

GEOCHEMICAL REPORT

on the

BORNITE CLAIMS  
OMINECA MINING DIVISION

N.T.S. 93-K-13E

LAT.: 54°55'N      LONG: 125°32'W

by

U. MOWAT, P. GEO.

April 1998 GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

25,477

**TABLE OF CONTENTS**

**PAGE**

1.0	Introduction	1
2.0	Location and Access	1
3.0	Claim Data	1
4.0	History	4
5.0	Regional Geology	4
6.0	Property Geology	5
7.0	Mineralization	6
8.0	Alteration	6
9.0	Work Program	7
10.0	Results	14
11.0	References	14
12.0	Statement of Costs	15
13.0	Statement of Qualifications	17

**FIGURES**

Figure 1:	Project Location Map	2
Figure 2:	Claim Map	3

**TABLES**

Table 1:	Copper in PPM	10
Table 2:	Nickel in PPM	11
Table 3:	Cobalt in PPM	12
Table 4:	Gold in PPB	13

**Appendix I: Analytical Results**

**Maps:** Sample Location Map in pocket

## 1.0 INTRODUCTION

On September 7, 1997 two men collected 13 rock samples and 4 samples of core to test for Pt and Pd. Six samples were reanalysed to test for "nugget" effects from awaruite, native gold, platinum and palladium. In addition, four samples were concentrated using a Knelsen concentrator as previous work showed that copper mineralization (bornite and chalcopyrite) were intergrown with magnetite and/or pyrrhotite. All samples were analysed for 30 elements by ICP and Au, Pt, Pd by fire assay/ICP.

## 2.0 LOCATION AND ACCESS

The Bornite claims are located 100 km northwest of Fort St. James. The property is located at coordinates 54° 55'N and 125° 32'W on map sheet 93-K-13E.

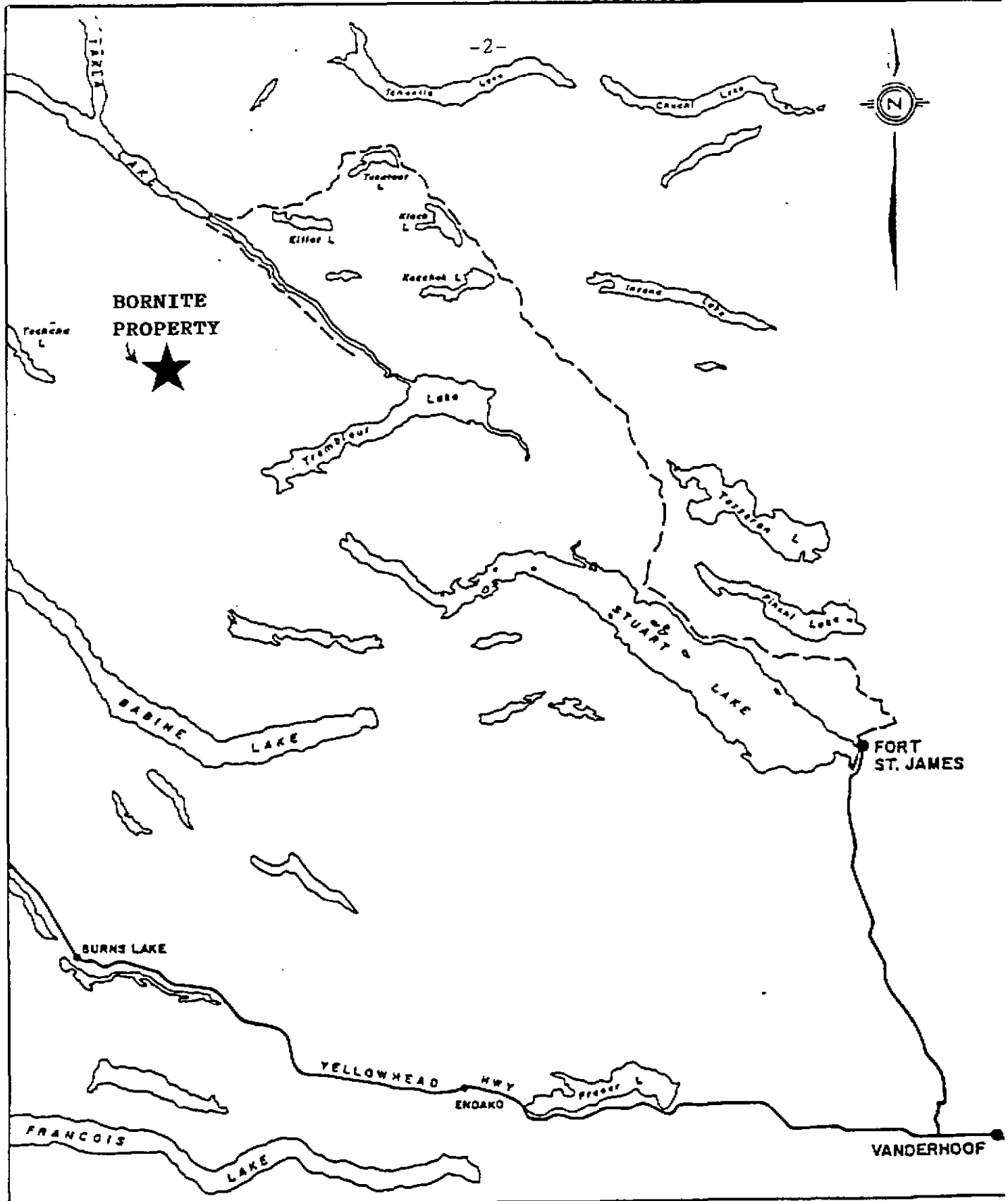
Access to the property is by helicopter from either Fort St. James or Smithers. Logging roads reach the periphery of the property.

## 3.0 CLAIM DATA

The Bornite property consists of the following claims:

<u>Claim Name</u>	<u>Record Number</u>	<u>No. of Units</u>
Bornite 1	334030	20
Bornite 2	334031	20
Bornite 3	340933	1
Bornite 4	340934	1
Bornite 5	340935	1
Bornite 6	340936	1
Bornite 7	340937	1
Bornite 8	340938	1
Bornite 9	340939	1
Bornite 10	340940	1
Bornite 11	340941	1

The property consists of 2 4-post claims and 9 2-post claims totalling 49 units.



PROJECT LOCATION MAP  
 FIGURE 1

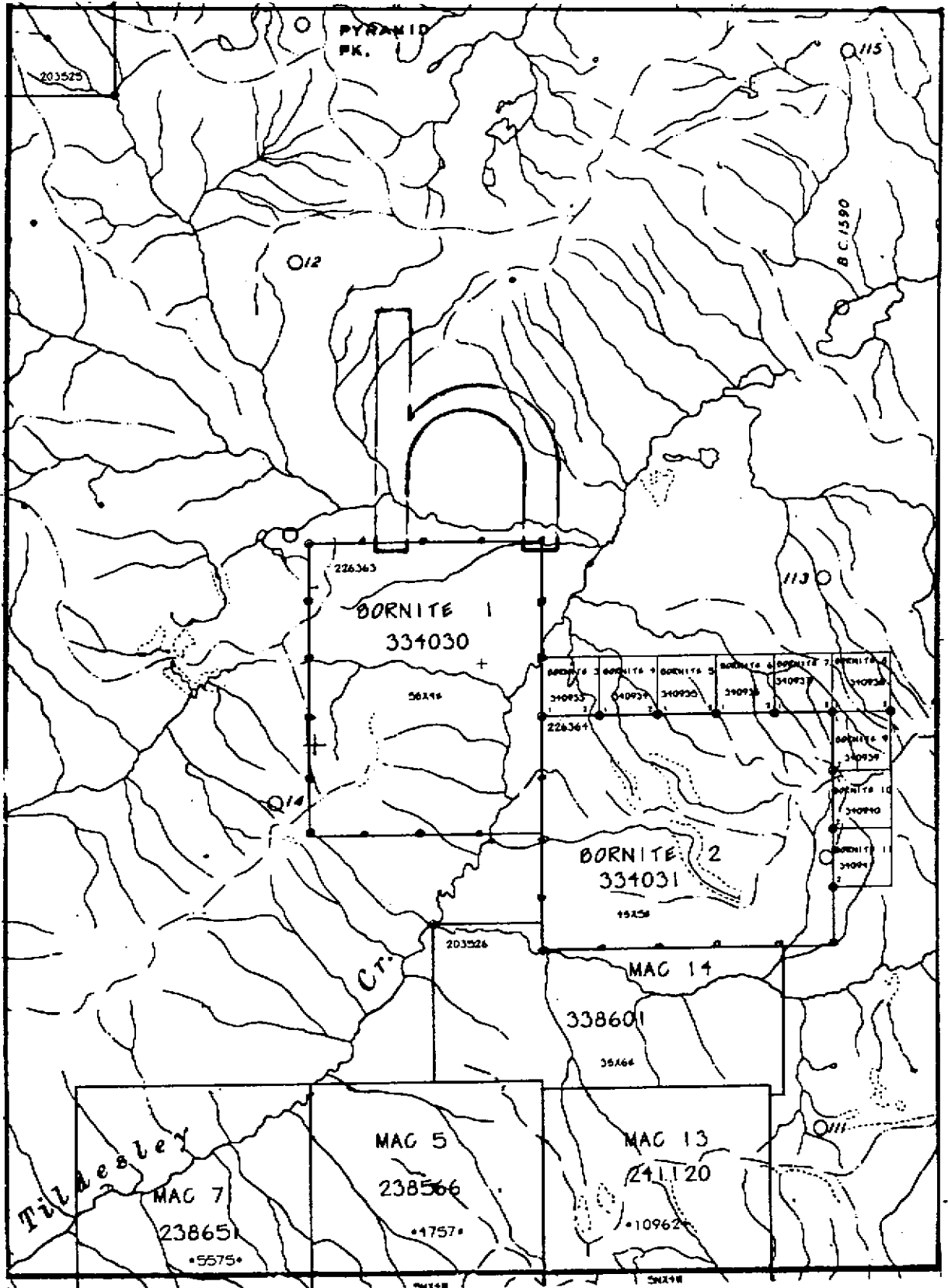


Figure 2: CLAIM MAP

#### 4.0 HISTORY

The general area of the Bornite claims has received a limited amount of geologic work or exploration. In 1936 and 1937, J. E. Armstrong conducted some preliminary mapping in the vicinity of the Bornite claims. With the onset of World War II, the G.S.C. conducted a program of mapping and exploration for chromite deposits in the ultramafic rocks outlined by the previous work of J. E. Armstrong. While mapping in the area of the Bornite 2 claim, "fist-sized" boulders of massive bornite and chalcopyrite were discovered in dunite talus. Old claim posts plus a blasted pit indicate that prospectors attempted to locate the source of the mineralized float.

In 1967, the ultramafic which underlies the Bornite claims was staked (VSF Claims) but no exploration work was recorded.

In 1969, reconnaissance silt sampling by MacDonald Consultants located highly anomalous copper values in silt samples from a small stream located on the Bornite 1 claim. This prompted the staking of the Diane claims plus follow-up soil sampling and a ground magnetometer-EM survey.

More recently, exploration has been focused on the MAC claims which lie immediately south of the Bornite claims. Rio Algom/Spokane Resources have been continuing to define the molybdenum-copper potential of the MAC claims.

In February 27 and 28, 1995 the Bornite claims were staked to cover the copper anomaly previously outlined by MacDonald Consultants and to cover the area of the bornite talus boulders.

#### 5.0 REGIONAL GEOLOGY

The area of the Bornite claims is underlain by a 15 km wide belt of northwesterly-trending Pennsylvanian and Permian Cache Creek Group rocks consisting of ribbon chert, argillaceous quartzite, argillite, slate, greenstone, limestone with minor conglomerate and greywacke. The Cache Creek Group has been intruded by Upper Jurassic or Lower Cretaceous Omineca Intrusions consisting of

granodiorite, quartz diorite, diorite, with minor granite, syenite, gabbro and pyroxenite. As well, Post-Middle Permian, Pre-Upper Triassic Trembleur Intrusions consisting of peridotite, dunite, minor pyroxenite and gabbro with serpentized and steatized equivalents intrude the Cache Creek Belt.

The northwesterly-trending belt of Cache Creek Group rocks is bordered on the east by the Pinchi Fault and Upper Triassic Takla Group andesites, basaltic flows, tuffs, breccias and agglomerates with interbedded conglomerate, shale, greywacke and limestone. On the west, the belt is bounded by the Takla Fault, an east-dipping zone which is up to 5 km wide and contains a melange of serpentine and greenstone. The melange is adjacent to Triassic metamorphosed pyroclastic rocks, basalt, rhyolite, greywacke and argillite of the Sitlika assemblage.

Between the Pinchi Fault and the Takla Fault, the predominant units of the Cache Creek Group of chert, phyllite and argillite with minor greywacke and limestone are highly deformed. Three deformational periods have been recognized in the Cache Creek Group which has been metamorphosed to lower greenschist facies with local glaucophane. The oldest structures are a prominent foliation that parallels compositional layering and trends east-west, marking the axial planes of isoclinal folds. A later structure consists of chevron folds which trend north-south with axial planes dipping moderately westwards. The youngest structures are warps and kinks, probably related to late faulting.

## **6.0 PROPERTY GEOLOGY**

The west half of the Bornite claims is underlain by andesitic volcanics which range from lapilli tuffs to limey aquagene tuffs. Minor amounts of limestone and skarn are also present. The volcanics and sediments have been intruded by a variety of intrusives which range from gabbro, diorite to hornblende porphyry.

The central portion of the Bornite claims is underlain by black argillites and siltstone both of which have undergone intense shearing.

The eastern half of the property is predominantly very altered ultramafics of mainly harzburgite with minor peridotite. The ultramafic is partially overlain by black phyllite/argillite and andesitic

volcanics. Near the periphery of the ultramafic rafts of volcanics which range in metamorphism from totally assimilated to totally fresh have been found. The ultramafic has been intruded by monzonitic dykes.

## **7.0 MINERALIZATION**

The volcanics and limestones on the western portion of the property host disseminated pyrite, pyrrhotite and chalcopyrite. Minor amounts of primary covellite has been seen in limestone. Very fine-grained magnetite has been found replacing limestone in areas of skarn. The above mineralization appears to be related to the gabbroic intrusions.

Drilling in the central part of the property has shown that the argillites host pyrrhotite with minor chalcopyrite intergrowths. In addition, a brown mineral tentatively identified as sphalerite has also been seen in drill core. The "sphalerite" appears to be related to white carbonate veining while the pyrrhotite-chalcopyrite occurs along bedding planes, parallel to bedding planes and as small lenses up to 5 cm in length.

The ultramafic underlying the eastern part of the property is highly anomalous in nickel which occurs as heazlewoodite, bravoite, siegenite? and native Ni-Fe alloy (awaruite). The nickel sulphides occur as rather uniform, very fine-grained disseminations. The ultramafic is highly in anomalous, although rather sporadic, in gold which has reached 862 ppb in a 1 meter chip sample. Although the source of the bornite and chalcopyrite boulders was not located it is believed that they were locally derived from an completely assimilated volcanic raft. Chalcopyrite was seen occurring as coarse disseminations and as veinlets within other volcanic rafts.

## **8.0 ALTERATION**

Alteration on the Bornite claims is variable and is largely dependant upon lithology. The volcanics on the west side of the property have been intensely altered by chlorite, epidote, tremolite and plagioclase. Carbonate, quartz and chalcedony veining are common. Some corundum has also been



noted in thin section. The alteration in the volcanics is believed to be caused by gabbroic intrusives.

The limestones on the west side of the property are also intensely altered by silicification and in certain areas have also been metamorphosed to skarn with intense epidote and garnet. The altered limestones also have magnetite as a major part of their composition.

The argillites in the central portion of the property show the least amount of alteration. The argillites have been intensely silicified near the ultramafic contacts. Biotite has been seen on some fracture surfaces in the argillites.

The ultramafics have been intensely altered by either serpentization or steatization. Occasionally the ultramafics have also been silicified. The volcanic rafts noted within the ultramafic are variably altered ranging from minor chloritization to virtually total assimilation where identification is made by geochemistry and occasionally by the presence of kaolinized feldspar.

## **9.0 WORK PROGRAM**

On September 7, 1997 two men collected 13 rock samples and 4 samples of core. The primary purpose of the sample collection was to test for platinum and palladium and to examine whether the native metals and awaruite showed a nugget effect in analytical work. Six selected samples were re-analysed in order to determine whether the nugget effect was present. Of the 13 rock samples 3 samples of argillite were collected immediately above a coincident Zn-Cu-Ba-Ag soil geochemical anomaly to determine whether the anomaly was fluviially transported. All samples were analysed for 30 elements by ICP and Au, Pt, Pd by fire assay/ICP.

Four of the original samples were selected for concentrating using a Knelsen concentrator. Previous work showed that bornite and chalcopyrite mineralization was intergrown with magnetite and pyrrhotite. The samples were analysed for 30 elements by ICP and Au, Pt, Pd by fire assay/ICP.

Sample Number	Sample Description
142317	Pale green talc; completely replace volcanic?; non-magnetic; brecciated; no visible sulphides
142318	Very rusty (orange) dunite; greyish green on fresh surface; moderately altered by talc; very magnetic; trace vfg disseminated awaruite; one gold-coloured speck (VG?)
142319	Dark green serpentine; variably magnetic from non- to very strong; no visible sulphides or awaruite
142320	Dark grey dunite; very magnetic; trace yellow sulphides (heazlewoodite?)
142321	Dark green serpentine; very magnetic; no visible sulphides or awaruite
142322	Yellowy green serpentine; very magnetic; trace vfg disseminated awaruite; no visible sulphides
142323	Dark green serpentine; very magnetic; trace vfg disseminated awaruite; no visible sulphides
142324	Intensely serpentized harzburgite; pyroxene c.g. phenocrysts with faces still evident but completely replaced; very magnetic; trace vfg disseminated awaruite; no visible sulphides
142325	Intensely serpentized harzburgite; only vague occasional crystal face of pyroxene still evident; very magnetic; trace vfg disseminated awaruite; no visible sulphides
142326	Greenish black serpentine; very magnetic; rectangular voids of weathered sulphide? filled with black? Mn?; no visible sulphides or awaruite
142327	Black very carbonaceous shale with minor pale grey siltstone lamination (090°/90°); minor rectangular vugs after pyrite?; non-magnetic
142328	Very rusty deep red brown weathering argillite; dark grey on fresh surface; minor pale grey siltstone laminations; trace silvery metallic; non-magnetic
142329	Black carbonaceous argillite
142330	95-3: 160 - 170' (48.8 - 51.85m) dark grey laminated argillite and medium grey siltstone with pyrrhotite laminations parallel to bedding
142331	95-3: 180 - 190' (54.9 - 57.95m) same as 142330
142332	95-4: 190 - 200' (57.85 - 61.0m) dark green intensely serpentized harzburgite with relict pyroxene phenocrysts as ragged white talc-replaced remnants; very magnetic; no visible sulphides; trace disseminated awaruite

Sample  
Number

Sample Description

---

142333 95-5: 555 - 565' (169.28 - 172.33m) dark green extremely chloritic dunite? volcanic? with black chlorite +/- magnetite on fractures; variably magnetic from non to very strong; trace white silvery metallic

TABLE 1: COPPER IN PPM

Sample No.	Rock Type	Min.	Cu	Cu Re	Con.
142317	Talc breccia	nil	3		
142318	Talcose dunite	AW/VG?	6	2	8
142319	Serpentine	nil	53	56	64
142320	Dunite	HZ	7		
142321	Serpentine	nil	12		
142322	Serpentine	Aw	7		
142323	Serpentine	Aw	12	9	
142324	Serp'd harzburg.	Aw	7	5	
142325	Serp'd harzburg.	Aw	4	2	8
142326	Serpentine	nil	8		
142327	Carb. shale	nil	5		
142328	Argillite	nil	12		
142329	Carb. argillite	nil	12		
142330	Arg./siltstone	po	96		123
142331	Arg./siltstone	po	84		
142332	Serp'd harzburg.	Aw	3	2	
142333	Alt'd volcanic?	nil	34		

Cu Re re-analyses  
 Con. concentrate  
 Aw awaruite  
 VG visible gold  
 HZ heazlewoodite

Comments: Although not of economic significance, the copper values were enhanced by concentration.

**TABLE 2: NICKEL IN PPM**

Sample No.	Rock Type	Min.	Ni	Ni Re	Con.
142317	Talc breccia	nil	1149		
142318	Talcosse dunite	Aw/VG?	1812	1746	1804
142319	Serpentine	nil	1908	1794	1801
142320	Dunite	Hz	1657		
142321	Serpentine	nil	1812		
142322	Serpentine	Aw	1873		
142323	Serpentine	Aw	2099	2046	
142324	Serp'd harzburg.	Aw	1999	1960	
142325	Serp'd harzburg.	Aw	2226	1962	2072
142326	Serpentine	nil	2293		
142327	Carb. shale	nil	14		
142328	Argillite	nil	16		
142329	Carb. argillite	nil	8		
142330	Arg./siltstone	po	45		69
142331	Arg./siltstone	po	48		
142332	Serp'd harzburg.	Aw	2251	1999	
142333	Alt'd volcanic?	nil	1045		

Cu Re re-analyses  
 Con. concentrate  
 Aw awaruite  
 VG visible gold  
 Hz heazlewoodite

Comments: Re-analyses of nickel showed significant variability  
 in some cases strongly suggesting a nugget effect.  
 Concentration failed to enhance the nickel values.

**TABLE 3: COBALT IN PPM**

Sample No.	Rock Type	Min.	Co	Co Re	Con.
142317	Talc breccia	nil	58		
142318	Talcose dunite	Aw/VG?	83	76	78
142319	Serpentine	nil	86	80	85
142320	Dunite	Hz	65		
142321	Serpentine	nil	50		
142322	Serpentine	Aw	93		
142323	Serpentine	Aw	92	86	
142324	Serp'd harzburg.	Aw	120	110	
142325	Serp'd harzburg.	Aw	115	92	94
142326	Serpentine	nil	109		
142327	Carb. shale	nil	1		
142328	Argillite	nil	3		
142329	Carb. argillite	nil	2		
142330	Arg./siltstone	po	10		17
142331	Arg./siltstone	po	12		
142332	Serp'd harzburg.	Aw	112	98	
142333	Alt'd volcanic?	nil	51		

Cu Re re-analyses  
 Con. concentrate  
 Aw awaruite  
 VG visible gold  
 Hz heazlewoodite

Comments: Re-analyses showed that there was some difference compared to the original analyses but not as dramatic as that of nickel. Concentration did not enhance cobalt values.

**TABLE 4: GOLD IN PPB**

Sample No.	Rock Type	Min.	Au	Au Re	Con.
142317	Talc breccia	nil	nil		
142318	Talcose dunite	Aw/VG?	nil	22	2
142319	Serpentine	nil	401	113	232
142320	Dunite	H <sub>z</sub>	4		
142321	Serpentine	nil	9		
142322	Serpentine	Aw	nil		
142323	Serpentine	Aw	nil	4	
142324	Serp'd harzburg.	Aw	10	10	
142325	Serp'd harzburg.	Aw	33	73	57
142326	Serpentine	nil	2		
142327	Carb. shale	nil	nil		
142328	Argillite	nil	3		
142329	Carb. argillite	nil	6		
142330	Arg./siltstone	po	4		
142331	Arg./siltstone	po	2		
142332	Serp'd harzburg.	Aw	12	4	3
142333	Alt'd volcanic?	nil	nil		

Cu Re re-analyse  
 Con. concentrate  
 Aw awaruite  
 VG visible gold  
 H<sub>z</sub> heazlewoodite

Comments: Gold when present shows a great deal of variability suggesting that values are subject to nugget effect. Concentration did not enhance the values.

## 10.0 RESULTS

Sampling did not indicate the presence of platinum or palladium. Sampling of the argillite outcrops above a coincident Zn-Cu-Ba-Ag soil geochemical anomaly indicates that the soil anomaly is in situ and that the argillite outcrops are not the source of the anomaly.

Analyses and repeat analyses strongly indicates the presence of nugget effects associated with awaruite and gold. Concentrating by the use of a Knelsen concentrator did not enhance any metal values.

## 11.0 REFERENCES

Assessment Report 2414, Report on a Geochemical and Geophysical Survey on the Diane 1 - 16 Mineral Claims, Tsitsutl Mountain Area, by E.D. Dodson, P. Eng., May 25, 1970.

Ph. D. Thesis, The Ultrabasic and Associated Rocks of the Middle River Range, B. C., by H. W. Little, April 1947.

G.S.C. Memoir 252, Fort St, James Map-Area, Cassiar and Coast District, British Columbia, by J. E. Armstrong, 1965.

G.S.C. Paper 38-10, Preliminary Report Northwest Quarter of the Fort Fraser Map-Area, B. C., by J. E. Armstrong, 1938.

Assessment Report 24277, Drilling and Sampling Program on the Bornite Property, by U. Mowat, January 1996.



**12.0 STATEMENT OF COSTS**

**Analyses**

17 rock samples analysed for 30 elements \$ 294.10  
by ICP and geochem Au, Pt, Pd by  
Ultra/ICP at \$17.30/sample  
17 rock preps at \$2.20/sample 37.40  
GST 23.21

\$ 354.71

4 rock samples analysed for 30 elements \$ 69.20  
by ICP and geochem Au, Pt, Pd by  
Ultra/ICP at \$17.30/sample  
4 rock preps at \$2.20/sample 8.80  
surcharge 7.00  
2 hours Knelsen concentrator at \$25.00/  
hour 50.00  
GST 9.45

\$ 144.45

6 rock samples re-analysed for 30 \$ 103.80  
elements by ICP and geochem Au,  
Pt, Pd by Ultra/ICP at \$17.30/  
sample  
6 rock preps at \$2.20/sample 13.20  
GST 8.19

\$ 125.19

**Helicopter**

2.0 hours at \$630.00/hour \$1260.00  
228 liters at \$0.70/liter 159.60  
GST 99.37

\$1518.97

**Wages**

1 man for 1 day at \$200.00/day \$ 200.00  
1 man for 5 days at \$400.00/day 2000.00

\$2200.00

**Meals**

\$ 46.12

**Airfare**

\$ 125.35

**Bus**

\$ 13.18

**Taxi**

\$ 25.50

**Accommodation**

1 room for 3 days at \$52.90/day

\$ 158.70

**Equipment**

\$ 6.55

**Freight**

\$ 59.23

**Photographs**

\$ 11.18

**Reproduction**

\$ 26.22

**TOTAL**

---

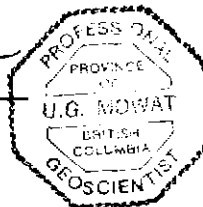
**\$4815.35**

13.0 STATEMENT OF QUALIFICATIONS

1. I am a graduate of the University of British Columbia having graduated in 1969 with a Bachelor of Science in Geology.
2. I have practiced my profession since 1969 in mineral exploration, oil and gas exploration and coal exploration.
3. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have a direct interest in the Bornite Claims.

Ursula G. Mowat

Ursula G. Mowat, P. Geo.



Dated this 16th day of April, 1998  
at Vancouver, B. C.





GEOCHEMICAL ANALYSIS CERTIFICATE

Mowat, Ursula File # 97-5268

1405 - 1933 Robson St., Vancouver BC V6G 1E7 Submitted by: Ursula Mowat



SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**	Pt**	Pd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppb	ppb	ppb
E 142317	<1	3	3	13	<.3	1149	58	570	2.42	<2	<8	<2	<2	127	<.2	3	7	13	13.24	.005	<1	385	9.71	4<.01	12	.70	<.01	<.01	<2	<2	<3	<3	
E 142318	<1	6	<3	22	<.3	1812	83	447	3.97	9	<8	<2	<2	76	.3	<3	<3	3	5.26	.006	<1	136	12.90	11<.01	20	.43	<.01	<.01	<2	<2	<3	<3	
E 142319	<1	53	<3	<1	<.3	1908	86	322	5.05	3	<8	<2	<2	2	<.2	<3	<3	21	.27	.003	<1	553	14.40	<1	.01	44	.43	<.01	<.01	<2	401	<3	<3
E 142320	<1	7	<3	7	<.3	1657	65	371	4.57	8	<8	<2	<2	1	<.2	3	<3	19	.64	.001	<1	968	13.23	<1	<.01	27	.14	<.01	<.01	<2	4	<3	5
E 142321	<1	12	<3	<1	<.3	1812	50	233	3.11	2	<8	<2	<2	1	<.2	<3	5	9	.97	.003	<1	656	11.43	<1	<.01	31	.11	<.01	<.01	<2	9	5	5
E 142322	<1	7	<3	13	<.3	1873	93	541	5.24	63	<8	<2	<2	<1	<.2	3	<3	33	.20	.003	<1	1304	16.41	<1	<.01	73	.45	<.01	<.01	<2	<2	<3	<3
E 142323	<1	12	<3	1	<.3	2099	92	390	4.31	95	<8	<2	<2	<1	.2	9	<3	16	.04	.002	<1	814	14.61	1<.01	93	.16	<.01	<.01	<2	<2	4	5	
E 142324	<1	7	<3	2	<.3	1999	120	939	4.78	226	<8	<2	<2	1	<.2	18	<3	18	.41	.002	<1	1021	17.47	7<.01	177	.16	<.01	<.01	<2	10	3	4	
RE E 142324	<1	7	<3	2	<.3	2108	123	1006	5.07	238	<8	<2	<2	1	.3	19	<3	19	.44	.001	<1	1088	18.29	<1	<.01	189	.16	<.01	<.01	<2	3	<3	4
E 142325	1	4	5	5	<.3	2226	115	863	5.81	162	<8	<2	<2	<1	<.2	14	<3	16	.04	.004	<1	783	17.64	2<.01	158	.11	<.01	<.01	<2	33	<3	<3	
E 142326	1	8	4	<1	<.3	2293	109	354	5.22	55	8	<2	<2	<1	.4	6	<3	20	.01	.003	<1	652	15.08	3<.01	64	.27	<.01	<.01	<2	2	5	6	
E 142327	1	5	6	10	<.3	14	1	66	.63	2	<8	<2	2	3	<.2	<3	<3	5	.03	.008	2	18	.32	81	.04	<3	.36	.01	.11	4	<2	<3	<3
E 142328	2	12	15	40	<.3	16	3	655	2.12	6	<8	<2	5	2	<.2	<3	<3	19	.01	.015	20	18	.71	50	.02	<3	.91	.01	.08	2	3	<3	<3
E 142329	1	12	4	13	<.3	8	2	65	.46	<2	8	<2	2	<.2	<3	<3	4	.02	.002	1	19	.09	236	.02	<3	.15	.01	.06	6	6	<3	<3	
E 142330	4	96	4	120	<.3	45	10	409	3.40	<2	<8	<2	7	25	.7	<3	<3	22	.39	.031	12	26	1.17	87	.01	3	1.41	.01	.19	<2	4	<3	<3
E 142331	1	84	11	108	.3	48	12	453	3.20	<2	<8	<2	6	16	.3	<3	<3	19	.32	.023	12	24	1.21	90	<.01	<3	1.41	.01	.21	<2	2	<3	<3
E 142332	<1	3	<3	5	<.3	2251	112	683	6.12	6	<8	<2	<2	1	.2	<3	<3	24	.16	.002	<1	856	18.01	<1	<.01	209	.18	<.01	<.01	2	12	4	7
E 142333	<1	34	<3	18	<.3	1045	51	569	3.81	3	<8	<2	<2	34	<.2	<3	<3	59	1.77	.010	1	781	10.44	27	.04	8	1.54	.02	.08	<2	<2	<3	3
STANDARD C3/AU-R	25	61	35	157	5.4	39	11	748	3.43	56	23	3	20	29	23.0	16	21	83	.56	.087	20	167	.61	148	.10	14	1.84	.04	.15	18	500	-	-

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.  
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
 - SAMPLE TYPE: ROCK AU\*\* PT\*\* & PD\*\* ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.  
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 11 1997 DATE REPORT MAILED: *Sept 29/97* SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

*Revised Copy*

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.



## GEOCHEMICAL ANALYSIS CERTIFICATE

Mowat, Ursula File # 97-5268R

1405 - 1933 Robson St., Vancouver BC V6G 1E7



SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**	Pt**	Pd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppb	ppb	ppb	
E 142318	<1	2	<3	24	.3	1746	76	421	3.60	9	<8	<2	<2	74	.4	<3	<3	2	4.83	.008	2	121	11.53	16	<.01	15	.02	<.01	<.01	<2	22	<1	<1
E 142319	<1	56	4	4	<.3	1794	80	298	4.81	6	<8	<2	<2	<1	.3	<3	3	18	.19	.005	1	524	12.52	1	.01	47	.40	<.01	<.01	<2	113	3	1
E 142323	<1	9	<3	6	.3	2046	86	379	4.07	103	<8	<2	<2	<1	<.2	<3	<3	15	.04	.005	1	745	13.14	1	<.01	87	.15	<.01	.01	<2	4	6	8
E 142324	<1	5	3	6	.4	1960	110	837	4.55	246	<8	<2	<2	1	.3	6	<3	17	.38	.004	1	960	16.50	1	<.01	178	.16	<.01	<.01	<2	10	4	4
E 142325	<1	2	<3	8	.3	1962	92	617	4.99	148	<8	<2	<2	<1	.2	3	<3	15	.03	.004	1	702	14.95	2	<.01	136	.12	<.01	.01	<2	73	2	1
E 142332	<1	2	3	8	<.3	1999	98	554	5.20	6	<8	<2	<2	<1	.3	<3	<3	20	.16	.003	1	712	15.56	1	<.01	195	.15	<.01	<.01	<2	4	6	4
RE E 142332	<1	1	<3	7	.3	2010	96	541	5.05	7	<8	<2	<2	<1	.3	<3	<3	19	.16	.003	1	691	15.45	1	<.01	191	.15	<.01	.01	<2	4	4	6

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.  
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
 - SAMPLE TYPE: ROCK REJ. AU\*\* PT\*\* PD\*\* BY FIRE ASSAY & ANALYSIS BY ULTRA/ICP. (30 gm).  
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 27 1997

DATE REPORT MAILED: Nov 6/97

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

## GEOCHEMICAL ANAL. IS CERTIFICATE

Mowat, Ursula File # 97-5268R2

1405 - 1933 Robson St., Vancouver BC V6G 1E7



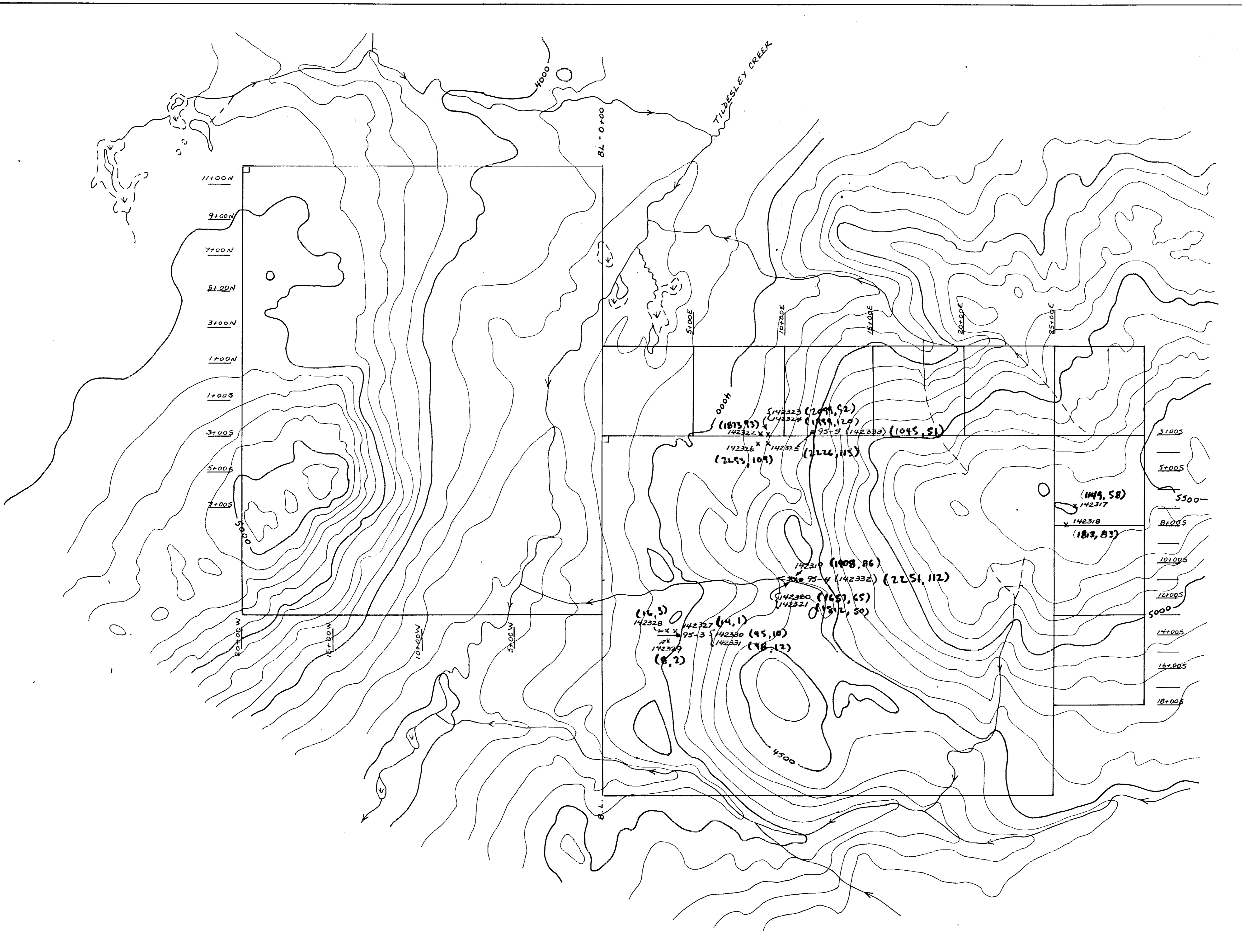
SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**	Pt**	Pd**	ORG.	CONC.	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	ppb	ppb	ppb	gm	gm
E 142318	<1	8	<3	27	<.3	1804	78	455	4.47	11	<8	<2	<2	72	.6	<3	<3	4	4.59	.008	3	185	14.04	16	<.01	16	.03	.01	<.01	<2	2	2	<1	524	125	
E 142319	<1	64	<3	8	<.3	1801	85	350	5.38	<2	<8	<2	<2	<1	.2	<3	6	21	.16	.005	1	635	15.09	2	.01	51	.47	.01	<.01	<2	232	5	3	545	123	
E 142325	<1	8	<3	10	<.3	2072	94	720	6.12	161	<8	<2	<2	<1	.3	7	6	16	.04	.004	1	833	17.71	3	<.01	155	.13	.01	<.01	<2	57	7	2	520	130	
E 142330	4	123	10	150	<.3	69	17	440	4.18	<2	<8	<2	7	21	1.0	4	<3	24	.32	.035	14	28	1.36	100	.01	3	1.54	.02	.25	3	3	1	1	550	124	
RE E 142330	4	116	8	145	.3	65	16	421	4.02	<2	<8	<2	6	20	1.1	<3	3	23	.31	.034	13	30	1.32	98	.01	<3	1.49	.02	.24	3	2	<1	1	-	-	

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.  
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
 - SAMPLE TYPE: ROCK REJ. AU\*\* PT\*\* PD\*\* BY FIRE ASSAY & ANALYSIS BY ULTRA/ICP. (30 gm)  
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 25 1997

DATE REPORT MAILED: Dec 12/97

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

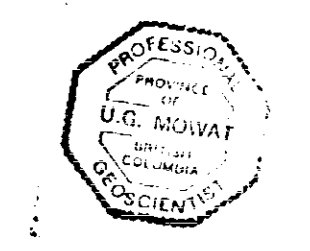


● 95-5 DRILL HOLE

(nickel, cobalt) ppm

**BORNITE CLAIMS**  
**SAMPLE SITES**

GEOLOGICAL SURVEY BRANCH  
ANNUAL REPORT



25,477

