Parson Bay Formation.

Middle (?) - Upper Triassic

Vancouver Group:

<u>Karmutsen Formation</u>: This formation underlies over a third of the total land area of Vancouver Island. The claim area lies near the southern end of a belt of Karmutsen rocks which trends north north-west up the Island to the vicinity of Rupert Inlet.

The Karmutsen is divisible into a lower part of pillow lavas, a middle part of pillow breccias and aquagene tuffs, and an upper part of basaltic flows with minor intercalations of limestone and argillite.

The volcanics are primarily tholeitic, chemically akin to that of the mid-oceanic spreading ridges but more likely to have been formed in a rifting basin at a continental margin (Muller et al, 1981).

Intrusive Rocks

Eocene (?)

<u>Catface Intrusions</u>: Small intrusive stocks of early Tertiary age and of general quartz dioritic composition are known in

many parts of Vancouver Island (Muller et al, 1981). These are not normally distinguishable from the older Island Intrusions by field relationships but some have been identified by K-Ar age determinations and some others are assumed to be Tertiary based on lihtologic characteristics.

Modal compositions are mainly granodiorite and tonalite (Muller et al, 1981) but some gabbroic intrusions on the Tah property have been assumed, for the purposes of this report, to be of the same age.

Lower Jurassic

Island Intrusions: Ten to fifteen kilometers east of the claims area, the Muchalat Batholith is a lower Jurassic intrusion that occupies about 750 square km. It includes rocks ranging from quartz diorite and tonalite to leucogranite (Muller et al, 1981).

Five to ten kilometers south and west of the claims, the smaller Nuchatlitz Batholith, about 100 square kilometers in extent, contains rocks of similar composition.

Some dikes and sills in the claims area may be related to the Island Intrusions.

2.1.2 Regional Structural Setting

An essentially monoclinal, southwest dipping succession of Vancouver and Bonanza Group rocks extends southeasterly from

near the northern tip of Vancouver Island to the area of the property. The geological structure of the area is mainly the result of block faulting. The formations are cut mainly by northerly, northwesterly, and less importantly by northeasterly trending faults. The faults are invariably steep and may have vertical as well as transcurrent offsets. The northerly trending faults may be early Mesozoic, the easterly trending faults may be Jurassic and the northwesterly trending faults may be late Mesozoic to early Tertiary (Muller et al, 1981). Thus the northerly and easterly faulting probably pre-dates intrusive activity in the vicinity of the Tah claims while the northwesterly trending faulting may be partly contemporaneous with it.

2.1.3 Regional Tectonic Setting

The tectonic evolution of the region can be crudely summarized as follows:

Middle - Upper Triassic:

Rifting basin at a continental margin with extrusion of tholeiitic basalts.

Upper Triassic:

Limestone, and later calcareous clastic sediments, deposited on the basalts.

Post-upper Triassic:

Fracturing along northerly-trending faults.

Lower Jurassic:

Island Arc setting with extrusion of Bonanza Group volcanics and intrusion of the possibly co-magmatic Island Intrusions. East-trending faults may be related to cooling of the batholiths.

Late Mesozoic - Early Tertiary:

Convergent continental margin with the Pacific Plate underthrust obliquely to the north with respect to the North American Plate (Muller et al, 1981).

2.1.4 Economic Geology of the Region

Mineral deposits of this region can be classified into 3 major and one minor group (Muller et al, 1981); skarns veins and shear zones, and porphyry deposits.

Skarn Deposits:

These are mainly associated with carbonate rocks of the Vancouver Group and are in intrusive contact with Jurassic Island Intrusions. One magnetite skarn is situated within the Tah 22 claim. A copper skarn-vein deposit with associated zinc is situated about 15 kilometers northwest of the claims.

Quartz Veins and Shear Zones:

Gold deposits in quartz veins are abundant in the region but generally small. The most significant examples are in the

Zeballos Camp, about 30 km northwest of the claims. Veins and sheeted veins upto 120 cm wide contain quartz, carbonate, pyrite, sphalerite, arsenopyrite, chalcopyrite, galena, pyrrhotite and minor marcasite. Total production from the Zeballos camp up to 1948 was 8159.44 kg Au and 3535.24 kg Ag. There are no producers in the camp at present, though attempts were being made to re-open the Privateer Mine in 1984.

Porphyry Deposits:

A number of porphyry occurrences or prospects are known within a few tens of kilometers of the Tah property, but none warrant development. The Catface property, about 80 km southeast of the property, is the most significant one. Tertiary intrusions which consist of quartz diorite, porphyritic diorite, porphyritic granodiorite and porphyritic dacite intrude paleozoic volcanics and lower Jurassic diorite and granodiorite. Copper and molybdenum sulphides occur in the volcanics and the Tertiary intrusions.

2.2 Geology of the Property

2.2.1 <u>Lithologic Units</u>

The Tah property is underlain by rocks of the Karmutsen

Formation, the Quatsino Formation, the Parson Bay Formation and the

Bonanza Group. These are intruded by stocks of diorite or

granodiorite and dikes and sills of various compositions. The stocks

are assumed to be Tertiary but the age of the dikes and sills is unclear. Some of them may be lower Jurassic, related to the Island Intrusions.

Supracrustal Rocks

Lower Jurassic

Bonanza Group:

Rocks belonging to the Bonanza Group underlie the central and southwestern part of the Tah 15 claim, the southwestern half of the Tah 18 claim and the southern end of the Tah 22.

Most of the Bonanza rocks are lithic tuffs, with variable proportions of crystals and some strata containing lapilli-sized fragments.

Near the western edge of the Tah 15 claim, the Bonanza contains horizons of greywacke which exhibit graded bedding. Some of the greywackes are slightly calcareous.

Map 3 shows the central parts of the Tah 18 and Tah 19 claims to be underlain by Quatsino limestone. In fact, the limestone is intruded by a large number of intermediate dikes and sills, too small and too numerous to indicate on the map. These dikes and sills are believed to be feeders to the overlying Bonanza Group rocks.

Upper Jurassic

Bonanza Group:

Parson Bay Formation: These rocks occur in a northwest trending, southwesterly dipping band across the center of the Tah 15 claim. The band is discontinuous, disrupted by cross-faulting, and is 70 to 100 meters thick. It contains thin bedded shales, argillites and siltstones which are locally calcareous, with some micritic limestones and a few medium grained limestones.

Near the eastern edge of Tah 15 and Tah 18 claims, another band of fine grained sediments has been ascribed to the Parson Bay Formation. It is folded into a U-shaped antiform with an amplitude of about 1,000 meters. This band differs from the one described previously in that it contains some thin bands of volcaniclastic siltstone, minor greywacke and rare tuffaceous horizons.

Quatsino Formation: Rocks ascribed to the Quatsino underlie the northeast corner of the Tah 15 claim, the east half of the Tah 18, most of the Tah 19 claim and a wedge in the north-central part of the Tah 22 claim. The limestone is thick bedded, grey to white, fine to coarsely crystalline and locally reefoidal and fossiliferous.

Middle (?) - Upper Triassic

Vancouver Group:

Karmutsen Formation: Karmutsen basalts underlie the

northeast corners of the Tah 19 and Tah 22 claims. They did not figure largely in the exploration program on the claims and have not been described in any detail for this project. Massive basaltic greenstone is typical of the Karmutsen in this area.

Intrusive Rocks

No age-dating work has been done on the property and the four small stocks which underlie parts of the claims are correlated with the Tertiary Catface Intrusions only because 3 small stocks peripheral to the claims have been mapped as such (Muller et al, 1981). Northcote (in Muller et al, 1981) has correlated sills and dikes of diorite and granodiorite associated with the magnetite skarns on the Tah 22 claim with the lower Jurassic Island intrusions, and if this correlation is correct then some of the other intrusive rocks on the claims may also be correlative with the Jurassic rocks.

Stocks: The small stocks on the Tah 15, 18 and 19 claims are primarily hornblende diorite and hornblende quartz diorite with some monzonitic phases (Robinson, 1983). They are comparatively fresh and unmineralized, except near the west edge of Tah 22.

<u>Dikes and Sills</u>: Chabot (1982) describes dikes and sills ranging in composition from fine grained diorite to feldspar

porphyry to felsite. The latter are the most interesting from an economic point of view and more attention has been paid to them than to the other types. They are pale green, grey, or pinkish, very fine to medium grained silica-rich mixtures of quartz and feldspar. They may intrude any of the other rock types on the property including the diorite or feldspar porphyry dikes. Variable amounts of disseminated sulphides are present and result in weathered felsite dikes having variable degrees of iron oxide staining on their surfaces.

2.2.2 Structural Geology

As in the region as a whole, deformation on the Tah claims is characteristically block faulting. Shear zones are common, but for the most part plastic deformation in the form of folding does not appear to have been important. However, near the west side of the Tah 15 and 18 claims the comparatively incompetent Parson Bay Formation appears to have been folded into a northwesterly plunging U-shaped antiform. Presumably the more competent Quatsino formation and Bonanza Group in that area have been affected by the same deformational event but we do not have a sufficient number of measurements of layering in those units to determine the geometry of their deformation.

Faults are usually steeply-dipping. They strike in several directions and may cut any of the rock units. Their histories and the mechanics of their formation have not been worked out. There are probably several generations of faults.

Most of the limestones and volcanics are highly fractured and may contain veins of variable compositions.

2.2.3 Alteration

None of the rock units on the property display pervasive alteration of significant volumes of material. Localized alteration is related to veins or dikes. Since alteration has not been extensive enough to have formed an overall zonation or pattern, it will be discussed according to its host rock rather than according to the type of alteration.

Bonanza Group: A weak propylitic alteration is common, though not uniformly present, in the Bonanza Group. It takes the form of weak pervasive chlorite with a few microveinlets of calcite.

Weak phyllic alteration is present locally in the Bonanza

Group, but its occurrences are restricted to very local

environments such as envelopes around veins or felsic dikes.

Silicification is present very locally in some of the Bonanza Group rocks, within a few centimeters of quartz veins.

In the northwest corner of the Tah 15 claim the Bonanza Group has been metamorphosed to hornfels, presumably as a result of the intrusion of the granodiorite to the north.

Parson Bay Formation: For the most part of the Parson Bay Formation is not significantly altered except for minor calcite veinlets which are common everywhere. At one locality, near the west side of the Tah 15 claim Parson Bay rocks are moderately silicified adjacent to a sill of intermediate composition, probably a feeder to the Bonanza Group. No significant enrichment of indicator elements which might be related to metallic mineralization was found associated with this silicification.

Quatsino Formation: Local development of minor amounts of calc-silicate minerals, including wollastonite, actinolite and garnet, is common in the limestone near dikes or sills. On the Tah 22 claim well-developed calc-silicate skarn is associated with magnetite and minor sulphide mineralization.

<u>Karmutsen Formation</u>: Minor propylitic alteration is widespread in the Karmutsen Formation.

Stocks: A few epidote veinlets and local weak pervasive chloritization of mafic minerals are the only types of alteration which have been noted in the small stocks on the property.

Dikes and Sill: Weak propylitic alteration is widespread in the intermediate and felsic dikes on the property. The felsic dikes commonly have weak phyllic alteration which at one location grades into moderate sericitic alteration.

Near the west side of the Tah 15 claim (location 3462) an intermediate, probably Bonanza-age dike in the Parson Bay Formation is strongly silicified. A felsic dike in Parson Bay Formation near the north side of the Tah 15 (location 3470) is moderately silicified.

Quartz Veins: Minor quartz veins are widespread on the property. They intrude any of the lithologic units though they are most common in the Bonanza Group and the Jurassic or Tertiary intrusions. Some of them will be discussed more fully in the following section on mineralization.

2.2.4 Mineralization

Previous workers on the Tah property have recognized two modes of occurrence of gold mineralization (Robinson, 1983). These were gold in quartz veins and gold enrichment in pyritiferous felsic dikes. In a report on the Tah 22 claim, Flanagan (1984) recognized skarn and vein type mineralization.

Prior to the work initiated by Pan Ocean Oil Ltd. in 1979, one occurrence of gold mineralization was known on the property. This was the Vivian, which is located near the center of the Tah 18 claim (see paragraph 1.2.1, History). Robinson (1983) reports an average from two assays of quartz obtained from the hump the portal of the Vivian Adit of 3.537 oz Au/ton and 10.53 oz Ag/ton (121.27 g Au/tonne and 361.03 g Ag/tonne). He also reports an average value of 0.148 oz Au/ton (5.07 g Au/tonne) from samples of quartz vein material collected 60 meters southeast of the Vivian Adit.

Two samples of vein material on the Vivian dump collected by Homestake in April 1984 contained 1.210 oz Au/ton (41.49 g Au/tonne) and 0.054 oz Au/ton (1.85 g Au/tonne). A sample of material presumed to represent wall rock was geochemically analyzed and returned a value of 1 ppb Au, the detection limit for the analytical method used.

Robinson (1983) reports that samples from a 2 to 3 cm quartz vein in a 5 to 10 cm shear at the "Lower Quarry" on the Tah 18 claim contained an average of 2.241 oz Au/ton (76.83 g Au/tonne) and 1.345 oz Ag/ton (46.11 g Ag/tonne). A sample of the sheared material collected for Homestake in 1984 assayed 0.052 oz Au/ton (1.78 g Au/tonne) while two samples of the vein material assayed 0.146 oz Au/ton (5.00 g Au/tonne) and 0.680 oz Au/ton (23.31 g Au/tonne).

On the Tah 22 claim near the southeast corner of the Tah 19, an auriferous quartz-sulphide vein in diorite has been sampled over an exposed length of 23 meters (Robinson, 1983). It pinches and swells considerably, from 20 to 60 centimeters. Robinson reports that 15 rock samples from the vein averaged 1.598 oz Au/ton (54.79 g Au/tonne) and 0.378 oz Ag/ton (12.96 g Ag/tonne). Gold ranged from trace to 8.228 oz Au/ton (282.11 g Au/tonne). It has not been possible to trace this vein beyond its present known length and similar veins have not been located nearby.

Chabot (1982) has described orange-brown weathering felsite dikes which contain up to 5% finely disseminated pyrite and minor arsenopyrite. They contain geochemically anomalous amounts of gold in the general range 250 ppb to 750 ppb, with a highest value of 2500 ppb. He does not identify the exact location of these samples. Of 14 samples collected from similar dikes for Homestake in 1984, three

contained gold in the range 28 ppb to 115 ppb (see Section 3, Rock Geochemistry).

3. ROCK GEOCHEMISTRY

During the course of the 1984 survey of the property 92 rock chip samples were collected. Most are random chips collected within a radius of 1 or 2 meters at selected locations. Some are continuous chips across veins or stratigraphic horizons. Sample descriptions appear in Appendix 3.

Ninety of the samples were analyzed for the following group of 30 elements using Inductively Coupled Plasma methods:

Mo	Cu	Рb	Zn	Ag	Ni	Cd	Mn
Fe	As	Ū	Au	Th	\mathtt{Sr}	Cđ	Sb
Βi	V	Ca	P	La	\mathtt{Cr}	Mg	Ba
T f	R	Α1	Na	ĸ	W		

All of those samples analyzed using the ICP method were also analyzed for gold by atomic absorption with a fire assay preconcentration and for mercury by atomic absorption.

Six of the samples were assayed for gold. Two of these were also assayed for silver, copper and zinc.

Details of analytical techniques appear in Appendix 1. The results are tabulated in Appendix 2.

With such a large data set it has not been feasible to plot all the geochemical data on maps. Sample locations are shown on Map 3 while Maps 4, 5, and 6 present the results for Au & Ag, Cu & Zn, and As & Hg respectively.

The rock geochemistry will be discussed element by element for those elements which are considered to be significant.

Gold: Known gold occurrences in veins and skarns have been discussed in paragraph 2.2.4. Among those samples collected from other veins encountered during the course of mapping and prospecting, the highest grade obtained was 0.042 oz Au/ton (1.44 g Au/tonne),

from a calcite/calc-silicate vein in limestone at site 3691. The same sample contained anomalous quantities of copper, zinc, silver and mercury.

A slight gold enrichment was found in another tiny vein at sample site 3497, about 400 meters south of the Tah 15 claim. A sample contained 63 ppb Au. At site 3912 on the Tah 22 claim, a shear zone about 50 cm wide contains microveinlets of quartz and calcite and is slightly enriched in gold, to 155 ppb. The gold is accompanied by minor enrichments of arsenic, zinc, and mercury, at 148 ppm, 188 ppm and 170 ppb respectively.

A sample of fault gouge within quartz diorite at sample site 3906 on the Tah 22 claim contained 38 ppb Au along with anomalous barium (2081 ppm) and mercury (460 ppb).

Two samples of skarn from the old crown granted claims that cover part of the Tah 22 claim, samples 3472 and 3700, contained 0.011 oz Au/ton (0.38 g Au/tonne) and 260 ppb Au respectively. 3472 is a sulphide-magnetite skarn while 3700 is massive magnetite. Anomalous levels of copper and silver are present in both samples and 3700 contains anomalous boron and mercury.

Gold enrichment in felsic dikes was described by Chabot (1982)

(see paragraph 2.2.4, Mineralization). Of 14 samples of similar

material collected for Homestake in 1984, three, at sites 3477,

3479 and 3903 contained anomalous gold; 64 ppb, 115 ppb and 28

ppb respectively. Sample 3477 contained about 5% disseminated pyrite and arsenopyrite. Sulphides were not noted in the other two samples and there was no notable enrichment in elements other than gold.

At two locations west of the Tah 15 claim, geochemically anomalous quantities of gold were found in samples of intermediate sub-volcanic dikes. At site 3480 a grey amygdaloidal, pyrrhotite-bearing andesite gave a value of 65 ppb Au. At 3485 a very small pod of pyrite-chalcopyrite in a very fine grained volcanic rock contained 260 ppb Au along with copper, zinc and silver.

Silver: In four instances in which samples contained anomalous gold it was accompanied by anomalous silver. These were the two samples of skarn at sites 3472 and 3700, the pod of sulphides at 3485 and the calcite/calc-silicate vein at 3691.

Copper: All of the samples of skarn in limestone contain anomalous amounts of copper, in the range of a few hundred to 5,500 ppm.

Occurrences of copper of the order of a few hundred ppm are common in the limestones of the Quatsino or Parson Bay.

Formations, where they are intruded by sub-volcanic Bonanza dikes or by felsic dikes. Minor copper enrichments, again in the order of a few hundred ppb, occur in limestones or andesites within a few hundred meters of the granodiorite intrusion north of the Tah 15 claim.

The two highest grade occurrences of copper located in this survey were in the tiny pod of massive sulphide at site 3485 (10.177 ppm) and the calcite/calc-silicate vein at 3691.

Zinc: No significant concentrations of zinc were located, nor is there any very strong correlation of zinc with rock type. The two highest grade occurrences were with the copper at sites 3485 and 3691, where the samples contained 456 ppm and 793 ppm Zn, respectively.

Arsenic: There is not any extensive arsenic enrichment on the property.

The highest arsenic analysis obtained was in sample 3477, a felsic dike with 5% (estimated) combined pyrite and arsenopyrite, which contained 6,152 ppm arsenic. It was slightly enriched in gold and antimony as well, with 64 ppb Au and 42 ppm Sb. All but two other samples contained less than 10 ppm Sb.

Four other anomalous arsenic values are in the range 115 to 248 ppm. One is in a felsic dike, one in an intermediate dike which probably is a feeder to the Bonanza volcanics, one is in slightly hornfelsed Parson Bay argillite adjacent to a similar intermediate dike and one is in pyritized Bonanza Group rocks adjacent to a shear zone. Other arsenic values are mainly below 50 ppm and erratically distributed.

Mercury: Four samples contained anomalous amounts of mercury, in the range 230 to 460 ppb. One of them was in the skarn sampled at site

3472, one in the fault gouge sampled at site 3906, one in graphitic Parson Bay argillite at site 3913 and another in Parson Bay argillite adjacent to a felsic dike at 3924. Amongst the lower mercury values no systematic distribution is evident.

Antimony: There is no strong antimony enrichment in rocks on the property.

All but 3 samples contained less than 10 ppb Sb. Of the 3, 2

were associated with anomalous arsenic in samples 3477 and 3901,

which contained 42 ppm and 16 ppm Sb respectively, and the other

was associated with anomalous mercury in sample 3913, which

contained 12 ppm Sb.

Amongst the other elements for which the samples were tested none have readily apparent anomalous concentrations or trends in distribution which could suggest the presence of significant gold or base metal mineralization.

4 SUMMARY AND CONCLUSIONS

- 1. The Tah property consists of 65 claim units in the Vancouver Island ranges south of Tahsis, B.C. The property can be reached and traversed via logging roads from Highway 28 at Gold River.
- 2. The property was originally staked by Pan Ocean Oil in 1980. During the period 1980 - 1983 Pan Ocean, and later Aberford Resources, Pan Ocean's successor, did exploration work which included rock chip geochemistry, heavy mineral stream sediment geochemistry and reconnaissance geological mapping.
- 3. In 1984 Homestake Mineral Development Company explored the property under the terms of an option agreement with Aberford Resources. This work included geological mapping and extensive rock geochemistry, concentrated in areas only lightly touched on by earlier work.
- 4. The Tah Claims and surrounding region are underlain by fault-bounded, variably dipping blocks of volcanic and sedimentary rocks which range in age from middle-upper Triassic to lower Jurassic. These are intruded by small Tertiary (?) stocks of intermediate composition.

5. Alteration consists of:

- Weak propylitic alteration in volcanic and intrusive rocks.
- Locallized phyllic alteration in the vicinity of veins or felsic dykes.

- Very locallized silicification in volcanic rocks, associated with quartz veins. Local envelopes of silicification are found around felsic dykes in volcanic or calcareous sedimentary rocks.
- Calc-silicate minerals in limestone near dykes or sills.
- Magnetite bearing calc-silicate skarn in limestone near intrusions.

6. Mineralization consists of:

- Gold in quartz veins, ranging as high as 122 grams Au/ton in selected samples. Veins are sparsely distributed.
- Gold in pyritiferous felsite dykes, ranging as high as 2,500 ppb in selected samples. More typical levels range from 28 to 115 ppb.
- Geochemical enrichments of gold in magnetite skarn, ranging up to 380 ppb.
- Geochemical enrichments of gold in shear zones.

In summary, on the Tah property, a series of Mesozoic volcanic and calcareous sedimentary rocks, intruded by Tertiary (?) stocks of variable composition, contains gold mineralization of locally spectacular grade in narrow and widely dispersed quartz veins. Geochemical enrichments of gold occur in felsite dykes, shear zones and skarns. No occurrences of mineralization have been located that demonstrate continuity of potential ore grade material in significant volumes of rock. No further work is recommended on these claims.

5. BIBLIOGRAPHY

- Chabot, G. E.
 - 1982: Report on Reconnaissance Geological Mapping Conducted on the Tah 2-21 Mineral Claims, Alberni Mining Division. Assessment Report 09130.
- Flanagan, M.
 - 1984:Geology and Geochemistry of the Tah 22 Claim, Alberni Mining Divison. Internal report for Homestake Mineral Development Company. Filed for assessment credit, October 1984.
- Hoadley, J. W.
 - 1953: Geology and Mineral Deposits of the Zeballos-Nimpkish Area, Vancouver Island, British Columbia. Geological Survey of Canada, Memoir 272.
- Muller, J. E., Cameron, B. E. B. and Northcote, K. E.
 1981:Geology and Mineral Deposits of Nootka Sound Map Area,
 Vancouver, Island, British Columbia. Geological Survey of
 Canada, Paper 80 16.
- Robinson, J. E.
 - 1983:Geological and Geochemical Report on the Tah Group, consisting of the Tah 15, 18 and 19 Claims, Alberni Mining Division.
 Assessment Report 12058.
- White, G. D. and Chabot, G. E.
 - 1981:Report on a Reconnaissance Geochemical Survey Conducted on TAH 1-19 Claims, Alberni Mining Division. Assessment Report 10157.

APPENDIX I
ANALYTICAL PROCEDURES

ANALYTICAL PROCEDURES

All the rock chip samples collected in 1984 were analyzed by Acme Analytical Laboratories, 852 E. Hastings Street, Vancouver, B.C. Acme's analytical procedures are as follow:

- 1. Rock samples are crushed to a -100 mesh pulp.
- 2. For multi-element analyses:

Half a gram of crushed material is digested in 95 deg C dilute aqua regia in a boiling water bath for one hour.

The resulting solution is diluted to 10 ml. with de-mineralized water.

Extracted metals are analyzed for 30 elements using the Inductively Coupled Argon Plasma technique.

3. For gold analyses:

A 10 to 30 gram sample is subjected to Fire Assay preconcentration to produce a silver bead.

The bead is dissolved and gold content is determined in the solution by graphite furnace Atomic Absorption.

4. For mercury analyses:

Half a gram of pulp is digested in aqua regia and diluted with 20% HCl.

Mercury in the solution is determined by cold vapour Atomic Absorption.

A small portion of the extract is added to a stannous chloride/hydrochloric acid solution.

The reduced mercury is swept out of the solution and passed into a Mercury cell where it is measured by Atomic Absorption.

APPENDIX II

ANALYTICAL RESULTS

MASTER NTS PAR

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

62 .58 121 .07

162 1.39

.20

53

DATA LI

FILLEIVED

GEOCHEMICAL ICP ANALYSIS

AUG 221984

STD S-1/FA-AU

84 121

114

182 32.5

150

80

485 3,16

110 102

34 165 125

.500 FRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HN03-H2D AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.IR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AUX* ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE. HG ANALYSIS, BY FLAMELESS AA.

Aug 20/84 ASSAYER. N. SOLLEDEAN TOYE. CERTIFIED B.C. ASSAYER AUG 15 1984 DATE REPORT MAILED: HOMESTAKE PROJECT # 5710 FILE # 84-2121A PAGE SAMPLE # MD CU PB ZN **A5** NI CO KN FE AS IJ ΑU TH SR CD SB BI CA LA CR M5 BA PPN PPM PPM PPM PPM PPH PPM PPM Z PPH PPM PPM PPM PPM PPM PPH PPM PPM ĭ PPM PPM 7 PPM 7 Z PPB VT-15-4-3687 2.30 48 .27 .07 74 .35 .16 .06 VT-15-4-3689 215 .3 19 18 154 6.68 2 ND 2 30 49 5 1 2 2 .89 .10 2 14 .60 В .12 15 1.38 .07 .05 2 3 30 VT-15-4-3690 3 358 .5 5 21 99 5.61 2 5 ND 2 158 2 2 41 2.21 .27 3 3 .27 14 . 19 8 2.68 .28 .05 9 120 VT-15-4-3692 1 83 1 49 .2 27 9 111 2.01 4 5 ND 3 145 1 2 23 B. 94 .48 å 15 .36 7 .05 273 3.37 .19 .14 2 50 VT-15-4-3693 1 47 .2 48 19 343 6.24 2 5 ND 2 70 57 .78 .21 2 107 .93 28 .02 12 1.62 . 16 VT-15-4-3694 14 16 230 2.43 15 48 54 .38 .02 2 19 .02 8 2.01 .09 .76 6 1.49 VT-15-4-3695 21 60 8 27 .2 12 14 253 3.93 10 ND 2 79 2 38 .73 .25 2 .04 2 7 1.70 52 .06 6 2.66 2 5 VT-15-4-3696 18 34 .1 14 11 345 2.77 7 2 144 5 ND 35 1.17 7 3.90 1 .01 2 9 2.15 51 .02 .21 . 69 5 14 19 6 .1 3 2 VT-15-4-3913 14 60 2.80 48 5 ND 2 14 12 .15 14 .02 .02 350 1 2 .01 3 5 .37 61 .01 6 .84 1 VT-15-4-3914 1 .1 12 5 572 2.95 12 428 2 31 9.64 .04 - 5 27 .92 34 .01 7 1.46 .04 .08 20 VT-15-4-3915 .1 3 164 3.10 38 10 2 .15 .01 6 1 .22 16 .01 .55 .04 .08 110 VT-15-4-3916 32 8 91 .1 26 22 971 7.80 2 5 ND 2 159 2 2 258 5.05 2. 25 2.35 7 4.02 .02 120 .13 11 .01 .02 VT-15-4-3917 1 74 5 88 . 1 305 36 1382 7.18 2 ND 2 2 5 62 1 6 220 2.60 .11 2 327 4.63 22 .27 11 4.73 .09 .04 70 VT-15-4-3918 11 6 118 . 2 22 12 286 4.68 12 ND 1 5 2 39 1 72 .97 .48 10 27 6.30 72 .02 9 4.17 .03 .05 3 1 10 VT-15-4-3919 12 3 24 9 3 383 1.84 25 2 116 204 1.29 .04 12 4.08 17 .01 6 1.68 .01 .02 2 37 VT-15-4-3920 45 .1 18 9 643 3.05 12 5 148 .29 64 12.79 2 24 1.09 22 6 1.24 .09 VI-15-4-3921 43 .1 13 15 588 5.80 39 5 2 140 1 2 138 4.49 .10 2 46 2.44 19 .09 7 2.69 .24 .17 2 5 VT-15-4-3922 3 31 69 . 1 23 7 235 2.36 10 ND 3 202 39 10.07 .08 29 .63 23 4 1.92 .30 70 3 .03 . 18 2 42 8 58 VT-15-4-3923 .1 21 10 247 4.72 5 5 2 293 1 2 2 54 4.84 .11 2 50 .29 26 .05 10 5.17 .46 .07 2 1 10 28 10 VT-15-4-3924 .1 14 6 419 2.96 16 2 886 57 9.47 .06 2 24 50 8 4.89 .43 .38 2 3 200 1.16 .04 VT-15-4-3925 458 2 1.60 204 21 2 .38 .02 .09 36 .02 .59 .07 2 10 30 -5 6 VT-15-4-3926 1 8 2 17 . 1 4 1 248 .85 10 5 5 ND 802 12 27.25 1 11 .03 2 8 .31 18 .02 7 . 49 .02 .06 2 3 60 VT-15-4-3927 1 36 73 .1 15 7 217 3.89 3 5 ND 2 617 1 2 88 2.49 .08 2 36 1.26 189 .10 9 4.70 .58 .43 2 1 20 VT-15-4-3928 61 6 59 . 1 175 21 673 4.74 2 5 ND 2 269 1 2 126 7.47 .10 2 189 2.32 76 .25 . 19 2 2 .12 10 3.89 1 80 2.98 VT-15-4-3929 30 3 48 9 177 77 2 136 34 2.50 28 .55 7 .06 2 20 .02 8 2.01 .27 VT-15-4-3462 23 4.91 287 33 4.56 .23 23 .58 .21 8 1.46 .01 9 4.11 VT-15-4-3463 2 . 1 417 2.82 61 5 ND 2 243 б 23 7.96 .57 7 22 .71 19 .33 .01 9 2.74 .11 VT-15-4-3464 5 33 2 222 . 1 29 7 201 2.44 15 6 ND 32 4.64 1.31 34 .74 2 8 30 .01 6 3.29 .45 .22 1 VT-15-4-3465 2 17 5 ND . 2 10 465 5.50 40 2 120 1 2 2 36 1.40 7 5 1.24 11 6 2.99 .32 .07 5 .16 .01 1 VT-15-4-3466 5 2 1 334 3.26 5 2 59 2 . 41 .01 3 2 .64 21 .01 6 1.79 .15 .11 5 VT-15-4-3467 18 279 2.71 323 17 9.70 5 .42 20 .01 8 3.30 .51 30 8 .64 VT-15-4-3468 247 . 1 50 22 675 6.32 56 6 ND 2 106 2.80 .05 2 3 3 2 .06 2 114 3.36 10 6 6.31 . 48 20 .01 VI-15-4-3469 1 19 5 69 15 5 ND 3 216 . 1 374 2.18 2 6 6 1 2 30 10.84 .18 3 22 .92 29 :01 6 2.95 .31 .10 2 1 40 VT-15-4-3470 95 14 5 1 20 . 1 82 40 150 9.22 19 ND 2 232 11 2 20 1.25 .13 3 41 .22 31 . 35 .18 2 1 30 .04 8 2.06 VT-15-4-3474 2 94 á 52 198 28 818 5.94 5 ND 2 184 . 1 4 152 7.15 17 .21 2 20 .12 2 262 2.97 .03 10 4.37 VT-15-4-3475 52 89 18 1018 3.97 5 ND 3 117 2 5 114 10.94 .10 2 212 3.36 57 .16 9 3.44 .11 2 VI-15-4-3476 13 3 81 12 12 2 5 2 1 . 1 744 4.51 מא 75 1 2 3 92 1.68 .09 7 27 1.93 14 .19 8 2.46 .07 .09 2 1 30

77 77 91 58 .56 .12 123

1

SAMPLE NI CO NN FE AS U AU TH SR CD SB CA BA HG BI v Р LA CR MG Ħ W AU** % PPM PPM PPM PPM PPM PPM PPM PPH PPN PPM PPM 7 7 PPM 7 PPM VT-15-4-3477 18 630 4.47 6152 5 74 42 2 56 4.28 .19 3 13 1.69 28 .01 11 1.96 .05 .12 64 40 944 2.28 VT-15-4-3478 29 4 81 15 11 50 5 ND 2 158 2 32 12.50 .08 3. 13 1.10 26 .01 5 1.49 .01 2 20 VT-15-4-3479 12 . 14 .2 66 1.33 - 15 5 ND 12 2 2 2 .22 .02 5 3 .04 32 .01 2 .28 .06 .10 2. 115 40 VT-15-4-3480 46 13 102 18 873 8.49 248 5 ND 2 45 4 5 2 229 1.93 .21 1 5 1 2.91 9 .02 6 2.95 .04 . 04 2 65 50 2 VT-15-4-3481 43 31 9 940 2.09 35 5 ND 5 4 416 3 20 32.80 .05 5 5 .71 16 .03 2 .81 .06 .09 VT-15-4-3482 42 67 13 261 3.80 17 7 8 ND 2 188 32 .08 .92 30 2 2 3.41 18 24 .02 5 .95 .07 .07 22 60 VT-15-4-3483 2 .1 16 5 299 2.56 6 10 ND 2 217 2 2 32 4.97 .07 3 27 .83 18 .01 5 1.08 .10 .05 i 5 52 255 3.51 VT-15-4-3484 3 5 106 .1 26 9 2 5 ND 2 277 1 2 69 .87 .06 2 42 2.00 109 .07 7 4.34 .33 . .54 1 40 2 10177 456 468 7.12 5 VT-15-4-3485 7 55.7 6 87 ND 2 170 4 2 2 .09 2 17 1.83 .37 83 1.49 49 .12 4 3.92 . 23 40 VT-15-4-3486 43 9 298 2.42 5 ND 2 49 2 2 45 .60 .04 11 .69 17 .17 4 1.13 .11 3 .08 2 30 VT-15-4-3487 2 86 2 23 .1 2 8 176 2.88 5 5 ND 2 155 2 2 20 24 1.41 .46 3 .74 .19 3 1.40 .19 .11 3 20 1 .3 2 139 V1-22-4-3697 .45 3 5 ND 2 27 2 52 1.26 .10 19 . 25 6 3 8 .35 5 .85 .05 . 05 VT-22-4-3698 4 5 116 . 1 90 15 2636 5.17 6 5 ND 2 68 1 5 2 82 5.62 .05 2 191 4.52 2 .16 6 3.13 .02 .01 3 2 30 VI-22-4-3699 8 9 30 .4 14 36 1527 10.57 28 5 ND 2 .01 51 2 2 8 12.11 .01 2 2 .37 2 .04 5 .59 .01 2 13 50 1.9 VT-22-4-3700 11 3170 75 31 29 704 37.34 32 5 ND 2 7 1.75 .02 45 9 .17 4 .01 336 .11 .01 .01 260 VT-22-4-3902 44 215 27 23 1468 7.08 6 5 ND 2 2 180 . 26 .06 125 5.74 23 .17 8 4.16 .02 .02 3 20 VT-22-4-3903 2 66 40 6 5 403 3.19 2 5 ND 2 2 33 54 2 . 43 .06 7 11 . 66 12 .11 2 .87 . 05 .03 28 10 100 4 54 48 VT-22-4-3904 20 881 4.18 3 5 ND 2 35 6 2 84 2.59 .05 2 305 3.98 9 .10 8 3.33 -.02 . 02 2 4 100 84 1 30 .7 3 3 350 2.06 5 2 21 VT-22-4-3905 2 ND 1 2 2 18 .99 .06 6 5 . 46 23 .06 4 . 62 .05 .07 2 5 110 31 2 623 2.67 VT-22-4-3907 11 3 12 5 ND 2 2 2 7 .22 .04 7 5 .34 13 .02 2 .52 .03 .07 VT-22-4-3908 74 å 916 5.13 2 2 5 ND 20 1.35 14 3 1.64 10 2 2 . 21 3 1.67 .07 VI-22-4-3909 8 4 92 . 1 2 9 892 5.27 2 5 ND 2 48 1 2 2 54 1.48 .36 10 3 2.14 8 .09 5 2.04 .04 .02 5 VT-22-4-3910 3 63 5 130 .1 35 20 1341 4.95 3 5 ND 2 26 1 3 2 112 1.51 .10 2 126 3.38 17 7 2.69 .03 2 1 .12 .04 23 81 5 VI-22-4-3911 3 11 . 1 4 5 197 3.25 6 ND 2 1 2 2 13 .09 .04 В 2 .10 63 .01 2 .65 .03 . 14 2 1 110 VT-22-4-3912 45 49 188 .5 7 16 3370 3.26 148 5 ND 2 173 2 2 .05 2 35 21.75 2 2 .73 21 .01 4 .27 .01 .12 4 155 170 VI-22-4-3473 2 118 .53 5 ND 2 2 5 4 .2B .01 4 .10 4 .01 2 .15 .01 .02 41 11 104 21 1049 9.46 5 VT-18-4-3495 4 ND 2 75 2 2 . 1 1 243 2,40 . 14 2 1 2.72 5 .01 2 3.51 .02 .01 2 3 5 VT-18-4-3497 8 51 .2 11 5 ND 10 575 2.66 8 2 4 1 2 2 28 .16 .06 2 15 .79 11 .01 2 .82 .02 .05 2 63 30 16 3 13 5 VT-15-4-3489 . 1 4 1 139 1.49 8 ND 2 207 1 2 2 2 .71 .01 3 5 .09 44 2 1.39 . 28 .09 2 6 5 .01 VT-15-4-3490 36 5 75 .1 14 8 353 3.39 5 5 ND 2 534 2 2 97 7.23 .06 99 2 26 1.12 .11 5 2.73 .32 . 39 2 VT-15-4-3491 2 66 13 32 .1 10 401 4.30 5 ND 179 2 84 2.94 .06 72 5 5.40 . . 54 .72 .13 VT-15-4-3492 2 8 6 87 . 1 5 1112 5.90 2 5 ND 2 91 2 24 4.20 .38 1 2 2 1 1.56 11 .01 2 2.62 .04 .05 2 1 10 VT-15-4-3493 25 3 105 .3 19 4 211 1.60 28 5 ND 2 263 1 4 2 18 18.87 .10 9 33 .54 21 2 5 .01 2 .74 .05 . 05 VT-15-4-3494 16 2 26 .2 5 1 91 7 491 2.18 ND 3 395 2 1 2 18 34.45 .04 2 84 . 67 18 .01 2 .80 .01 .04 2 4 3 VT-15-4-3813 248 . 4 10 17 124 3.15 5 6 ND 2 184 i 2 2 26 2.96 .21 2 2 .17 8 .16 2 2.86 .13 .02 2 1 VT-15-4-3815 2 102 8 27 . 1 63 23 292 3.10 15 6 ND 2 311 1 2 2 48 2.78 .10 2 36 .89 40 .11 2 3.65 .63 .05 2 5 112 11 19 81 5 ND 289 VT-15-4-3816 34 2 2 2 1 .4 100 8.52 5 1 18 3.15 .06 2 12 . 48 14 .07 3 4.94 .47 .04 2 5 STD S-1/FA-AU 90 122 115 184 31.9 151 81 502 3.16 114 99 35 171 126 80 75 91 58 ,56 .12 126 63 .58 122 .08 164 1.38 .20 .19 64 51

)

SAMPLE	MO PPN	CU PPM	PB PPM	ZN PPH	AG PPM	NI PPM	CO PPH	MN PPM	FE	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA Z	P Z	LA PPH	CR PPM	M6	BA PPM	TI Z	B PPM	AL	NA Z	K Y	W PPN	AU## PPB	H6 PPB
			-						-				• • • • •			• • • •	;	• • • • •	••	~	••••		-				-	-	••			
VT-15-4-3817	1	106	23	58	.2	59	21	209	3.28	2	10	ND	2	430	1	2	2	44	2.89	.10	2	51	.53	24	.06	7	3.42	.79	.04	2	4	5
VT-15-4-3818	- 4	13	3	22	.1	6	2	546	1.01	3.	5	ND .	2	227	1	2	9	9 :	26.83	.22	4	6	.32	-8	.01	5	.38	.04	.03	2	1	5
VT-15-4-3819	ţ	76	3	29	. i	55	29	251	6.12	14	5	ND	2	79	1	2	3		2.75	.07	,	102	.76	14	.10	5	.B2	.07	.05	2	3	30
VT-19-4-3906	i	13	10	103	.1	12	12	1202		11	5	ND	2	140	i	2	7		3.38	.15	<u>,</u>	7	1.07	2081	.01	7	2.25	.02	.22	5	38	460
VT-19-4-3930	ī		1	48	1	1	2	467	2.27	• • •	7	ND.	2	7	1	2	2	- 6	.25	.08	0	;	1.36	24	.01	,	1.33	.03	.02	2	7	10
11 17 4 5700	•	,	•	70	••		4	707	2.27	-	٥	ND.		,	1	2	2	7	• 24	.00	0	1	1.50	24	.01	i.Z	1.33	.03	.02	4	J	10
VT-19-4-3931	2	17	4	104	.1	8	14	741	2.56	44	5	ND	2	25	1	4	2	72	5.97	.11	3	5	1.06	163	.15	41	1.60	.01	.08	2	1	40
VT-19-4-3932	1	146	Ь	42	. 1	1	5	1086		35	5	ND	2	23	1	,	2		1.43	.10	Δ	1	.69	22	.02	7	.98	. 05	.04	2	Ā	5
VT-19-4-3471	g	39	8	70	.1	90	13	190	2.61	13	5	ND	2	62	•	2	,		6.00	.50	0	38	.97	22	.01	,	1.46	.04	.06	2	1	90
VT-19-4-3496	,	5,		,,	• • •	7	10						- 2	27		2	2	27			-			77		7				<u> </u>	1	
	- 4		J		• 4	3	1	29	2.73	21	3	ND	- 4	4	1	2	2	2	.06	.01	3	1	.08	. 2	.01	3	.14	.05	.04	2	2	10
VT-19-4-3820	2	58	16	47.	.4	50	13	357	5.89	25	5	HD	2	b	1	2	2	54	.06	.11	11	52	.92	24	.01	6	1.66	.02	.08	2	4	380
VT-19-4-3821	1	60	16	59	.1	240	28	513	7.24	2	5	ND	2	14	1	2	2	29	.24	.13	5	74	1.76	29	.01	2	2.01	.02	.09	2	1	40
VT-19-4-3822	1	20	6	20	.1	4	4	1271	2.75	8	5	ND	2	1222	1	3	2	7	10.43	.01	2	3	.67	7	.01	2	.55	.01	.01	2	1	30
STD S-1/FA-AU	85	121	114	182	31.2	150	80	490	3.16	110	97	35	167	125	85	77	88	58	.56	.12	124	62	.58	122	.08	163	1.39	.20	.18	63	52	100
0.5 0 2.11											• • •	-				• • •	30				467	O.L	, 50	***			2201	• * *		-		

TAH

MASTER NTS

PAR

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

DATA LINE

71

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2D AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.M.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS HG ANALYSIS BY FLAMELESS AA.

DATE RE	CEIVED:	AUE	15 19	784 D	ATE	REP	ORT M	IAIL	ED:	A	ug	10	184	A	SSAY	ER	W	all	Щ.,	DEA	N TC	YE.	CER	TIF	IED	B.C.	. AS	SAYE	ΞR		
	•							HON	1EST	AKE	F	ROJE	CT	‡ 57	10	F	ILE	: # 8	4-21	21B									FAE	5E	1
SAMPLE#	HO CU PPH PPH	PB PPM	ZN PPH	A6 PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	PP	CA	P 1	LA PPM	CR PPM	#6 I	BA PPM	TI	B PPM	AL X	na Z	K Z	¥ PPN	HG PPB	
VT-22-4-3901	7 23	21	23	.1	2	152	1156 32	.61	115	5	ND	2	2	1	16	7	6	2.29	.01	45	4	.05	3	.01	45	.09	.01	.01	3	40	
VT-15-4-3688	1 738	17	24	1.7	48	96	538 18	.71	14	6	ND	2	8	2	2	14	14	3,22	.01	12	1	.09	3	.02	4	. 65	.01	.01	2	10	
VT-15-4-3691	2 25821	10	793	26.0	7	115	400 10	. 21	25	5	ND	2	107	13	2	2	2	13.13	.01	2 ·	1	.13	3	.01	4	.21	.01	.01	2	170	
VT-15-4-3814	1 445	18	59	.6	97	32	311 18	.82	7	5	ND	2	24	2	2	17	74	.78	.08	9	· 82	.85	17	.12	2	1.14	.06	.02	2	80	
VT-22-4-3472	4 5120	6	59	3.3	41	89	1790 6	.31	43	5	MD	2	385	1	2	2	3	22.09	.01	2	2	.28	6	.01	5	.15	.01	.01	2	230	
VT-15-4-3488	22 406	10	37	.1	18	22	445 4	.38	44	5	ND	2	203	1	7	2	24	2.10	.02	3	8	1.10	37	.02	3	3.49	.28	.49	2	30	
STB S-1	86 121	114	187	31.8	150	RΛ	481 T	14	111	90	7.1	148	125	71	70	02	57		12	125	22	50	121	47	117	1 70	10	1.0	41	۵۸	

AUG 221984

TAH

MASTER NTS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH: (604)253-3158 COMPUTER LINE:251-1011

DATE RECEIVED AUG 1: PAR

DATE REPORTS MAILED,

Dr .____

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.

ASSAYER DEAN TOYE, CERTIFIED B.C. ASSAYER

HOMESTAKE PROJECT# 5710 FILE# 84-21218

PAGE# 1

SAMPLE	CU %	ZN %	AG OZ/T	AU OZ/T
VT-22-4-3901	•••			.001
VT-15-4-3688	,		•	.001
_VT-15-4-3691	144 .		· ·	.042
VT-15-4-3814	_	_		.001
VT-22-4-3472	.55	.01	. 15	.011
VT-15-4-3488	.04	.01	.02	.001

AUG 22 1984

VC. JFG

It was

ACME ANALYTICAL LABORATORIES LTD.

852 E.HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2D AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.M.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.

- SAMPLE TYPE: ROCK CHIPS AU** ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE.

DATE F	RECEIV	ÆD:	APR	19 19	84 D	ATE	REP	ORT	MAII	LED:	f.	Apr a	25	184	/ - A9	SSAY	ER.	d.	De f	J	DEAN	N TC	YE.	CER	TIF	ED	B.C.	AS	SAYE	R.	V car
								HOME	ESTA	KE M	INE	RAL	PR	OJEC	T #	571	0-V	I	FILE	Ξ#	84-6	0582	2		/ a	h	C	$\int \alpha r$	111 F	AGE	1
SAMPLE#	MO PPM		PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE Z	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPH	CA X	P 1	LA PPM	CR PPM	M6 7	BA PPH	TI Z	B PPM	AL I	NA Z	K	N PPH	AU## PPB
TAH-18-4	2	1	4	2	.1	1	1	27	.19	5	5	ND	2	1361	1	6	7	3	28.78	.01	2	i	1.80	13	.01	2	.06	.01	.01	2	1
TAH-18-5	1	20	3	24	.2	2	3	963	1.07	6	3	RD	. 2	248	ì	2	3	21	15.45	0.1	. 2	1	.63	16	01	9	. 43	.01	.01	2	1
TAH-18-6	2	55	8	71	.1	20	17	1166	5.21	4	2	ND	2	119	i	2	2	146	2.97	.08	2	47	2.37	212	.23	9	2.78	.04	.17	2	1
TAH-18-7	i	2	2	40	.1	4	5	586	2.03	2	2	ND	2	78	1	2	2	11	2.09	.06	11	1	.56	63	.0i	5	1.22	.03	.26	2	4
TAH-18-8	1	55	6	58	.1	15	13	566	3.19	6	2.	NĐ	2	49	i	2	2	97	1.81	.08	2	20	1.18	18	.12.	10	2.14	.05	.04	2	1
TAH-18-9	2	4	6	149	.1	5	8	1292	6.17	9	2	ND	2	77	i	2	2	39	1.53	.33	7	1	2.18	45	.17	3	3.24	. 04	.12	2	2
TAH-18-10	1	33	9	78	.1	19	18	802	3.66	. 9	2	ND	2	55	1	2	2			.06	2	84	2.95	22	.27	7	2.74	.05	.07	2	1
TAH-18-11	1	278	1034	678	204.6	4	3	1902	1.61	4965	2	88	2	170	2	71	3	14	7.29	.01	2	6	1.29	91	.01	4	.47	.01	.05	2 5	2900
TAH-18-12	i	5	12	64	1.3	. 3	7	610	3.43	212	2	ND	2	61	1	2	2	50	3.66	.14	2	1	8.54	6	.12	88	4.35	.01	.01	2	41
TAH-18-13	2	3	12	24	.8	1	i	198	1.19	1284	2	ND	2	7	1	2	2	2	.11	.01	22	, i	.07	43	.01	6.	.40	.03	.22	2	130
TAH-18-14	2	3	8	9	.6	3	1	161	2.47	74	2	ND	2	25	1	95	2	3	1.60	.01	2	í	.40	19	.01	6	.44	.03	.14	2	4
TAH-18-15	2	150	621	507	1.1	36	23	2237	6.28	221	2	ND	2	7	3	5	2	134	.21	.06	2	53	5.09	30	.01		4.74	.01	.10	2	9
TAH-18-16	1	á	27	57	1.4	4	4	590	2.29	18	2	ND	2	57	1	2	2	16	.46	.05	7	3	.73	137	.09		1.24	.06	.07	2	33
TAH-18-17	1	6	25	65	1.1	2	1	181	.89	6199	2	2	2	7	1	2	2	- 2	.22	.01	15	4	.02	48	.01	5	.35	.01	.22	2	1580
TAH-18-18	i	4	6	76	-1	3	6	874	3.11	41	2	ND	2	57	1	2	2	11	.91	. 14	4	1	.98	5	.15	7.	1.62	.06	.01	2	2
TAH-18-19	2	24	1	28	.1	2	2	573	2.69	14	2	ND	2	21	1	2	2	2	1.96	.02	5		.27	45	.01	7	1.13	.06	.21	2	3
TAH-18-20	2	89	20	47	1.4	19	10	1179	3.13	860	2	· ND	2	15	i	2	2	44	.81	.02	2	30	1.55	45	.04		1.63	.01	.05	2	1480
TAH-18-21	2	67	15	186	11.4	19	14	1736	4.65	9959	2	5	2	64	2	10	2	54	4.04	.04	5	35	1.60	92	.01		2.35	.01	.27	2	6100
TAH-18-22	3	223	23	98	1.3	22	20	1746	6.03	1534	2	ND	2	22	2	2	2	70	1.85	.17	7	35	2.37	76	.02		3.39	.02	.17	2	320
TAH-18-23	1	13	1	58	.2	4	7	847	3.51	129	-2	ND	2	47	1	2	2	17	2.83	.12	8	. 1	.90	109	.01	8	2.08	.02	.32	, 2	21
TAH-18-24	2	: 5	3	31	1	4	5	388	2.13	32	2	מא	2	47	1	2	2	7	.73	.05	4	1	. 45	40	.01	4	1.00	.03	.18	2	4
TAH-18-25	1	2	6	40	.1	2	i	245	1.27	3094	2	ND	2	7	1	2	2	2	.10	.01	15	1	.03	50	.01	7	.35	.03	.26	2	260
TAH-18-26	1	2	1	18	.1	1	2	712	.84	50	2	ND	2	288	1	4	2	35	7.88	.02	2	i	3.83	32	.04	20	.55	.01	.01	2	2
TAH-18-26A	1	55	77	99	76.0	19	18	1510	5.17	10560	2	(83)	2	7	i	4	2	34	.10	.03	5	24	.63	133	.01		1.26	.01	.17	2 4	4300
TAH-1B-27	1	9	9	36	.4	3	3	1231	1.67	1512	2	ND	2	3	1	2	2	12	.09	.03	3	4	.43	38	.01	7	.80	.01	.08	2	250
TAH-18-28	1	8	1	75	.2	5	7	873	3.53	359	2	ND	2	12	1	2	2	27	.71	.09	10	2	.77	94	.01	6	1.65	.03	. 25	2	58
TAH-19-1	3	44	9	52	.7	46	13	677	3.54	153	2	ND	2	9	i	2	2	52	.14	.08	11	42	.79	30	10.		1.72	.02	.10	2	46
TAH-19-2	10	38	13	48	.6	21	9	409	5.04	56	2	ND	2	5	i	2	2	37	.03	.07	6	21	.43	29	.01	8	1.45	.01	.13	2	4
TAH-22-1	8		14	57	8.9	25	57		20.31	745	2	17	2	2	2	2	82	211	.08	.02	6	36	.86	10	.08	2	2.37	.01	.05	2 2	3700
TAH-22-2	1	32	8	64	. 1	4	16	627	4.78	9	2	NO	2	192	1	2	2	67	2.69	.22	2	1	1.15	5	.24	8	2.20	.01	.01	2	33
TAH-22-3	2	2844	12	112	12.3	32	37	1100	11.76	63	2	6	2	28	3	2	9	443	.54	.03	3	85	1.97	11	.18	. 2	4.13	.03	.05	2	6250
TAH-22-4	2		13	67	2.1	16	29		14.51	702	2	4	2	3	1	2	23	352	.04	.02	2	1	1.10	12	.20	-	2.65	.01	.07		4880
STD A-1/FA-			39		.3	35	11		2.75	10	2	NB	2	35	1	. 2	2	58	.59	.09	8	69	.67	274	.08		2.02	.01	.20	2	53
															-	-	-				-					-				-	

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH: 253-3158 TELEX: 04-53124

DATE RECEIVED APRIL 19 1984

DATE REPORTS MAILED

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PRULVERIZED TO -100 MESH. AU BY FIRE ASSAY

ASSAYER

Me DEAN TOYE, CERTIFIED B.C. ASSAYER

HOMESTAKE

PROJECT # 5710-VI FILE # 84-0582

PAGE# 1

SAMPLE	AU
	OZZTON
TAH-18-11	1.210
TAH-18-17	.054
TAH-18-20	.052
TAH-18-21	.146
TAH-18-26A	.680
TAH-22-1	.706
TAH-22-3	.190
TAH-22-4	. 162

APPENDIX III

DESCRIPTION OF SAMPLES

3 Description of Samples

Number 3462:

Lithology: Sill within non-calcareous to calcareous,

locally fossiliferous uTRPB.

Alteration: Strongly silicified, white, pale rusty brown

weathering.

Mineralization: Pyrrhotite as thin veinlets or fracture coatings

and as fine blebs, giving rock layer a finely spotted texture, and comprising up to 30% of

rock. Layer is 8 cm thick.

Number 3463:

Lithology: Partly fossiliferous, well bedded siltstone to

fine sandstone, black to grey except where

silicified.

Alteration: Variably silicified to non-silicified.

Mineralization: nil

Number 3464:

Lithology: Pale grey to dark grey siltstone.

Alteration: Weakly silicified. 0.35 m from silicified

zone.

Mineralization: Weakly pyritiferous.

Number 3465:

Lithology: Partly calcareous siltstone.

Alteration: Moderately silicified, rusty weathering, pale

grey colored, pyrrhotite bearing.

Mineralization: pyrrhotite +- 5%

Number 3466:

Lithology: Felsic dike; pale grey colored, pale brown

mildly gossanous rock intruding calcareous thinly bedded siltstone; with diss pyrrhotite.

Alteration:

Mineralization: pyrrhotite dissem

Number 3467:

Lithology: Well bedded siltstone near felsic dike.

Alteration: Local rusty weath near felsic dike.

Mineralization: nil

Number 3468:

Lithology: Siltstone.

Alteration: Moderately silicified, cut by calcareous

veinlets. Gossanous.

Mineralization: nil

Number 3469:

Lithology: Well bedded, interbedded limestone to micrite to

calcareous siltstone. Some beds pyritiferous, some on-calcareous. Average thickness of beds +- 7 cm. O/C below IJBv and close to felsic

dike.

Alteration: nil

Mineralization: Some beds pyritiferous.

Number 3470:

Lithology: Pale grey dyke? at or near contact of Parson

Bay and Bonanza.

Alteration: Moderately silicified.

Mineralization: Pyrite in patches. Comprises about 20% of rock;

possible trace chalcopyrite, arsenopyrite (scorodite?) (infrequent anomalous green waxy

mineral associated with some sulphide).

Number 3471:

Lithology: Interbedded calcareous and non-calcareous

micrite and black siltstone. Intruded and deformed by Bonanza Group hypabyssal rock.

Alteration:

Mineralization: nil

Number 3472:

Lithology:

pyrite, magnetite, chalcopyrite, epidote, calcite

skarn rock.

Alteration:

Mineralization:

Number 3473:

Lithology:

Late phase quartz pegmatite cutting quartz diorite and containing blebs of hematite-specularite (not abundant) after

pyrite(?). Chloritic mafic fragments.

Alteration:

Mineralization:

Number 3474:

Lithology:

Flow banded, grey green coloured fine grained pyrrhotitic intrusive cutting Parson Bay fm.

Alteration:

nil

Mineralization: pyrrhotite dissem

Number 3475:

Mineralization: Green coloured, well bedded partly cross-bedded

slightly calcareous greywacke. Conformably

overlies Parson Bay.

Alteration:

nil

Mineralization: mil-

Number 3476:

Mineralization: Qtz-epidote felsite veinlets intruding mildly

silicified green Bonanza group volcanic rock.

Alteration: nil

Mineralization: nil

Number 3477:

Mineralization: Pale grey, somewhat calcareous felsic intrusive

(sill or dyke) with +- 5% dissem sulphide.

Alteration: nil

Mineralization: +- 5% dissem sulphide.

Number 3478:

Mineralization: Siltstone. Phyllitic aspect. Near felsic

intrusive of previous sample.

Alteration: Moderately to strongly silicified.

Mineralization: nil

Number 3479:

Mineralization: Felsic intrusive?

Alteration: Moderate Fe oxide staining.

Mineralization: pyrrhotite

Number 3480:

Mineralization: Grey coloured, intermediate volcanic hypabyssal

rock (andesite?). amygdaloidal (chlorite & qtz) and containing +- 5% pyrrhotite. Associated with angular fragmental rhyolite and intruding

sed rock.

Alteration: Chlorite and quartz in amygdules.

Mineralization: pyrrhotite +- 5% pyrite and quartz in

amygdules.

Number 3481:

Lithology: Black to dark grey micrite to calcareous

siltstone with volcaniclastic beds: and containing fragments? or "replacements" of pyrrhotite with angular shapes and

disseminated.

Alteration:

Mineralization: Fragments? or replacements of pyrrhotite with

angular shapes and disseminated.

Number 3482:

Lithology: Black weathering, grey coloured, calcareous,

mildly to moderately pyritic, in part

volcaniclastic siltstone.

Alteration:

Mineralization: Moderately pyritic.

Number 3483:

Lithology: Calcareous, volcaniclastic, pyrrhotitic. Some

beds non-calcareous. Regular bedding thickness

about 5 to 10 cm thick. Grey to black.

Alteration:

Mineralization: pyrrhotite

Number 3484:

Lithology: rusty weathering, fissile, generally

non-calcareous, volcaniclastic siltstone.

Alteration:

Mineralization:

Number 3485:

Lithology: Pod of strongly gossaned sulphide

(py,chalcopyrite) in felsic to intermediate volcanic rock. Very fine grained. Pale grey to

rusty weathering.

Alteration:

Mineralization: pod of py, chalcopyrite

Number 3486:

Lithology: Fine grained tuff or volcanic flow.

Intermediate composition. Strongly to moderately gossanous in minor fault zone. Cut

by quartz veinlet.

Alteration: Quartz veinlet.

Mineralization: Gossanous.

Number 3487:

Lithology: Small gossanous zone with felsic intrusive.

Alteration:

Mineralization:

Number 3488:

Lithology: Strongly gossaned, deep red to black weathering,

black coloured siltstone; non - calcareous. Intruded by felsic dyke(s?) and bedding

strongly deformed.

Alteration: nil

Mineralization: up to 30% sulphide, py +- sphalerite

+-chalcopyrite?

Number 3489:

Lithology: Very fine grained, flow banded felsic dyke or

sill in black siltstone (see previous sample).

Alteration: nil

Mineralization: nil

Number 3490:

Lithology: Black weathering, slightly gossanous, calcareous

siltstone, well bedded.

Alteration:

Mineralization: <= 2% diss pyrrhotite

Number 3491:

Lithology: Fine grained intermediate volcanic with

pyrrhotite veinlets and blebs bordered by silicified host (white discolouration).

Chlorite also associated.

Alteration: Silicified adjacent to sulphide veinlets and

blebs.

Mineralization: pyrrhotite veinlets and blebs.

Number 3492:

Lithology: Felsic dyke, pale grey, very fine grained, about

1 meter wide, with (2% finely disseminated pyrrhotite and containing a quartz veinlet +- 2

mm wide with pyrrhotite.

Alteration: quartz veinlet

Mineralization: pyrrhotite (2% finely dissem.

Number 3493:

Lithology: Grey to black, calcareous, in part carbonaceous

basal Parson Bay formation. Micrite.

Alteration:

Mineralization: Minor, very finely disseminated py.

Number 3494:

Lithology: Recrystallized calcareous to dolomitic rock.

Tan weathering, with bedded appearance marked by pale green-white "chloritic" material in sub-parallel wispy veinlets. Rounded to sub-angular fragments are chloritic. Rock may

be tuffaceous in part.

Alteration: Fragments in rock are chloritic. May be

thermally metamorphosed uTRPB.

Mineralization: nil

Number 3495:

Lithology: Calcareous greywacke to siltstone with blebs and

crystals of pyrite +- pyrrhotite? Near transition from Bonanza to Parson Bay formation

and overlying large felsic intrusive body.

Alteration:

Mineralization: blebs and crystals py and pyrrhotite.

Number 3496:

Lithology: Strongly cleaved, gossanous felsic intrusive;

white; very fine grained.

Alteration: Silicified? Contains fine qtz veinlets.

Mineralization: +- 15% dissem py (fine cubes).

Number 3497:

Lithology: Qtz vein in shear in mafic volcanic rock

(Bonanza Group?). Disseminated pyrite < 5%.

sample contains some chloritic host rock and

blackish brown wad.

Alteration: Qtz. vein in shear.

Mineralization: py diss, < 5 %

Number 3687:

Lithology: Qtz veins in vfg weakly pyrrhotitic (+- 1%)

hornfels.

Alteration: Qtz veins up to 3 cm wide contain pyrrhotite.

Also minor hornblende (?). Qtz has yellowish

stains.

Mineralization: 2 - 3 % pyrrhotite in the qtz as blebs up to 2

mm across.

Number 3688:

Lithology: Calc-silicate skarn containing diopside and pink

garnet. Sample is nearly massive sulphide.

Alteration: garnetiferous diopside skarn.

Mineralization: 60 - 70 % fg pyrrhotite. 1/2 - 1 % chalco in

small blebs.

Number 3689:

Lithology: Fg mafic volcanic (Bonanza) sill(?) within

Parson Bay fm.

Alteration: Minor vfg diss pyrrhotite in Bonanza (1 - 2 %)

pyrrhotite).

Mineralization: 1 cm wide x 10 cm long pod of pyrite rich

material (5 - 10%) with some quartz. Both py

pod & Bonanza in sample.

Number 3690:

Lithology: Medium grained, crystalline Quatsino Lst. +- 10

- 20 m upslope from contact with hbde bio qtz

diorite.

Alteration: An area +- 2x3m, bounded on at least one side by

a shear zone (030/60 SE) consists of rusty weathering, pyrrhotitic hornfels, mildly silicified looking very much like contact alteration of Parson Bay. Could be small faulted

in block of PB or altered Q.

Mineralization: 4 - 5% fg pyrrhotite; disseminated and along

hairline fractures.

Number 3691:

Lithology: Quatsino Lst, fairly massive

Alteration: Vein (010/90) up to 10 cm long (pinches out

within 3 m) of white, f -> mx calcite and green calcite-diopside (?). Weathers orange-brown.

Minor red garnets.

Mineralization: Pod of nearly massive sulphide 10 cm wide

(entire vein width) x 20 cm along strike. 30 - 40 % vfg chalco, 30-40% vfg pyrrhotite. Pods of

diopside and small red garnet.

Number 3692:

Lithology: Interbedded Parson Bay 1sst. and Bonanza

Volcanic (fg, intermediate). Contacts 310/65

SW.

Alteration: A few Parson Bay layers with white calcite and

calc-silicate (pink garnet-diopside).

Mineralization: Maximum of 2-3% pyrrhotite in both rock types.

Much of P. Bay appears unmineralized.

Number 3693:

Lithology: Felsic lithic lapilli tuff.

Alteration: Weak phyllic (sericite-qtz-pynrhotite).

Mineralization: 3-5% fg diss pyrrhotite

Number 3694:

Lithology: Black, non-calcareous argillite of Parson Bay

near Quatsino contact (310/60 NE = probably

fault contact.)

Alteration: nil. Moderate rusty stain.

Mineralization: 1 - 2 % fg diss pyrrhotite

Number 3694:

Lithology: Non-calcareous argillite; very similar to 3694.

Alteration: May be some hornfels.

Mineralization: 3-4 % fg diss pyrrhotite. 1-2 cm long nodule is

somewhat more pyrrhotite rich.

Number 3696:

Lithology: Sheared, black, non-calcareous Parson Bay

argillite associated with major shear zone

trending 290 deg. Graphitic.

Alteration: rusty weathering, graphitic.

Mineralization: 1% vfg diss py

Number 3697:

Lithology: Quartz diorite, fine to medium grained, no ?

phases. (Felsite).

Alteration: Occasional epidote veinlets up to 1 cm wide.

Occasional microveinlets of quartz (approx. 1 mm

wide).

Mineralization: Trace ((0.25%) v.f. grained, black,

non-magnetic metallic mineral giving red streak,

= hematite.

Number 3698:

Lithology: Karmutsen greenstone which underlies magnetite

skarn (Quatsino) in S wall (footwall) of pit.

Alteration: Moderate chlorite alteration is pervasive,

probably with minor epidote in lighter green areas. White calcite is common along irregular

microveinlets.

Mineralization: Trace v. f. g. diss. Py. Not magnetic.

Number 3699:

Lithology: Limestone altered to calc-silicate and magnetite

skarn near contact with Karmutsen greenstone.

Alteration: Calcite. Wollastonite or actinolite. Fine red

and yellow garnets. Irregular lenses of epidote

(may not occur in rep.).

Mineralization: Irregular bands of magnetite up to 2 cm wide.

Pods of med. grained. pyrite up to 3 cm. long (or 5-10% of total sample). Note:massive magnetite is common in skarn but py is

uncommon.

Number 3700:

Lithology: Massive magnetite skarn in Quatsino limestone.

Alteration: Small, yellow lenses of f. grained, granular

material which may be yellow garnet. Rusty

weathering.

Mineralization: Massive magnetite ()90%). (1/2% disseminated

chalcopyrite. Malachite along fractures.

Number 3813:

Mineralization: Fx green mafic (?) sill material w/ cal-silicate

and associated mineralization along fractures.

Calc-silicate minerals are qtz, tr, ep ca.

Alteration: Fe - goethite stain on surface of rock.

Mineralization: Assoc. with cal-silicate minerals which form

along fractures and in veinlets. Py 15%,

pyrrhotite 5% chalcopyrite tr.

Number 3814:

Lithology: Heavily rusted 1JBv (?) which fx and dark

green. Massive py appears to be along fractures

and pyrrhotite along veinlets.

Alteration: Fe oxides on surface & fractures.

Mineralization: py 25 - 30 %, especially along fractures. 1/2 -

1 mm subhedral -euhedral cubic py. Sugary

texture. Pyrrhotite 1 % along 2 mm veinlets. chalcopyrite tr with pyrrhotite.

Number 3815:

Lithology: Green, fx lJBv (?) (may be large dike) (not as

altered as 3814) w/ 3% (1 mm plag., (1%

euhedral, green, up to 1 mm opx (?)

Alteration: veinlets and blebs of pyrrhotite. minor surface

Fe stain.

Mineralization: pyrrhotite 1 - 5 %, in up to 1 cm blebs and in

veinlets and dissem. chalcopyrite trace, assoc. with pyrrhotite. py (possible) in some

fractures.

Number 3816:

Lithology: Green and white fx mafic dike cutting the uTRPB

at 70/80 SE. py mineralization along fractures.

Not calcareous. See alteration.

Alteration: Fracture surfaces heavily chloritized. Surface

Fe staining.

Mineralization: 15 % py along fractures. pyrrhotite (?) w/ py.

Number 3817:

Lithology: Very large sub-vertical dike cuts uTRPB,

probably originally of mafic composition, cut by

felsic veins.

Alteration: Propylitic alt'n w/ qtz - chl - pyrrhotite of

mafic dike. Moderate. Possibly also silicified (due to felsic dike?) 25 cm vertical felsic

aplite trending E-W near by.

Mineralization: Pyrrhotite 10% in blebs. chalcopyrite tr

associated w/ pyrrhotite. py?

Number 3818:

Lithology: Black, calcareous uTRPB argillite, bedded,

dipping into hillside. Some mat'l cont. ang. blck. frgs. Overlain by gossanous felsic dike/sill, above which lJBv. 3819 is sample of felsic rock. Finely dissem. py in thicker

beds. Hairline qtz. veinlets.

Alteration:

Minor on thicker beds (3-8 cm) and only a surface iron stain on weathering surface and along fractures. smaller, more fissile beds show greater amt. of Fe stain and possibly some clay mineral alteration.

Mineralization: py 1 %, finely diss and along fract. euhedral, cubic.

Number 3819:

Lithology:

Light grey fx felsic intrusive dike or sill w/ 5% 1-5 mm plag phenocrysts 3% of an altered mafic phase. Rock is reactive to HCl. see alteration. Hairline qtz. veins.

Alteration:

Locallized heavy Fe stains, particularly on fractures. Mafic phase altered to chl. Chl. also found around py blobs. Moderate sericite alteration in most gossanous areas, also highly fractured.

Mineralization: In unaltered rock; less mineralization. 5% py in blebs and along fractures. Also 1 % fx pyrrhotite. In altered rock, 10 - 15% py.

Number 3820:

Lithology:

Highly fissile black bedded uTRPB argillite.

Beds 5 cm to 10 cm thick. Some are fx, other w/
0.5 m qtz fragments. See alteration. Also conformable felsic sills.

Alteration:

Most fissile, usually thinnest beds are rusted 2/ Fe stain which appears to form along bedding plane fractures.

Mineralization: nil

Number 3821:

Lithology:

Grey fx felsic dyke. 2m, locally heavy Fe oxide staining. Adjacent to uTRPB bedded argillite.

Alteration:

Slight phyllic alteration in places giving sericite. At base of 2 m wide, 3 m high, 220/50 W dike, heavily gossanous rock. Gossan is limonite forming on the weathering surface. The margin of the dike appears to be more silicic and possibly m chloritic

Mineralization: 3 % py in 1mm blebs surrounded by chl.

Number 3822:

i

Lithology: fx pale green-white felsic dike, (10 m thick at

20/50 SE)

Alteration: Possibly silicified. About same hardness as

knife. Ep. along the numerous fractures. Propylitic alteration, chl, hem, py at contact

w/ l.s.

Mineralization: nil w/in dike. 2 % fx py at contact w/ l.s.

Number 3901:

Lithology: Massive pyrite with calcite, presumably skarn in

Quatsino Lst.

Alteration: Very rusty weathering. Vuggy white calcite.

Mineralization: >80% fine grained pyrite.

<u>Number 3902:</u>

Lithology: Hornblende quartz diorite, medium grained,

weakly magnetic.

Alteration: Weakly chloritic. 1/2 m. wide shear zone

trends approx 320 deg, steep. This is slightly rusty and has a few 1 mm. wide qtz. veinlets.

Mineralization:

Number 3903:

Lithology: V.f. grained, silica-rich, light green to light

grey, felsic dyke (approx. 300/60 sw). 1.5 m.

outcrop width in hbde qtz diorite.

Alteration: Si-rich but this is probably primary. Note:

dyke attitude +-= vein attitude with good Au

value at road.

Mineralization:

Number 3904:

Lithology: Slightly sheared hbde qtz diorite taken over 10

- 15 cm. width. Shear trends 330 deg. (partly

controlling cliff face.

Alteration: Qtz veinlets up to 2 mm wide are moderately

common but not extensive in shear zone. Rare

MnO stain.

Mineralization: Trace v. f. g. sulphides in some qtz.

microveinlets.

Number 3905:

Lithology: Hbde qtz diorite with 80 cm wide shear zone

trending 315 deg.

Alteration: Weak sericite?

Mineralization: Trace vfg dissem. py

Number 3906:

Lithology: Vfg unconsolidated fault gouge (290/75 NE), 20

cm wide within qtz diorite.

Alteration: Cataclasis to clay size.

Mineralization: Trace vfg py.

Number 3907:

Lithology: Light grey fine grained lithic tuff with rare

feldspar crystals.

Alteration: Weak phyllic. Mod -> strong silicification.

Mineralization: Diss. py, fg, up to 3-4%

Number 3908:

Lithology: Pyritic, fg -> mg quartz diorite.

Alteration: Weak propylitic.

Mineralization: 4 - 5 % fg diss py (some cubic forms, could

partly be pyrrhotite since qtz diorite is weakly magnetic due to magnetite). Mineralized zone <0.5 m wide may be related to minor fracture

(300/55 NE).

Number 3909:

Lithology: 5 mm wide quartz vein in moderately magnetic

quartz diorite.

Alteration: Numerous calcite microveinlets x-cut host rock

and quartz vein. Minor epidote associated with

vein margins.

Mineralization: nil

Number 3910:

Lithology: Lithic crystal tuff; Bonanza.

Alteration: Weak propylitic. Weak pervasive chlorite.

Irregular microveinlets of calcite.

Mineralization: 1 - 2 % vfg diss py. Not magnetic.

Number 3911:

Lithology: Lithic lapilli tuff; light-coloured, rounded

lapilli in a dark, fg matrix; Bonanza.

Alteration: Moderate silicification.

Mineralization: +- 1% vfg diss py

Number 3912:

Lithology: Sheared Bonanza tuff adjacent to 30 cm wide zone

of fault gouge (340/55 E)

Alteration: Weak propylitic; weak pervasive chlorite,

abundant calcite along irregular microveinlets and lenses, pods, and veins up to 0.75 cm wide

sub-parallel to shear.

Mineralization: +- 1/2 % diss py (not in calcite but in host.

Not magnetic.

Number 3913:

Lithology: Black, graphitic, non-calcareous Parson Bay

argillite.

Alteration: nil

Mineralization: Ø - 1 % vfg diss py

Number 3914:

Lithology: Black argillite.

Alteration: Calcite is common on hairline fractures and

occurs occasionally in veinlets up to 1/2 cm.

wide.

Mineralization: 2 - 3% fg diss py.

Number 3915:

Lithology: Vfg felsic dyke exposed over outcrop width of 2

m.

Alteration: Weather white with patches of orange-brown.

Could have weak phyllic alteration. Occasional

qtz veinlets along hairline fractures.

Mineralization: 4 - 5 % vfg diss py.

Number 3916:

Lithology: 60 cm thick pink felsic dyke (vfg; trending 350)

within black argillite; P.B-Quatsino gradational

contact.

Alteration: Calcite microveinlets and veinlets up to 3 cm

wide.

Mineralization: <1% pyrite occurs associated with calcite

microveinlets and veinlets.

Number 3917:

Lithology: Black, non-calcareous Parson Bay argillite; very

thinly bedded (295/55 SW), x-cut by felsic

dikes.

Alteration: nil

Mineralization: nil

Number 3918:

Lithology: Felsic dyke +- 1/2 m wide (310/steep); vfg,

light grey, with elongate, flattened ellipsoids of black argillite (??) up to 5 mm. long. Host

rocks are Parson Bay argillite.

Alteration: Weak phyllic. Weathers light brown.

Mineralization: Trace vfg py and rare seams of py up to 2 mm

wide.

Number 3919:

Lithology: Thinly bedded Parson Bay black, graphitic

argillite; non-calcareous; nose of tight fold

plunges steeply, limbs concave to east.

Alteration: Weak to mod silicification. Occasional qtz

microveinlets.

Mineralization: nil

Number 3920:

Lithology: Black, thinly bedded, calcareous Parson Bay

argillite (sampled) invaded by numerous

intermediate fg dykes.

Alteration: occasional calcite microveinlets.

Mineralization: trace, vfg diss py

Number 3921:

Lithology: 15 cm wide, light grey, vfg felsic dyke (310/75

NE) x-cuts Parson Bay (3922)

Alteration: Weak to mod phyllic.

Mineralization: 5-10% fg diss pyrrhotite; also along hairline

fractures. Moderately magnetic.

Number 3922:

Lithology: Black, calcareous, Parson Bay argillite,

thin-medium bedding (000/20 W); cut by felsic

dyke (3921).

Alteration: nil

Mineralization: < 1/2% diss pyrrhotite. Weakly magnetic.

Number 3923:

Lithology: Vfg hornfels; light grey; in contact with green,

intermediate intrusive body. Originally Parson

Bay?

Alteration: Hornfelsing. Mod (?) silicification. Weak rusty

weathering. Numerous calcite microveinlets and

a few black calcite veinlets.

Mineralization: 3-4% fg pyrrhotite. Weakly magnetic.

Number 3924:

Lithology: Black, thin to medium bedded Parson Bay

argillite in drag fold adjacent to fault occupied by 1.5 m. wide felsic dyke. Drag folding on both sides of dyke indicate that the E block was downfaulted. Dyke trends 335/vert.

Sample area shows evidence of. shearing.

Alteration: Calcite microveinlets + lenses and veins up to 1

cm. thick.

Mineralization: 1/2% diss pyrrhotite

<u>Number 3925:</u>

Lithology: vfg, light grey, felsic dyke (33/vert); 1.5 m

wide, x-cutting and offsetting Parson Bay

(3924).

Alteration: Weak to moderate phyllic. Light brown

weathering. Weakly banded.

Mineralization: 1-2% diss py. not magnetic.

Number 3926:

Lithology: Parson Bay is dark grey, medium (5-20 cm) bedded

limestone-calcareous argillite (070/35 NW)

Alteration: Calcite microveinlets.

Alteration: nil

Number 3927:

Lithology: Black, non-calcareous Parson Bay argillite.

Alteration: few calcite veinlets

Mineralization: nil

Number 3928:

Lithology: Bonanza greywacke (030/40 NW) showing excellent

graded bedding. Layers up to 1 cm thick.

Alteration: nil

Mineralization: nil

Number 3929:

Lithology: Black, non-calcareous, medium bedded (5-10 cm)

Parson Bay argillite (average 55/30 NW). Small

syncline plunges gently to north.

Alteration: nil

Mineralization: 1/2-1% fg diss pyrrhotite

Number 3930:

Lithology: Light green, vfg Bonanza. Quatsino occurs

further up hillside so this must be a dyke or

sill.

Alteration: Irregular quartz veinlets and veins up to 1/2 cm

wide account for < 5% of rock. Chlorite, pervasive and as narrow envelopes around veins. Irregular maroon-coloured zone, probably

indicate hematite alteration.

Mineralization: (1/2% diss, fg py (not in quartz) Not magnetic.

Few hairline veinlets of calcite.

Number 3931:

Lithology: 10 cm wide, vfg light grey dyke (sill?) in

Quatsino 1st in contact with shear (055/35 SE).

Alteration: Weak to mod-strong sericite pyrophyllite (?)

alt. Shear is overlain by felsic dyke.

Mineralization: nil

Number 3932:

Lithology: Felsic to inter. dyke overlying shear (see

3931): +- 1 m. wide.

Alteration: Weak phyllic-chloritic.

Mineralization: 1-2% vfg diss Py

APPENDIX IV

NUMBERS OF SAMPLES COLLECTED PER CLAIM

NUMBERS OF SAMPLES COLLECTED PER CLAIM

Claim	Sample Quantity
Tah 15	64
Tah 18	2
Tah 19	9
Tah 22	17

APPENDIX V

ITEMIZED COST STATEMENT

ITEMIZED COST STATEMENT

The survey of the Tah 15, 18, 19 and 22 claims was done as a single effort. However an earlier assessment report was filed for the Tah 22 claim (Flanagan, 1984) and at that time partial costs of the survey were applied to the Tah 22 claim. Therefore, in the following cost summary, deductions are shown for "Previously Claimed Costs".

SALARIES	(field	and	trave1	time,	1 -	13	August	1984)
								

M. Flanagan	13 days at \$107.69	\$1,399.97	
G. Prior	13 days at 90.38	1,174.94	
C. Clode	6 days at 79.62	477.72	
P. Ronning	1 day at 147.33	147.33	
Less previously	claimed costs	(973.04)	٠
		•	
	Total	2,2	226.92
ARIES (report writ		2,2	226.92
	ing, drafting)		226.92
G. Prior	ing, drafting) 1 day at \$90.38	90.38	226.92
G. Prior P. Fagerlund	l day at \$90.38 3 days at 88.46	90.38 265.38	226.92
G. Prior	ing, drafting) 1 day at \$90.38	90.38	226.92

ANALYTICAL COSTS

			,
at	\$2.75	-	200.75
at	6.00		438.00
at	5.50		379.50
at	3.00		219.00
at	6.75		27.00
	at at at	at \$2.75 at 6.00 at 5.50 at 3.00 at 6.75	at 6.00 at 5.50 at 3.00

Total

Previously claimed costs already deducted

HOTEL/MOTEL	
August 1, Campbell River August 6, Tahsis August 12, Gold River	42.80 43.87 50.29
Less previously claimed costs	(39.13)

Total 97.83

1,264.25

RESTAURANT MEALS

2 persons, August 1, Campbell Riv 3 persons, August 5, Tahsis 2 persons, August 6, Tahsis 2 persons, August 7, Tahsis 2 persons, August 12, Gold River 2 persons, August 13, Gold River		26.85 71.21 11.20 24.95 28.18 75.37	
Less previously claimed costs		(67.93)	
	Total		169.83
VEHICLE RENTALS			
Cana Rentals Rent-a-Wreck		436.00 96.99	
Less previously claimed costs		(152.27)	
	Total		380.72
GASOLINE			
August 1, Campbell River August 4, Campbell River August 7, Tahsis August 13, Gold River		58.00 16.75 30.10 28.00	
Less previously claimed costs		(37.95)	
	Total		94.90
GROCERIES			
August 1, Campbell River August 7, Tahsis		259.74 115.70	e de la companya del companya de la companya del companya de la co
Less previously claimed costs	Sign of the control o	(107.26)	
	Total	tuā.	268.18
FIELD SUPPLIES		•	·
August 1, Campbell River August 2, Tahsis August 6, Tahsis August 7, Tahsis		3.06 21.40 9.29 6.41	12 1 12 1 13 1 13 1
Less previously claimed costs		(11.47)	
	Total		28.69

AIR PHOTOS

4 at \$2.50

10.00

SAMPLE SHIPMENT COSTS

August 4, Air Freight

69.20

Less previously claimed costs

(12.79)

Total

56.41

GRAND TOTAL

\$5,395.48

APPENDIX VI
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

Peter A. Ronning

- I, Peter A. Ronning of Sechelt, British Columbia, hereby certify that:
 - 1. I am a geologist employed in the field of mineral exploration by Homestake Mineral Development Company of Suite 201, 856 Homer Street Vancouver, B.C.
 - 2. I am a graduate of the University of British Columbia, holding the degree of Bachelor of Applied Science in Geological Engineering, obtained in 1973.
 - 3. I hold the degree of Master of Science, specializing in mineral exploration, from Queen's University at Kingston, Ontario, obtained in 1983.
 - 4. I am a fellow of the Geological Association of Canada. I have been employed in the field of mineral exploration since 1973.
 - 5. The work discussed in this report was done by J. M. Flanagan and G. Prior, working under my supervision. I am the author of this report.

PETER A. RONNING

