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GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE STUMP CLAIM
NANAIMO MINING DIVISION, B.C.

NTS 92-L-12
50°43'N 127°55'W

Owner: E. Alionis
Operator: Trawler Petroleum Explorations Ltd.

Author: S. Burgess

November, 1983

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,539

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Report on the Geological and Geochemical Surveys
on the Stump Claim, Nahwitti Lake, Nanaimo
Mining Division, B.C.

1. Introduction

Between October 6th and 12th, 1983, S. Burgess, assisted by L. Hendy on behalf of Agilis Engineering Ltd. conducted geologic mapping on the Stump Claim, and attempted to perform a geochemical survey.

2. Location and Access

The Stump Claim is located 4 kilometres west of Nahwitti Lake, 29 kilometres west of Port Hardy. The center of the property is located at geographic coordinates $50^{\circ}43'N$, $127^{\circ}55'W$ on N.T.S. map sheet 92 L/12. See figure 1, "Location Map".

Access to the claim is via the Port Hardy-Holberg road to a secondary logging road 1 kilometer west of Nahwitti Lake. This secondary road gives direct access to the western part of the claim.

3. Property

The Stump Claim (20 units) is located in the Nanaimo Mining Division. The Date of Record is 17 August, 1983 - Record number is 1522.

4. Physiography

The property occupies an area of moderate relief, with a maximum elevation of approximately 2100 feet. Hillsides are generally steep, and the major creeks on the property are deeply incised.

Most of the western and southern parts of the property were logged in the early to mid-1970's. All minor creeks and parts of the major creeks are choked with debris as a result of these operations.

Precipitation in the area is heavy throughout the year.

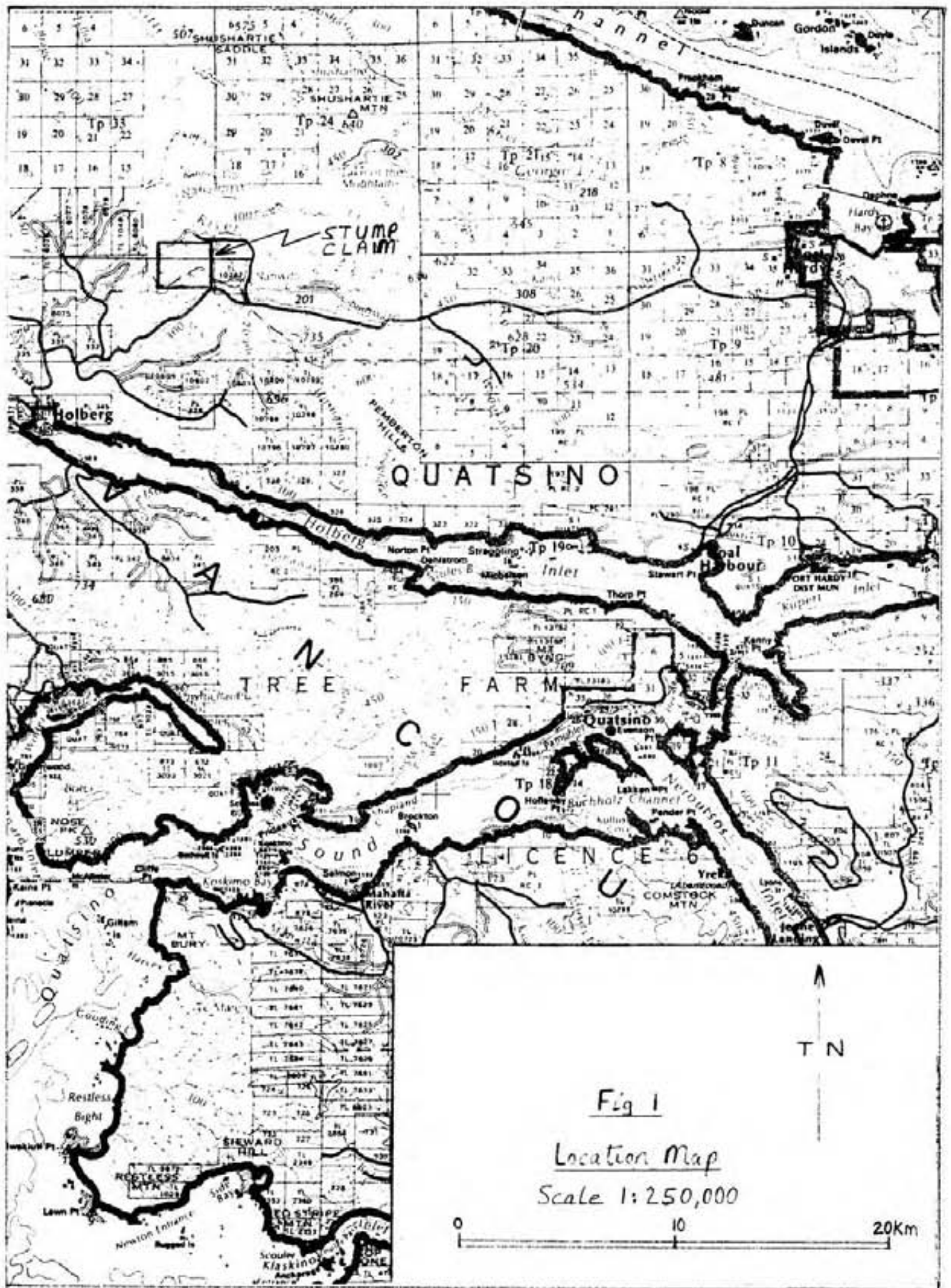
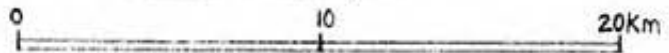


Fig 1
Location Map
Scale 1:250,000



5. Regional Geology

The Nahwitti Lake region has been mapped by Northcote (1970). The area is underlain by volcanics and sediments of the Upper Triassic to Jurassic Vancouver Group. These rocks are intruded by late Jurassic to Tertiary quartz-diorites and andesitic sills and dykes. See figure 2, "Preliminary Geological Map".

Northcote divides the Vancouver Group as follows:

- Bonanza Sub-Group: andesitic flows and breccias, felsitic tuffs, greywacke, shale, argillaceous and calcareous shales, and argillaceous limestone.
- Quatsino Formation: limestone.
- Karmutsen Formation: massive to amygdaloidal flows, breccias, pillow lavas and tuffs of andesitic to basaltic composition, thin limestone beds.

There is extensive block faulting in the area, and lack of exposure of rocks makes the tracing of units difficult.

6. Geological Mapping

S. Burgess, assisted by L. Hendy, mapped the property between the 6th and 11th of October, inclusive. D. Petersen visited the property on the 6th of October. Past work in the area indicated that exposures were limited to creeks. Most creeks on the property are now choked by logging debris, and any outcrop is obscured. A number of new outcrops, however, have been exposed in road cuts resulting from logging operations. See figure 3, "Geology".

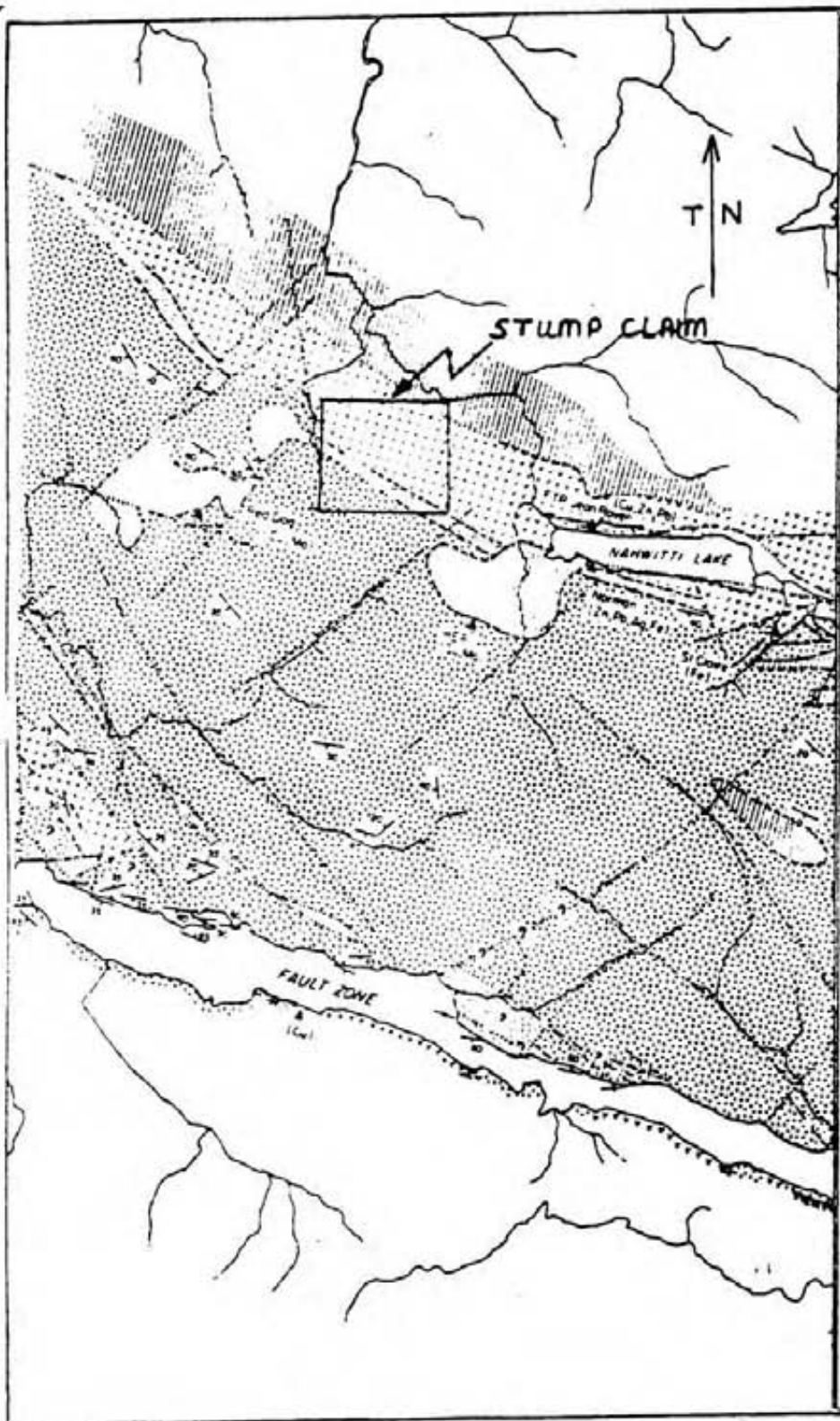
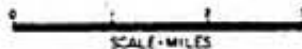







Figure 2
PRELIMINARY GEOLOGICAL MAP
RUPERT INLET - CAPE SCOTT AREA







GEOLOGY BY K.E. NORTHCOTE



LEGEND

-  **INTRUSIVE ROCKS**
 VARIED COMPOSITION FROM DIORITE TO GRANITE AND INCLUDES PORPHYRYTIC PHASES
-  **LOWER CRETACEOUS SEDIMENTARY ROCKS**
 CONGLOMERATE, SANDSTONE, SILTSTONE, SHALE, CARBONACEOUS HORIZONS
-  **BONANZA SUBGROUP**
 UPPER VOLCANIC UNIT, LARGE PYROCLASTIC TUFF, LAPILLI TUFF AND TUFF BRECCIA OF ANDESITE AND BASALT COMPOSITION WITH SOME BASALT AND RHYODACITE FLOWS AT THE TOP OF THE UNIT
 LOWER SEDIMENTARY UNIT, THIN BEDDED ARGILLACEOUS AND CARBONACEOUS LIMESTONE, CALCAREOUS SHALE AND SILTSTONE AND GREYWACKE
-  **QUATSINO FORMATION**
 LIMESTONE, MEDIUM TO THICK BEDDED
-  **KARMUTSEN FORMATION**
 BASALTIC AMYGDALOIDAL AND MASSIVE FLOWS, INTERBEDDED TUFF, SOME FLOW BRECCIA AND POORLY DEVELOPED FLOWS, THIN LIMESTONE BEDS NEAR TOP OF FORMATION

SYMBOLS

- CONTACTS**
 - KNOWN 
 - APPROXIMATE 
 - ASSUMED 
-  **LINEAMENTS FROM AIR PHOTOGRAPHS**
 SOME OF THESE ARE KNOWN TO REPRESENT FAULTS
-  **BEDDING**
-  **MINERAL DEPOSITS**

APRIL 15, 1971

6. Geological Mapping (Continued)

The following rock types were encountered:

1. Vancouver Group

Karmutsen Formation: amygdaloidal andesites underlie a hill towards the northern boundary of the property. Amygdales are filled with epidote and minor pyrite. One spot of malachite was observed.

Quatsino Formation: dark grey micritic limestone is found throughout the central part of the property, and in a creek valley near the southern claim boundary. The limestone has a northwest strike and dips moderately to the southwest.

Bonanza Sub-Group: dacitic to rhyolitic tuffs underlie a large portion of the property, and many appear silicified. In many places, these tuffs carry up to 3 or 4% disseminated pyrite. Also present are thinly interbedded shales and tuffs.

2. Intrusive Rocks

Several outcrops of quartz-diorite were found within the property, most notably in a creek just northwest of the legal corner post where it is in contact with Bonanza tuffs. Here, the quartz diorite is altered to a salmon-pink color, and extensively veined with quartz.

Previous to logging, an area of skarn was located just north of the intersection of roads BR45 and BR45K. A number of trenches were dug, and an area of the mineralized limestone was exposed. Subsequently,

6. Geological Mapping

2. Intrusive Rocks (Continued)

however, logging operations have all but obliterated these trenches, filling them with large, unmovable logs and roots as well as soil. Consequently, no mapping of value could be done in this area.

3. Mineralization

Galena and sphalerite-bearing float was found in the previously described trench area. This is believed to be derived from the trenches, but could not be located in place.

7. Geochemical Survey

On October 12th, S. Burgess, assisted by L. Hendy, attempted a geochemical survey consisting of rock chip sampling and detailed soil sampling. Three outcrops of brecciated, extensively veined, volcanic rock just east of the legal corner post were chip sampled over widths varying from 2 to 5 metres. Soil samples were taken at 25 metre intervals along the southern claim boundary above these outcrops.

A detailed soil sampling survey around the old trenches was abandoned due to extreme contamination of the soil resulting from logging.

A total of three rock chip samples and 23 soil samples were collected. See figure 4, "Sample Locations and Assay Results", and figure 5, "Sample Locations and Assay Results".

Soil samples were taken at 25 metre intervals, at depths varying from 10 to 40 cm. At most sample sites, B horizon soil could not be found.

The rock chip sampling was performed with a hammer and moil.

7. Geochemical Survey (Continued)

All samples were shipped to Acme Analytical Laboratories, 825 E. Hastings Street, Vancouver, B.C. for analysis. Soil samples were dried, screened to 80 mesh, and a 0.5 gm sample taken from the -80 fraction. This portion of the sample was digested in hot aqua regia, then analyzed for Pb and Zn using atomic absorption techniques. Rock samples were crushed and pulverized to -100 mesh, then a 10-gram portion was taken, digested in hot aqua regia, and analyzed for gold and silver using atomic absorption techniques.

8. Results of Geochemical Survey

The results of the very limited geochemical soil sampling show in Figures 4 and 5 that the zinc and lead values display sufficient deviation to be useful as mineral detectors.

It is therefore suggested that the soil sampling be continued over the whole property using an auger.

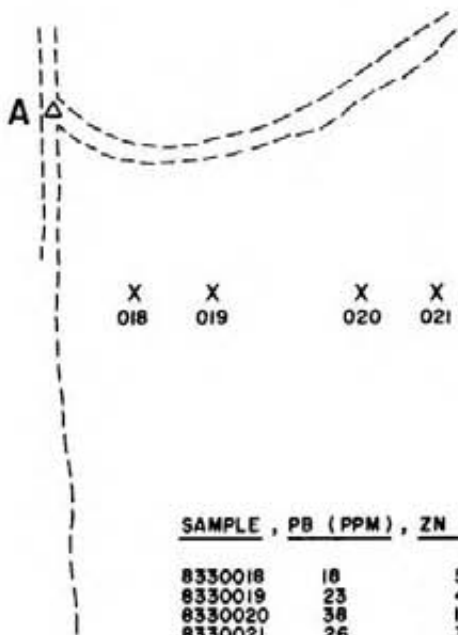
The results of the chip sampling show that the brecciated, veined volcanic rock do not contain interesting mineralization.

9. Conclusions

The Stump Claim is underlain by Vancouver Group volcanics and sediments. Intrusive rocks are present within the property.

Skarn mineralization exists on the property, but the exposure of this mineralization has been obliterated by logging operations.

Soil sampling on the property has been greatly complicated by contamination from logging operations. Further sampling over the whole property using an auger appears warranted.



 TRENCHED AREA

X 018 X 019 X 020 X 021 X 022 X 023

SAMPLE , PB (PPM) , ZN (PPM)

8330018	18	58
8330019	23	48
8330020	38	1160
8330021	26	380
8330022	22	770
8330023	5	124

X SOIL GEOCHEMICAL SAMPLE

ALL SAMPLES PREFIXED BY 8,330,-----

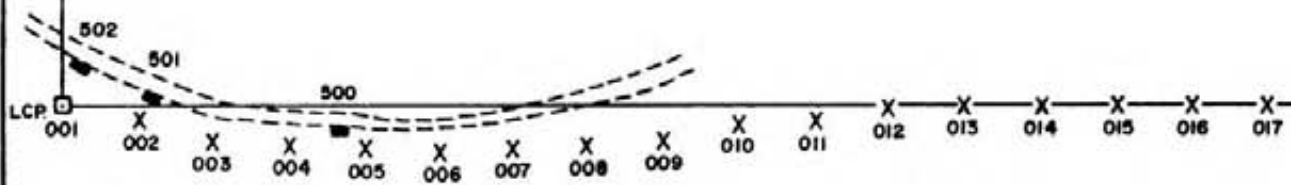
STUMP CLAIM
NANAIMO MINING DIVISION, B.C.
SAMPLE LOCATIONS
& ASSAY RESULTS





SAMPLE , PB (PPM) , ZN (PPM)

8330001	15	30	
8330002	4	15	
8330003	13	42	
8330004	18	82	
8330005	13	30	
8330006	16	41	
8330007	15	19	- 20 MESH PULVERIZED
8330008	18	21	
8330009	13	29	
8330010	24	7	
8330011	11	4	
8330012	14	26	
8330013	14	16	
8330014	8	2	
8330015	10	9	
8330016	4	2	- 20 MESH PULVERIZED
8330017	4	2	- 20 MESH PULVERIZED



X SOIL GEOCHEMICAL SAMPLE

■ ROCK CHIP SAMPLE

ALL SAMPLES PREFIXED BY 8,330,-----

STUMP CLAIM
 NANAIMO MINING DIVISION, B.C.
**SAMPLE LOCATIONS
 & ASSAY RESULTS**



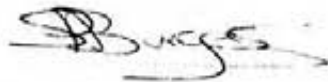
10. Recommendations

Rehabilitation of the trenches is strongly recommended. This would allow examination of the skarn mineralization. It is believed this work would require at least two days of work with a backhoe, and another day or two for final clean-up by hand.

Complete soil sampling coverage of the property is suggested.

11. References

- Holcapek, F., 1969 TI, BUD, MON, MO Claims, Geology & Soil Surveys;
Acheron Mines Report; B.C.D.M. Assessment Report 1186.
- Holcapek, F., 1970, TI, BUD, MON, MO Claims, Geology, Magnetometer
& Soil Surveys; Acheron Mines Report; B.C.D.M.
Assessment Report 2820.
- Holcapek, F., 1975, MO Claims Geology; Acheron Mines Report; B.C.D.M.
Assessment Report 5758.
- Jackson, E.V., 1975, Generalized Geological Map of the Canadian
Cordillera; C.I.M.M. Spec. Vol. 15.
- Northcote, K.E., 1970, Rupert Inlet - Cape Scott Map Area; G.E.M. p.254-258.
- Taylor, D.P., 1973, TI, BUD, MON, MO Claims - Magnetometer and Soil
Surveys; B.C.D.M. Assessment Report 4251.



12. Statement of Costs

Wages

S. Burgess	Oct. 6-12 inclusive, Oct. 19	8 days @ \$100/day	\$ 800
L. Hendy	" " " "	7 days @ \$70/day	490
D.B. Petersen	Oct. 6, supervision	1 day @ \$200/day	<u>200</u>
			\$1490

Expenses

Airfare

Vancouver - Port Hardy, return

S. Burgess, L. Hendy \$ 350.00

Transportation

Truck Rental 569.89

Gas, repairs 84.68

Accommodation 419.76

Meals 398.16

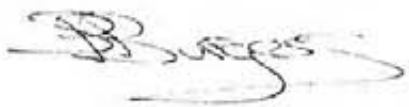
Telephone 34.93

Supplies 29.62

Geochemical Analyses 117.12

Drafting 175.50 1879.66

TOTAL \$3369.66



DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.

In the Matter of the geological and
geochemical surveys conducted on the STUMP Claim

To WIT:

I, Stewart P. Burgess

of c/o Agilis Engineering Ltd., 1010 - 409 Granville Street
Vancouver, B.C. V6C 1W9

in the Province of British Columbia, do solemnly declare that the following personnel were
employed and costs incurred in conducting the surveys:

Personnel

S. Burgess Geologist	8 days @ \$100/day	\$ 800.00	
L. Hendy Helper	7 days @ \$70/day	490.00	
D. Petersen Geologist	1 days @ \$200/day	<u>200.00</u>	
		\$ 1,490.00	\$ 1,490.00

Disbursements

Airfares			
S. Burgess and L. Hendy, Vancouver - Port Hardy, return		\$ 350.00	
Truck rental		569.89	
Gasoline, repairs		84.68	
Accommodation		419.76	
Meals		398.16	
Telephone		34.93	
Supplies		29.62	
Analyses, assays		117.12	
Drafting		<u>175.50</u>	
		1,879.66	<u>1,879.66</u>
	TOTAL		\$ 3,369.66

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of
the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *city*
of *Vancouver*, in the
Province of British Columbia, this *9th*
day of *November* *1983*, A.D.

[Signature]

[Signature]
A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia

RICHARD DAVID BELLAMY
A Notary Public in and for the Province of British Columbia
A Commissioner for taking Affidavits for British Columbia

14. Statement of Experience

I, Stewart P. Burgess, of 630-A Godwin Court, Coquitlam, B.C., do hereby certify that:-

1. I am a graduate of the University of British Columbia (B.Sc., Geology major, 1981).
2. I have practised as an exploration geologist in B.C. for three years.
3. Information in this report is based upon work performed by myself or under my supervision during the period October 6 to October 12, 1983.



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

DATE RECEIVED OCT 17 1983

DATE REPORTS MAILED Oct 24/83

GEOCHEMICAL ASSAY CERTIFICATE

A .500 GM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR.
THE SAMPLE IS DILUTED TO 10 MLS WITH WATER. ELEMENTS ANALYSED BY AA : PB, ZN.
SAMPLE TYPE : P1 SOIL P2 ROCK
AU*-10 GM IGNITED HOT AQUA REGIA LEACH MIDK EXTRACTION AA ANALYSIS

ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

AGILIS ENGINEERING LTD

FILE # 83-2595

PAGE# 1

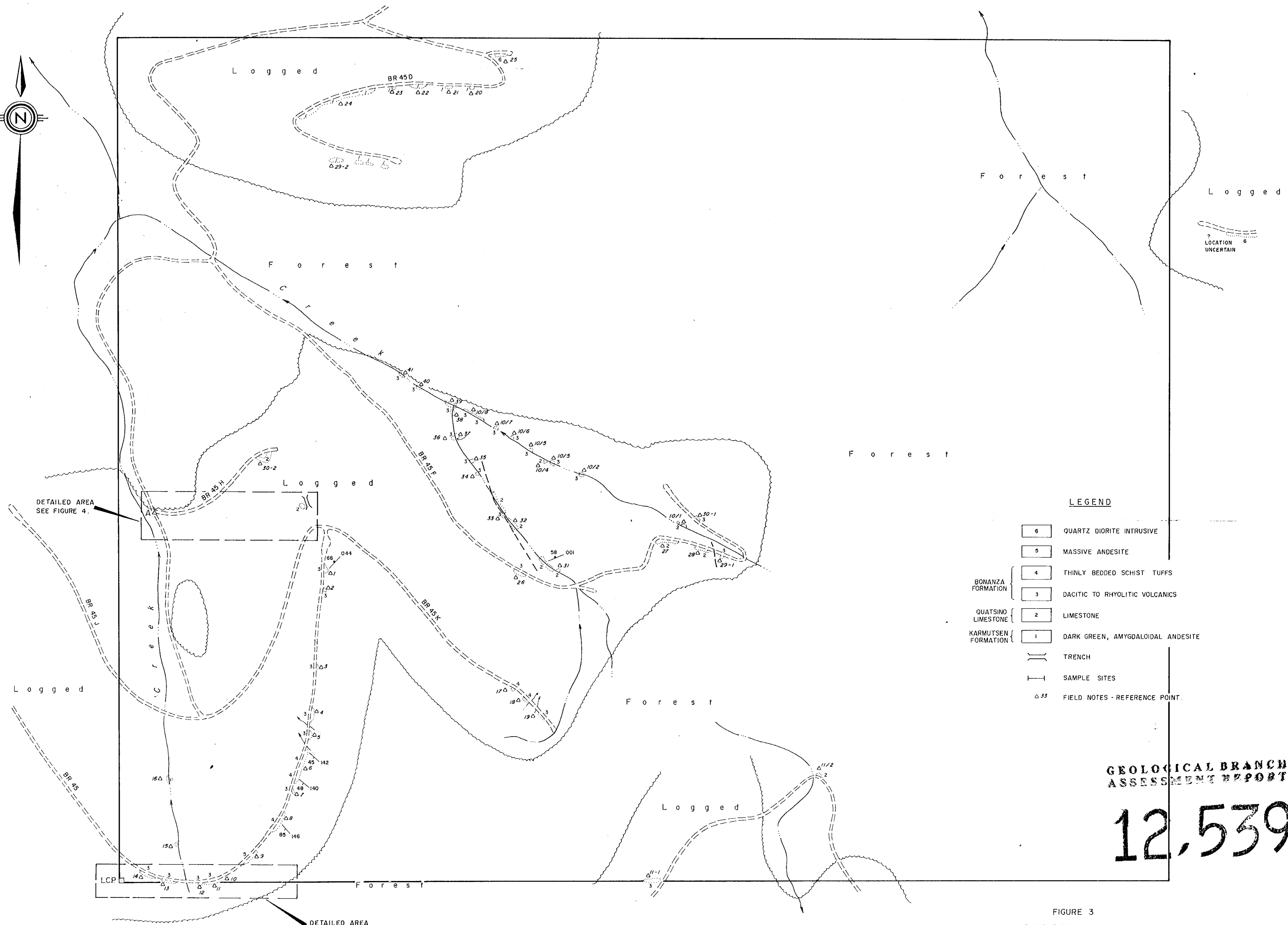
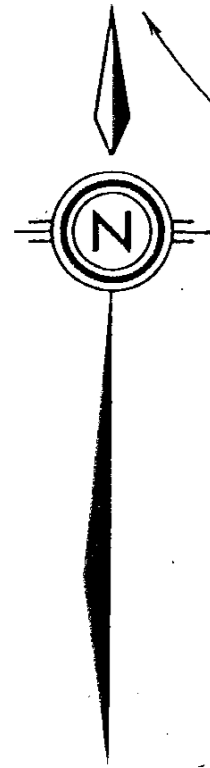
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8330002	4	15
8330003	13	42
8330004	18	82
8330005	13	30
8330006	16	41
8330007 P	15	19
8330008	18	21
8330009	13	29
8330010	24	7
8330011	11	4
8330012	14	26
8330013	14	16
8330014	8	2
8330015	10	9
8330016 P	4	2
8330017 P	4	2
8330018	18	58
8330019	23	48
8330020	38	1160
8330021	26	380
8330022	22	770
8330023	5	124

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FILE # 83-2595

PAGE# 2

SAMPLE	AG PPM	AU* PPB
8330500	.1	5
8330501	.1	5
8330502	.1	5



LEGEND

	QUARTZ DIORITE INTRUSIVE	
	MASSIVE ANDESITE	
	BONANZA FORMATION	THINLY BEDDED SCHIST TUFFS
		DACITIC TO RHYOLITIC VOLCANICS
	QUATSINO LIMESTONE	LIMESTONE
	KARMUTSEN FORMATION	DARK GREEN, AMYGDALOIDAL ANDESITE
	TRENCH	
	SAMPLE SITES	
	FIELD NOTES - REFERENCE POINT	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,539

FIGURE 3
STUMP CLAIM
NANAIMO MINING DIVISION, B.C.
GEOLOGY
SCALE IN METRES
0 100 200 300 400
OCT., 1983