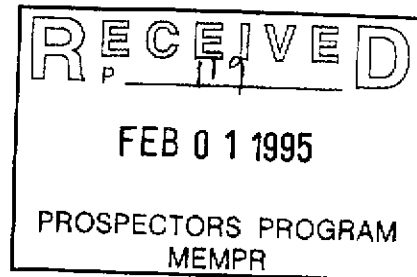


**BRITISH COLUMBIA**  
**PROSPECTORS ASSISTANCE PROGRAM**  
**MINISTRY OF ENERGY AND MINES**  
**GEOLOGICAL SURVEY BRANCH**

PROGRAM YEAR: 1994/95

REPORT #: PAP 94-39

NAME: NICHOLAS CARTER



**TECHNICAL REPORTS**  
**PROSPECTORS ASSISTANCE PROGRAM**

**Nicholas Carter**  
**Reference Number 94-95 - P119**  
**January 30, 1995**

## INTRODUCTION

Exploratory work was done on six properties in August and September of 1994. These included the RED and TRAIL properties in the Babine Lake area east of Smithers and the BAND, TIME, SAD and MAST properties southeast of Stewart.

No work was done on the NAK property in the Babine area. Although listed in the original application for funding, this property was optioned to Hera Resources Inc. in August of 1994. This company completed an Induced Polarization survey late in the year and diamond drill testing is scheduled for March of 1995.

The writer was assisted by Lorne and Chris Warren of Smithers, B.C. during investigation of the Stewart area properties. A summary of qualifications is appended hereto; only Lorne Warren's time was credited toward prospecting days.

Notice of Work approvals for the various properties worked are also appended.

Copies of recently filed assessment reports for the BAND and TRAIL properties are included as part of the technical documentation. Sample locations, analytical results and brief summary reports are provided for the RED, TIME, SAD and MAST properties.

## STATEMENT OF QUALIFICATIONS

Lorne B. Warren

- 1963 - Geological Assistant - Mastodon Highland Bell Mines Ltd. - Dome Mtn. Area - Smithers
- 1964 - Geological Assistant - Phelps Dodge Corp. - Stikine
- 1965 - Prospector and geological assistant - Native Mines Ltd. - Bridge River area
- 1966-1971 - Field technician and line cutter-pro prospector - Manex Mining Ltd. - Smithers area
- 1971-1979 - Field supervisor - Granby Mining Corp. - Smithers
- 1979 - Present - President of CJL Enterprises Ltd., Kengold Mines Ltd. and Angel Jade Mine Ltd. - prospecting and contract mining services

Chris Warren

- 1990 - completed Smithers Bush Skills course; geological assistant at Duckling Creek
- 1991 - assisted in Bush Skills course; line cutting at Johanson Lake
- 1992 - Contract claim staking
- 1993 - Loader operator at placer operation, contract claim staking
- 1994 - Placer testing, Manson Creek area, magnetometer surveys, prospector's assistant

**BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)**

**B. TECHNICAL REPORT**

- One technical report to be completed for each project area
- Refer to Program Requirements/Regulations, section 15, 16 and 17
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95-P19

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) RED - Babine Minfile No. if applicable 93L20893M002

Location of Project Area NTS 93L/16E, 93M/1E Lat 50°00' Long 126°07'

Description of Location and Access North of Gleditsie mine, road access

Note: Drill core stored at Equity mine site south of Houston.

Main Commodities Searched For Cu Pb Zn (Au, Ag)

Known Mineral Occurrences in Project Area Sections of stringer and massive Py-Pb in drill core, Pb-Zn quartz vein in western property area.

**WORK PERFORMED**

1. Conventional Prospecting (area) \_\_\_\_\_
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) 32 core samples - ICP analysis
4. Geophysical (type and line km) \_\_\_\_\_
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) Re-sampling sections of 9 of 13 previously drilled holes.

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_

Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_

Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies See attached.

Supporting data must be submitted with this TECHNICAL REPORT.

## RED PROPERTY

### Babine Lake Area

Diamond drill core, recovered from 13 holes drilled by Equity Silver Mines Ltd. in 1987 and 1989, is currently stored at the Equity mine site south of Houston. Because of the recent mine closure, there is some doubt as to the future security of this core and a decision was made to re-sample some of the sulphide sections for 31 element ICP analysis.

Thirty-two core samples were collected from nine of the holes drilled and representative core samples from ten holes were selected for permanent storage.

Locations of drill holes sampled are shown on the accompanying diagram and results are shown on the analytical sheets. A previously prepared summary report is also included.

Sample numbers relative to sampled intervals within various drill holes are listed below:

<u>Sample No.</u>	<u>Drill Hole</u>	<u>Interval (metres)</u>
131968	89-6	145.0 - 148.0
131969	89-4	38.8 - 41.2
131970	"	41.2 - 42.4
131971	"	42.4 - 45.3
131972	"	32.0 - 33.0
131973	89-3	121.6 - 125.6
131974	"	88.6 - 92.0
131975	"	60.0 - 62.0
131976	89-2	105.7 - 106.4
131977	"	102.4 - 102.6

RED Drill Core Samples (cont'd)

<u>Sample No.</u>	<u>Drill Hole</u>	<u>Interval (metres)</u>
131978	"	94.9 - 95.1
131979	87-2	100.0 - 101.0
131980	"	96.0 - 97.5
131981	"	91.5 - 92.5
131982	"	62.2 - 63.2
131983	"	37.1 - 39.0
131984	87-1	131.4 - 132.7
131985	"	45.1 - 45.3
131986	87-3	152.0 - 156.0
131987	"	158.2 - 161.5
131988	"	69.7 - 70.6
131989	87-2	123.0 - 125.0
131990	"	118.0 - 119.0
131991	"	104.0 - 106.0
131992	"	107.7
131993	87-5	98.5 - 99.0
131994	"	82.0 - 82.5
131995	87-4	48.1 - 51.9
131996	"	53.4 - 56.3
131997	"	27.4 - 29.8
131998	"	33.7 - 35.3
131999	"	42.4 - 44.7

COMP: N.C. Carter  
 PROJ: RED  
 ATTN: N.C. Carter

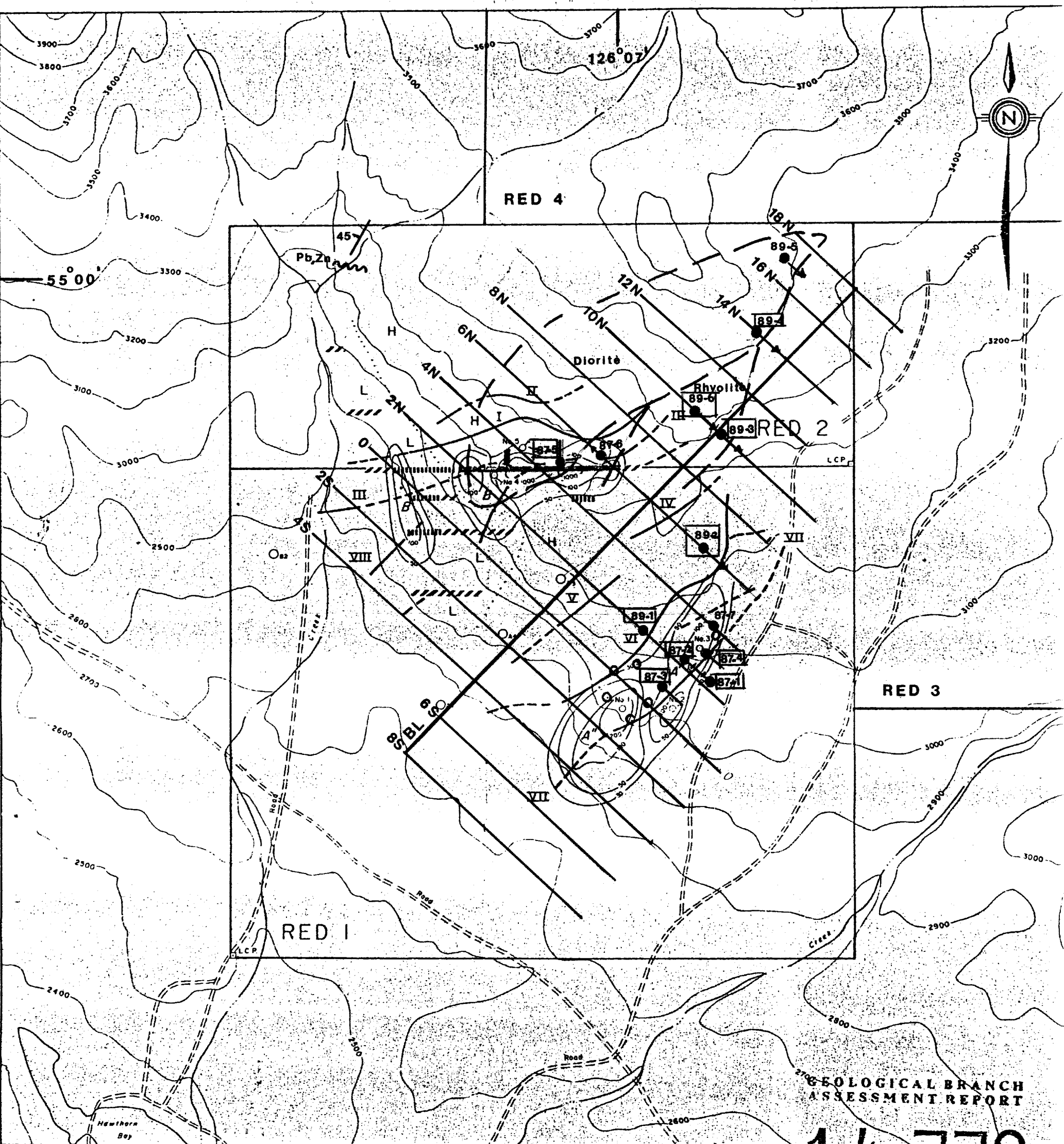
MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0180-RJ1+2  
 DATE: 94/08/16  
 \* core \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM
131968	.1	.34	1	1	22	.4	1	.49	.1	1	10	1.29	.10	3	.21	747	2	.06	8	480	12	1	17	4	.01	1.7	30	1	1	3	61
131969	.6	2.57	1	1	73	1.3	4	1.19	.1	11	72	4.99	.31	51	.79	610	5	.01	30	1030	315	19	15	2	.01	61.4	1521	4	1	6	32
131970	.2	1.89	1	1	102	1.1	2	.94	.1	9	69	3.13	.45	32	.33	414	3	.02	21	860	81	12	12	1	.01	40.7	554	2	1	3	17
131971	.1	.95	1	1	129	.4	1	.37	2.0	6	50	1.31	.31	15	.15	103	2	.01	10	670	47	3	8	1	.01	22.0	1518	1	1	3	48
131972	1.2	2.61	1	1	40	1.2	12	1.99	.1	15	16	6.14	.03	32	1.68	1299	4	.04	32	2420	25	12	12	1	.25	170.5	61	2	1	7	30
131973	.1	1.90	1	1	143	.5	7	2.00	.1	7	27	5.43	.14	12	.73	1466	5	.05	26	1360	29	12	19	1	.09	28.4	52	2	1	6	74
131974	1.0	3.66	1	1	268	.8	12	3.68	.1	10	25	5.62	.04	29	.75	1561	7	.26	37	750	39	29	65	1	.15	93.4	1458	6	1	8	32
131975	.1	.22	1	1	1	.2	1	.60	.1	1	6	.78	.07	1	.08	208	3	.05	6	320	6	1	4	3	.01	1.9	17	1	1	5	98
131976	.1	2.72	1	1	1	.1	1	.87	.1	14	54	>15.00	.01	16	.73	2408	1	.01	82	1330	1	1	11	1	.01	221.0	200	1	1	4	25
131977	.1	2.95	1	1	1	.1	1	.40	.1	34	114	>15.00	.01	18	.50	2222	1	.01	101	920	1	1	12	1	.01	224.9	244	1	1	3	24
131978	.1	1.69	1	1	149	.8	1	.69	.1	9	66	5.69	.18	11	.42	758	1	.09	27	670	27	8	76	1	.01	68.9	32	1	1	3	22
131979	.1	2.22	1	1	36	.6	11	.47	.1	17	104	11.03	.09	14	.81	1962	1	.04	51	860	19	7	33	1	.21	255.7	60	1	1	9	62
131980	.1	2.52	1	1	1	.1	1	.48	.1	38	97	>15.00	.02	27	.55	2768	1	.02	94	930	1	1	13	1	.11	372.8	39	1	1	5	22
131981	.1	1.91	1	1	1	.1	1	.57	.1	30	91	>15.00	.01	14	.55	2110	1	.03	84	1000	1	1	7	1	.21	370.8	32	1	1	7	45
131982	.1	1.96	1	1	5	.1	1	1.56	.1	18	92	>15.00	.03	25	.67	3262	1	.02	76	1970	16	1	16	1	.01	81.0	27	1	1	4	40
131983	.1	1.80	1	1	7	.1	1	.57	.1	18	73	>15.00	.02	16	.38	2791	1	.03	85	1390	1	1	33	1	.14	116.2	39	1	1	3	45
131984	.1	1.73	1	1	1	.1	2	.44	.1	30	77	>15.00	.01	11	.67	3752	1	.03	92	790	1	1	6	1	.19	326.2	104	1	1	5	32
131985	.1	2.49	1	1	133	.8	3	.62	.1	15	67	5.68	.13	24	.60	1304	4	.06	33	390	28	14	42	1	.01	119.8	65	1	1	6	33
131986	.1	4.82	1	1	65	.5	1	1.44	.1	20	54	>15.00	.08	36	.68	3936	1	.04	80	1390	28	20	42	1	.02	215.9	83	1	1	8	24
131987	.1	4.16	1	1	114	.3	4	2.38	.1	29	47	>15.00	.04	15	.48	4359	1	.02	85	730	13	14	39	1	.12	270.1	107	1	1	8	26
131988	.1	3.00	1	1	75	.8	3	1.30	.1	15	57	11.99	.20	18	.61	2373	1	.05	56	3320	31	17	82	1	.04	70.5	97	1	1	5	17
131989	.1	1.58	1	1	1	.1	1	.42	.1	24	85	>15.00	.03	8	.64	2041	1	.02	99	1430	1	1	2	1	.01	141.0	280	1	1	1	36
131990	.1	1.94	1	1	1	.1	1	.44	.1	19	80	>15.00	.04	13	.85	2249	1	.02	93	1920	1	1	6	1	.01	193.1	70	1	1	2	23
131991	.1	1.94	1	1	1	.1	1	.56	.1	31	84	>15.00	.04	14	.83	2387	1	.02	88	760	1	1	10	1	.01	287.8	68	1	1	5	46
131992	.1	1.42	1	1	1	.1	1	1.00	.1	16	42	>15.00	.05	15	.43	1975	1	.02	90	6740	1	1	32	1	.01	87.2	38	1	1	2	65



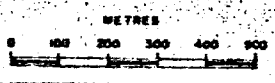




**LEGEND**

- |  |                                      |  |                                |
|--|--------------------------------------|--|--------------------------------|
|  | 1966 I.P. - RESISTIVITY SURVEY       |  | 1985 AIRBORNE EM SURVEY        |
|  | 1967 DRILLING                        |  | 1986 HORIZONTAL LOOP EM SURVEY |
|  | 1972 I.P. - RESISTIVITY SURVEY       |  |                                |
|  | DEFINITE ANOMALY (METAL FACTOR)      |  |                                |
|  | PROBABLE ANOMALY (METAL FACTOR)      |  |                                |
|  | POSSIBLE ANOMALY (METAL FACTOR)      |  |                                |
|  | RESISTIVITY LOW (below 100 ohm-ft.)  |  |                                |
|  | RESISTIVITY HIGH (above 100 ohm-ft.) |  |                                |

Note: Work from 1966 to 1972 has yet to be field-verified onto present grid system.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**14,778**

TO ACCOMPANY GEOPHYSICAL REPORT BY DAVID L. MARK, GEOPHYSICIST, MARCH 25, 1986

GEOTRONICS SURVEYS LTD.				
RED CLAIM GROUP				
HAWTHORN BAY, BABINE LAKE AREA				
OMINECA M.D., B.C.				
FIGURE 4				
<b>COMPILATION MAP</b>				
SCALE	DATE	RYS.	PROJECT No.	MAP No.
1:10,000	MAY, 1986	93L/16E	86-02	6

June 20, 1991

## RED PROPERTY

Babine Lake Area  
British Columbia

### Introduction

Previous diamond drilling programs on the RED property have partially tested a pyrite-pyrrhotite zone over a strike length of 220 metres. Massive and stringer sulphides were intersected within a zone having core lengths of between 30 and 50 metres. Chalcopyrite has been noted in core and elevated copper, zinc, lead, silver and gold values are associated with the massive sulphide zones.

Potential for economic base and precious metal values is thought to exist within or adjacent to the pyrite-pyrrhotite zone which is open along strike and to depth. Drill sites for the next phase of drilling were prepared in early 1990.

Surface HLEM and IP surveys and a recent airborne geophysical survey have indicated a several additional anomalous zones which also require further investigation.

### Location and Access

The RED property is situated on the east side of Babine Lake 70 km east of Smithers in west-central British Columbia (Figure 1). The property is 6 km north of the former Granisle mine and 6 km east of Noranda's Bell copper mine (Figure 2).

Access is by Northwood ferry from Topley Landing, 41 km north of highway 16, and by logging roads as indicated on Figure 2.

### Mineral Property

The RED property consists of 4 Modified Grid mineral claims (58 units) in the Omineca Mining Division and recorded in the name of Leona C. Auger. The claims are shown on Figure 3 and details are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Expiry Date</u>
RED 1	6248	20	May 20,1998
RED 2	7490	10	February 27,1999
RED 3	9043	8	October 8,1999
RED 4	9923	20	November 3,1999

### Previous Work

Initial work in the area of the present claims included prospecting and geophysics by Granby in the mid-1960's. Bethex Explorations Ltd. acquired the ground covered by the present property in 1966 and completed IP and magnetometer surveys prior to a 9 hole drilling program in 1967. Canadian Superior and Quintana Minerals each held parts of the Bethex ground in 1972 and conducted IP and geochemical surveys.

The RED 1 mineral claim was located by Gerard Auger in 1984 to cover the area previously drilled by Bethex. An option agreement was negotiated with Anglo Canadian Mining Corporation who completed HLEM and magnetometer surveys in early 1986. Anglo Canadian entered into a joint venture agreement with Equity Silver Mines Limited in 1987 and 7 inclined holes totalling 963 metres were drilled in two areas of the property. Equity commissioned an IP survey in 1988 to further define HLEM conductive zones prior to drilling 6 widely spaced holes (914 metres) to test secondary targets in early 1989. Drill cores from the two programs are stored at Equity mine site south of Houston.

A 1990 drilling program was planned to further test the zone drilled in 1987 and 6 drill sites were prepared prior to Equity returning the property to the original vendors in May, mainly in response to changing corporate priorities.

Noranda Exploration Company, Limited conducted a DIGHEM IV airborne EM-Magnetometer survey over a large area north and east of Bell copper mine in 1990. The area covered included the RED property and results of this survey have been made available to the writer.

### Regional Geological Setting

The northern Babine Lake area, near the northern margin of the Interior Plateau, features relatively gentle topography and limited bedrock exposures.

The region is within the Intermontane tectonic belt and is underlain principally by Mesozoic volcanic and sedimentary

rocks of the Jurassic Hazelton Group. Younger sequences include sedimentary and lesser volcanic rocks of the Bowser Lake Assemblage and Skeena and Sustut Groups which range in age from late Jurassic to early Tertiary. Layered sequences are intruded by granitic rocks of various ages including Lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyries (Bulkley intrusions) and Babine intrusions of early Tertiary age.

Porphyry copper mineralization in the Babine area is well documented and is mainly associated with stocks and dyke swarms of the Babine intrusions and to a lesser degree with Topley and Bulkley intrusions. The former Granisle mine and the currently producing Bell copper mine (1990 production - 21,349 tonnes copper, 103,000 oz. silver and 29,000 oz. gold) are the two best known examples of deposits associated with Babine intrusions; more than a dozen similar prospects are known in the general area.

Other recognized deposit types in this mineral district include veins marginal to porphyry deposits and prospects and disseminated copper mineralization in Mesozoic volcanic rocks

Massive and stringer sulphide mineralization in the Babine area was first identified by Bethex drilling on what is now the RED property. The Fireweed prospect, west of Bell mine, is considered to be of a similar type although mineralization is hosted by younger, late Cretaceous, Skeena Group sediments. The two known zones on this property include a western lead-zinc-silver zone and an eastern zone with massive and stringer pyrite-pyrrhotite within which copper, zinc and gold values have been reported.

#### Property Geology, Geophysics and Mineralization

Figure 4, a compilation map, shows basic geology, geophysical signatures and diamond drill holes to date.

##### *Geology*

Much of the southern part of the RED property is overlain by 15-20 metres of overburden as indicated by drilling to date. Bedrock exposures are restricted to the south flowing drainage in the western part of the RED 1 claim and to the higher areas of the RED 2 and 4 claims.

Diamond drilling shows much of the southern half of the property to be underlain by a sedimentary sequence of

argillaceous siltstone and greywacke. Where exposed in the south flowing creek in the western parts of the RED 1 and 2 claims, the sequence strikes northeast with moderate westerly dips. Felsic and intermediate volcanic rocks are locally intercalated with the sedimentary rocks near the north boundary of the RED 1 claim. Both the volcanics and sediments are intruded by an elongate diorite pluton on the RED 2 claim (Figure 4). Contacts along the south margin of the pluton, seen only in a few drill holes, appear to be irregular.

The sedimentary and lesser volcanic sequences are considered to be part of a Lower Jurassic marine sequence near the base of the Hazelton Group. The diorite intrusion, similar to those in the district which have yielded 100 Ma (Cretaceous) dates, provides an upper limit for the age of the volcanic-sedimentary sequence which is also cut by felsic and basic dykes of probable Tertiary age.

#### *Geophysics*

Figure 4 shows IP (metal factor) anomalies as determined by 1966 and 1972 surveys. Magnetic highs are coincident with parts of the two principal metal factor anomalies which were partly drilled in 1967. A 1972 IP survey confirmed and expanded the northern anomaly (Figure 4).

HLEM (Max-Min) and magnetic surveys undertaken in 1986 defined a number of northeast trending conductive zones, several of which are coincident with the metal factor anomalies. Most of the conductors correspond in part with areas of higher magnetic intensity, particularly the central part of conductor VII (Figure 4).

A 1988 IP survey, over an expanded grid between lines 8S and 18N and principally southeast of the baseline, indicated a number of discrete northeast trending anomalies slightly transverse to the baseline between 10N and 18N. The survey also re-established the southern metal factor anomaly between lines 4N and 4S.

Diamond drilling has indicated the cause of several IP and HLEM anomalies in the northern part of the grid to be due to graphitic mudstone and siltstone horizons marginal to the diorite pluton and to 1-3% disseminated pyrite-pyrrhotite in both the intrusive and sedimentary rocks. HLEM conductor I (Figure 4), a strong persistent feature marginal to the northern IP anomalies, has been only partially tested by drilling.

A DIGHEM IV airborne survey over the RED property, completed on behalf of Noranda in 1990, consisted of 76 line km along east-northeast flight lines at 200 metre spacings. Total field magnetics show a strong magnetic high trending in a north-northeast direction for 2200 metres from the south boundary of the RED 1 claim through the west part of RED 3. This zone appears to border the main IP - HLEM anomaly (and the area of previous drilling) on the east. A parallel magnetic high extends for more than 3000 metres from the northern part of the RED 1 claim through RED 4 and may be in part reflecting the diorite body.

Weak EM anomalies are coincident with the main the main IP - HLEM anomaly. Principal EM conductors consist of two parallel north trending, east dipping zones 200 - 300 metres apart near the boundary between the RED 2 and 4 claims. This area is only partly covered by the existing grid.

Two areas of higher resistivity are apparent. A south zone is irregular in plan and borders the main IP - HLEM anomaly on the west. A second, linear resistivity high parallels the northern magnetic high in the RED 2 and 4 claims area.

#### *Mineralization*

The only known exposure of mineralization on the property consists of a 0.3 metre wide quartz-carbonate vein with galena, sphalerite and chalcopyrite in sheared, rusty sediments near the northwest corner of the RED 2 claim (Figure 4).

The most significant mineralization found to date is that which is the cause of the southern metal factor anomaly and HLEM conductor VII which has been intersected by several drill holes, locations of which are shown on Figure 4. Two of three vertical holes in 1967 intersected multiple 1-3.5 metre sections of locally banded massive pyrite-pyrrhotite hosted by graphitic siltstones, greywacke and tuff. The most southerly hole, abandoned in bad ground at 40 metres depth, intersected 1 metre of banded massive sulphides which yielded enhanced geochemical values for copper, lead, zinc, silver and gold.

More recent drilling by Equity consisted of 6 inclined holes which tested part of HLEM conductor VII and the coincident strong magnetic anomaly. Holes 87-1,-2,-3 and -4 (Figure 4) intersected multiple 1 to 3 metre lengths of massive and stringer sulphides (pyrite-pyrrhotite) over hole

lengths of between 36 and 39 metres, with particularly heavy sulphide concentrations over core lengths of up to 15 metres. Assuming a steep west dip, width of the zone containing sulphide mineralization would be in the order of 30 metres. The zone, drilled over a strike length of more than 200 metres and to vertical depths of 60-120 metres, appears to be best developed in a greywacke unit between graphitic mudstones. No significant base or precious metal values were intersected in these four holes - slightly elevated geochemical values for copper and zinc were encountered in hole 87-1. Hole 87-7 was abandoned at 67 metres in bad ground before intersecting the sulphide zone.

Two 1989 holes were drilled to test HLEM conductor VI (Figure 4). A locally graphitic mudstone and a grey sandstone sequence, cut by andesite dykes, was intersected in hole 89-2. Hole 89-1, designed to test both HLEM conductor VI and at greater depth the sulphide zone intersected by holes 87-1 and -2, was lost in bad ground at 61 metres. A 3 metre section of mudstone with only minor sulphides had values of 0.92% copper, 0.44% zinc and 6g/t silver.

### Exploration Potential

Drilling to date in the southern part of the RED property has identified massive and stringer sulphides within a 30 metre wide zone and extending over a strike length of more than 200 metres. That part of the sulphide zone tested to date is reflected by a moderate to strong HLEM conductor, an IP anomaly and a coincident magnetic high probably due to the pyrrhotite content.

Immediately southwest of line 2N there are two limbs of strong chargeability as indicated on the enclosed IP pseudosections and the metal factor anomaly on Figure 4. Magnetic intensities are not as high over the western limb suggesting lesser pyrrhotite and perhaps the presence of base metal sulphides. It may be significant that one 1967 vertical hole (lost at 40 metres) in this area intersected 1 metre of banded massive sulphides (pyrite, lesser pyrrhotite, minor chalcopyrite) which yielded slightly elevated copper, zinc and gold (25 ppb) values.

This western limb of the IP anomaly was scheduled for drill testing in 1990 as indicated by the open circles on Figure 4 and on the IP pseudosection for line 0. As noted previously, drill sites have been prepared; during road building, some massive sulphide float was uncovered which



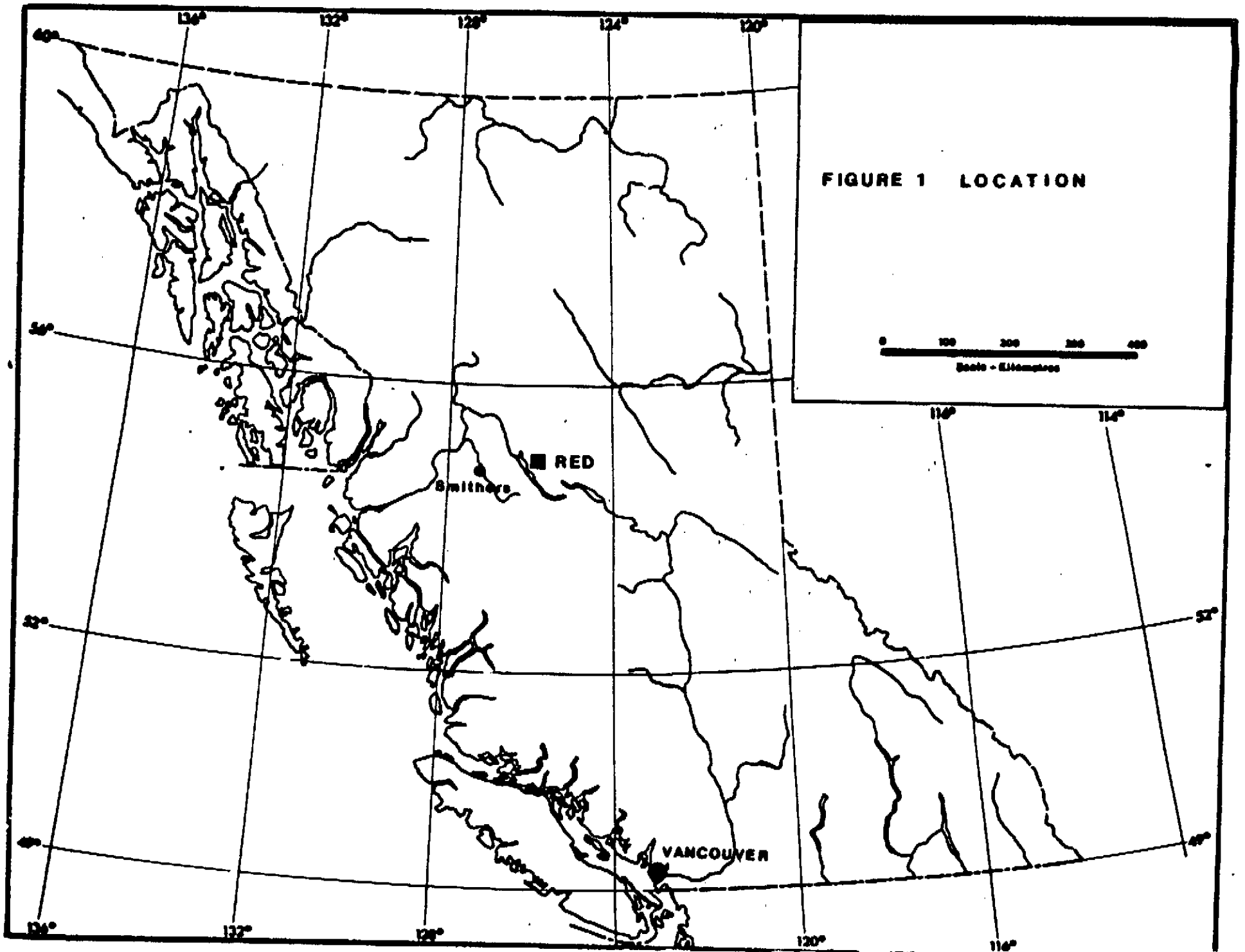
contained minor copper values.

Other untested targets include that part of HLEM conductor VII northeast of the coincident magnetic high (Figure 4). The airborne geophysical survey indicates a continuation of higher magnetic susceptibilities in this direction. The western part of conductor I, the strongest defined on the property, several hundred metres south of exposed lead-zinc mineralization in the northwest part of the RED 2 claim also warrants additional work.

It is also recommended that the grid be extended into the RED 4 claim and that additional surface geophysics be carried out to further investigate EM, resistivity and magnetic features indicated by the airborne geophysical program. Surface magnetometer surveys have been carried out only over part of the existing grid area.

#### **References**

Assessment Reports - 893 - 1966 IP and Magnetics  
4189 - 1972 IP Survey  
14093 - Geological Setting, 1967 Drilling  
14778 - 1986 HLEM and Magnetics  
17130 - 1987 Equity Drilling  
18254 - 1988 IP Survey  
19370 - 1989 Equity Drilling



**FIGURE 1 LOCATION**

0 100 200 300 400  
Scale - Kilometers

**RED**

Smithers

**VANCOUVER**

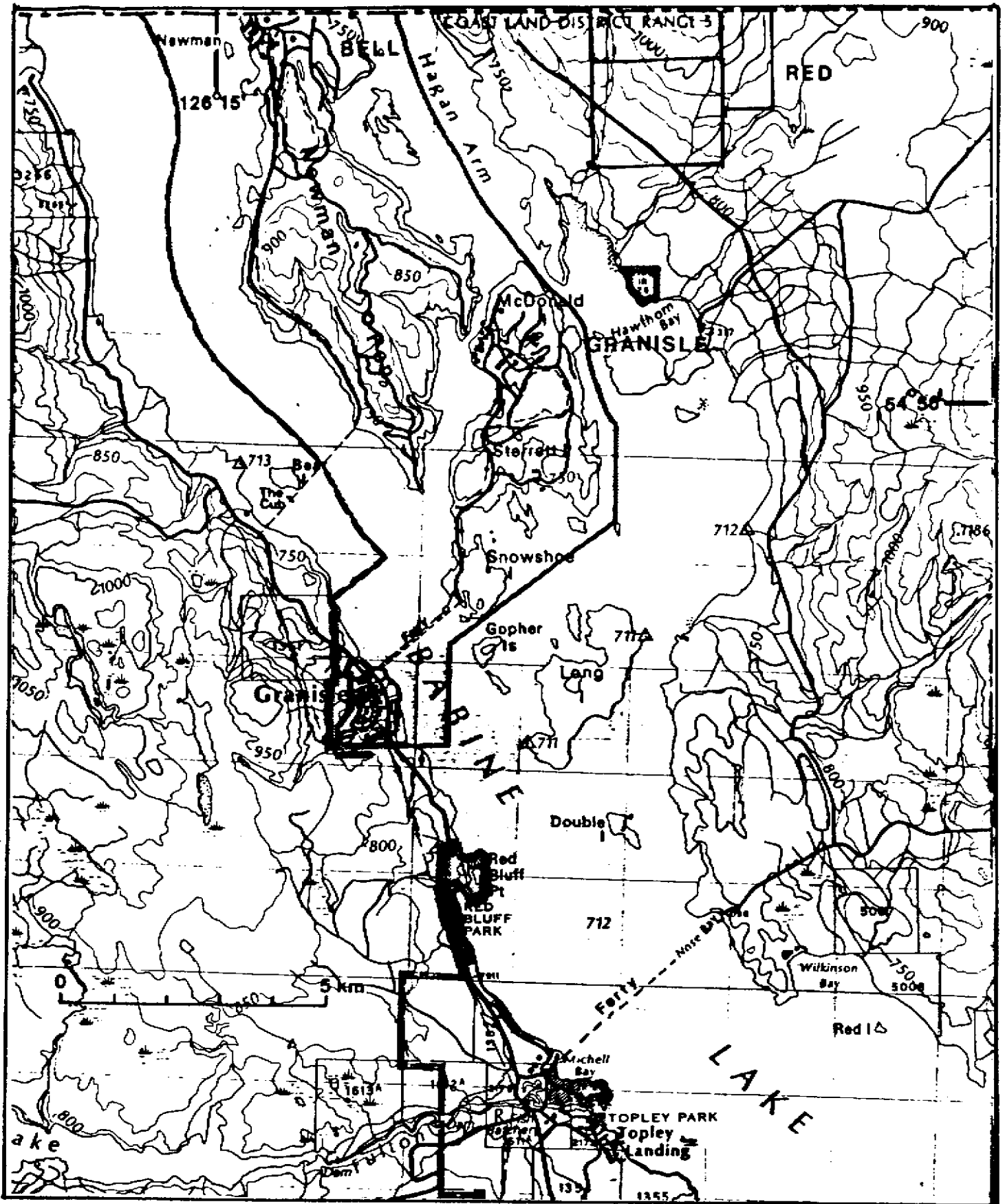
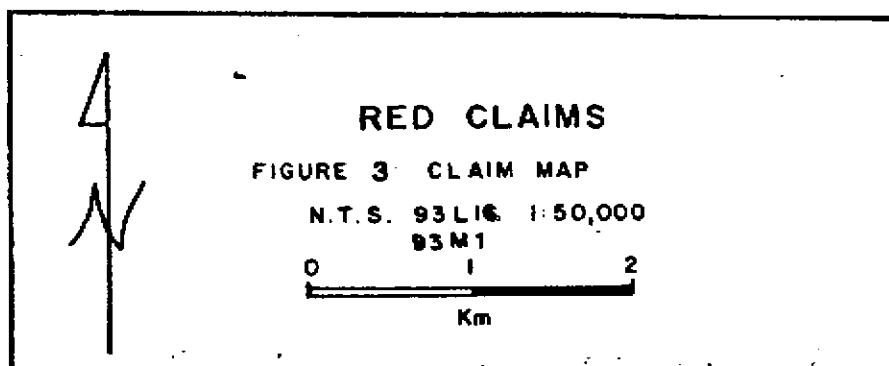
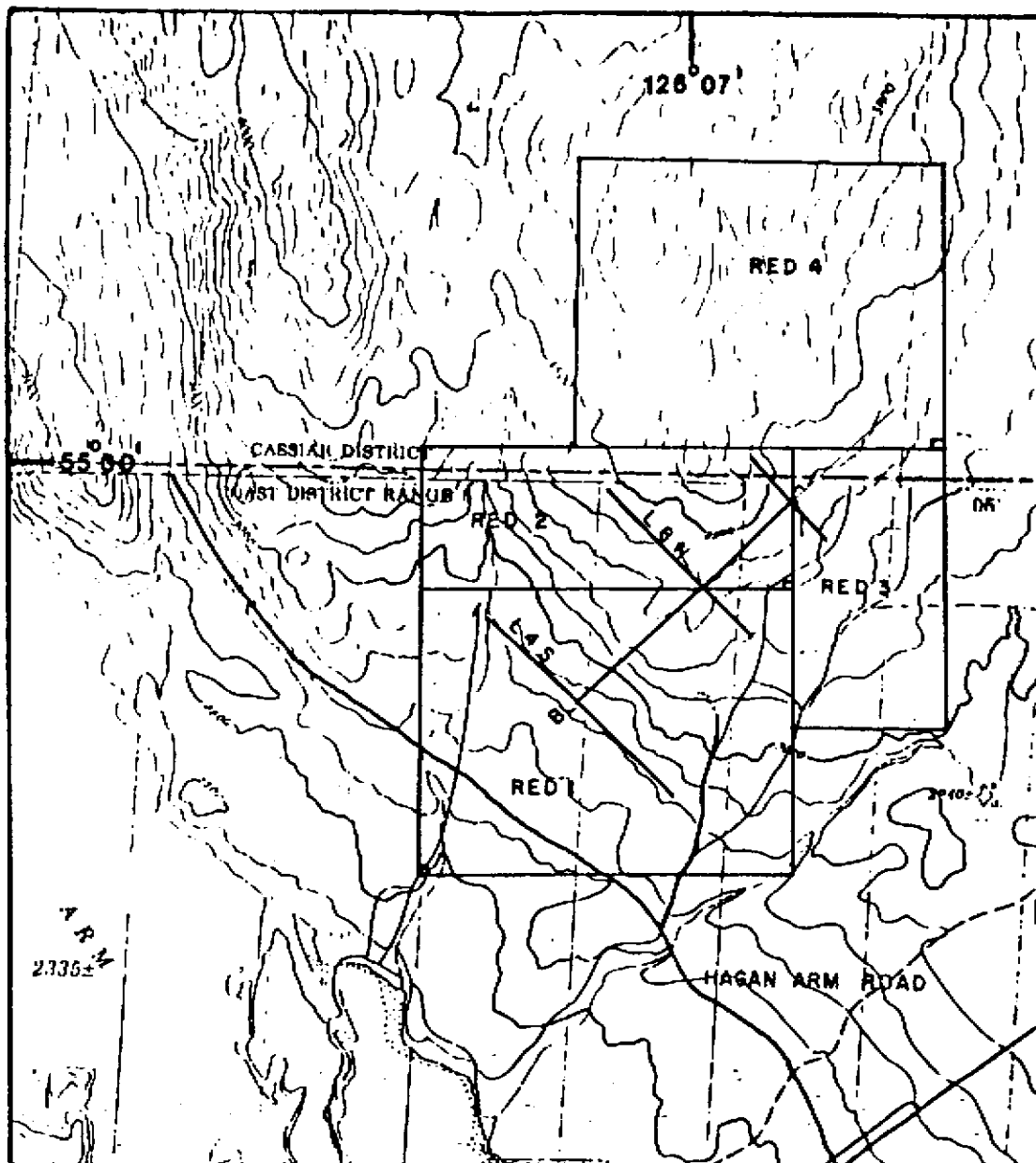
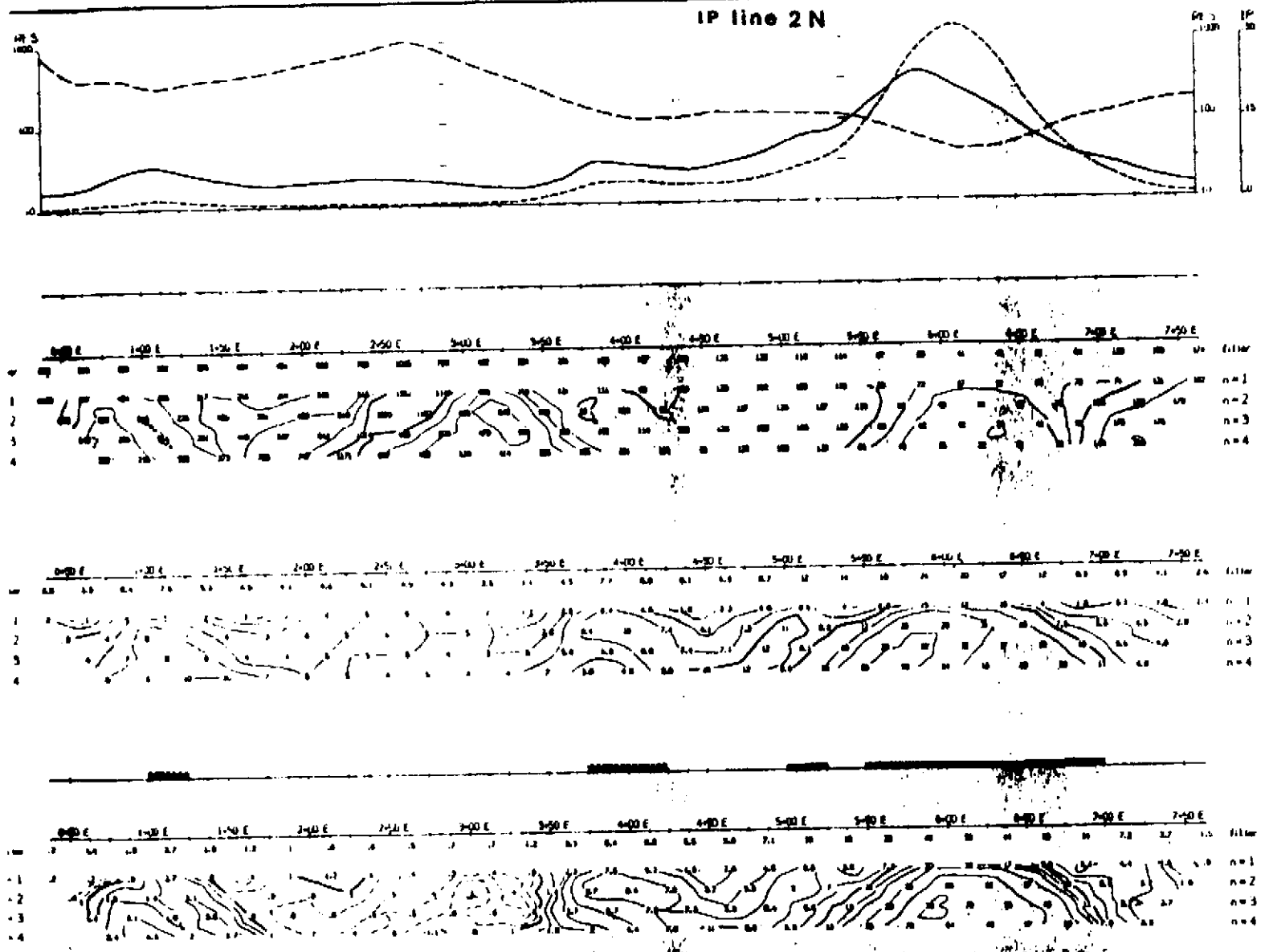


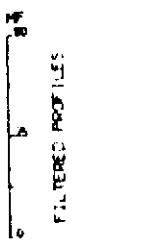
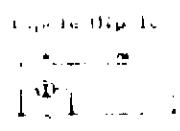
FIGURE 2 - LOCATION - RED PROPERTY



IP line 2 N



Line 2



TOPOGRAPHY

RESISTIVITY (ohm-m)

APPARENT RESISTIVITY (ohm-m)

INTERPRETATION

METAL FACTOR (ppm)

Resistivity: ———  
 Polarization: ———  
 Metal Factor: ———

Layer Thickness (Contours): 1, 2, 3, 4

Instrument: IP  
 Frequency: 100  
 Operator: M

INTERPRETATION

————— well defined  
 ———— moderate  
 ———— poorly defined

————— highly defined  
 ———— moderate  
 ———— poorly defined

Resistivity (ohm-m)

EQUITY SILVER M

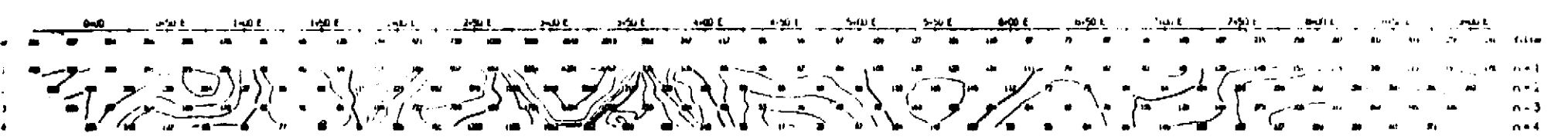
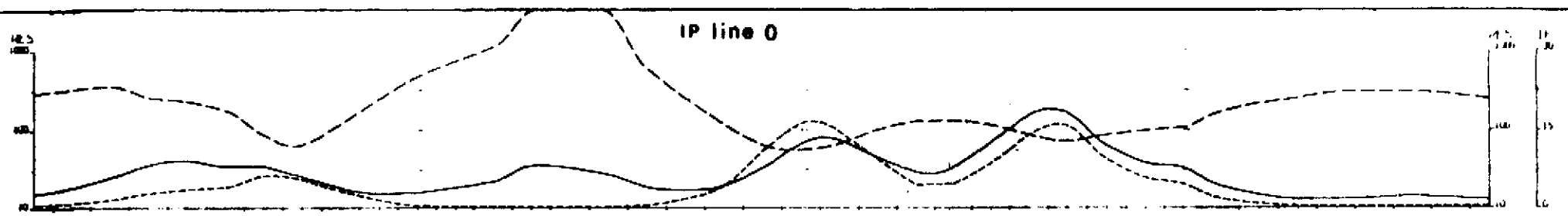
INDUCED POLARIZATION

RED GR  
 BABINE LAKE

Date: 09-10-80  
 Interpretation by: P.E.W.  
 Scale: 1:2500

PETER E. WALCOTT

IP line 0

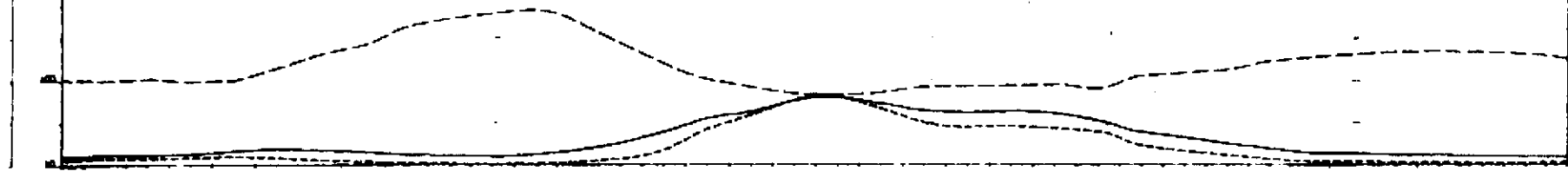


RES

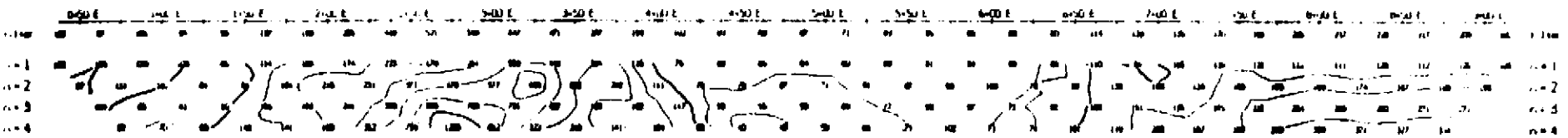
# IP line 2S

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FILTERED PROFILE



PHOTOGRAPH



PHOTOGRAPH



PHOTOGRAPH



PHOTOGRAPH

**BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)**

**B. TECHNICAL REPORT**

- One technical report to be completed for each project area
- Refer to Program Requirements/Regulations, section 15, 16 and 17
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95-P119

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) TRAIL - BABINE Minfile No. if applicable 93 MD11  
Location of Project Area NTS 93M/BE Lat 55°25' Long 126°20'  
Description of Location and Access North of Babine lake, access by  
helicopter from Smithers.

Main Commodities Searched For Cu - Au

Known Mineral Occurrences in Project Area Cu - Au porphyry mineralization  
in trenches and drill core on property

**WORK PERFORMED**

1. Conventional Prospecting (area) \_\_\_\_\_
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) 24 soils, 1 rock - ICP + Au
4. Geophysical (type and line km) \_\_\_\_\_
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) \_\_\_\_\_

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_  
Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_  
Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies See Attached  
Assessment report

Supporting data must be submitted with this TECHNICAL REPORT.



**GEOCHEMICAL REPORT**

**ON THE**

**TRAIL MINERAL CLAIM**

**Babine Lake Area  
Omineca Mining Division  
British Columbia**

**NTS: 93M/8W  
55°25'N 126°20'W**

**OWNER: N.C. CARTER**

**AUTHOR: N.C. CARTER, Ph.D. P.Eng.**

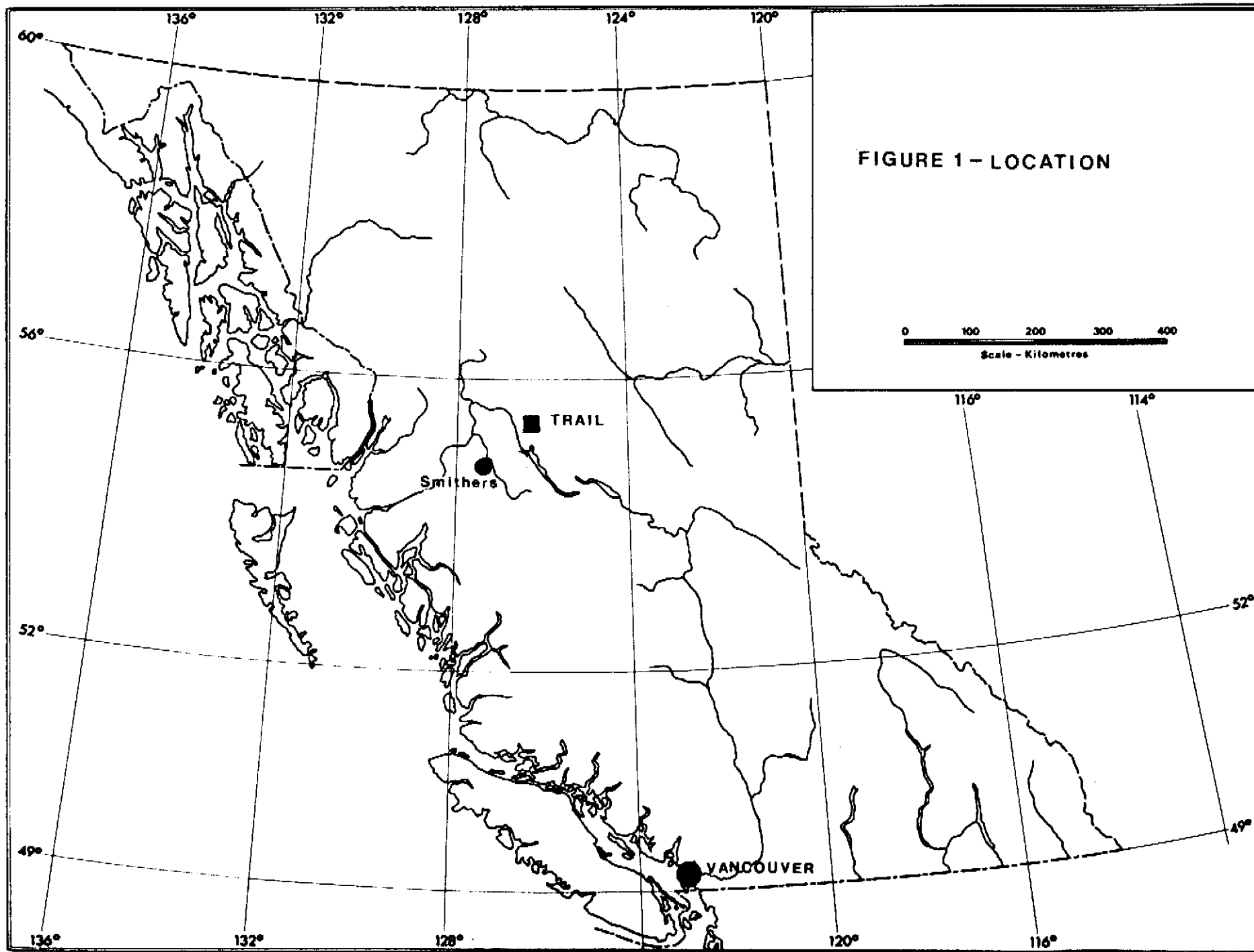
**DATE: JANUARY 14, 1995**

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## INTRODUCTION

### Location and Access

The TRAIL mineral claim, centred on Trail Peak north of Babine Lake, is 90 km northeast of Smithers in west-central British Columbia (Figure 1). The geographic centre of the claim is at latitude 55°25' North and longitude 126°20' West in NTS map-area 93M/8W.

Access is by helicopter from Smithers. The property is 45 km north of Bell Copper mine (Figure 2) and about 10 - 20 km from the end of present logging roads which extend to Morrison Lake to the south and into the Nilkitkwa River valley north of the claim. Trail Peak is immediately north of the historic Hudson's Bay trail linking Hazelton with the Omineca gold fields and this route has been used more recently to walk bulldozers into the area from Fort Babine. A recently constructed power line between Fort Babine and Takla Landing also follows this route.

### Mineral Property

The TRAIL property consists of one 4-post mineral claim of 16 units as shown on Figure 3. Details of the mineral claim are as follows:

<u>Claim Name</u>	<u>Units</u>	<u>Record Number</u>	<u>Date of Record</u>
TRAIL	16	240188	October 16, 1988

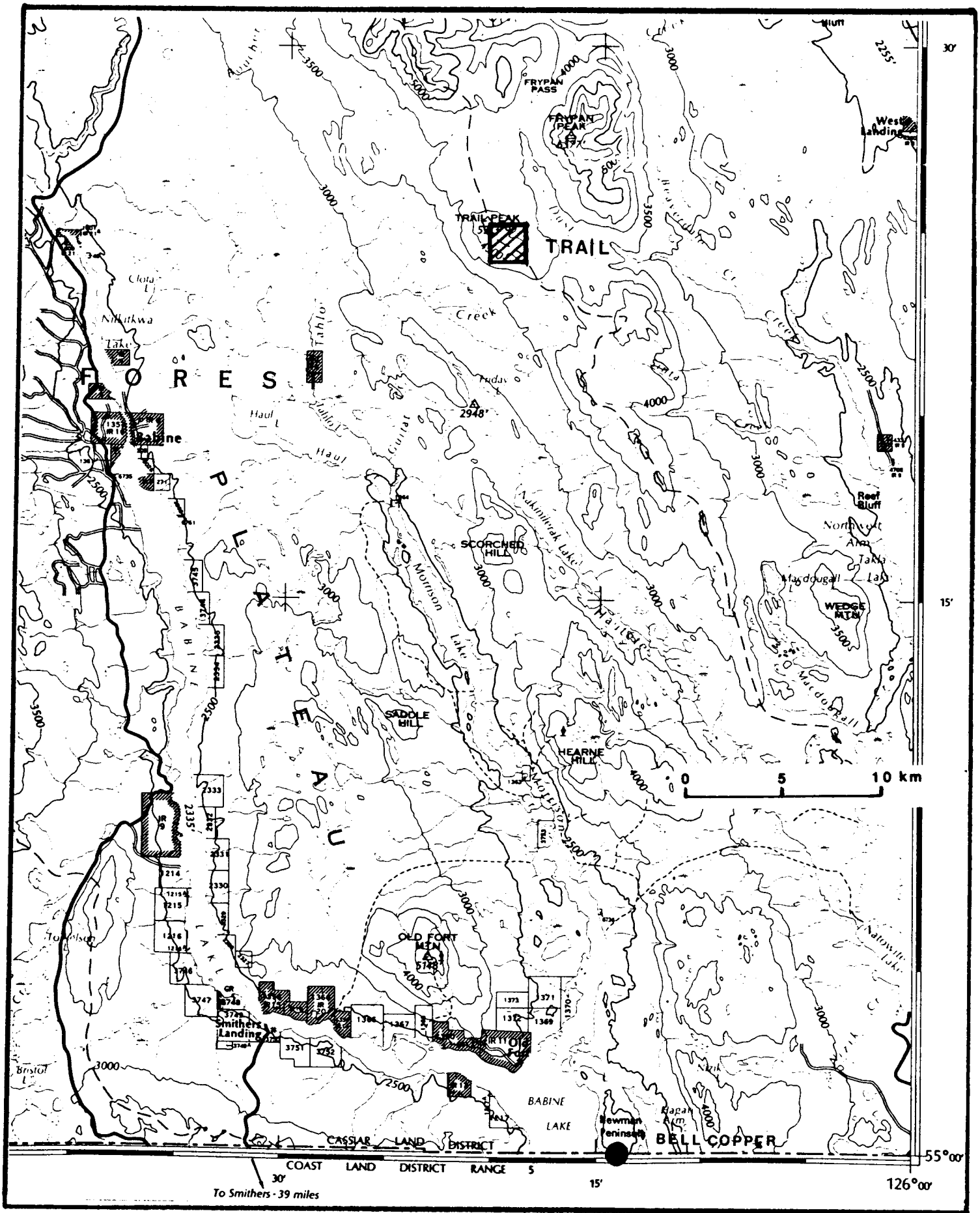


FIGURE 2 - LOCATION - TRAIL CLAIM

## History

Several hand trenches 2 km southeast of Trail Peak expose a polymetallic vein and are evidence of work prior to the investigation of porphyry copper mineralization by Texas Gulf Sulphur Company between 1968 and 1975. Work by this company included geological mapping, geophysical surveys, soil and rock geochemistry, 3600 metres of bulldozer trenching and 1086 metres of diamond drilling in 12 holes. Results of some of this work are contained in Assessment Reports 1672 and 5706.

## Present Status

The TRAIL mineral claim was located by the writer October 16, 1988. Work in 1989 included geological mapping and the collection and analyses of bedrock and drill core samples (Carter, 1990).

A 1992 program (Carter, 1993) included re-sampling of diamond drill cores recovered by the previous operator in 1967 and 1975. Thirty-eight samples, collected from hole intervals containing better copper grades, were analyzed for gold and 31 major and trace elements.

The 1992 program also included the collection of nineteen soil and two rock samples along two flagged lines in the northeastern claim area where previous sampling had

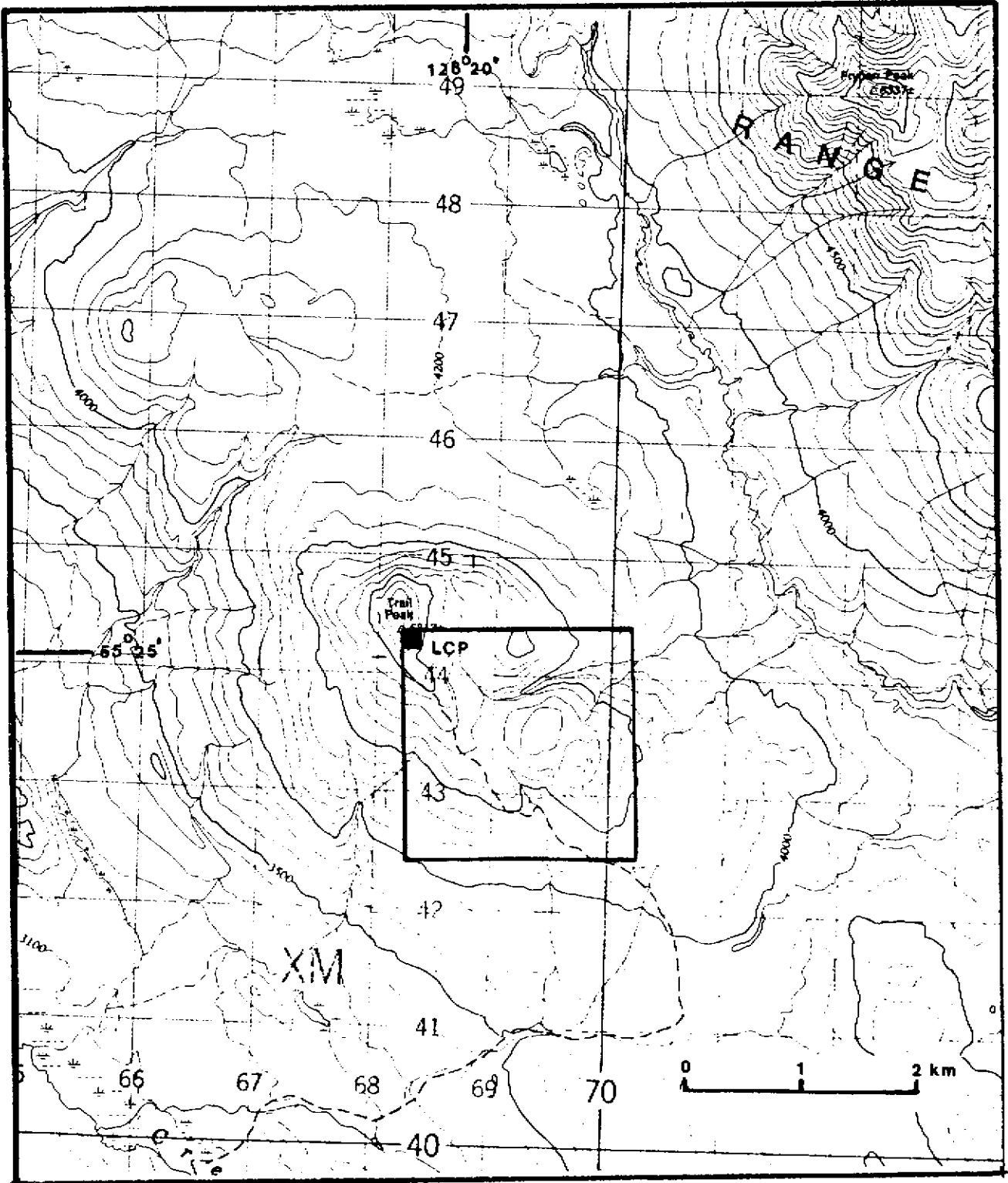


FIGURE 3 - TRAIL MINERAL CLAIM

indicated anomalous copper values in soils which were not followed up during earlier work on the property. 1992 work indicated the presence of a northwesterly trending zone of undetermined dimensions containing +100 ppm copper and +10 ppb gold values.

The 1994 soil sampling program, designed to further evaluate this anomalous zone, involved the collection of 24 soil and one rock sample September 25, 1994.

## **GEOLOGY AND MINERALIZATION**

### **Physical Setting**

Trail Peak is an isolated topographic high near the northern margin of the Nechako Plateau. The summit of Trail Peak rises some 600 metres above an area of gentle relief north of Babine Lake. Elevations within the claim area range from 1200 metres above sea level at the southwest corner of the claim to 1620 metres at the Legal Corner Post at the Trail Peak survey monument (Figure 3).

Much of the northern half of the claim is above tree line of about 1460 metres. Bedrock is well exposed in the vicinity of Trail Peak and other areas above tree line. 23-year old bulldozer trenches in the central and western claim area afford reasonably good bedrock exposure (Figure 4).



## Regional Geological Setting

The northern Babine Lake area is within the Intermontane tectonic belt which is underlain principally by Mesozoic and older layered rocks, the most widespread in this area being volcanic and sedimentary rocks of the Jurassic Hazelton Group. These are intruded by plutonic rocks of various ages including lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyries and Babine intrusions of early Tertiary age.

Porphyry copper mineralization in the Babine Lake area is well documented and is associated with three ages of intrusive activity. The most significant are the Eocene Babine intrusions which occur as small stocks and dyke swarms and host more than a dozen known porphyry copper deposits and occurrences including the former Granisle mine (1966 - 1982 production - 52.2 million tonnes grading 0.41% copper) and Bell Copper mine which to the end of 1991 had produced 29.9 million tonnes of copper and 12597 kg of gold from 75.5 million tonnes milled. Some 100 million tonnes of additional reserves of similar grade are estimated to be within and adjacent to the present Bell open pit.

Drill-indicated reserves at the Morrison deposit, 20 km north of Bell Copper, are estimated to be between 40 and 80

million tonnes grading 0.42% copper and 0.34 g/t gold.

Copper-molybdenum mineralization is also known to occur in late phases of the Topley intrusions and in late Cretaceous granodiorite porphyries. Other deposit types in this well mineralized district include narrow veins with base and precious metals values, which commonly occur marginal to known porphyry deposits and disseminated copper mineralization in Hazelton Group volcanic rocks. Deposits with volcanogenic massive sulphide affinities include Topley Richfield 10 km north of Topley, the RED prospect 5 km northeast of the dormant Granisle copper mine and the Fireweed silver-lead-zinc prospect 12 km west of the Bell copper mine.

#### **Property Geology and Mineralization**

The TRAIL claim is underlain principally by dark grey cherty siltstones which are variably iron-stained due to the presence of finely disseminated pyrite. Volcanic crystalline tuffs are interbedded with the sediments at the base of Trail Peak (Figure 4).

The sedimentary and lesser volcanic sequence, part of the Hazelton Group of mid to late Jurassic age (Richards, 1974), is contained in a northwest-trending synform (Carter, 1970) which has been transected by northwest and

east-northeast faults (Figure 4).

Thinly bedded siltstones and mudstones in the southeast claim area are less indurated than the more prevalent cherty siltstone unit and may be part of a younger (Albian Skeena Group?) sequence.

Intruding the layered rocks are small, fault-bounded plugs of medium-grained diorite - granodiorite and dykes and irregular bodies of finer-grained biotite-(hornblende)-feldspar porphyry (Figure 4). Sedimentary rocks marginal to these intrusions have been converted to biotite hornfels.

The diorite - granodiorite intrusions are of Cretaceous age (104 Ma - Carter, 1981) and were localized at the intersection of northwest and northeast faults on Trail Peak. These and the sedimentary sequence are intruded by predominantly northwest striking dykes of multiple-phase biotite-(hornblende)-feldspar porphyry of Eocene age (49 Ma - Carter, 1981) which are typical of the Babine intrusions. A large outcrop area of trachytic-textured hornblende-feldspar porphyry, exhibiting crude columnar jointing in the eastern claim area (Figure 4), is interpreted to be a late phase, extrusive equivalent of the Babine intrusions.

Both the diorite - granodiorite plugs and porphyry dykes are offset by later movements along faults, particularly the east-northeast fault extending through the central part of

the claim (Figure 4). Abundant tourmaline occurs in quartz veinlets and in stringers and irregular clots both within and marginal to this fault.

Copper mineralization, mainly as disseminations of chalcopyrite and lesser bornite on fractures and in quartz veinlets within and marginal to biotite-(hornblende)-feldspar porphyries, is exposed in bulldozer trenches in two areas of the property along and south of the aforementioned fault zone (Figure 4). Potassic alteration, in the form of locally abundant secondary biotite, plus some K-feldspar and sericite, is coincident with the copper mineralization and a pyrite halo extends outward some 600 to 1200 metres.

Rock chip sampling at 300 metre centres, undertaken over most of the property area in 1973, indicated a central copper zone (centred on the two trenched areas) with locally anomalous molybdenum values flanked by higher lead, zinc and silver values, typical of a porphyry environment.

Limited rock sampling of the two trenched areas was carried out in 1988 and 1989 (Carter, 1990) principally to determine if gold values were present within the porphyry system. Twenty samples from the western trench area included values of up to 1350 ppm copper and 155 ppb gold. Better gold values were indicated within and near the eastern trench area. Two rock samples from the northernmost trench returned

values of 1910 and 3606 ppm copper and 698 and 1160 ppb gold. A sample from a bedrock exposure in the creek 150 metres north of the trench yielded 1663 ppm copper and 52 ppb gold and soil sample collected between the trench and the creek returned values of 4100 ppm copper and 1075 gold (subsequent re-analysis indicated 2000 ppb gold).

The eastern and western trench areas were investigated in 1969 by limited diamond drilling. Seven of ten inclined holes were drilled to average depths of 60 metres in the western trench area. Three of these holes, drilled within a 200 square metre area near the west end of these trenches and immediately north of the east-northeast fault (Figure 4), intersected copper values ranging from 0.15 to 0.62%. Two inclined holes of 76 metres each, drilled in the eastern trench area (figure 4), intersected low copper values. One inclined hole, near the northern boundary of the present claim (Figure 4) and drilled to test a soil geochemical anomaly, was entirely within relatively unmineralized diorite, indicating that the diorite intrusions are more widespread than shown on Figure 4. Two 1975 inclined holes with depths of depths of 344 and 132 metres, were drilled in the western and eastern trench areas respectively (Figure 4).

Re-sampling of previously drilled core, undertaken in 1992 (Carter,1993), indicated better copper and gold grades

in the western trench area. Best values were obtained from 1969 holes 3 and 4, and results demonstrated the consistency and coincidence of both copper and gold within the sampled sections. Results obtained from this sampling program are as follows:

**Table 1 - Sample Results**

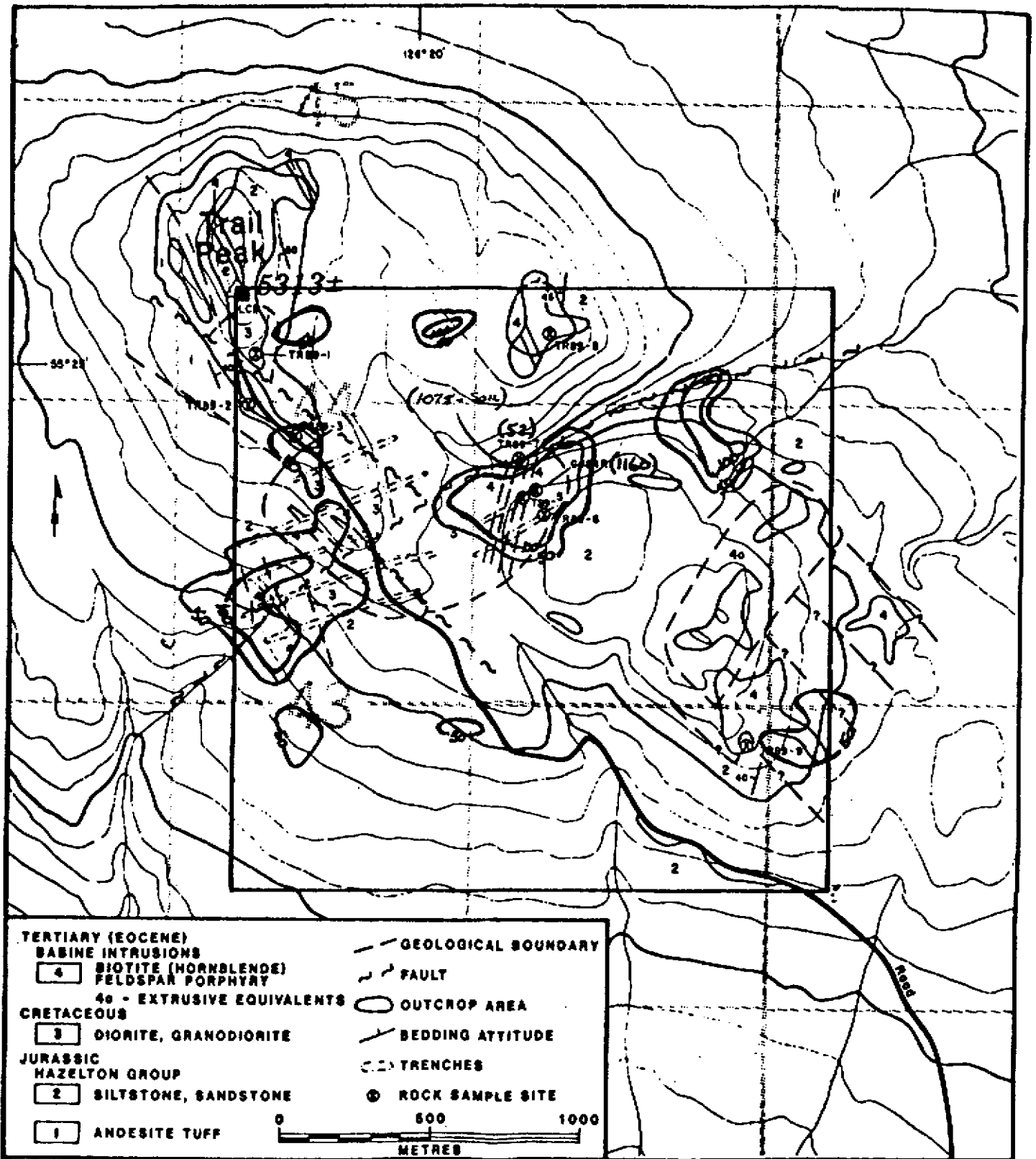
<u>Sample Number</u>	<u>Hole Number</u>	<u>Interval(m)</u>	<u>Cu(ppm)</u>	<u>Au(ppb)</u>
60501	11-75	161.8-164.9	1081	43
60502	"	173.1-176.2	753	53
60503	"	182.3-185.3	1343	82
60504	"	201.8-204.8	1191	62
60505	"	234.4-237.4	1379	72
60506	"	337.7-340.8	511	23
60507	"	15.2-18.3	1620	119
60508	"	100.9-103.9	1881	90
60509	"	150.3-153.3	1562	66
60510	"	283.5-286.5	2143	118
60511	"	249.9-253.0	1863	78
60512	12-75	32.3-35.4	275	23
60513	"	39.6-42.7	736	88
60514	"	54.9-57.9	681	78
60515	9	67.1-74.7	256	36
60516	1	4.0-9.1	509	23
60517	2	4.6-6.4	3954	272
60518	"	6.4-10.7	1284	86
60519	"	10.7-15.2	1640	82
60520	"	36.6-39.6	1971	91
60521	"	42.7-47.2	1522	74
60522	"	47.2-51.8	1513	55
60523	3	3.7-6.1	3709	173
60524	"	6.1-9.1	4054	170
60525	"	9.1-12.2	3703	170
60526	"	12.2-15.2	7067	333
60527	"	15.2-18.3	3752	188
60528	"	18.3-21.3	2261	119
60529	"	21.3-24.4	1615	111
60530	"	24.4-27.4	2554	180
(3.7 - 27.4m - 0.36% Cu, 0.181 g/t Au) including 3.7 - 18.3m - 0.45% Cu, 0.207 g/t Au)				

<u>Sample Number</u>	<u>Hole Number</u>	<u>Interval(m)</u>	<u>Cu(ppm)</u>	<u>Au(ppb)</u>
60531	4	21.3-27.4	5046	241
60532	"	27.4-33.5	4113	233
60533	"	33.5-39.6	2220	122
60534	"	39.6-45.7	3276	122
60535	"	45.7-51.8	4044	179
(21.3 - 51.8m - 0.37% Cu, 0.179 g/t Au)				
60536	7	5.2-13.7	37	22
60537	8	27.4-30.5	775	76
60538	6	19.8-24.4	118	28

### Geochemical Response

Results of a 1968 soil sampling program carried out by Texas Gulf are shown on Figure 5. 679 samples, collected at 60 - 120 metre intervals, were analyzed for total copper and statistical analysis indicated a background of 35 ppm or less, thresholds in the 35 - 50 ppm range and anomalous values of +50 ppm. Three principal areas with anomalous copper values of up to 1300 ppm were outlined adjacent to the east-northeast trending fault (Figure 5). Scattered anomalous values occur north and south of the main anomalous areas.

Notwithstanding the variations in overburden which is transported glacial drift rather than true soils, "soil" geochemistry appears to be a fairly reliable exploration tool on the TRAIL property in contrast to most other areas in the Babine Lake area. This is no doubt due to the relatively thin overburden cover.



**FIGURE 5 - TRAIL CLAIM -**

**GEOCHEMISTRY**

— Soil- ppm Cu  
 (1160) Rock-ppb Au



Two of the areas with higher copper values were subsequently trenched and drilled. The easternmost anomalous area (Figure 5), where previous work by Texas Gulf had indicated a northerly trending, 400 x 250 metre area with +50 ppm copper in soils, was the subject of a limited follow-up sampling program in 1992 (Carter,1993). This work, which consisted of the collection of samples along two east-west flagged lines, indicated a northwesterly trending zone containing +100 ppm copper and flanked on the east and west by +10 ppb gold values. Elevated zinc values were present in the eastern part of the sampled lines.

#### 1994 GEOCHEMICAL PROGRAM

The 1994 soil sampling program was designed to expand upon results obtained in 1992. Samples were collected at 50 metre intervals along two 600 metre east-west lines 150 metres apart (Lines 3+00S and 4+50S - Figure 4) and south of the lines sampled in 1992. Samples were collected at depths of between 15 and 15 cm, placed in kraft paper bags and submitted to Min-En Laboratories for determination of 31 major and trace elements by induced coupled argon plasma (ICP) techniques. Gold values were determined by atomic absorption.

Results for copper and gold are shown on Figure 6 and complete analytical results are included in Appendix I. To facilitate interpretation, copper and gold results for the 1992 program are also plotted on Figure 6.

### Discussion of Results

Additional soil sampling has further defined the area with anomalous (+50 ppm) copper values initially indicated by 1992 work. This zone continues in a southeasterly direction through line 3+00S before turning abruptly southwest and extending through the central part of line 4+50S (Figure 6). In summary, this anomalous zone is crescent-like in plan, convex to the east, and with widths of up to 400 metres on line 0 and narrowing to about 150 metres on line 4+50S.

Higher gold values (+10 ppb) tend to flank the northern part of the copper zone. The highest gold value in soils (19 ppb) is coincident with a 133 ppm copper value on the southernmost (4+50S) line sampled. Higher zinc values (+300 ppm - Appendix I) are partly coincident with the copper anomaly.

One rock sample (10293 - Appendix I - Figure 6) of iron-stained siltstone yielded low base metal values and 23 ppb gold.

The four soil sampling lines are immediately north of an

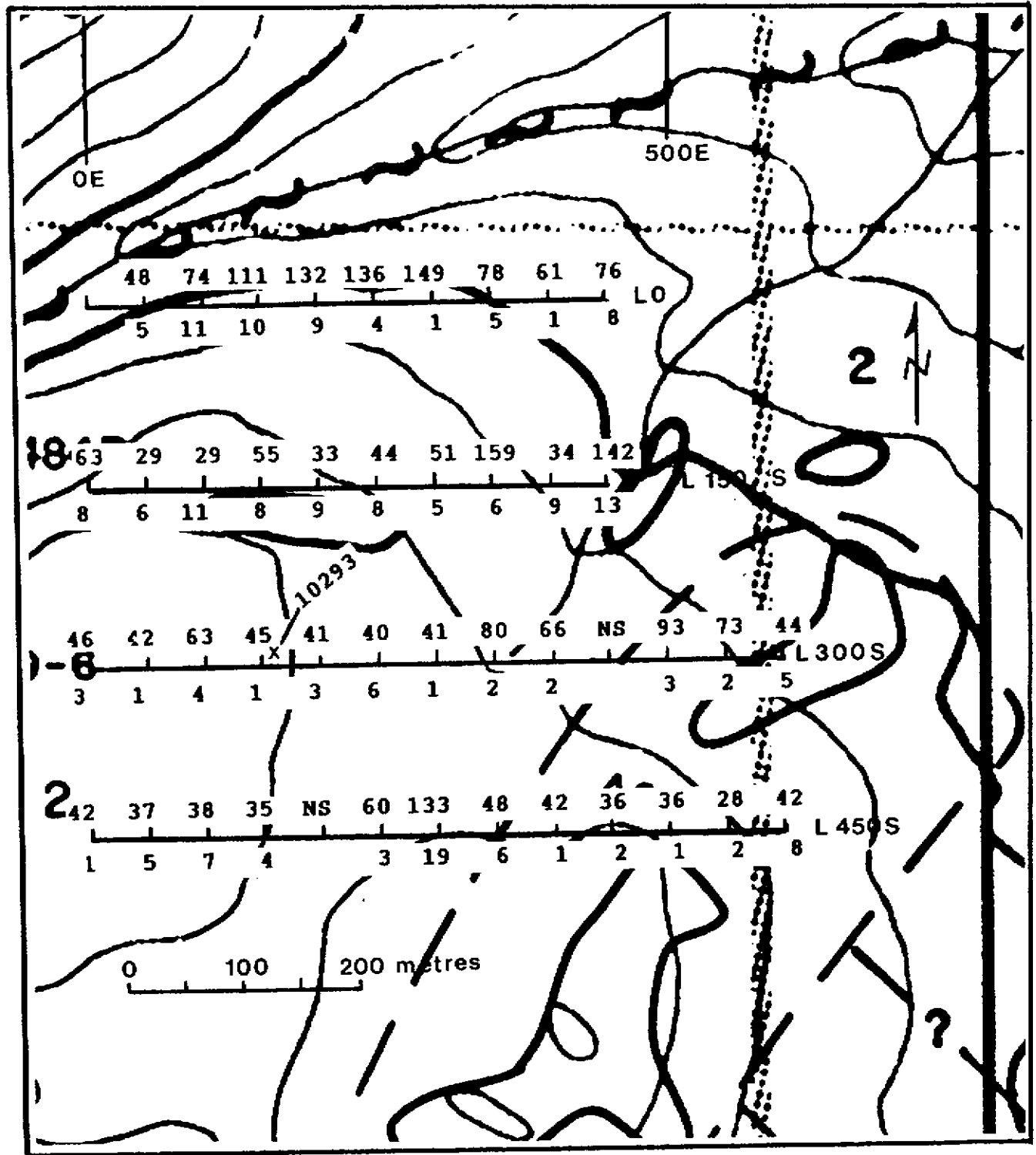


FIGURE 6 - SOIL GEOCHEMISTRY

<u>133</u>	Cu (ppm)
19	Au (ppb)

area underlain by extrusive equivalents of Babine biotite-feldspar porphyry intrusions. These rocks, similar to those exposed on Newman Peninsula between the Granisle and Bell copper deposits, are at the very top of the intrusive system and may be masking a mineralized zone.

Possible evidence of this is the highest gold value obtained from the soil sampling (+19 ppb) situated at 3+00E on line 4+50S immediately north of the northern limits of these extrusive equivalents (Figure 6). In addition, a 10 cm wide quartz vein containing 547.3 ppm silver and 3.1% zinc occurs in sediments marginal to the southern limits of these extrusive equivalents (Figure 4 -sample TR89-9).

#### CONCLUSIONS AND RECOMMENDATIONS

Work to date on the Trail Peak property indicates the presence of porphyry copper mineralization in a geological setting typical of the Babine Lake district. Principal host rocks are crowded biotite-feldspar porphyries of Eocene age which range in composition from quartz diorite to granodiorite. Multiple intrusion is evident and secondary biotite is widespread within a central potassic alteration zone which grades outward to a quartz-sericite-pyrite (phyllic) zone best developed in the sediments underlying Trail Peak. Extrusive equivalents of the porphyry, similar to

those observed nearby the Granisle and Bell Copper deposits, are exposed in the eastern claim area. A 10 cm wide quartz vein, immediately south of the exposed extrusive equivalent and near the periphery of the alteration zone, contains polymetallic mineralization and is similar to peripheral veins at Granisle and Bell Copper.

Soil sampling in the eastern claim area has partially defined a crescent-like area with anomalous copper and gold values flanking an area of porphyry extrusive equivalents which further confirms that the Trail Peak mineralized system is gold-bearing. Additional soil and rock sampling is warranted.

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- Richards, T.(1974): Hazelton East Half, Geological Survey of Canada Open File Map

**AUTHOR'S QUALIFICATIONS**

I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist, registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966.
2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).
3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 25 years.
4. Collection of soil samples as described in the foregoing report was carried out by the undersigned between September 25,1994.

N.C. Carter, Ph.D. P.Eng.

Victoria, B.C.  
January 14,1995

**APPENDIX I**  
**Analytical Results**



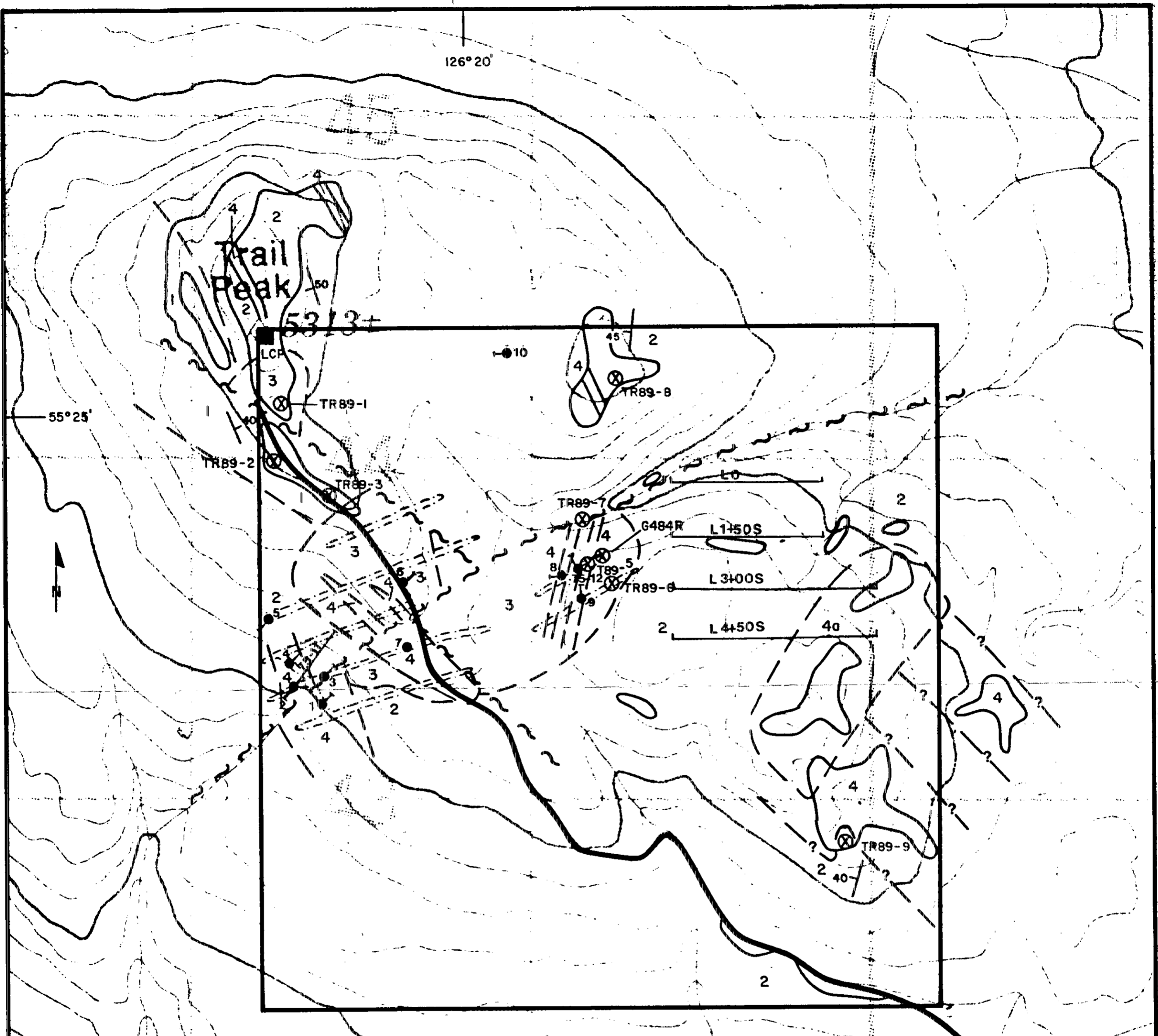
COMP: N C CARTER  
 PROJ: TRAIL  
 ATTN: N C CARTER

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
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FILE NO: 4S-0284-SJ1  
 DATE: 94/09/30  
 \* soil \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
3+00S 0+00E	.5	1.22	1	1	111	1.0	6	.25	.1	5	46	2.72	.06	10	.59	437	4	.01	18	670	34	21	52	1	.08	95.6	94	5	1	6	33	3
3+00S 0+50E	.4	1.07	1	1	81	1.0	10	.31	.1	7	42	4.53	.05	9	.59	480	3	.01	25	1250	36	17	47	1	.12	146.1	113	1	1	6	36	1
3+00S 1+00E	.4	1.40	1	1	78	1.4	9	.27	.1	9	63	4.80	.06	14	.75	877	3	.01	28	950	38	21	52	1	.12	130.7	141	1	1	7	48	4
3+00S 1+50E	.3	1.32	1	1	85	1.3	9	.32	.1	9	45	4.56	.05	14	.99	803	4	.01	30	1440	39	21	54	1	.10	132.1	286	1	1	7	52	1
3+00S 2+00E	.1	1.32	1	1	72	1.2	9	.27	.1	8	41	5.10	.04	13	.58	770	2	.01	25	1080	32	17	52	1	.15	143.8	130	1	1	6	31	3
3+00S 2+50E	.4	1.43	1	1	72	1.5	9	.27	.1	9	40	4.95	.04	14	.85	675	4	.01	31	1230	38	22	53	1	.11	126.3	145	1	1	7	42	6
3+00S 3+00E	.6	.89	1	1	96	.9	7	.25	.1	6	41	4.15	.05	8	.44	441	2	.01	22	1290	27	15	52	1	.08	142.4	224	2	1	6	28	1
3+00S 3+50E	.1	.91	1	1	100	1.6	9	.44	.1	9	80	4.19	.06	8	.42	2566	4	.01	27	1000	42	16	66	1	.09	134.0	322	1	1	5	27	2
3+00S 4+00E	.1	.95	1	1	204	1.5	9	.54	.1	10	66	5.02	.09	14	.46	3959	2	.01	34	1690	46	15	85	1	.09	139.6	462	1	1	6	30	2
3+00S 5+00E	.3	.92	1	1	62	1.0	7	.91	.1	9	93	3.99	.05	24	.77	992	3	.01	31	960	36	14	62	1	.09	106.1	762	1	1	5	35	3
3+00S 5+50E	.1	.94	1	1	99	1.2	8	.99	.1	12	73	4.09	.06	24	.74	2156	3	.01	33	1080	48	16	70	1	.08	98.0	671	1	1	5	35	2
3+00S 6+00E	.1	1.13	1	1	109	1.3	9	.48	.1	11	44	4.64	.07	13	.65	1499	3	.01	29	1110	40	18	74	1	.09	136.5	487	1	1	7	37	5
4+50S 0+00E	.7	1.03	1	1	97	1.1	10	.30	.1	9	42	5.05	.08	12	.76	714	2	.01	25	1230	30	14	61	1	.14	152.6	132	1	1	6	35	1
4+50S 0+50E	.1	.96	1	1	118	1.0	7	.26	.1	8	37	4.36	.08	7	.46	1109	2	.01	23	1570	32	15	62	1	.10	140.7	104	1	1	6	29	5
4+50S 1+00E	.3	1.35	1	1	79	1.2	7	.23	.1	7	38	4.16	.05	11	.58	337	3	.01	21	810	29	22	54	1	.08	115.3	101	2	1	6	28	7
4+50S 1+50E	.4	1.16	1	1	82	1.0	8	.24	.1	7	35	4.31	.05	10	.52	417	2	.01	21	910	28	16	50	1	.11	132.8	96	1	1	6	27	4
4+50S 2+50E	.4	.93	1	1	144	1.0	6	.38	.1	7	60	3.75	.06	7	.36	608	2	.01	22	920	25	14	52	1	.09	130.2	91	1	1	5	24	3
4+50S 3+00E	.1	1.29	1	1	148	1.4	8	.69	.1	9	133	3.99	.09	39	.81	2382	7	.01	36	960	46	24	78	1	.07	111.3	167	1	1	6	35	19
4+50S 3+50E	.1	1.07	1	1	86	1.1	9	.28	.1	8	48	4.24	.06	16	.53	953	5	.01	25	830	34	18	48	1	.09	134.3	134	1	1	6	32	6
4+50S 4+00E	.1	1.05	1	1	86	1.0	7	.40	.1	7	42	4.24	.05	18	.69	503	3	.01	24	840	31	15	47	1	.09	137.4	373	2	1	6	33	1
4+50S 4+50E	.1	1.11	1	1	72	1.1	6	.31	.1	7	36	4.41	.04	12	.58	834	2	.01	25	1780	33	17	50	1	.07	114.6	152	1	1	5	29	2
4+50S 5+00E	.3	1.24	1	1	61	1.1	9	.27	.1	8	36	5.55	.05	13	.71	583	2	.01	28	1420	28	16	47	1	.13	155.8	121	1	1	6	34	1
4+50S 5+50E	.1	1.03	1	1	85	.9	7	.25	.1	6	28	4.64	.05	9	.47	418	2	.01	24	1230	26	15	45	1	.10	137.8	85	1	1	5	26	2
4+50S 6+00E	.1	1.08	1	1	197	1.0	6	.32	.1	6	42	3.47	.06	13	.60	830	3	.01	23	1250	36	16	50	1	.08	104.2	102	1	1	5	27	8





<b>TERTIARY (EOCENE)</b>	<b>GEOLOGICAL BOUNDARY</b>
<b>BABINE INTRUSIONS</b>	<b>FAULT</b>
<b>4</b> BIOTITE (HORNBLENDE) FELDSPAR PORPHYRY	<b>OUTCROP AREA</b>
4a - EXTRUSIVE EQUIVALENTS	<b>BEDDING ATTITUDE</b>
<b>CRETACEOUS</b>	<b>TRENCHES</b>
<b>3</b> DIORITE, GRANODIORITE	<b>DIAMOND DRILL HOLE</b>
<b>JURASSIC</b>	<b>ROCK SAMPLE SITE</b>
<b>HAZELTON GROUP</b>	
<b>2</b> SILTSTONE, SANDSTONE	
<b>1</b> ANDESITE TUFF	

0                      500                      1000  
METRES

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**FIGURE 4 - TRAIL CLAIM - GEOLOGY**

BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)

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P 19

FEB 01 1995

PROSPECTORS PROGRAM  
MEMPR

**B. TECHNICAL REPORT**

- One technical report to be completed for each project area
- Refer to Program Requirements/Regulations, section 15, 16 and 17
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95-119

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) BAND-STEWART Minfile No. if applicable 103P230

Location of Project Area NTS 103P/14W Lat 55°49' Long 129°27'

Description of Location and Access SE margin of Cambria Icefield,  
Access by helicopter.

Main Commodities Searched For Au (Mo)

Known Mineral Occurrences in Project Area Porphyry Mo mineralization  
known; Au values in late quartz-sulfide veins

**WORK PERFORMED**

1. Conventional Prospecting (area) \_\_\_\_\_
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) 14 rocks, 10 gits - ICP + Au
4. Geophysical (type and line km) Magnetometer - 650 m.
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) \_\_\_\_\_

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_

Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_

Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies \_\_\_\_\_

See attached assessment report

Supporting data must be submitted with this TECHNICAL REPORT.

**GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT**

**ON THE**

**BAND MINERAL CLAIMS**

**White River Area  
Skeena Mining Division  
British Columbia**

**NTS: 103P/14W  
55°49.4'N 129°26.6'W**

**OWNER: RICHARD T. HEARD**

**AUTHOR: N.C. CARTER, Ph.D. P.Eng.**

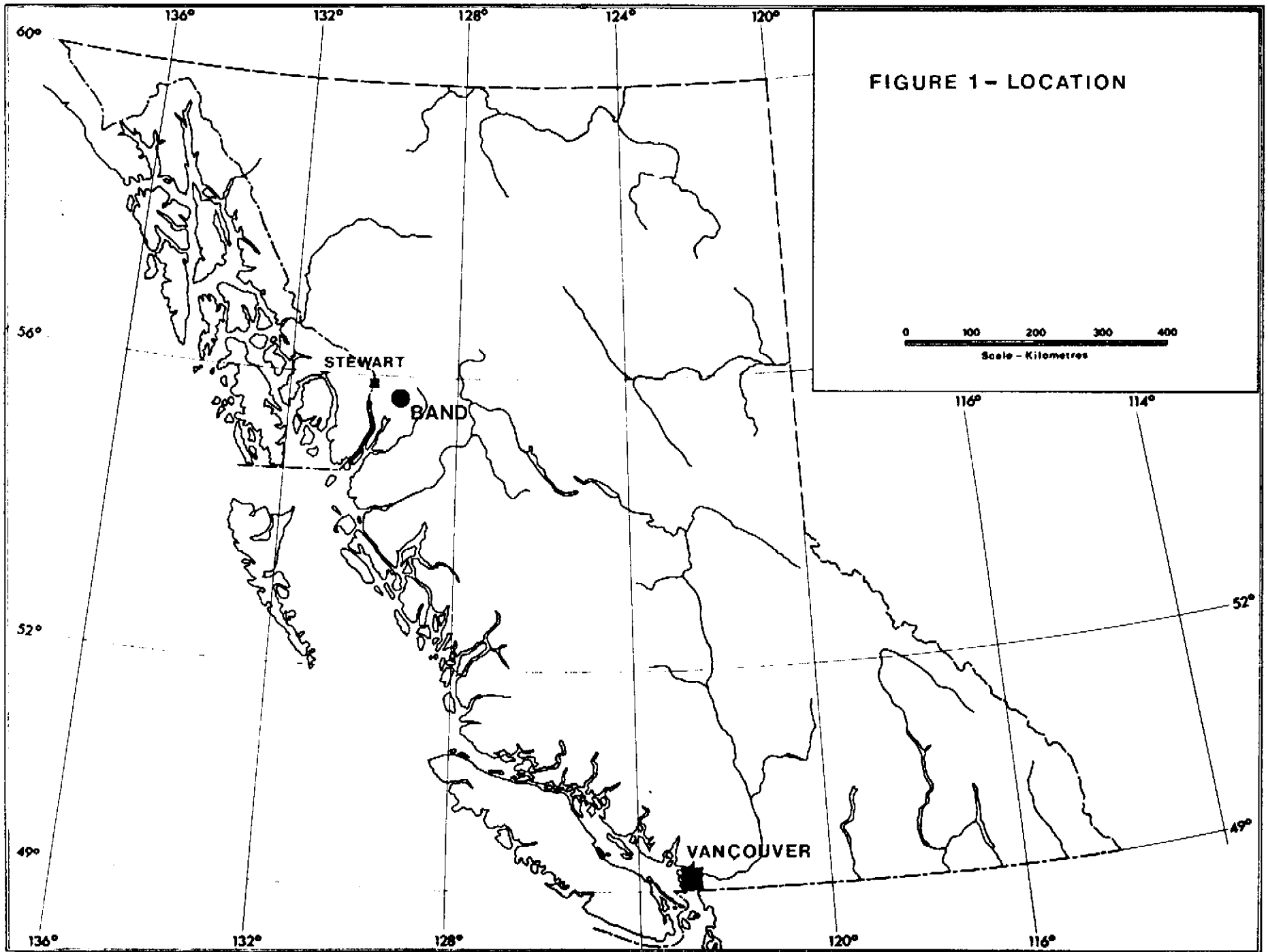
**DATE: DECEMBER 28, 1994**

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## INTRODUCTION

### Location and Access

The BAND property is 35 km east-southeast of Stewart in northwestern British Columbia (Figure 1). The mineral claims are adjacent to the southeastern margin of the Cambria Icefield and are centred on Banded Mountain which is immediately north of the headwaters of the White River (Figure 2). The common Legal Corner Post for the four mineral claims is at latitude 55°49.4' North and longitude 129°26.6' West in NTS map-area 103P/14W.

Access is by helicopter from Stewart or from a logging camp on highway 37 south of Meziadin Lake some 30 km northeast of the property. Active logging roads, extending up both White and Kinskuch Rivers, are presently within 15 km of the property.

### Mineral Property

The BAND property consists of four 4-post mineral claims comprising 72 mineral claim units which are registered in the name of Richard T. Heard (Figure 3). Details of the mineral claims are as follows:

<u>Claim Name</u>	<u>Units</u>	<u>Record Number</u>	<u>Date of Record</u>
BAND #1	18	321673	October 1, 1993
BAND #2	18	321674	" "
BAND #3	18	321675	" "
BAND #4	18	321676	" "



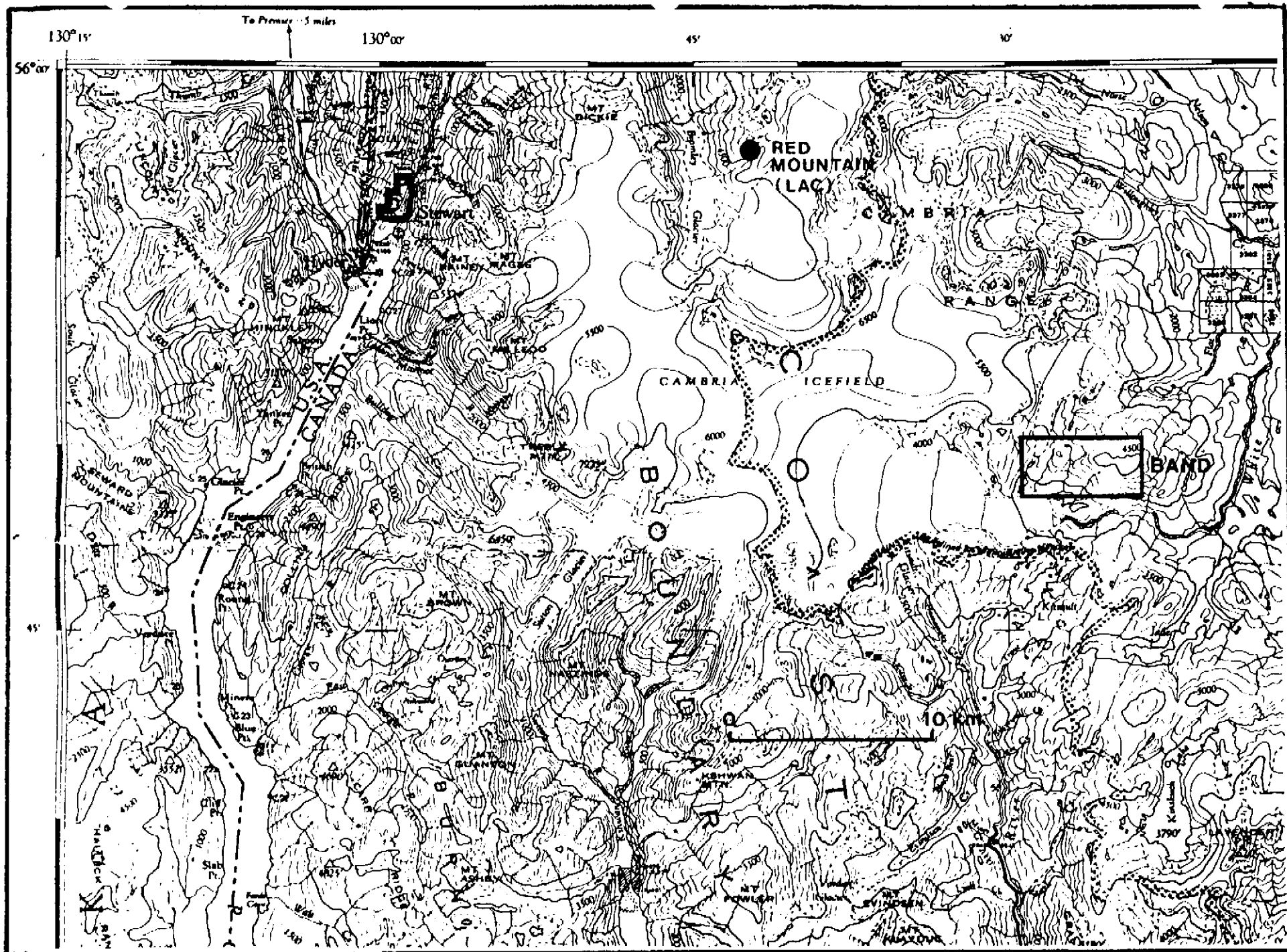


FIGURE 2 - LOCATION - BAND PROPERTY

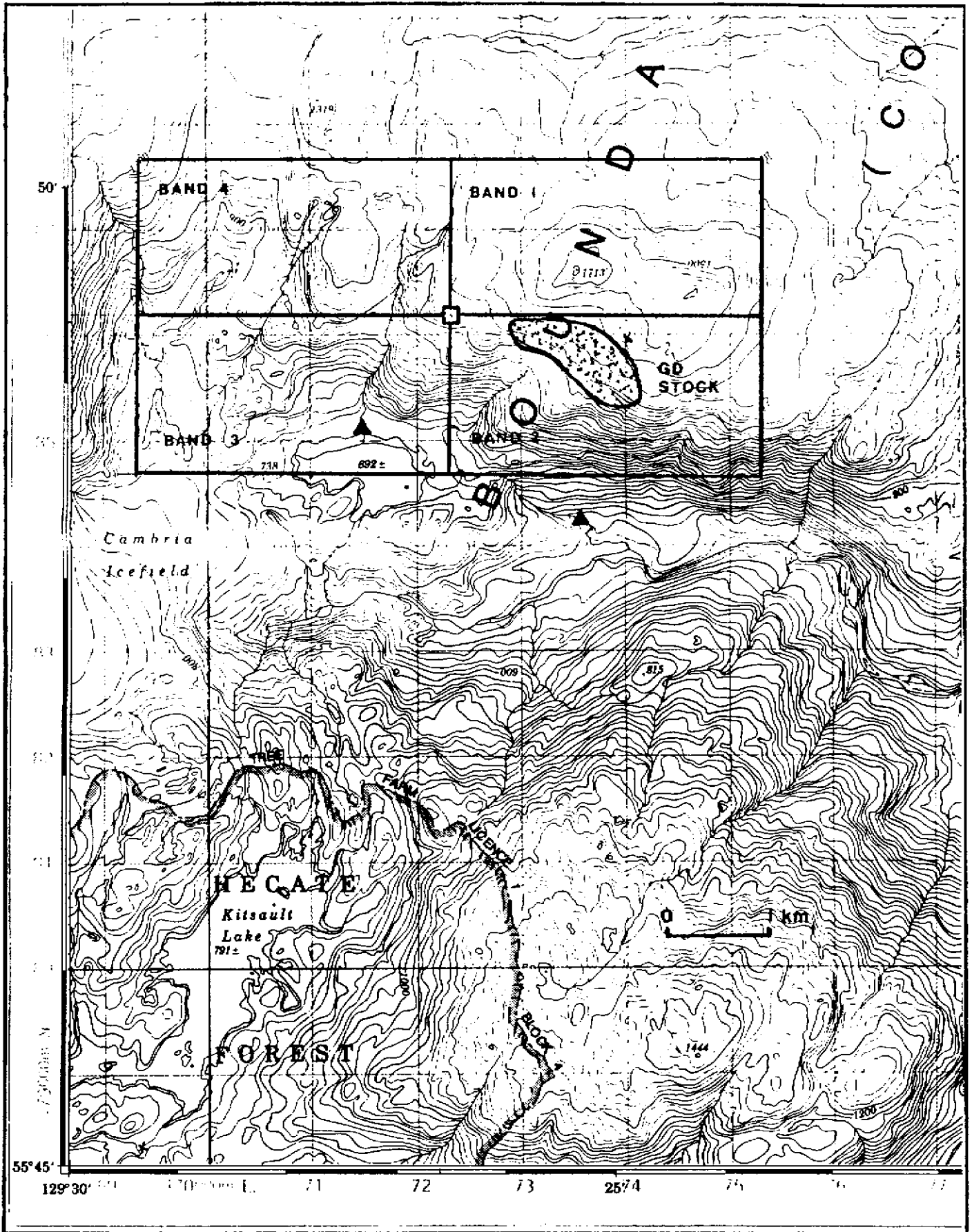


FIGURE 3 - BAND MINERAL CLAIMS

## History

Original documented exploratory work within the boundaries of the present BAND mineral claims was directed to the investigation of molybdenite mineralization associated with a granitic stock which intrudes Bowser Assemblage sediments on the southern slope of Banded Mountain.

Claims were staked by Kennco Explorations (Western) Ltd. in 1966 following a reconnaissance stream sediment sampling program which yielded anomalous molybdenum values in all streams draining the southern slopes of Banded Mountain. Follow-up work by Kennco (Ney, 1966) included geological mapping and stream sediment, soils and talus fines sampling.

Subsequent work, by JMT Services Ltd. (Livingstone, 1980, 1981), was also oriented toward the assessment of molybdenum potential and included prospecting, geological mapping and the collection of soil and rock samples which were analyzed for molybdenum, lead and zinc only.

Banded Mountain was within a large block of claims extending from White Lake north to Willoughby Creek that was investigated by Bond Gold Canada Inc. in 1990 following the discovery of significant gold mineralization at Red Mountain. Work by Bond Gold within the boundaries of the present property included some geological mapping, reconnaissance VLF-EM and magnetometer surveys and the collection of rock

samples, of which five samples, collected near the western margin of the granitic stock, yielded appreciable gold values (Vogt and Bray,1991).

#### **Present Status**

The four BAND mineral claims were located by Richard T. Heard October 1,1993.

A preliminary exploratory program, carried out between September 19 and 22,1994, included reconnaissance geology, prospecting, one trial line of magnetometer readings and the collection and analyses of 10 stream sediment and 14 rock samples. A helicopter, based at Meziadin Lake logging camp, provided access to the property and work was conducted by the writer with the assistance of Lorne B. Warren and Chris Warren.

### **GEOLOGY AND MINERALIZATION**

#### **Physical Setting**

Banded Mountain, on the eastern flank of the Coast Mountains, is immediately adjacent to the southeastern margin of the Cambria Icefield. Elevations within the claim area range from about 700 metres above sea level at White Lake along the southern property boundary to 1707 metres at the

summit of Banded Mountain (Figure 4).

Vegetation, consisting of partial forest cover and locally dense alder growth, extends to about 1200 metres elevation. Above this is typical alpine terrain with locally steep slopes on the south and southeast flanks of Banded Mountain. Bedrock exposure is nearly continuous at higher elevations and in some of the major drainages, most notably the canyon between the South Flat and White glaciers in the western property area (Figure 4).

#### **Regional Geological Setting**

The BAND property, situated near the boundary between the Intermontane and Coast Plutonic tectonic belts, is principally underlain by Upper Jurassic clastic sediments characteristic of the southwestern margin of the Bowser Basin.

According to Greig et al(1994), both these late Jurassic and older intravolcanic clastic sequences form a less competent structural cover to a more massive basement complex which is exposed in structural culminations and consists of lower to middle Jurassic (Hazelton Group) volcanic and volcanoclastic rocks. These and older (late Triassic) rocks underlie much of the area within and adjacent to the Cambria Icefield.

Hazelton Group stratigraphy is complex. Older units (Lower Jurassic) overlie late Triassic basalt flows and fragmental rocks and include maroon to dark green andesitic pyroclastic and epiclastic sequences which are gradational upward to more felsic volcanoclastic units, some of which may be of Middle Jurassic age.

Layered rocks are cut by a variety of intrusions ranging in age from mid-Jurassic to early Tertiary. The older intrusions are represented by small plutons and related dykes and sills of porphyritic granodiorite, the best example of which is the Goldslide pluton proximal to the Red Mountain gold deposit (Greig et al, 1994). The most widespread of the younger (Eocene) intrusions include those comprising the eastern margin of the Coast Plutonic Complex and a number of small, satellitic granodiorite to quartz monzonite porphyry plutons. Basic dykes and sills are widespread throughout the general area.

The general structural trend is north-northwest, parallel to the Coast Plutonic Complex contact and the southwestern margin of the Bowser Basin. Two structural domains are separated by a major north-northeast fault through the centre of the Cambria Icefield (Greig et al, 1994). Southeast of this fault, southwest-verging structures are prevalent and polyphase folding of the Upper

Jurassic clastic "cover" rocks is evident.

The BAND property is midway between the Stewart and Alice Arm mineral districts. Major past producing mines of the region include the Premier and Big Missouri gold-silver deposits, Dolly Varden and Torbrit silver deposits, Granduc massive sulphide deposits and the Kitsault porphyry molybdenum deposit south of Alice Arm.

The Red Mountain gold property, now owned by Barrick Gold Corp. and situated 23 km northwest of the BAND claims, includes at least four en-echelon northwest trending zones of semi-massive sulphides. These are hosted by Hazelton Group felsic and pyritic volcanic rocks marginal to the middle Jurassic Goldslide granodiorite pluton which was investigated for molybdenum mineralization in the 1960's.

Published reserves for the Red Mountain gold deposits total 2.5 million tonnes grading 12.69 g/t (0.37 oz/ton) gold. A resource of between 2 and 3 million ounces gold has been estimated for the Red Mountain property.

#### **Property Geology and Mineralization**

The BAND property is mainly underlain by Upper Jurassic sediments which include dark grey to black, well-bedded mudstones and siltstones and subordinate greywackes. These overlie and are in thrust fault contact with undivided

(Greig et al,1994) Hazelton Group volcanic rocks in the extreme southwest and northern parts of the property (Figure 4).

Field inspection in the southwestern property area in 1994 indicates these to be felsic fragmental rocks containing abundant pyrite, suggesting that this sequence may be near the upper part of the Hazelton Group.

The more sidespread Upper Jurassic sediments are intensely folded about west-northwest axes. A recumbent syncline underlies the summit of Banded Mountain (Figure 4) with a west-northwest striking, moderately north-dipping homoclinal sequence underlying the southern slopes. That part of the sedimentary sequence immediately overlying the older volcanic rocks between South Flat and White glaciers (Figure 4) is highly contorted (Figure 4).

The sedimentary sequence on the south slope of Banded Mountain is cut by a 1.3 x 0.5 km granitic stock, elongate in a west-northwest direction and along the trace of the thrust fault separating Hazelton Group volcanics and the Upper Jurassic sediments to the northwest (Figure 4).

Several intrusive phases are evident within the stock which weathers to a distinctive orange to reddish-brown colour in marked contrast to the enclosing sediments which are variably hornfelsed. The western part of the intrusion is



comprised mainly of equigranular to seriate-textured, light to dark grey granodiorite to quartz diorite containing occasional oval 6 - 10 cm, partially resorbed, xenoliths of country rock. The eastern part of the stock features more leucocratic, sub-porphyrific quartz monzonite. Younger, 0.5 to 3 metres wide aplite dykes are ubiquitous but are most prevalent in the eastern stock area where they occur as northeast and northwest trending dyke swarms.

The originally assumed Tertiary (Eocene) age for this intrusion is in some doubt. Aplite dykes and sills, associated with this intrusive event, are numerous in the southwestern property area where they are folded and boudinaged within the Upper Jurassic sedimentary sequence. The Banded Mountain granitic stock, like the Goldslide intrusion near Red Mountain which was also initially assumed to be Tertiary, may be of Jurassic age.

Several stages of quartz veining and contained sulphide mineralization are evident within and adjacent to the intrusion. Early barren veins are present within hornfelsed sediments marginal to the contact. Two stages of quartz-molybdenite veining, particularly evident in the eastern, and more leucocratic part of the stock, include 1 cm wide veinlets with sericite-molybdenite selvages and later, 10 cm wide veins containing disseminated and selvage molybdenite.

Molybdenite was also noted coating dry fractures within the intrusion (Livingstone,1980).

The apparently youngest stage of quartz veining is represented by northeast-striking, moderately west-dipping 0.10 to 0.40 metre wide polymetallic veins containing appreciable pyrite, arsenopyrite, galena and sphalerite which are best developed in the northwestern part of the intrusion where they are hosted by more dioritic phases.

Previous limited bedrock and soil sampling reflects the above noted mineralization within the stock. Samples from the more leucocratic phases yielded Mo values exceeding 150 ppm from soils and +250 ppm (uo to 4710 ppm) from rocks. Higher Cu (+150 ppm) and Zn (+80 ppm) were noted in soils from the western stock area (Livingstone,1981).

Initial indications of mineralization were detected by stream sediment samples from drainages on the southern slopes of Banded Mountain which contained anomalous Mo concentrations (Ney,1966). Reconnaissance stream sediment sampling of map-area 103P by the Provincial Government in 1978 included three samples within the the boundaries of the present BAND property. Locations of these are shown on Figure 4 and significant results (in ppm) are as follows:

<u>Sample No.</u>	<u>Zn</u>	<u>Cu</u>	<u>Pb</u>	<u>Ag</u>	<u>As</u>	<u>Mo</u>	<u>W</u>
787139	110	34	13	0.1	25	1	1
787140	122	40	20	0.1	55	1	1
787143	138	42	13	0.2	44	19	30

Note: no analyses for Au available; Mo and W values in sample 787143 (from drainage originating in the central part of the granite stock) are above the 99th percentile of all samples collected within map-area 103P, As values are plus the 90th percentile.

Limited previous bedrock sampling by Bond Gold Canada (Vogt and Bray, 1991) near the summit of Banded Mountain and within and adjacent to the granite intrusion indicated anomalous gold values. These included five samples of polymetallic quartz veins (semi-massive pyrite, arsenopyrite, galena and sphalerite) collected in the northwestern part of the intrusion which returned significant results as follows:

<u>Sample No.</u>	<u>Au(grams/tonne)</u>
11213	2.05
11215	1.40
11216	1.50
11220	5.71
11237	3.40

#### 1994 GEOCHEMICAL SAMPLING

Geochemical sampling, carried out between September 19 and 22, 1994, included the collection of 10 stream sediments and 14 rock samples. All samples were submitted to Min-En Laboratories in Smithers for sample preparation and subsequent analyses in North Vancouver for 31 elements by inductively coupled argon plasma (ICP) techniques. Gold was

determined on 15 gram splits of all amples by atomic absorption. Complete analytical results are included as Appendix I; sample locations are shown on Figure 4.

### Stream Sediment Sampling

Stream sediment samples were collected from five streams on the southern slopes of the property with two or more samples being collected from four of these drainages (Figure 4). Samples were collected in gusseted kraft paper bags and partially air dried prior to submission to the sample prep lab in Smithers. Partial results are tabulated below and complete analytical results are contained in Appendix I.

<u>Sample</u>	<u>Au(ppb)</u>	<u>Ag(ppm)</u>	<u>Mo(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>
BAND 94-1*	2442	0.1	5	23	127
BAND 94-2*	17	0.6	18	45	122
BAND 94-3*	21	0.3	2	47	154
BAND 94-4*	8	0.1	2	27	115
BAND 94-5	3	0.2	1	21	56
BAND 94-6	3	0.3	2	18	67
BAND 94-7	4	0.3	1	20	63
BAND 94-8	6	0.1	3	42	101
BAND 94-9	17	0.1	4	39	172
BAND 94-10	35	1.1	17	55	151

\* Partially panned concentrate.

Locations of all samples were determined with precision by use of a Garmin Global Positioning System mounted in the helicopter used to access the various sites.

With the exception of BAND 94-1, which was collected

from a small, gently flowing tributary creek near the claims Legal Corner Post (Figure 4), all samples were collected from rapidly flowing streams which were at or near the yearly high water mark. This necessitated the collection of coarser material in several instances; extremely high rainfall in September of 1994 undoubtedly resulted in the flushing out of the finer silt resulting in lower trace metal values than anticipated. For example, strongly anomalous arsenic values indicated by previous Government sampling were not duplicated during the recent program.

#### **Bedrock Sampling**

Samples were collected from two principal areas of the property, locations of which were determined by GPS. All were grab or character samples and consisted of 1 - 2 kg of material placed in plastic samples bags. Sample locations are shown on Figure 4 and complete analyses are contained in Appendix I.

Five samples (60376 - 60380 inclusive - Figure 4), from the area previously sampled by Bond Gold Canada (Vogt and Bray, 1991), were collected from 0.10 to 0.40 metre wide polymetallic quartz veins hosted by granodiorite and exposed over a 60 metre accessible section in a creek. These veins contain semi-massive pyrite, arsenopyrite, galena and sphalerite. A sixth sample (60389) of similar vein material

was collected from 4+50W on the magnetometer line 200 metres to the southeast (Figure 4). Partial results (in ppm except for Au in ppb) are as follows:

<u>Sample No.</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Zn</u>	<u>Mo</u>	<u>As</u>	<u>Sb</u>
60376	1005	7.8	270	>10000	2	>10000	24
60377	543	9.2	387	2149	9	8546	23
60378	1515	63.2	6104	>10000	190	>10000	129
60379	4860	132.3	2609	>10000	142	>10000	106
60380	1065	156.2	2722	1779	23	>10000	71
60389	274	22.8	1120	157	2	8957	42

Gold results, previously reported by Bond Gold Canada (Vogt and Bray, 1991), have been confirmed by 1994 sampling which also indicates the presence of fair silver values.

Additional bedrock sampling was conducted in the southwestern property area where a window of Hazelton Group volcanic rocks is exposed immediately below highly contorted and iron-stained Upper Jurassic sediments (Figure 4).

These fragmental volcanic rocks are felsic in composition and include lapilli to breccia size fragments. Disseminated to streaky pyrite is widespread and some barite stringers were noted. Six grab samples (60381 - 60386 inclusive) of these rocks were collected over a distance of 200 metres immediately west of the drainage between the South Flat and White glaciers (Figure 4). Sample 60387 is a float sample of black siltstone containing wispy bands of fine-grained pyrite and other sulphide minerals; 60388 was from felsic volcanics containing pyrite bands and some barite.

Partial results (values in ppm except for Au which is in ppb) of rock samples collected in the southwestern property area are as follows:

<u>Sample No.</u>	<u>Au</u>	<u>Ag</u>	<u>Mo</u>	<u>Pb</u>	<u>Zn</u>	<u>As</u>	<u>Sb</u>
60381	1	0.1	6	24	45	332	55
60382	11	0.1	77	34	125	458	22
60383	1	0.1	3	35	61	1	20
60384	7	0.1	3	50	68	932	38
60385	6	0.1	4	34	75	1	26
60386	6	0.1	21	223	1019	674	137
60387	13	0.6	5	62	137	1	29
60388	10	0.1	1	46	44	648	60

The geological setting of this part of the property, coupled with the foregoing results, suggests the potential for an Eskay Creek polymetallic environment.

#### MAGNETOMETER SURVEY

One trial magnetometer line was completed across the northern granitic stock contact (Figure 4). Instrument used was a GEM Systems GSM-19 portable, high sensitivity proton magnetometer incorporating an "Overhauser Effect" designed to enhance standard magnetic field measurements. Instrument specifications are included in Appendix II.

The trial line was run on an azimuth of 235° with readings taken at 25 metre spacings. Readings of magnetic susceptibility, corrected for diurnal variation by comparison with a base station instrument, are presented in profile form on Figure 5.

# Banded Mountain

Band 1-4 Claims

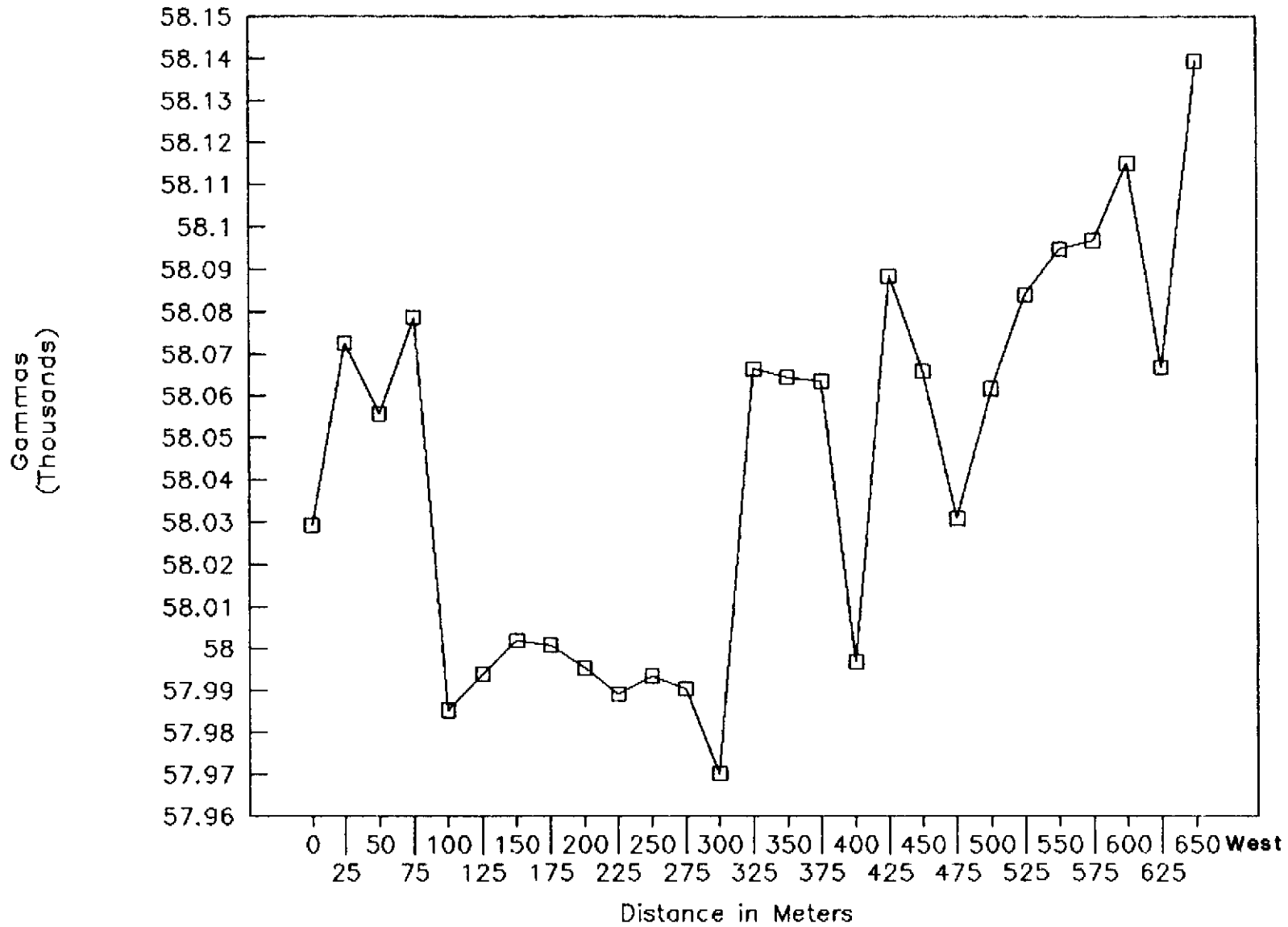


FIGURE 5 - PROFILE - Trial Magnetometer Line



Results obtained illustrate the higher magnetic susceptibility of the granitic rocks when compared to the surrounding sedimentary sequence.

#### CONCLUSIONS AND RECOMMENDATIONS

Work to date on the BAND 1 - 4 mineral claims indicates the presence of two mineralized environments. The demonstrated potential within and adjacent to the granitic stock for both gold and molybdenum mineralization has been confirmed by 1994 work. The previously unrecognized erosional window exposing pyritic felsic fragmental rocks in the southwestern property area constitutes a second target area which has the potential for Eskay Creek type mineralization.

Additional work is warranted and should include geological mapping of the entire property area with particular emphasis directed to defining the granitic stock contacts and the nature of the contact area between Hazelton Group volcanic rocks and the overlying sedimentary sequence in the southwestern and northern parts of the property. Detailed stream sediment geochemistry should be carried out during low water periods of mid-summer. Further bedrock sampling is recommended to determine the extent of gold-bearing quartz veins in the western part of the granitic stock and to further assess the felsic volcanic units.

## REFERENCES

- Greig, C.J., Anderson, R.G., Daubeny, P.H., Bull, K.F. and Hinderman, T.K. (1994): Geology of the Cambria Icefield: regional setting for Red Mountain gold deposit, northwestern British Columbia, in Current Research 1994A; Geological Survey of Canada, p.45-56.
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- \_\_\_\_\_ (1981): Geochemical Survey-Report on Easter Property, BCMEMPR Assessment Report 9635
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- Vogt, Andreas H. and Bray, Adrian D. (1991): Geological, Geophysical and Geochemical Exploration Program on the Bria-Wotan Property, Skeena Mining Division, BCMEMPR Assessment Report 21304

## STATEMENT OF QUALIFICATIONS

Lorne B. Warren

- 1963 - Geological Assistant - Mastodon Highland Bell Mines Ltd. - Dome Mtn. Area - Smithers
- 1964 - Geological Assistant - Phelps Dodge Corp. - Stikine
- 1965 - Prospector and geological assistant - Native Mines Ltd. - Bridge River area
- 1966-1971 - Field technician and line cutter-pro prospector - Manex Mining Ltd. - Smithers area
- 1971-1979 - Field supervisor - Granby Mining Corp. - Smithers
- 1979 - Present - President of CJL Enterprises Ltd., Kengold Mines Ltd. and Angel Jade Mine Ltd. - prospecting and contract mining services

Chris Warren

- 1990 - completed Smithers Bush Skills course; geological assistant at Duckling Creek
- 1991 - assisted in Bush Skills course; line cutting at Johanson Lake
- 1992 - Contract claim staking
- 1993 - Loader operator at placer operation, contract claim staking
- 1994 - Placer testing, Manson Creek area, magnetometer surveys, prospector's assistant

**AUTHOR'S QUALIFICATIONS**

I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist, registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966.
2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).
3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 25 years.
4. Geological comments of the BAND property are based on my personal observations and the geochemical sampling and magnetometer survey, described in the foregoing report, were completed under my supervision.

N.C. Carter, Ph.D. P.Eng.

Victoria, B.C.  
December 28, 1994

**APPENDIX I**  
**Analytical Results**









COMP: N C CARTER  
 PROJ: BAND MAST SAD TIME  
 ATTN: N.C. Carter

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0283-RJ1  
 DATE: 94/10/06  
 \* rock \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SH PPM	W PPM	CR PPM	Au-Fire PPB
60381	.1	.69	332	1	74	2.9	9	2.22	.1	27	18	12.01	.15	19	1.10	1105	6	.02	59	1100	24	55	643	1	.01	62.0	45	1	1	4	40	1
60382	.1	.34	458	3	65	2.3	8	.55	.1	7	21	9.20	.26	6	.29	235	77	.04	63	1080	34	22	158	3	.01	22.6	125	1	2	6	125	11
60383	.1	.66	1	1	94	1.6	7	2.39	.1	9	26	4.28	.15	18	1.09	1110	3	.03	19	1840	35	20	390	1	.01	104.7	61	2	1	5	35	1
60384	.1	.31	932	1	70	1.4	7	2.82	.1	16	17	3.14	.28	3	.52	3051	3	.02	18	1620	50	38	553	2	.01	19.8	68	1	1	3	22	7
60385	.1	.87	1	1	197	1.9	8	1.82	.1	11	21	4.68	.52	19	1.14	887	4	.02	20	1830	34	26	295	2	.01	75.7	75	3	1	4	18	6
60386	.1	.09	674	1	54	.8	7	9.66	.1	3	7	2.22	.09	1	.11	3051	21	.01	18	250	223	137	578	1	.01	9.3	1019	1	1	5	91	6
60387	.6	1.14	1	18	91	2.6	9	1.06	.1	13	76	6.56	.52	27	1.26	601	5	.02	124	5420	62	29	578	5	.01	61.1	137	4	1	7	82	13
60388	.1	.54	648	1	54	3.1	10	3.35	.1	20	56	>15.00	.08	17	.96	1457	1	.02	61	700	46	60	837	1	.01	57.6	44	1	1	3	38	10
60389	22.8	.28	8957	1	63	1.1	17	.29	>100.0	3	26	3.41	.41	1	.07	54	2	.01	11	1650	1120	42	52	5	.01	10.3	157	1	1	5	91	274

**APPENDIX II**  
**Magnetometer Specifications**

# GEM

Systems

ADVANCED MAGNETOMETERS

# GSM-19

## Instruction Manual

Release 4.0



### GEM Systems Inc.

52 West Beaver Creek Rd. Unit 14  
Richmond Hill, Ontario  
Canada L4B 1L9

Phone: (905) 764-8008

Fax: (905) ~~746~~-9329

*feil*

*terraplus*

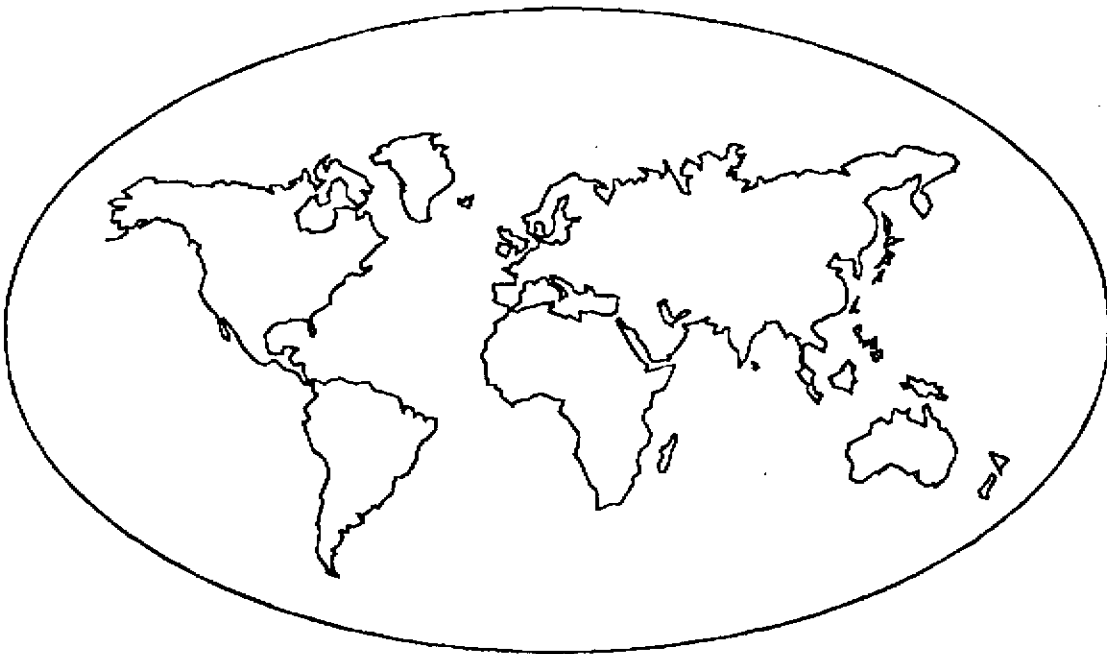
**TERRAPLUS INC.,**  
52 West Beaver Creek Road,  
Unit 14,  
Richmond Hill, Ontario  
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Telephone: (905) 764-5505  
Fax: (905) 764-9329



# GSM-19

## *OVERHAUSER MEMORY MAGNETOMETER Instruction Manual*



GEM SYSTEMS INC.  
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Telex : 06-964749

*Updated : May 28, 1991.*

*terraplus*

**TERRAPLUS INC.,**  
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# 1. THEORETICAL DESCRIPTION

## 1.1 - Introduction

The GSM-19 is a portable high sensitivity Overhauser effect\* magnetometer/gradiometer designed for hand-held or base station use for geophysical, geotechnical, or archaeological exploration, long term magnetic field monitoring at Magnetic Observatories, volcanological and seismic research, etc. The GSM-19 is a secondary standard for measurement of the Earth's magnetic field, having 0.01 nT resolution, and 0.2nT absolute accuracy over its full temperature range.

The GSM-19 is a microprocessor based instrument with storing capabilities. Large memory storage is available (up to 0.5 Mbyte). Synchronized operation between hand held and base station units is possible, and the corrections for diurnal variations of magnetic field are done automatically. The results of measurement are made available in serial form (RS-232-C interface) for collection by data acquisition systems, terminals or computers. Both on-line and post-operation transfers are possible.

The measurement of two magnetic fields for determination of gradient is done concurrently with strict control of measuring intervals. The result is a high quality gradient, independent of diurnal variations of magnetic field.

Optionally the addition of a VLF sensor for combined magnetometer/gradiometer-VLF measurement is available.

## 1.2 - Magnetic Field Measurement

The magnetic field measuring process consists of the following steps:

---

### \* OVERHAUSER EFFECT

*In contrast to a standard proton magnetometer sensor, where only a proton rich liquid is required to produce a precession signal, the Overhauser Effect sensor must also have a free radical added to the liquid. This free radical ensures the presence of free, unbound electrons that couple with protons producing a two-spin system. A strong RF magnetic field is used to disturb the electron-proton coupling. By saturating free electron resonance lines the polarization of protons in the sensor liquid is greatly increased. The Overhauser effect offers a more powerful method of proton polarization than the standard DC polarization, i.e., stronger signals are achieved from smaller sensors and with less power.*

a) **Polarization\***. An RF current is passed through the sensor creating polarization of a proton-rich fluid in the sensor.

b) **Deflection**. A short pulse deflects the proton magnetization into plane of precession.

c) **Pause**. The pause allows the electrical transients to die off, leaving a slowly decaying proton precession signal above the noise level.

d) **Counting**. The proton Precession frequency is measured and converted into magnetic field units.

e) **Storage**. The results are stored in memory together with date, time, and coordinates of measurement. In base station mode, only the time and total field are stored.

### 1.3 - Earth's Magnetic Field

**Appendix 2** shows the nominal distribution of the Earth's magnetic field, with dotted lines separating the equatorial and polar regions. In polar regions the inclination of the magnetic field vector is approximately vertical, while in equatorial regions it is horizontal. To obtain the best precession signal the sensor must be aligned with the magnetic field. **In polar regions the sensor axis must be horizontal, in equatorial vertical.** Horizontal orientation of the sensor can be universal if the operator keeps the sensor oriented in an East-West direction (important only in equatorial regions).

Initially, the tuning of the instrument should agree with the nominal value of the magnetic field shown for the particular region in **Appendix 2**. After each reading the instrument will tune itself automatically. If large changes of the magnetic field are encountered between successive readings, a warning will be given to the operator and it may be necessary to repeat the reading to obtain an accurate result.

Local ferromagnetic objects like screws, pocket knives, wristwatches, and tools etc. may impair the quality of measurement or in drastic cases even destroy the proton precession signal by creating excessive gradients. For best results, **ferromagnetic objects should be kept away from the sensor.** In normal applications, the magnetometer console does not produce appreciable effects on measurements provided that the sensor is installed on the staff and kept at least at arms length from the operator and the console.

---

\*Polarization can be concurrent with other intervals of measurement; in this case a "fast" operation is achieved. This is an optional feature of the GSM-19 F fast magnetometer.

## 2. INSTRUMENT SPECIFICATIONS

### 2.1 Magnetometer/Gradiometer

<b>Resolution:</b>	0.01 nT (gamma), magnetic field and gradient
<b>Accuracy:</b>	0.2 nT over operating range
<b>Range:</b>	18,000 to 150,000 nT, 80 overlapping steps automatic tuning, requiring initial set-up.
<b>Gradient Tolerance:</b>	Over 10,000 nT/meter
<b>Operating interval:</b>	3 seconds minimum, faster optional. Readings initiated by keyboard depression, external trigger or F, or carriage return via RS-232-C.
<b>Input/Output:</b>	6 pin weatherproof connector, RS-232C, and (optional) analog output.
<b>Power Requirements:</b>	12v 200 mA peak (during polarization), 30 mA standby. 400mA peak in gradiometer mode.
<b>Power Source:</b>	Internal 12v, 1.9 Ah sealed lead-acid battery standard, others optional. An External 12V power source can also be used.
<b>Battery Charger:</b>	<b>Input:</b> 110/220 VAC, 50/60 Hz and/or 12VDC (optional). <b>Output:</b> 12V dual level charging.
<b>Operating Ranges:</b>	<b>Temperature:</b> -40 °C to +60 °C. <b>Battery Voltage:</b> 10.0 V minimum to 15V maximum. <b>Humidity:</b> up to 90% relative, non condensing.
<b>Storage Temperature:</b>	-50°C to +65°C
<b>Dimensions:</b>	<b>Console:</b> 223 x 69 x 240mm <b>Sensor staff:</b> 4 x 450mm sections <b>Sensor:</b> 170 x 71mm dia <b>Weight:</b> Console 2.1kg, Staff 0.9kg, Sensors 1.1kg each.

### 3. INSTRUMENT DESCRIPTION

The parts of the GSM-19 magnetometer/gradiometer are as follows.

- The sensor is a dual coil type designed to reduce noise and improve gradient tolerance. The coils are electrostatically shielded and contain a proton rich liquid in a pyrex bottle-RF resonator.
- The sensor cable is coaxial, typically RG-58/U, up to 100m long.
- The staff is made of strong aluminum tubing sections (plastic staff optional). This construction allows for a selection of sensor elevations above ground during surveys. For best precision the full staff length should be used. Recommended sensor separation in gradiometer mode is one staff section (56cm), although two or more sections are sometimes used for maximum sensitivity.
- The console contains all the electronic circuits. It has a 16 key keyboard and a 4 x 20 character alphanumeric display, and sensor and power/input/output connectors. The keyboard also serves as an ON-OFF switch.
- The power/input/output connector also serves as an RS232C input/output and optionally as an analog output and/or contact closure triggering input.
- All connectors, the keyboard and front panel mounting screws are sealed i. e. **the instrument can operate under rainy conditions.**
- The charger has 2 levels of charging, full and trickle, switching automatically from one to another. Input is normally 110V 50/60Hz. Optionally, 12VDC input can be provided.
- The all-metal housing of the console guarantees excellent EMI protection.



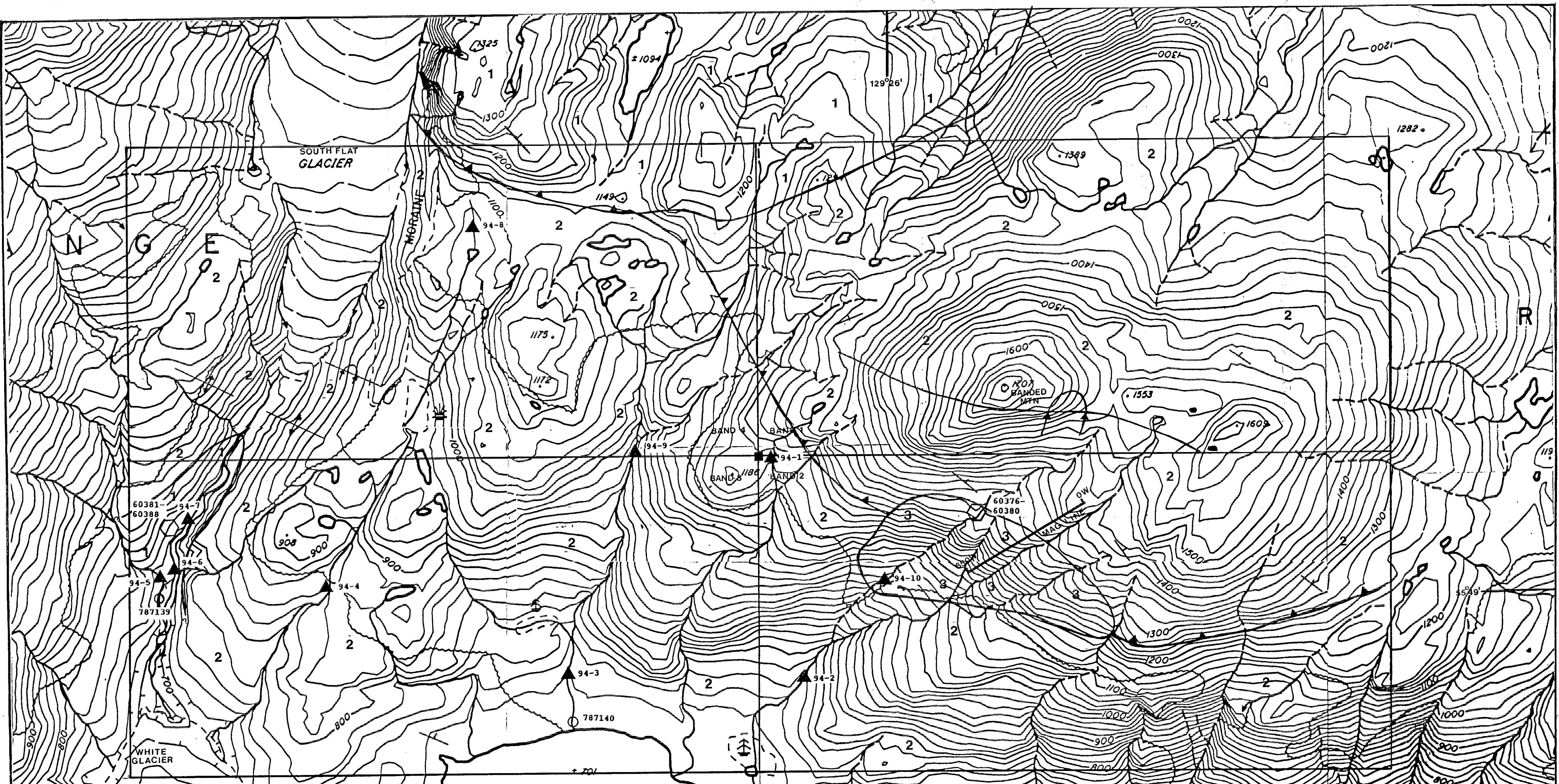


FIGURE 4  
BAND PROPERTY  
GEOLOGY AND SAMPLE LOCATIONS

- 3 Granodiorite, Aplite
- 2 Sediments
- 1 Volcanics

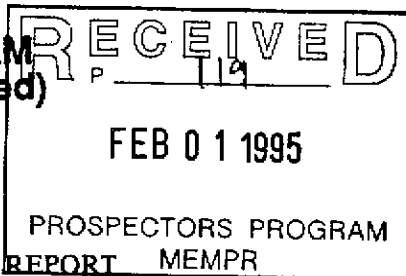
- Rock Samples
- Stream Sediment Samples

RECEIVED  
FEB 01 1995  
PROSPECTORS PROGRAM  
MEMPR

0 500 metres

(Geology after Greig et al 1994; Vogt & Bray 1991)

BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)



**B. TECHNICAL REPORT**

- One technical report to be completed for each project area
- Refer to Program Requirements/Regulations, section 15, 16 and 17
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95 P119

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) TIME-STEWART Minfile No. if applicable 103 P/108, 109

Location of Project Area NTS 103 P/12E Lat 55°42' Long 129°39'

Description of Location and Access Midway between head of Hastings  
Arm and upper Kitsoakt River - access by helicopter

Main Commodities Searched For Au, Ag (Cu Pb Zn)

Known Mineral Occurrences in Project Area Several polymetallic veins  
within and adjacent to claims.

**WORK PERFORMED**

1. Conventional Prospecting (area) \_\_\_\_\_
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) 5 rocks, 9 silt - ICP + Au
4. Geophysical (type and line km) \_\_\_\_\_
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) \_\_\_\_\_

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_

Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_

Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies \_\_\_\_\_

See attached

Supporting data must be submitted with this TECHNICAL REPORT.

## TIME PROPERTY

### Stewart Area

Locations of 9 stream sediment samples are shown on the property diagram contained in the accompanying summary report. Four rock samples were collected at or near stream sediment sample sites as indicated; one was from showing area 1 indicated on the property diagram.

Significant results are summarized as follows:

#### Stream Sediment Samples

<u>Sample No.</u>	<u>Au(ppb)</u>	<u>Ag(ppm)</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>
TIME 94-1	66	1.5	256	95	790
TIME 94-2	39	2.0	144	60	606
TIME 94-3	47	0.6	111	37	152
TIME 94-4	11	0.8	107	32	253
TIME 94-5	22	1.3	109	32	232
TIME 94-6	152	2.9	105	124	319
TIME 94-7	22	0.1	58	107	686
TIME 94-8	14	0.7	75	30	121
TIME 94-9	57	1.0	97	32	147

These results confirm earlier ones; a comparison with previous Provincial Government sampling (RGS-2,1978) indicates that most Ag values above are +98th percentile of all samples collected, as are higher Cu, Pb and Zn values. No results for Au are available for RGS-2.

#### Rock Samples

<u>Sample No.</u>	<u>Location</u>	<u>Au(ppb)</u>	<u>Ag(ppm)</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>
60396	TIME 94-1	71	3.6	89	193	299
60397	Showing	394	6.4	76	457	239
60398	TIME 94-2	35	47.8	216	437	499
60399	TIME 94-3	19	3.4	90	98	97
60400	TIME 94-9	4	1.2	81	104	378

COMP: N C CARTER  
 PROJ: BAND MAST SAD TIME  
 ATTN: N.C. Carter

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0283-LJ1  
 DATE: 94/10/06  
 \* silt \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
BAND 94-5	.2	.47	1	1	46	.9	5	.88	.1	7	25	2.77	.05	22	.85	534	1	.01	39	870	21	7	106	1	.06	49.3	56	1	1	3	24	3
BAND 94-6	.3	.56	1	1	59	1.0	7	.89	.1	8	29	3.32	.07	25	.98	668	2	.01	42	950	18	9	107	2	.07	63.5	67	3	1	4	28	3
BAND 94-7	.3	.53	1	1	66	1.1	6	.82	.1	8	30	3.20	.06	24	.94	676	1	.01	41	880	20	9	98	2	.06	59.8	63	3	1	4	27	4
BAND 94-8	.1	.85	1	1	74	1.4	5	.22	.1	11	48	3.54	.10	29	.64	1150	3	.01	49	1380	42	13	62	1	.03	45.8	101	1	1	4	27	6
BAND 94-9	.1	.91	1	1	87	1.9	6	.36	.1	18	66	4.60	.08	37	1.27	2661	4	.01	139	1210	39	14	105	1	.01	39.4	172	1	2	5	49	17
BAND 94-10	1.1	.84	1	1	119	1.5	14	.70	.1	14	68	5.81	.14	31	1.57	1046	17	.01	33	2470	55	13	128	3	.13	159.1	151	1	1	10	45	35
TIME 94-1	1.5	.92	1	1	101	2.1	8	.40	.1	19	256	6.36	.04	25	1.65	2879	24	.01	163	1810	95	29	66	1	.03	188.1	790	1	2	8	61	66
TIME 94-2	2.0	.74	1	1	87	2.0	7	.40	.1	12	144	4.96	.04	25	1.68	1488	19	.01	113	1340	60	23	56	1	.04	188.3	606	1	2	8	59	39
TIME 94-3	.6	.78	1	1	224	1.5	7	.63	.1	14	111	5.15	.08	25	1.53	959	4	.01	53	1630	37	16	82	1	.05	103.0	152	1	1	5	32	47
TIME 94-4	.8	.77	1	1	152	1.2	7	.55	.1	9	107	3.73	.27	22	1.10	869	8	.05	55	1100	32	14	72	1	.06	112.1	253	1	1	5	32	11
TIME 94-5	1.3	.79	1	1	144	1.4	7	.62	.1	9	109	4.18	.23	23	1.35	735	9	.04	59	1140	32	14	78	1	.06	124.0	232	2	1	6	37	22
TIME 94-6	2.9	.69	1	1	60	1.6	8	1.91	.1	12	105	5.36	.09	20	1.49	708	4	.01	64	1420	124	20	112	1	.07	84.0	319	1	1	5	27	152
TIME 94-7	.1	1.36	1	1	225	1.9	11	.78	.1	22	58	4.42	.07	23	.72	8496	12	.01	85	1570	107	23	111	1	.04	58.0	686	1	1	6	23	22
TIME 94-8	.7	.79	1	1	104	1.4	7	1.00	.1	11	75	4.13	.08	26	1.71	852	4	.01	44	1430	30	15	96	1	.05	107.4	121	3	1	5	29	14
TIME 94-9	1.0	.73	1	1	77	1.6	5	1.07	.1	12	97	4.52	.06	24	1.63	740	3	.01	48	1380	32	14	102	1	.05	101.0	147	1	1	4	28	57

TIME PROPERTY - STREAM SEDIMENT SAMPLES

COMP: N C CARTER  
 PROJ: BAND MAST SAD TIME  
 ATTN: N.C. Carter

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0283-RJ1  
 DATE: 94/10/06  
 \* rock \* (ACT:F31)

SAMPLE NUMBER	AG PPH	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
60381	.1	.69	332	1	74	2.9	9	2.22	.1	27	18	12.01	.15	19	1.10	1105	6	.02	59	1100	24	55	643	1	.01	62.0	45	1	1	4	40	1
60382	.1	.34	458	3	65	2.3	8	.55	.1	7	21	9.20	.26	6	.29	235	77	.04	63	1080	34	22	158	3	.01	22.6	125	1	2	6	125	11
60383	.1	.66	1	1	94	1.6	7	2.39	.1	9	26	4.28	.15	18	1.09	1110	3	.03	19	1840	35	20	390	1	.01	104.7	61	2	1	5	35	1
60384	.1	.31	932	1	70	1.4	7	2.82	.1	16	17	3.14	.28	3	.52	3051	3	.02	18	1620	50	38	553	2	.01	19.8	68	1	1	3	22	7
60385	.1	.87	1	1	197	1.9	8	1.82	.1	11	21	4.68	.52	19	1.14	887	4	.02	20	1830	34	26	295	2	.01	75.7	75	3	1	4	18	6
60386	.1	.09	674	1	54	.8	7	9.66	.1	3	7	2.22	.09	1	.11	3051	21	.01	18	250	223	137	578	1	.01	9.3	1019	1	1	5	91	6
60387	.6	1.14	1	18	91	2.6	9	1.06	.1	13	76	6.56	.52	27	1.26	601	5	.02	124	5420	62	29	578	5	.01	61.1	137	4	1	7	82	13
60388	.1	.54	648	1	54	3.1	10	3.35	.1	20	56	>15.00	.08	17	.96	1457	1	.02	61	700	46	60	837	1	.01	57.6	44	1	1	3	38	10
60389	22.8	.28	8957	1	63	1.1	17	.29	>100.0	3	26	3.41	.41	1	.07	54	2	.01	11	1650	1120	42	52	5	.01	10.3	157	1	1	5	91	274
60390	37.1	.23	283	1	47	.9	12	.09	.1	15	777	3.22	.25	3	.28	285	5	.01	14	290	8905	40	10	4	.01	15.4	1582	1	1	7	137	995
60391	>200.0	.08	462	33	7	.9	151	.02	>100.0	34	>10000	2.94	.03	2	.06	165	18	.01	21	450	>10000	610	38	3	.01	5.7	>10000	1	2	148	30	2665
60392	>200.0	.11	458	3	6	.8	203	.03	>100.0	20	>10000	2.40	.03	2	.10	133	21	.01	14	470	>10000	363	33	4	.01	11.9	>10000	3	2	83	67	229
60393	182.1	.43	288	79	15	1.6	47	.03	>100.0	37	6473	4.64	.10	14	.46	669	26	.01	27	570	>10000	66	57	3	.01	34.4	>10000	1	3	304	132	3440
60394	53.9	.57	94	1	4	1.9	16	.04	>100.0	26	1857	6.15	.01	10	.71	947	8	.01	24	190	>10000	44	24	2	.01	36.0	>10000	1	3	3	105	73
60395	2.5	.20	52	1	14	.3	4	1.06	69.1	4	79	1.02	.10	4	.19	893	8	.01	11	170	377	7	8	1	.01	14.2	4159	1	1	11	234	25
60396	3.6	.47	154	1	62	1.3	10	.22	.1	6	89	3.13	.11	13	1.24	233	5	.03	53	410	193	15	34	3	.09	79.0	299	9	1	12	189	71
60397	6.4	.81	1	1	47	1.4	5	.24	.1	5	76	2.51	.17	30	1.78	436	6	.02	28	860	457	25	39	3	.01	69.7	239	8	1	8	101	394
60398	47.8	.41	25	1	68	.8	7	.55	.1	7	216	1.90	.10	12	.83	470	6	.02	65	640	437	112	60	2	.03	88.3	499	4	1	12	197	35
60399	3.4	.67	1	1	103	.9	16	.60	.1	9	90	3.80	.11	14	1.10	238	5	.10	33	810	98	18	66	1	.19	85.8	97	6	1	9	117	19
60400	1.2	.87	1	1	247	1.7	6	1.35	.1	8	81	3.37	.24	22	1.51	818	5	.01	57	550	104	26	115	3	.01	47.3	378	7	1	6	61	4

\* TIME PROPERTY - ROCK SAMPLES

May 23, 1994

## TIME PROPERTY

Stewart Area  
Skeena Mining Division  
British Columbia

### Introduction

The TIME property includes a geological environment typical of the Stewart area which has demonstrated potential for precious and base metals mineralization.

Previous limited work in the area of the present claims has indicated several areas in which stream sediments contain highly anomalous precious and base metals values. Grab samples collected from two localities have yielded values of up to 45.6 g/t gold and 3160 g/t silver.

### Location and Access

The TIME property is situated west of the upper Kitsault River some 35 km southeast of Stewart. Lac's Red Mountain project is 30 km north on the opposite side of the Cambria Icefield.

Access to the TIME property is by helicopter.

### Mineral Property

The TIME property consists of two 4-post mineral claims in the Skeena Mining Division and owned by Richard T. Heard of 349 East 21 Street, North Vancouver, B.C. V7L 3B9. Details of the claims are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
TIME 1	324216	20	March 27, 1994
TIME 2	324217	20	March 27, 1994

### Regional Geological Setting

The TIME property is situated within Stikine terrane adjacent to the western margin of the Coast Plutonic Complex.

The property is within the prolific Stewart and Anyox - Alice Arm mineral districts. Major past producing mines of the region include the Premier and Big Missouri gold-silver deposits, Dolly Varden and Torbrit silver deposits, Granduc and Anyox massive sulphide deposits and Kitsault (BC Moly) porphyry molybdenum deposits.

The nearby Red Mountain gold property of Lac Minerals Ltd., 30 km north of the TIME claims, includes at least four en-echelon northwest trending zones of semi-massive sulphides hosted by Hazelton Group volcanic rocks marginal to a granodiorite stock which was previously investigated for molybdenum mineralization.

Published reserves prior to the 1993 field season were 2.8 million tons grading 0.37 opt gold. 1993 work, which included 100,000 ft. of surface diamond drilling and 2,000 ft. of underground decline and crosscutting, indicated a resource of between 2 and 3 million ounces gold which is being firmed up by a current \$14.5 million development program.

### Property Geology

The Time mineral claims cover a northwesterly trending sequence of Jurassic (Hazelton Group) fragmental volcanic rocks and clastic sediments which are in contact with granitic rocks of the Coast Plutonic Complex.

This area west of the upper Kitsault River (Dolly Varden, Torbrit mines) was subject to only cursory prospecting in the past due to its relatively remote location. Recent attention was directed to the area in response to highly anomalous stream sediments detected by a Government regional geochemical survey in 1979.

Stream sediment sampling in the early 1980's confirmed original Government results (which did not include analyses for gold) and indicated at least three different geochemical "domains" on the property. These include area "A" in the northern property area (see attached sketch map) where stream sediments yielded highly anomalous arsenic values and up to 3.5 ppm silver and 60 ppb gold. Area "B" returned higher base

metal values including up to 270 ppm copper, 170 ppm lead, 1500 ppm zinc, 4.7 ppm silver, 130 ppm barium and 15 - 75 ppb gold. Stream sediments in "C" drainage returned slightly lower base metal values (186 ppm copper, 60 ppm lead, 1300 zinc) and up to 4.1 ppm silver and 40 ppb gold. Samples from drainages adjacent to the sedimentary - volcanic contact in the eastern property area yielded enhanced base metal plus strongly anomalous barium values.

Limited prospecting within the TIME 2 claim detected quartz-sulphide float in area "2" (see sketch map) which returned assays of 1.8% lead, 3.3% zinc, 1.3 % arsenic, 850 g/t silver and 3.2 g/t gold. A 2 metre wide shear zone, exposed over a strike length of 50 metres in a small creek (Area "1" - see sketch map) includes quartz veins and stringers up to 30 cm in width. The quartz contains pyrite and blue-grey metallic minerals and sampling of the zone has returned values of 1.5 g/t gold and 35 g/t silver. A grab sample of nearby quartz float assayed 45.6 g/t gold and 3160 g/t silver. Significantly, no base metal values are associated with this zone.

Previous work on the property included an attempt to test the area "1" showing by three drill holes in mid winter by a party unfamiliar with the property and the precise location of the showing. It is extremely doubtful that these holes were even close to the zone.

The TIME property includes at least two mineralized environments; shear zones with gold-silver values and potential VMS or sedex base and precious metal mineralization in proximity to volcanic-sedimentary contacts which may be analogous to Eskay Creek.



130°15'

To Prince 5 miles

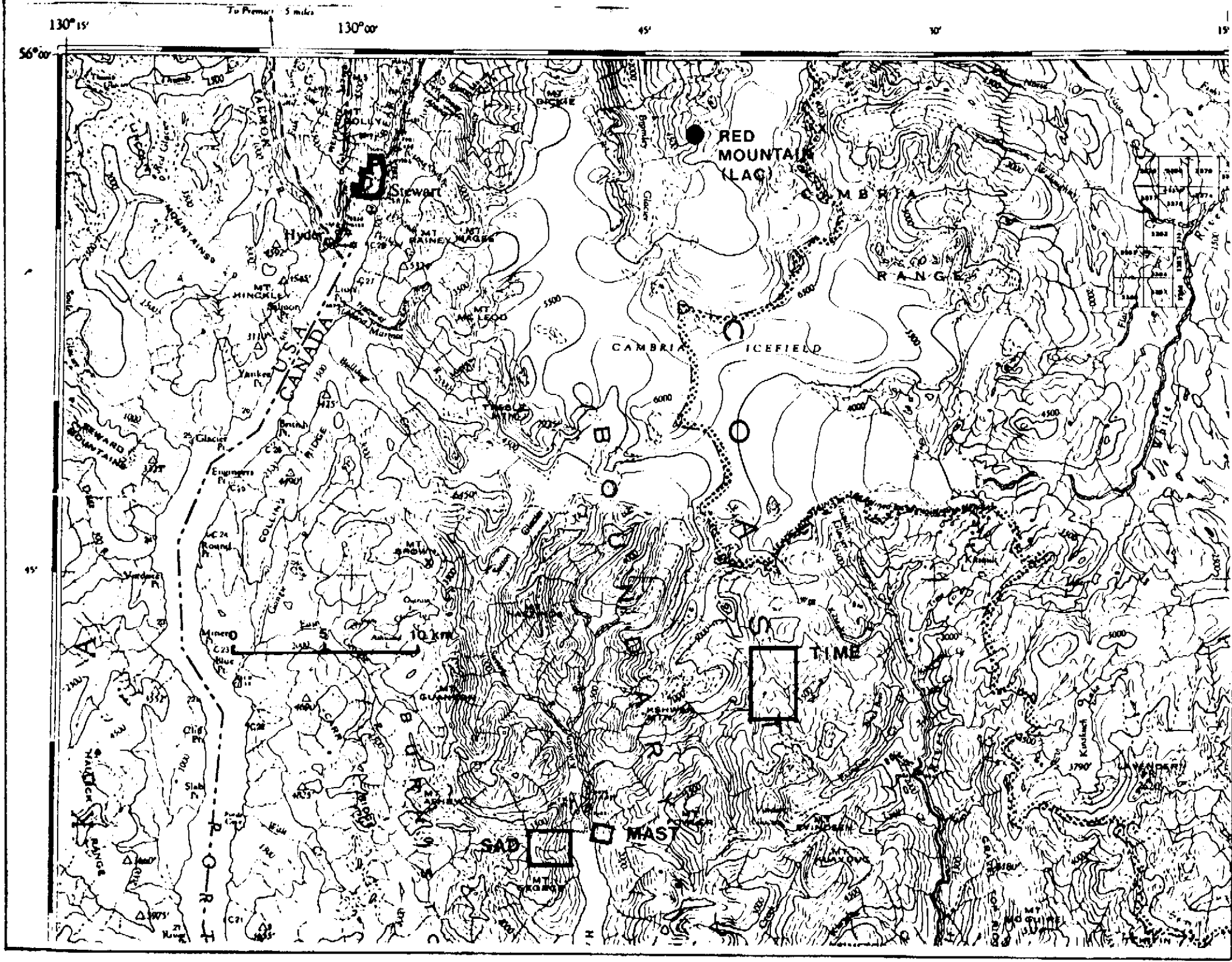
130°00'

45'

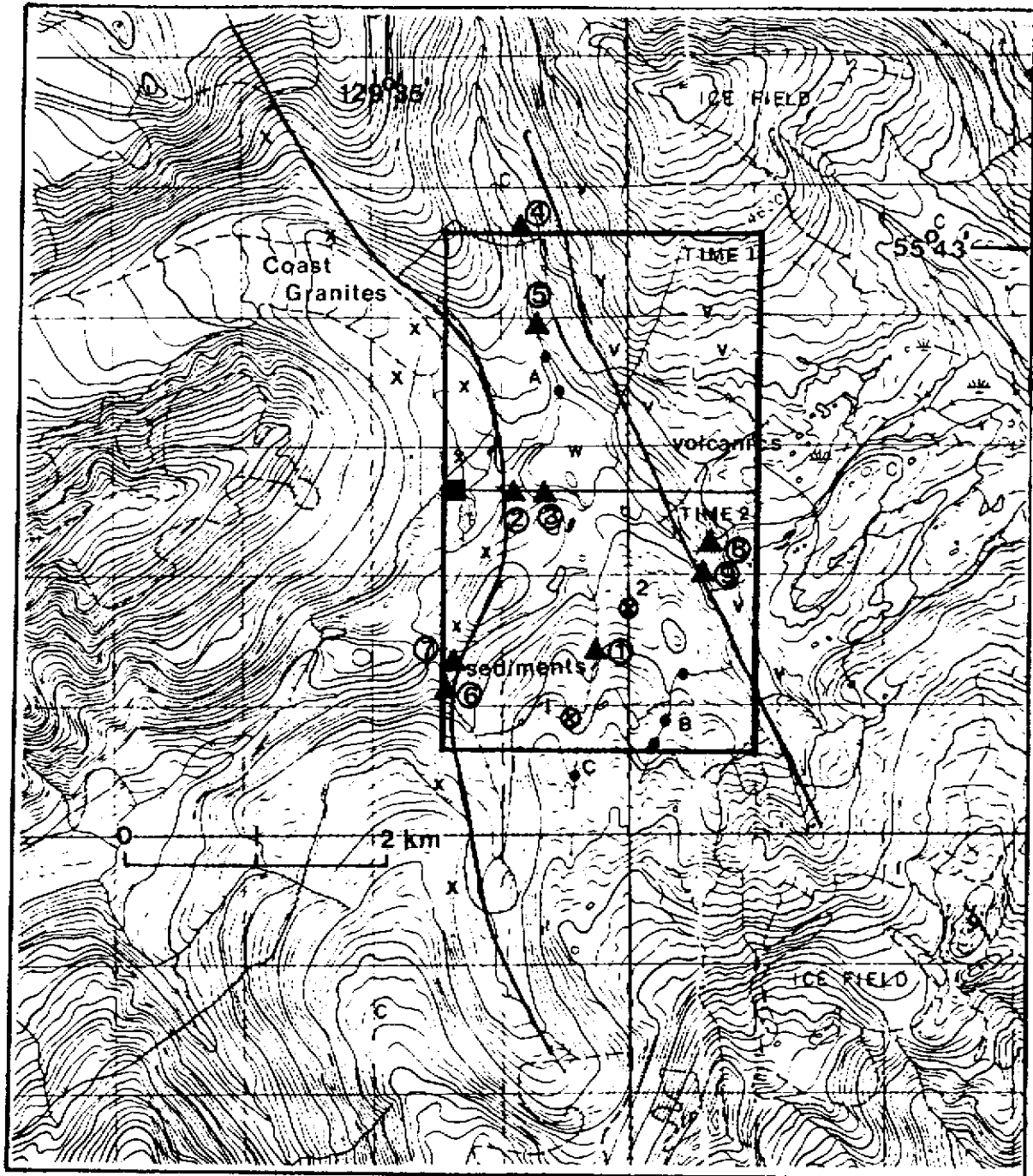
30'

15'

56°00'



130°00'	130°15'	130°30'	130°45'
56°00'	56°15'	56°30'	56°45'



TIME PROPERTY

▲ ⑤ 1995 STREAM SEDIMENT SAMPLES

**BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)**

**B. TECHNICAL REPORT**

- One technical report to be completed for each project area
- Refer to Program Requirements/Regulations, section 15, 16 and 17
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95 P119

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) SAD-Stewart Minfile No. if applicable 103P 012

Location of Project Area NTS 103P/12W Lat 55°37' Long 129°47'

Description of Location and Access On ridge west of head of Hastings  
Arm - access by helicopter

Main Commodities Searched For Au, Ag, Pb, Zn

Known Mineral Occurrences in Project Area Several polymetallic sulfide -  
quartz veins explored by old workings within claim

**WORK PERFORMED**

1. Conventional Prospecting (area) \_\_\_\_\_
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) 5 rocks - ICP + Au + 4 assays.
4. Geophysical (type and line km) \_\_\_\_\_
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) \_\_\_\_\_

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_

Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_

Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies \_\_\_\_\_

See attached.

Supporting data must be submitted with this TECHNICAL REPORT.

**SAD PROPERTY**

**Stewart Area**

Locations of four of five rock samples collected from the Saddle showings are shown on one of the diagrams accompanying the summary report, including one of dump material collected from an additional shallow shaft which was found during the property examination. Results are listed on the analytical sheet. Significant results are as follows:

<u>Sample No.</u>	<u>Width(m)</u>	<u>Au(ppb)</u>	<u>Ag(g/t)</u>	<u>Pb(%)</u>	<u>Zn(%)</u>
60391	1.5	2665	1022.0	57.20	9.46
60392	Grab	229	694.0	35.80	6.79
60393	0.3	3440	178.5	1.19	17.60
60394	0.4	73	64.3	1.82	3.14

An additional sample (60395) was collected from a 0.7 metre wide quartz vein exposed near the face of the 189 metre adit driven below the surface workings. The position of this adit is different from that indicated in previous assessment reports.

COMP: M C CARTER  
 PROJ: BAND MAST SAD TIME  
 ATTN: N.C. Carter

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0283-RJ1  
 DATE: 94/10/06  
 \* rock \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
60381	.1	.69	332	1	74	2.9	9	2.22	.1	27	18	12.01	.15	19	1.10	1105	6	.02	59	1100	24	55	643	1	.01	62.0	45	1	1	4	40	1
60382	.1	.34	458	3	65	2.3	8	.55	.1	7	21	9.20	.26	6	.29	235	77	.04	63	1080	34	22	158	3	.01	22.6	125	1	2	6	125	11
60383	.1	.66	1	1	94	1.6	7	2.39	.1	9	26	4.28	.15	18	1.09	1110	3	.03	19	1840	35	20	390	1	.01	104.7	61	2	1	5	35	1
60384	.1	.31	932	1	70	1.4	7	2.82	.1	16	17	3.14	.28	3	.52	3051	3	.02	18	1620	50	38	553	2	.01	19.8	68	1	1	3	22	7
60385	.1	.87	1	1	197	1.9	8	1.82	.1	11	21	4.68	.52	19	1.14	887	4	.02	20	1830	34	26	295	2	.01	75.7	75	3	1	4	18	6
60386	.1	.09	674	1	54	.8	7	9.66	.1	3	7	2.22	.09	1	.11	3051	21	.01	18	250	223	137	578	1	.01	9.3	1019	1	1	5	91	6
60387	.6	1.14	1	18	91	2.6	9	1.06	.1	13	76	6.56	.52	27	1.26	601	5	.02	124	5420	62	29	578	5	.01	61.1	137	4	1	7	82	13
60388	.1	.54	648	1	54	3.1	10	3.35	.1	20	56	>15.00	.08	17	.96	1457	1	.02	61	700	46	60	837	1	.01	57.6	44	1	1	3	38	10
60389	22.8	.28	8957	1	63	1.1	17	.29	>100.0	3	26	3.41	.41	1	.07	54	2	.01	11	1650	1120	42	52	5	.01	10.3	157	1	1	5	91	274
60390	37.1	.23	283	1	47	.9	12	.09	.1	15	777	3.22	.25	3	.28	285	5	.01	14	290	8905	40	10	4	.01	15.4	1582	1	1	7	137	995
60391	>200.0	.08	462	33	7	.9	151	.02	>100.0	34	>10000	2.94	.03	2	.06	165	18	.01	21	450	>10000	610	38	3	.01	5.7	>10000	1	2	148	30	2665
60392	>200.0	.11	458	3	6	.8	203	.03	>100.0	20	>10000	2.40	.03	2	.10	133	21	.01	14	470	>10000	363	33	4	.01	11.9	>10000	3	2	83	67	229
60393	182.1	.43	288	79	15	1.6	47	.03	>100.0	37	6473	4.64	.10	14	.46	669	26	.01	27	570	>10000	66	57	3	.01	34.4	>10000	1	3	304	132	3440
60394	53.9	.57	94	1	4	1.9	16	.04	>100.0	26	1857	6.15	.01	10	.71	947	8	.01	24	190	>10000	44	24	2	.01	36.0	>10000	1	3	3	105	73
60395	2.5	.20	52	1	14	.3	4	1.06	69.1	4	79	1.02	.10	4	.19	893	8	.01	11	170	377	7	8	1	.01	14.2	4159	1	1	11	234	25
60396	3.6	.47	154	1	62	1.3	10	.22	.1	6	89	3.13	.11	13	1.24	233	5	.03	53	410	193	15	34	3	.09	79.0	299	9	1	12	189	71
60397	6.4	.81	1	1	47	1.4	5	.24	.1	5	76	2.51	.17	30	1.78	436	6	.02	28	860	457	25	39	3	.01	69.7	239	8	1	8	101	394
60398	47.8	.41	25	1	68	.8	7	.55	.1	7	216	1.90	.10	12	.83	470	6	.02	65	640	437	112	60	2	.03	88.3	499	4	1	12	197	35
60399	3.4	.67	1	1	103	.9	16	.60	.1	9	90	3.80	.11	14	1.10	238	5	.10	33	810	98	18	66	1	.19	85.8	97	6	1	9	117	19
60400	1.2	.87	1	1	247	1.7	6	1.35	.1	8	81	3.37	.24	22	1.51	818	5	.01	57	550	104	26	115	3	.01	47.3	378	7	1	6	61	4

\* SAD PROPERTY - ROCK SAMPLES



**MINERAL  
• ENVIRONMENTS  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9621

**SMITHERS LAB.:**  
3176 TATLOW ROAD  
SMITHERS, B.C. CANADA V0J 2N0  
TELEPHONE (604) 847-3004  
FAX (604) 847-3005

Assay Certificate

4S-0283-RA1

Company: **N C CARTER**  
Project: **BAND MAST SAD TIME**  
Attn: **N.C. Carter**

Date: **OCT-24-94**  
Copy 1. N.C. Carter, Victoria, B.C.

We hereby certify the following Assay of 4 pulp samples submitted OCT-21-94 by N.C. Carter.

Sample Number	Ag g / tonne	Ag oz / ton	Pb %	Zn %
60391	1022.0	29.81	57.20	9.46
60392	694.0	20.24	35.80	6.79
60393	178.5	5.21	1.19	17.60
60394	64.3	1.88	1.82	3.14

Certified by \_\_\_\_\_

MIN-EN LABORATORIES

May 23, 1994

**SAD PROPERTY**

**Stewart Area  
Skeena Mining Division  
British Columbia**

**Introduction**

The SAD property includes at least two gold-bearing zones developed in a roof pendant of sedimentary and volcanic rocks within Coast Plutonic Complex granitic rocks.

Gold values ranging from less than 1 g/t to more than 200 g/t have been obtained from surface sampling of a quartz vein system in the western claim area and visible gold has been reported from an apparent skarn zone in the central part of the property.

**Location and Access**

The SAD mineral claim is immediately west of the head of Hastings Arm some 37 km south-southeast of Stewart. Elevations within the claim area range from sea level at the Legal Corner Post to more than 1200 metres in the northwestern part of the claim.

Access to the principal showings areas is by helicopter.

**Mineral Property**

The SAD property consists of one 4-post mineral claim in the Skeena Mining Division and owned by Richard T. Heard of 349 East 21 Street, North Vancouver, B.C. V7L 3B9. Details of the claim are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
SAD	323603	20	February 17/94

(Note: Crown granted mineral claims shown on the attached sketch map have reverted and are now part of the SAD claim).

**N.C. CARTER, Ph.D., P.Eng.  
CONSULTING GEOLOGIST**

### Regional Geological Setting

The SAD claim is situated within the Coast Plutonic Complex between the prolific Stewart and Anyox - Alice Arm mineral districts. Major past producing mines of the region include the Premier and Big Missouri gold-silver deposits, Dolly Varden and Torbrit silver deposits, Granduc and Anyox massive sulphide deposits and Kitsault (BC Moly) porphyry molybdenum deposits.

The nearby Red Mountain gold property of Lac Minerals Ltd., 40 km north of the SAD claim, includes at least four en-echelon northwest trending zones of semi-massive sulphides hosted by Hazelton Group volcanic rocks marginal to a granodiorite stock which was previously investigated for molybdenum mineralization.

Published reserves prior to the 1993 field season were 2.8 million tons grading 0.37 opt gold. 1993 work, which included 100,000 ft. of surface diamond drilling and 2,000 ft. of underground decline and crosscutting, indicated a resource of between 2 and 3 million ounces gold which is being firmed up by a current \$14.5 million development program.

### Property Geology

The SAD mineral claim covers the northern part of a roof pendant of Jurassic (Hazelton Group) volcanic and sedimentary rocks contained within granitic rocks of the Coast Plutonic Complex. Numerous granitic dykes cut the sedimentary and volcanic sequence.

Two gold-bearing zones are known on the claim. The Saddle showings, in relatively subdued topography near the summit of steep terrain west of Hastings Arm, were initially explored in the late 1920's by way of 3 shallow shafts and one 195 metre adit. Access was via an aerial tram line.

The principal showings consist of parallel quartz veins and stringers exposed over a strike length of 70 metres and an overall width of 30 metres. Individual veins, which strike northwesterly and dip steeply southwest, are crudely conformable with the overall trend of the host volcanic rocks.

The two principal quartz veins, 10 to 15 metres apart, have widths of between 0.3 and 1.5 metres and contain lenses

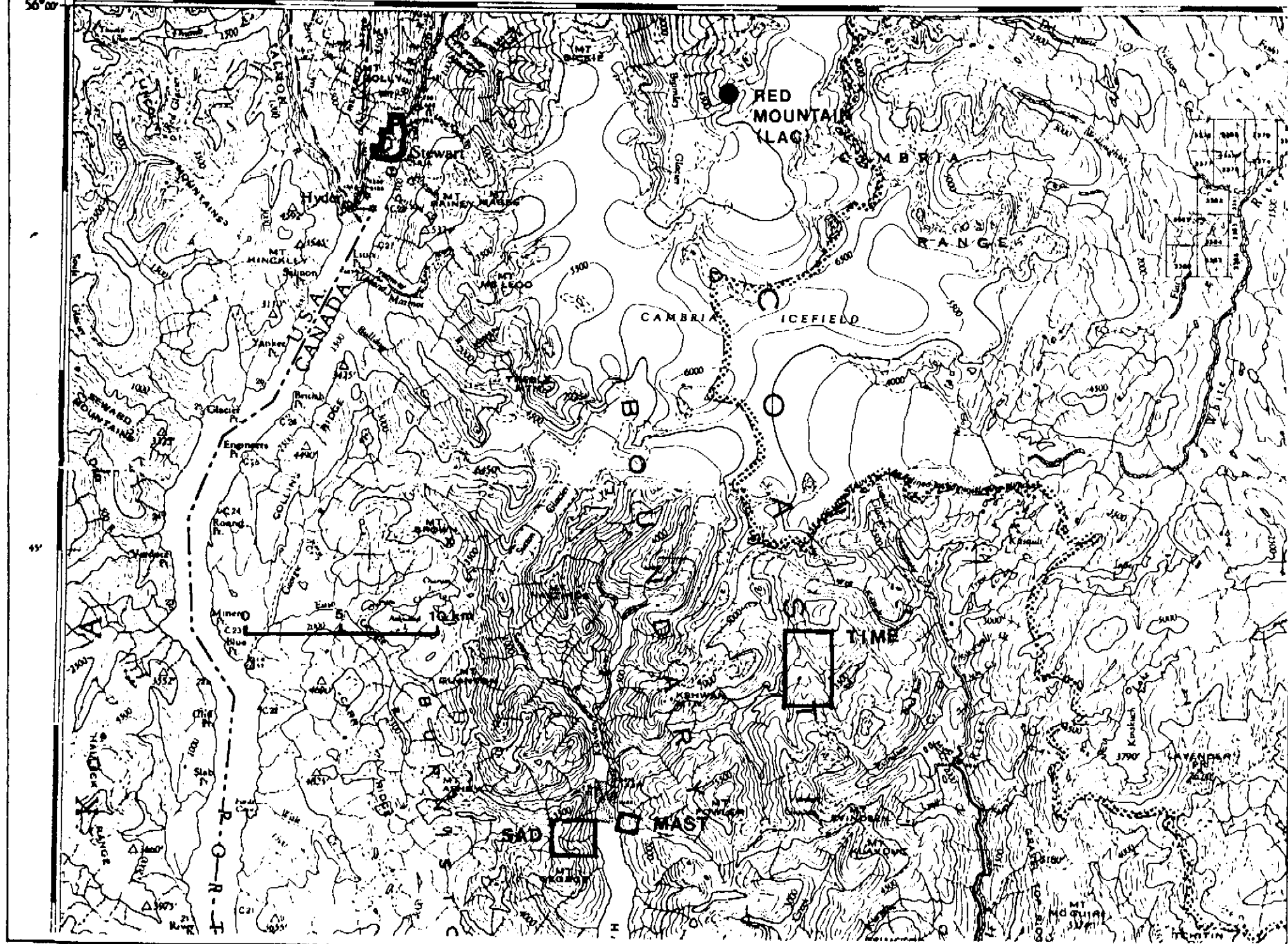


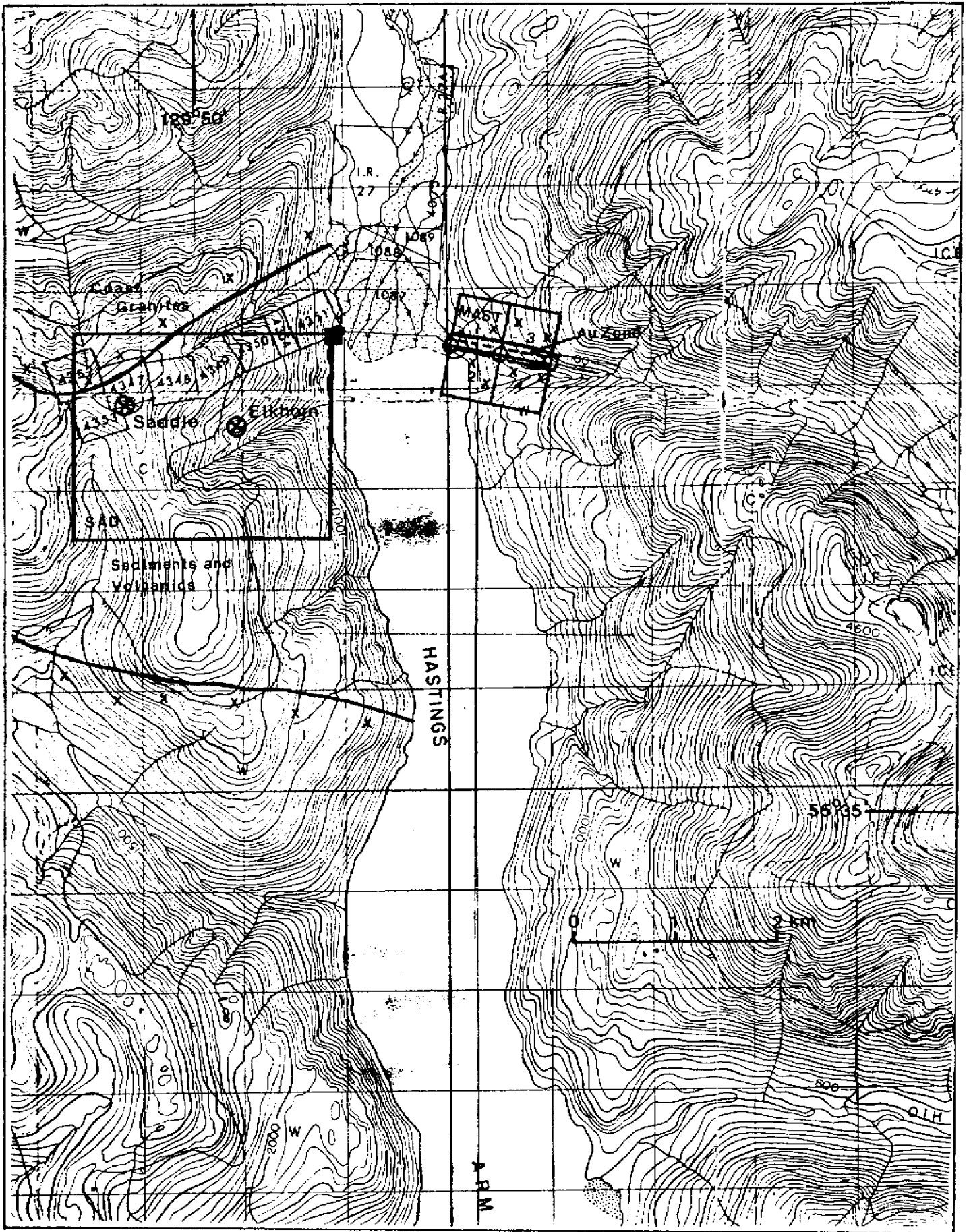
of massive sulphides (pyrite, galena, sphalerite, chalcopyrite, pyrrhotite) which are up to 0.6 metre thick and 2 - 3 metres in length. Better gold values (up to +200 g/t - see attached sketch map) are associated with these massive sulphide lenses.

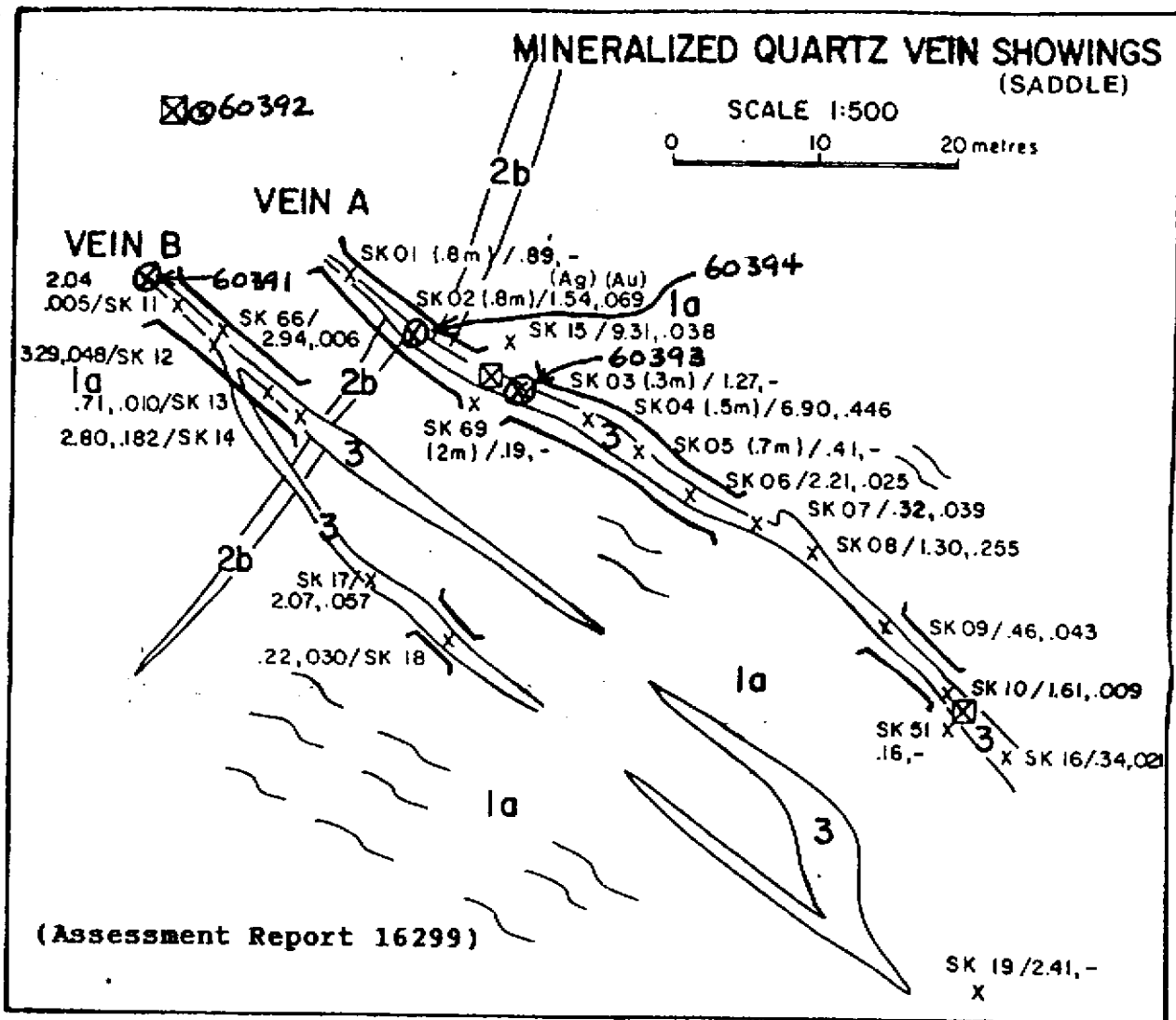
Work in the area of the Saddle showings in the 1980's, in addition to detailed sampling, included airborne and surface VLF-EM surveys which are of only limited use - the orientation of the airborne survey was not normal to the structural trend and better surface VLF-EM conductors appear to be coincident with old aerial tramway cables.

This zone has not been tested to depth - available data suggest that the 195 metre adit was driven in a direction that would have precluded it intersecting the two principal veins and there are no records of any previous drilling.

The Elkhorn showing is described as being about midway between the Saddle and tidewater (see attached sketch map). Previous descriptions refer to silicified zones containing sulphide minerals plus associated garnet and epidote alteration suggesting a skarn environment. Government reports also refer to "some spectacular finely divided gold" being discovered in one locality in 1929. No recent work has been done in the area of this showing.







**60392 - 1994 SAMPLES**

**(Assessment Report 11527)**

channel sample #	width(cm)	silver oz/ton	g/tonne	gold oz/ton	g/tonne
7201	9	.82	2.8	138	4.7
2	20	2.33	7.9	190	6.5
3	35	1.02	3.4	.011	.3
4	80	7.52	25.7	.003	.1
5	90	9.58	32.8	.032	1.1
7206	35	21.30	73.0	286	9.8
7	50	1.08	3.7	.003	.1
8	50	3.22	11.0	.045	1.5
9	20	.37	1.2	.001	.1
10	18	18.40	63.0	7.054	241.8
7211	13	2.19	7.9	1.053	36.1
2	55	.77	2.7	.011	.3
3	8	.19	.6	.004	.1
4	30	1.09	3.7	.019	.6
5	50	15.60	53.4	.062	2.9
7216	65	5.75	19.7	636	21.8
7	GRAB	.14	.4	.010	.3
8	GRAB	2.35	8.0	.009	.3
9	GRAB	.06	.2	.001	.1
20	25	2.32	7.9	.249	8.5
7221	30	.45	1.5	.118	4.0
2	25	.54	1.8	.156	5.1
3	17	.52	1.7	.014	.3
4	25	.50	1.7	.045	1.5
5	20	.01	.0	.002	.1
7226	12	.58	1.9	.025	.8
7	22	2.16	7.4	.003	.1
8	25	.43	1.4	.002	.1
9	15	.75	2.5	.001	.1
30	10	.39	1.3	.011	.3
7231	GRAB	.01	.0	.001	.1
2	GRAB	.09	.2	.001	.1
3	GRAB	.01	.0	.001	.1

**REMARKS:**

- 7217 : grab sample of granitic dyke both sides and between mineralized veins
- 7218 : grab sample every 10cm for about 4m through 6 smc quartz veins.
- 7219 : grab sample of country rock around the mineralized quartz veins
- 7231 : grab sample from upper dump
- 7232 : grab sample from lower dump
- 7233 : grab sample from intermediate dump

**BRITISH COLUMBIA  
PROSPECTORS ASSISTANCE PROGRAM  
PROSPECTING REPORT FORM (continued)**

**B. TECHNICAL REPORT**

- \* One technical report to be completed for each project area
- \* Refer to Program Requirements/Regulations, section 15, 16 and 17
- \* If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name NICHOLAS CARTER Reference Number 94-95 P119

**LOCATION/COMMODITIES**

Project Area (as listed in Part A.) MAST - Stewart Minfile No. if applicable 103P020

Location of Project Area NTS 103P/12W Lat 55°38' Long 129°45'

Description of Location and Access Immediately east of the head of Hastings Arm. Access by boat or helicopter.

Main Commodities Searched For Au

Known Mineral Occurrences in Project Area Several reported occurrences of base and precious metals within claims area.

**WORK PERFORMED**

1. Conventional Prospecting (area) Locating old trail, attempt to locate old workings
2. Geological Mapping (hectares/scale) \_\_\_\_\_
3. Geochemical (type and no. of samples) \_\_\_\_\_
4. Geophysical (type and line km) \_\_\_\_\_
5. Physical Work (type and amount) \_\_\_\_\_
6. Drilling (no. holes, size, depth in m, total m) \_\_\_\_\_
7. Other (specify) \_\_\_\_\_

**SIGNIFICANT RESULTS (if any)**

Commodities \_\_\_\_\_ Claim Name \_\_\_\_\_

Location (show on map) Lat \_\_\_\_\_ Long \_\_\_\_\_ Elevation \_\_\_\_\_

Best assay/sample type \_\_\_\_\_

Description of mineralization, host rocks, anomalies \_\_\_\_\_

See attached

Supporting data must be submitted with this TECHNICAL REPORT.

## MAST PROPERTY

### Stewart Area

Limited work on this property in 1994 consisted of an attempt to locate old workings referred to in the Minister of Mines Annual Report for 1934 (see attached summary report). An old trail was followed up the north side of Granite Creek to a canyon as shown on the accompanying claim map. Because of time constraints, mainly due to an incoming high tide which made helicopter landing impossible, old workings were not seen. One bedrock sample, collected along the claim location line (see claim map), consisted of silicified, granitized country rock with disseminated sulphide minerals. Results are as follows:

<u>Sample No.</u>	<u>Au(ppb)</u>	<u>Ag(ppm)</u>	<u>Cu(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>
60390	995	37.1	777	8905	1582

The foregoing results confirm that these claims indeed cover the old showings referred to in earlier reports.

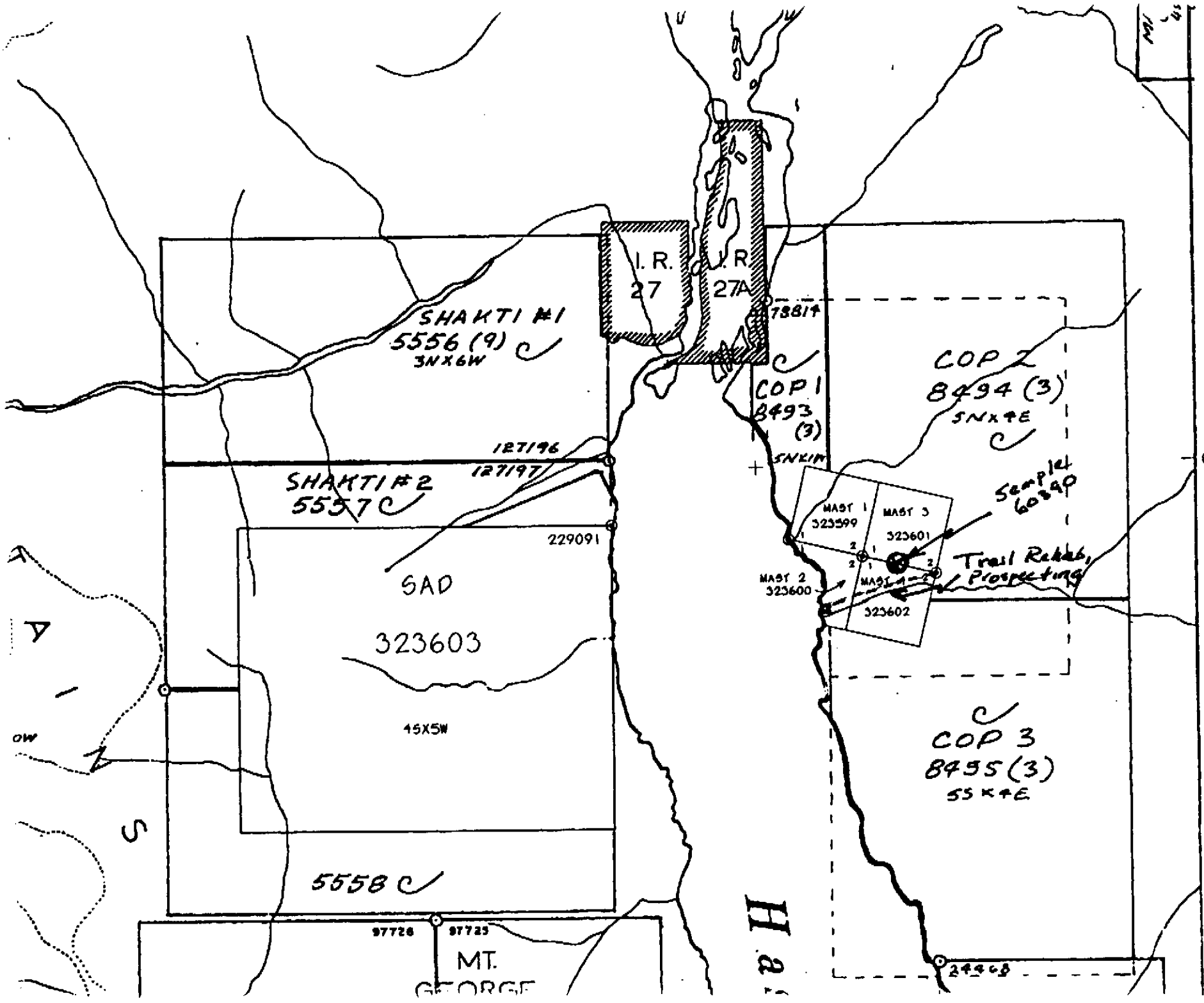
COMP: N C CARTER  
 PROJ: BAND MAST SAD TIME  
 ATTN: N.C. Carter

MIN-EN LABS — ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0283-RJ1  
 DATE: 94/10/06  
 \* rock \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
60381	.1	.69	332	1	74	2.9	9	2.22	.1	27	18	12.01	.15	19	1.10	1105	6	.02	59	1100	24	55	643	1	.01	62.0	45	1	1	4	40	1
60382	.1	.34	458	3	65	2.3	8	.55	.1	7	21	9.20	.26	6	.29	235	77	.04	63	1080	34	22	158	3	.01	22.6	125	1	2	6	125	11
60383	.1	.66	1	1	94	1.6	7	2.39	.1	9	26	4.28	.15	18	1.09	1110	3	.03	19	1840	35	20	390	1	.01	104.7	61	2	1	5	35	1
60384	.1	.31	932	1	70	1.4	7	2.82	.1	16	17	3.14	.28	3	.52	3051	3	.02	18	1620	50	38	553	2	.01	19.8	68	1	1	3	22	7
60385	.1	.87	1	1	197	1.9	8	1.82	.1	11	21	4.68	.52	19	1.14	887	4	.02	20	1830	34	26	295	2	.01	75.7	75	3	1	4	18	6
60386	.1	.09	674	1	54	.8	7	9.66	.1	3	7	2.22	.09	1	.11	3051	21	.01	18	250	223	137	578	1	.01	9.3	1019	1	1	5	91	6
60387	.6	1.14	1	18	91	2.6	9	1.06	.1	13	76	6.56	.52	27	1.26	601	5	.02	124	5420	62	29	578	5	.01	61.1	137	4	1	7	82	13
60388	.1	.54	648	1	54	3.1	10	3.35	.1	20	56	>15.00	.08	17	.96	1457	1	.02	61	700	46	60	837	1	.01	57.6	44	1	1	3	38	10
60389	22.8	.28	8957	1	63	1.1	17	.29	>100.0	3	26	3.41	.41	1	.07	54	2	.01	11	1650	1120	42	52	5	.01	10.3	157	1	1	5	91	274
60390	37.1	.23	283	1	47	.9	12	.09	.1	15	777	3.22	.25	3	.28	285	5	.01	14	290	8905	40	10	4	.01	15.4	1582	1	1	7	137	995
60391	>200.0	.08	462	33	7	.9	151	.02	>100.0	34	>10000	2.94	.03	2	.06	165	18	.01	21	450	>10000	610	38	3	.01	5.7	>10000	1	2	148	30	2665
60392	>200.0	.11	458	3	6	.8	203	.03	>100.0	20	>10000	2.40	.03	2	.10	133	21	.01	14	470	>10000	363	33	4	.01	11.9	>10000	3	2	83	67	229
60393	182.1	.43	288	79	15	1.6	47	.03	>100.0	37	6473	4.64	.10	14	.46	669	26	.01	27	570	>10000	66	57	3	.01	34.4	>10000	1	3	304	132	3440
60394	53.9	.57	94	1	4	1.9	16	.04	>100.0	26	1857	6.15	.01	10	.71	947	8	.01	24	190	>10000	44	24	2	.01	36.0	>10000	1	3	3	105	73
60395	2.5	.20	52	1	14	.3	4	1.06	69.1	4	79	1.02	.10	4	.19	893	8	.01	11	170	377	7	8	1	.01	14.2	4159	1	1	11	234	25
60396	3.6	.47	154	1	62	1.3	10	.22	.1	6	89	3.13	.11	13	1.24	233	5	.03	53	410	193	15	34	3	.09	79.0	299	9	1	12	189	71
60397	6.4	.81	1	1	47	1.4	5	.24	.1	5	76	2.51	.17	30	1.78	436	6	.02	28	860	457	25	39	3	.01	69.7	239	8	1	8	101	394
60398	47.8	.41	25	1	68	.8	7	.55	.1	7	216	1.90	.10	12	.83	470	6	.02	65	640	437	112	60	2	.03	88.3	499	4	1	12	197	35
60399	3.4	.67	1	1	103	.9	16	.60	.1	9	90	3.80	.11	14	1.10	238	5	.10	33	810	98	18	66	1	.19	85.8	97	6	1	9	117	19
60400	1.2	.87	1	1	247	1.7	6	1.35	.1	8	81	3.37	.24	22	1.51	818	5	.01	57	550	104	26	115	3	.01	47.3	378	7	1	6	61	4

MAST PROPERTY - ROCK SAMPLE



SHAKTI #1  
5556 (9)  
3N X 6W

I.R.  
27

I.R.  
27A

78814

COP 1  
8493  
(3)

COP 2  
8494 (3)  
5N X 9E

Sample  
60849

SHAKTI #2  
5557

127196

127197

229091

SAD

323603

45X5W

MAST 1  
323599

MAST 3  
323601

MAST 2  
323600

MAST 4  
323602

Trail Rehab,  
Prospecting

COP 3  
8455 (3)  
55 X 4E

5558

97726

97725

MT.  
GEORGE

24368

6164928

H & I



May 23, 1993

## MAST PROPERTY

Stewart Area  
Skeena Mining Division  
British Columbia

### Introduction

The MAST property includes a linear belt of gold showings which have been misplotted by up to 5 km on various Government maps virtually since their initial discovery in the early 1930's.

Gold values of up to 11 grams/tonne are associated with quartz veining and siliceous replacement developed in a linear pendant of metamorphosed sedimentary rocks within Coast Plutonic Complex granitic rocks.

### Location and Access

The MAST property is situated on tidewater at the head of Hastings Arm 37 km south-southeast of Stewart. Lac Minerals' Red Mountain project is 38 km north of the MAST claims.

Access to the property is by helicopter or by boat from Kitsault (Alice Arm) which is accessible by road from the Nass Valley.

### Mineral Property

The MAST property consists of four 2-post mineral claims in the Skeena Mining Division and owned by Richard T. Heard of 349 East 21 Street, North Vancouver, B.C. V7L 3B9. Details of the claims are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
MAST 1	323599	1	February 17/94
MAST 2	323600	1	February 17/94
MAST 3	323601	1	February 17/94
MAST 4	323602	1	February 17/94

N.C. CARTER, Ph.D., P.Eng.  
CONSULTING GEOLOGIST

### Regional Geological Setting

The MAST property is situated within and near the western margin of the Coast Plutonic Complex and between the prolific Stewart and Anyox - Alice Arm mineral districts. Major past producing mines of the region include the Premier and Big Missouri gold-silver deposits, Dolly Varden and Torbrit silver deposits, Granduc and Anyox massive sulphide deposits and Kitsault (BC Moly) porphyry molybdenum deposits.

The nearby Red Mountain gold property of Lac Minerals Ltd. includes at least four en-echelon northwest trending zones of semi-massive sulphides hosted by Hazelton Group volcanic rocks marginal to a granodiorite stock which was previously investigated for molybdenum mineralization.

Published reserves prior to the 1993 field season were 2.8 million tons grading 0.37 opt gold. 1993 work, which included 100,000 ft. of surface diamond drilling and 2,000 ft. of underground decline and crosscutting, indicated a resource of between 2 and 3 million ounces gold which is being firmed up by a current \$14.5 million development program.

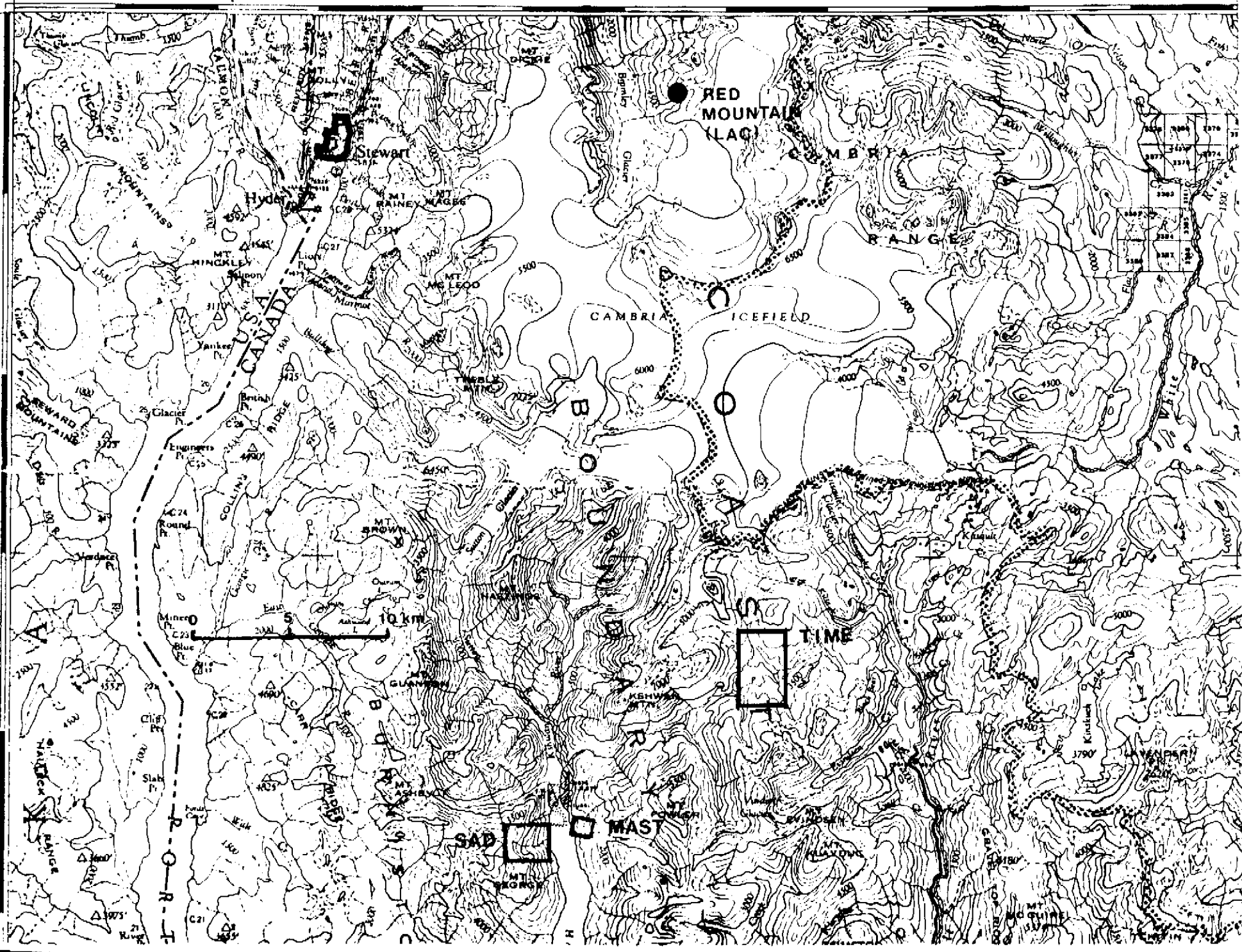
### Property Geology

The MAST claims include a linear, west-northwest trending screen or roof pendant of metamorphosed sedimentary rocks within Coast Plutonic Complex granitic rocks.

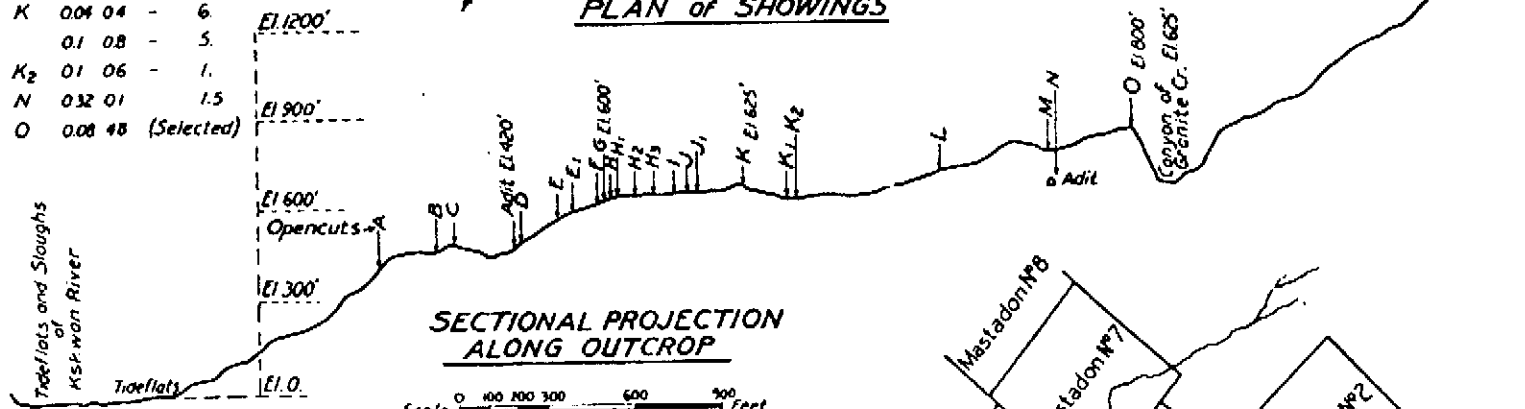
This screen, which is between 30 and 60 metres wide and has been traced over a strike length of more than 800 metres, is cut by quartz veins, veinlets and silicified areas up to 2.5 metres in width and which contain variable pyrite, sphalerite and minor galena.

Work prior to 1934 included 22 trenches and 2 short adits over a strike length of 500 metres. Reported gold values range from trace to 11 g/t (0.32 oz/ton) over 0.5 metre and include several values of 3.5 g/t (0.10 oz/ton) over 0.3 to 1.5 metre sample widths.

There is no record of any work on this zone after 1934, probably due to some confusion regarding its location. Available data indicate that the sedimentary screen or roof pendant and contained quartz veining and associated gold mineralization exhibit strike continuity and additional work is warranted.



	Au oz	Ag Tr.	Cu Tr.	Width ft.
H <sub>3</sub>	Tr.	Tr.	-	3.
I	0.02	12	-	5.
	Tr.	10	Nil	4.5
J	0.1	0.8	-	2.
K	0.04	0.4	-	6.
	0.1	0.8	-	5.
K <sub>2</sub>	0.1	0.6	-	1.
N	0.32	0.1	-	1.5
O	0.08	4.8	(Selected)	



Granitic rocks of Coast Range Batholith  
 Zone of altered and hybrid roof-rock sediments (metamorphosed and semi-digested)



MAST CLAIMS

