

86-922-15438

ASSESSMENT REPORT

FORTUNA PROPERTY

KAMLOOPS MINING DIVISION, B.C.

NTS 92P/1E

Lat.  $51^{\circ}05.8'$  Long.  $120^{\circ}01.4'$

OWNERS: BP Resources Canada Limited  
Tenajon Silver Corp.  
Suneva Resources Limited

OPERATOR: BP Resources Canada Limited

BPVR 86-15

Randy Farmer  
Project Geologist

December 1986

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

15,438

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## TABLE OF CONTENTS

	<u>Page Number</u>
SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS	1
INTRODUCTION	2
LOCATION AND ACCESS	2
TOPOGRAPHY AND VEGETATION	3
CLAIMS	3
PREVIOUS WORK	4
GEOLOGY	6
a) Regional Geology	6
b) Property Geology	6
c) Lithologies	8
d) Alteration	11
e) Mineralization	13
LITHOGEOCHEMISTRY	15
CONCLUSIONS	17
RECOMMENDATIONS	18
REFERENCES	20

LIST OF FIGURES

	<u>Following Page</u>
FIGURE 1: Location of the Fortuna Property	3
FIGURE 2: Claim Map and Topography	3
FIGURE 3: Regional Geology	6
FIGURE 4: Upper Massive Pyrite Zone - Geology and Results	14
FIGURE 5: Geological Map of the Fortuna Property	in pocket
FIGURE 6: Lithochemical Samples - Sample Location Map	in pocket

LIST OF APPENDICES

	<u>Page Number</u>
APPENDIX I Cost Statement	21
APPENDIX II Certificate of Author	25
APPENDIX III Geochemical Results - Assay Sheets	27

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Geological mapping and lithogeochemical sampling on the Fortuna property has confirmed the presence of three major and numerous minor zones of hydrothermal alteration. Alteration consists of sericite, silicification, kaolinization, gypsum and pyritization.

Several zones of massive pyrite mineralization have been identified within the zones of alteration, and other zones up to 5 metres thick are reported from old adits, now caved. The mineralized zones carry enhanced values in copper, lead, zinc, silver, gold and arsenic.

Alteration and mineralization appear to be related to northwest trending faults. Northeast trending faults are also present and intersections may be important locations for concentration of mineralization.

Geology consists of a northwest trending, northeast dipping section of chloritoid schist and metasediments (argillite, grit, conglomerate, quartzite and limestone). An exposure of serpentinite occurs in the southern portion of the property but, its relationship to alteration or mineralization is not known.

The rocks possess a strong pervasive foliation which generally masks bedding. Where discernable bedding parallels the foliation. A single exposure at the west end of the property exhibits graded bedding which suggests that the section is overturned, at least in that area.

Ground geophysics consisting of VLF and magnetic surveys should be carried out in the area of the East Zone, where most of the altered zone is accessible. This combined geophysical survey should help identify prospective structures and related mineralization. Geophysics should be followed by diamond drilling of the East Zone to test known and reported zones of mineralization as well as favourable targets identified by geophysics.

#### INTRODUCTION

A program of geological mapping and lithogeochemical sampling was carried out on the Fortuna property between August 21st, 1986 and November 5th, 1986. The program was undertaken to investigate a prominent alteration zone within Eagle Bay Formation rocks which earlier work indicates carries values in gold and platinum.

#### LOCATION AND ACCESS

The Fortuna property is located approximately 12 kilometres east of Louis Creek, B.C., 60 kilometres north of Kamloops, B.C., (NTS 92P/1E). Latitude  $51^{\circ}05.5'N$  and longitude  $120^{\circ}02'W$  correspond to

the approximate centre of the property. Access to the property is gained by following the paved Skwaam Bay road eastwards from highway #5 at Louis Creek (Figure 1).

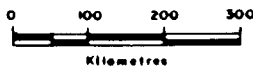
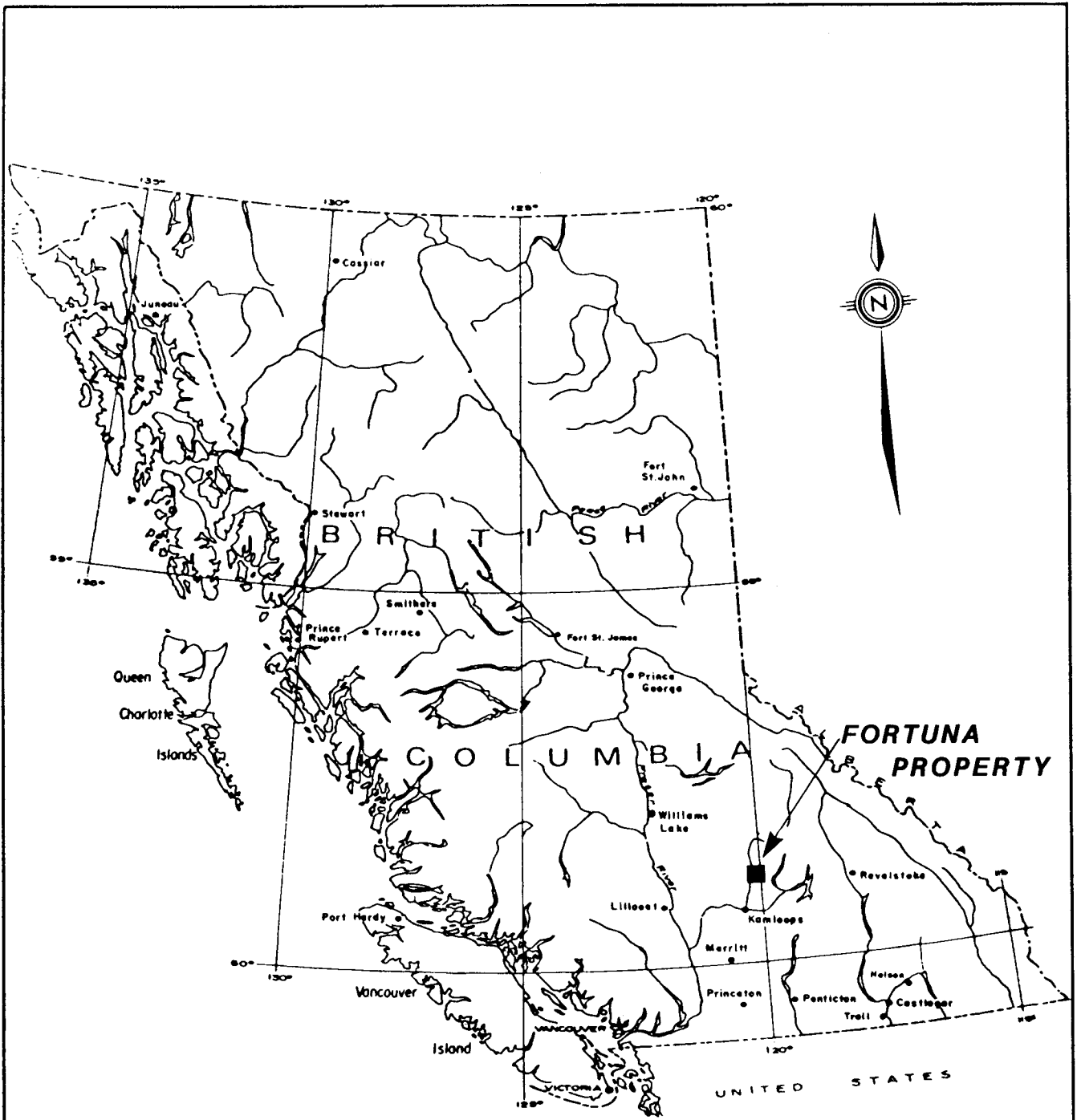
#### TOPOGRAPHY AND VEGETATION


Topography is quite rugged as the property covers the south facing slope of Mount Fraser which is quite steep. Elevations vary between 2000 feet (610 metres) in the Fraser Creek valley and 4000 feet (1220 metres) along the northern boundary of the property.

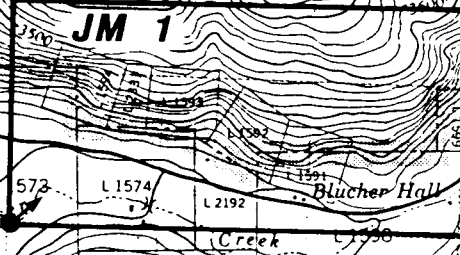
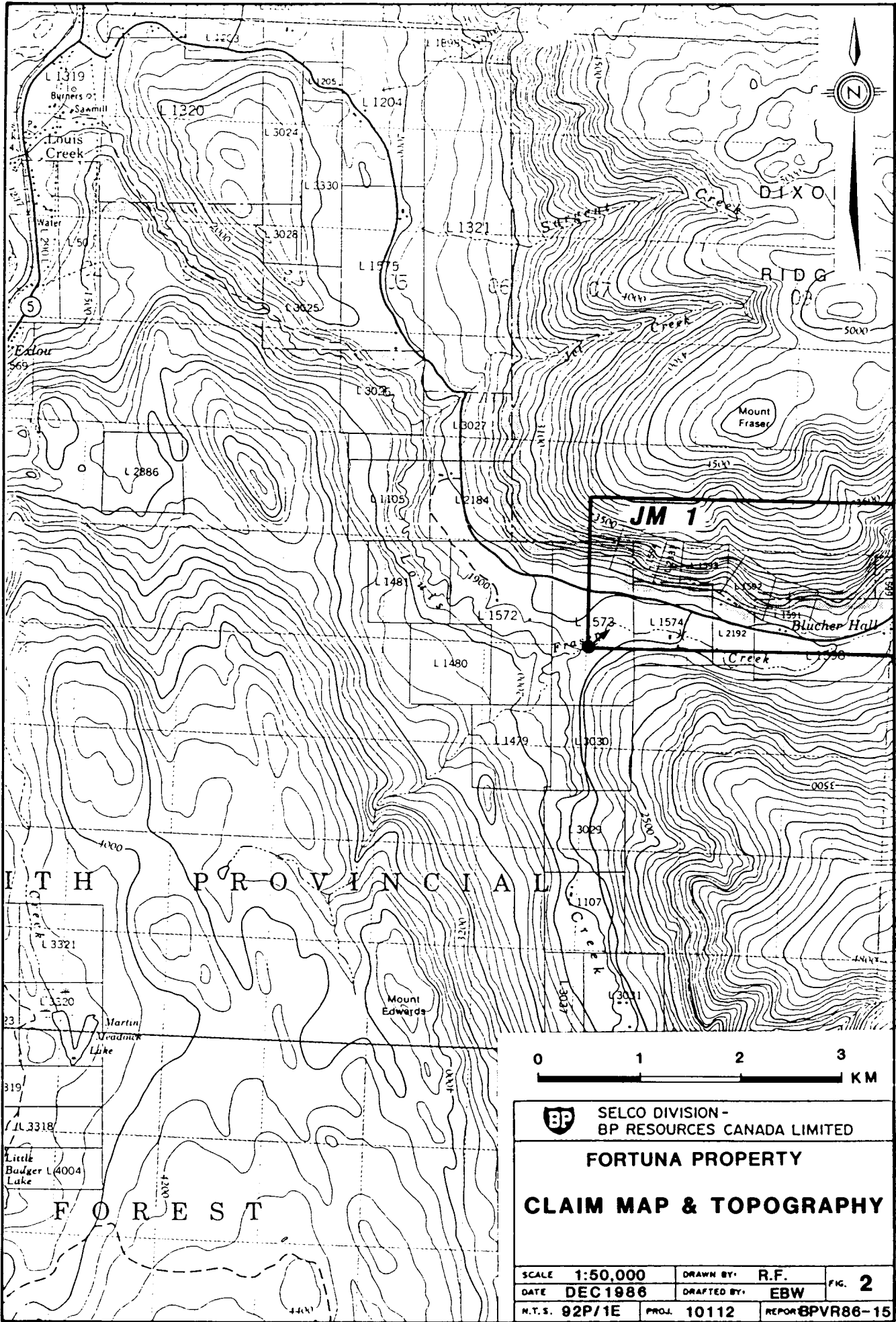
Vegetation consists of ranch land with cultivated fields along the valley bottom which gives way to dry, open forests of pine and fir along the slopes of Mount Fraser. As higher elevations are gained the forest becomes mixed consisting of pine, spruce, poplar and some birch. Climate along these low-lying valleys is fairly dry.

#### CLAIMS

Claim Holdings consist of the JM 1 claim and five reverted crown grant claims, Fortuna, Fortuna #1, Fortuna #2, Fortuna #3, Fortuna #4 fraction (Figure 2). Table 1 provides a summary of claim statistics.



 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>BARRIERE PROJECT, B.C. FORTUNA PROPERTY LOCATION MAP</b>		
SCALE As shown	DRAWN BY*	<b>PAGE 1</b>
DATE JUNE 1986	DRAFTED BY: E.B.W.	
R.T.S.	PROJ. 10112	REPORT BPVR 86-15



ITH PROVINCIAL

F O R E S T



**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

**FORTUNA PROPERTY**

**CLAIM MAP & TOPOGRAPHY**

SCALE 1:50,000	DRAWN BY: R.F.	FIG. 2
DATE DEC 1986	DRAFTED BY: EBW	
N.T.S. 92P/1E	PROJ. 10112	REPORT BPVR86-15



CLAIM NAME	OWNER	NTS	NO.OF UNITS	RECORD NO.	RECORDING DATE	EXPIRY
JM 1	BP Resources Canada Limited	92P/1E	18	6749	Sep/4/86	Sep/4/87
Fortuna	Tenajon Silver Corp. Suneva Resources Ltd.	92P/1E	1	2410	Feb/20/80	Feb/20/87
Fortuna #1	Tenajon Silver Corp. Suneva Resources Ltd.	92P/1E	1	2411	Feb/20/80	Feb/20/87
Fortuna #2	Tenajon Silver Corp. Suneva Resources Ltd.	92P/1E	1	5616	May/4/84	May/4/87
Fortuna #3	Tenajon Silver Corp. Suneva Resources Ltd.	92P/1E	1	5617	May/4/84	May 4/87
Fortuna #4	Tenajon Silver Corp. Suneva Resources Ltd.	92P/1E	Fraction	5618	May/4/84	May/4/87

**TOTAL: 23 UNITS**

**Grouped as the JM Group**

The Fortuna claims are all owned 50/50 by Tenajon Silver Corp. and Suneva Resources Limited and the JM 1 claim is owned by BP Resources Canada Limited. BP Resources is the operator for all the claims.

#### PREVIOUS WORK

A brief account of some of the work carried out is given in the Minister of Mines Annual Reports for 1907, 1908, 1913, 1914 and 1919,

though a complete record of previous work is not available. The work for the most part consisted of the driving of two adits on the old Fortuna crown grants, in the area referred to in this report as the 'East Zone'. The adits were driven to intersect a gossan located near the top of the bluff. Old records indicate that the upper adit is 40 feet long and did not intersect mineralization. The volume of material in the dump suggests that the adit was driven further at a later date and massive pyrite material in the dump indicates it did intersect mineralization, but there is no record of this.

The other adit is about 200 feet lower and 450 feet long. In this adit three bodies of pyrrhotite were exposed, one at the portal two feet wide; a second 90 feet from the portal, three feet wide; and the third about 390 feet in, 16 feet wide (MMAR, 1914, p. K210). Some assays of 0.2 oz to 0.3 oz per ton of platinum are said to have been obtained from this mineralization. Several stringers are also reported to carry values in gold, silver, lead and copper.

No other work has been reported on the property, however a blasted trench and adit of unknown length is present at 3500 feet elevation above the old crown grants, (probably the Bx or Skookum showing). Fracture controlled pyrite-chalcopyrite in bleached, silicified chloritoid schist appears to have been the target.

Some old drill core is also present on the property. About 500 metres of core is located near the west end of the property about 50 metres north of the road. Several drill sites are present about 100 metres up the slope. About 60 metres of core and one drill site are located at the base of the east end of the Middle Zone. All holes were drilled horizontally into the hillside.

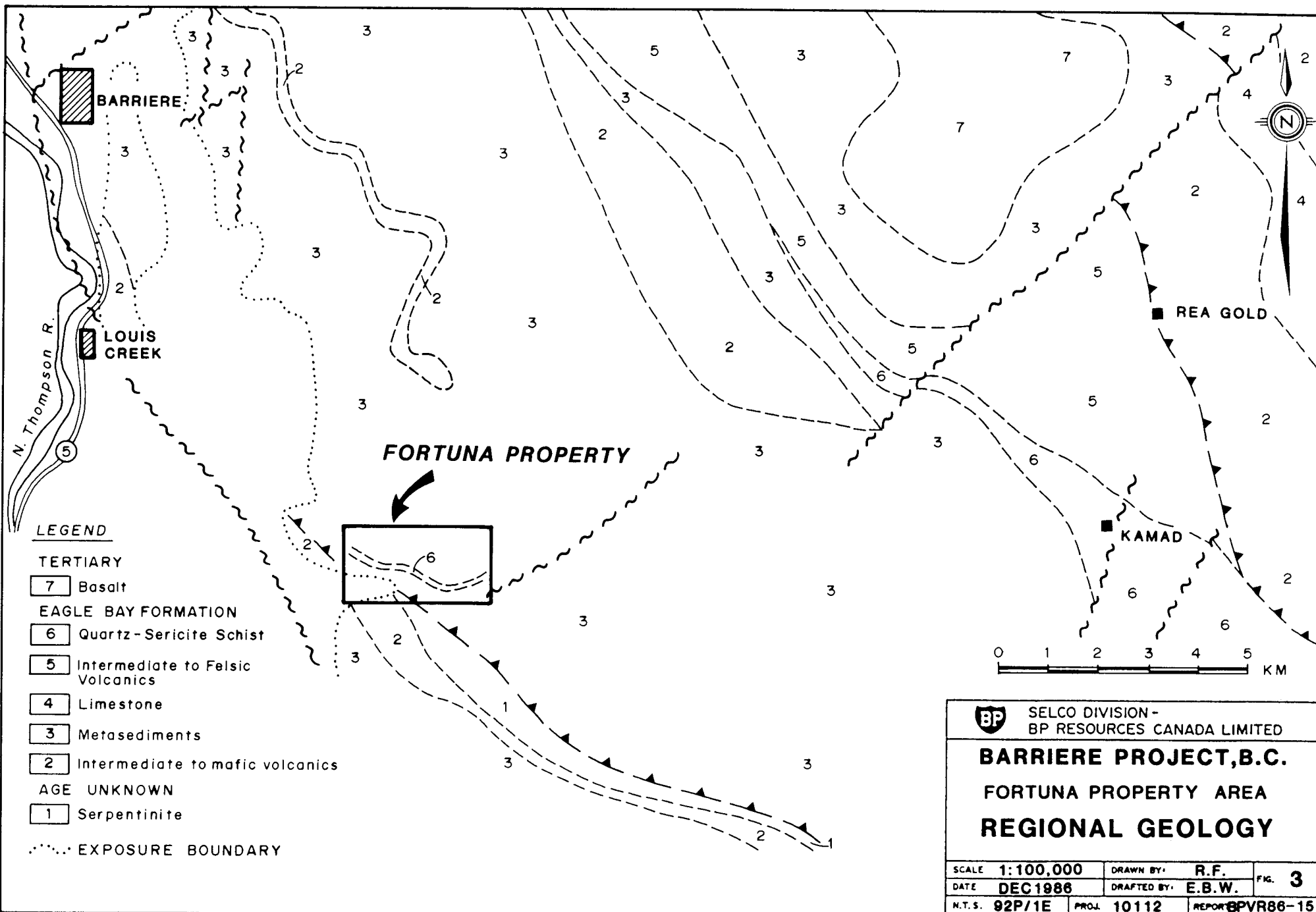
## GEOLOGY

### a) Regional Geology

The Fortuna property lies within the Eagle Bay Formation, considered to be of Devonian to Mississippian age (Figure 3). In general, the Eagle Bay Formation is composed of andesitic to rhyolitic volcanic rocks and sedimentary rocks intruded by Cretaceous granitic batholiths. The belt is structurally complex but in a simplified sense consists of northwest trending belts of rocks which in general dip northeastwards at  $40^{\circ}$ - $50^{\circ}$ . The Eagle Bay Formation is composed of a number of thrust bound slices which have been modified by many northeast trending high angle faults and at least three phases of folding. The B.C. Ministry of Energy, Mines and Petroleum Resources, Preliminary Map No. 56 by Schiarizza and Preto is a good reference to the regional geology.

### b) Property Geology

Exposure is very good on the steep slopes of Mount Fraser but is nonexistent in the valley bottom.



A government issue topographic map, enlarged to 1:5000 scale was used as a base for geological mapping. Location control was maintained on the steep slopes by utilizing altimeters to aid in the plotting the locations for outcrops and sample points.

Property geology consists primarily of chloritoid-sericite schist and metasediments throughout the majority of the property. A distinctive quartz-eyed sericite schist occurs on the north side of the road towards the east end of the property. A few exposures of chlorite schist, likely a meta andesite occur throughout the property, most notably near the southern JM 1 claim line along the branch road to Heffley Creek. Also occurring along the Heffley creek road is a large exposure of pyroxene bearing serpentinite, likely part of the serpentinite belt mapped by Schiarizza and Preto (1984). A dyke/sill of chlorite+biotite+amphibole+pyroxene which is somewhat serpentinitized has also been identified on the north side of the Skwaam Bay road just to the west of the property and may be related to the serpentinite unit (Figure 5 in pocket).

Strike varies between  $090^{\circ}$  and  $120^{\circ}$  with dips of  $040^{\circ}$ - $060^{\circ}$  to the NNE as defined by strong foliation. Where observable bedding is approximately parallel to foliation. One exposure

exhibiting graded beds indicates the section to be overturned, however more exposures are necessary to confirm this.

c) Lithologies

Quartz-Eyed Sericite Schist (Map Unit 1)

Grey to buff coloured siliceous sericite schist with abundant clear quartz eyes 2-4 millimetres. Grades westwards into a fragmental with rounded siliceous clasts 1-3 centimetres in size. It is not clear whether this unit is a meta volcanic or sediment. Contains 1-2% disseminated pyrite on average with local heavier concentrations. This unit is quite distinctive and has only been identified in the eastern portion of the property immediately above the Skwaam Bay road.

Chlorite Schist (Map Unit 2)

This unit has been identified at several locations but is not common on the property. The unit is medium to dark green in colour and very chloritic. Locally it displays a tuffaceous texture exhibited by 1-3 millimetre feldspar crystals and thought to represent meta andesitic volcanics. The best exposure is located along the branch road to Heffley Creek in the southern part of the property. Here it likely represents a meta andesite flow. Similar units have been identified on adjacent ground to the northwest and to the east.

Metasediments (Map Unit 3)

The metasedimentary unit consists of a number of subunits including argillite, quartzose grit to conglomerate, quartzite and dolomitic limestone. While these subunits are quite distinctive their interrelationships are too complex to allow them to be mapped separately at this scale. They tend to occur as narrow (<10 metres), discontinuous bands. Argillites are dark grey to black, often graphitic and calcareous. Grits are medium- to coarse-grained quartzo feldspathic rocks, usually grey in colour with rounded quartz and less common feldspar grains (4-10 millimetres). They locally grade into conglomerates with grit and argillite clasts 1-4 centimetres in size. In one location the grits and conglomerates are thin bedded (10-50 centimetres) with grading suggesting the section is overturned. Quartzites consist of 80% recrystallized quartzose bands and 20% thin sericitic bands. Limestone is not common but where present is light to dark grey on fresh surface, often with coarse-grained dolomitic veins. The weathered surface is a dark rusty brown.

As a single combined unit the metasediments are the most common rock type present on the property.

Chloritoid-Sericite Schist (Map Unit 4)

This is the second most common rock type on the property. Colour varies from light greenish grey thru yellowish to white dependent on degree of alteration. In general it consists of 5-10%, 1-3 millimetre dark brown to black chloritoid crystals within an intensely sericitic matrix lending a somewhat 'spotted' appearance to the rock.

Chloritoid is generally a low grade metamorphic mineral found in rocks rich in aluminum and iron, however on the property it is more likely an alteration product. To the best of my knowledge chloritoid has not been recognized elsewhere in the Eagle Bay Formation, including adjacent properties with similar geology, but lacking the intense alteration.

Serpentinite (Map Unit A)

A single large exposure occurs in the southern portion of the property along the road to Heffley Creek. This is a dark green pyroxene bearing strongly serpentized rock, which perhaps surprisingly is not magnetic when tested with a pencil magnet. The rock is generally massive with pyroxene crystals (5-10 millimetres) set in a greenish serpentized matrix. As the contact is approached to the west however it becomes fine-grained and foliated. It



likely represents the northwestern portion of a serpentinite belt mapped by Schiarizza and Preto (1984).

Mafic Dyke/Sill (Map Unit B)

Map Unit B has only been observed in one location, west of the property. It consists of a dark green chlorite+biotite+amphibole+pyroxene rock which is roughly 10 metres thick and exposed for about 50 m along strike. It appears to be more or less conformable to strike and is generally fine-grained, foliated and biotitic near the contacts and, massive and pyroxene-amphibole bearing near the centre. This unit may be a dyke or sill related to Unit A?

The stratigraphic relationship between units is not known.

d) Alteration

Three large, very prominent alteration zones are present which are labelled West Zone, Middle Zone and East Zone respectively on the geology map (Figure 5 in pocket). The zones vary in size from the West Zone (100 x 50 metres) to the Middle Zone (500 x 200 metres) with the East Zone being of intermediate size. Characteristic alteration mineralogy consists of intense sericite, silicification, kaolinization and gypsum. In addition the zones are very pyritic though

much of the pyrite has been weathered out producing a strong yellowish limonite gossan.

The core of the altered zones are intensely sericitized and variably silicified. Silicification occurs in several forms, 1) pervasive silicification of sericite schists, 2) silicified pods which vary from tens of centimetres to tens of metres in size and crosscutting quartz veins. The topographic top of the zones are often intensely kaolinized and a white gypsum powder coats exposed surfaces throughout the altered zones. Both the chloritoid schist and meta-sediments are altered in a similar manner and to a similar degree. Gypsum seems to be most abundant within or near the base of kaolinized zones, particularly when an increased concentration of sulphide is present.

Along strike and between the main altered zones as well as above them, small sheared zones with narrow, restricted associated kaolinization and/or sericitization with local sulphide concentration are common. This leads to the conclusion that the main zones are likely structure related. These structures trend subparallel to the foliation. Cross structures trending north or northeastwards are also present but difficult to recognize.

The chloritoid, if an alteration feature, is likely a product of early alteration as it tends to be destroyed as intensity of alteration increases, particularly where silicification is prominent.

e) Mineralization

The altered zones, particularly the sericitic and silicified portions, contain widespread disseminated pyrite and trace chalcopyrite (averages 5%), though the sulphides are often largely weathered out. Two narrow mineralized zones are present associated with fault zones, one below the 'West Zone' and one northeast of the 'East Zone'. Both occurrences are similar and consist of 10-20 centimetres thick semi-massive pyrite-chalcopyrite mineralization associated with silicification, sericitization and kaolinization. Both zones contain enhanced values in copper, lead, zinc, silver and gold. For results refer to Table 2 (sample nos. 926277, 278, 328, 329).

Another showing, which is likely the 'Bx Showing' of earlier workers occurs at about 3500 feet elevation. Mineralization consists of interlocking network of pyrite-chalcopyrite veins which are generally <2 centimetres thick. Old workings consist of an adit and a blasted trench. Two continuous

TABLE 2  
SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926232	East Zone	2.0 m chip	Phyllite 1% Py	134	23	41	0.2	17	7
926233	East Zone	2.0 m chip	Quartz-Ser Schist-1% Py	76	68	18	0.6	16	6
926234	East Zone	2.0 m chip	Quartz-Ser Schist	37	15	28	0.2	14	5
926235	East Zone	2.0 m chip	Quartz-Ser Schist	58	18	43	0.2	12	2
926236	East Zone	2.0 m chip	Quartz-Ser Schist	19	7	11	0.1	8	1
926237	East Zone	2.0 m chip	Qtz-Ser- Musc Schist	15	15	2	0.1	16	9
926238	East Zone	2.0 m chip	Qtz-Ser- Schist	7	13	2	1.7	5	13
926239	East Zone	2.0 m chip	Quartz-Ser Schist	6	10	1	0.2	8	7
926240	East Zone	2.0 m chip	Quartz-Ser Schist	5	7	1	0.4	2	26
926241	East Zone	0.5 m chip	Chlor-Bio Schist	48	6	24	0.5	10	3

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926242	East Zone Above Upper Adit	1.5 m chip	Chlor-Bio Schist	96	10	96	0.2	176	6
926243	East Zone Above Upper Adit	1.0 m chip	Chl-Bio-Sch Some Fe Carb	49	12	101	0.1	308	9
926244	East Zone Lower Adit Portal	1.0 m chip	Qtz-Chl-Bio Schist	36	20	134	0.1	21	1
926245	East Zone	Grab-Float Upper Adit Dump	Massive Py	1806	53	97	0.7	31	21
926256	East of East Zone	2.0 m chip 2% Py	Qtz-eyed Ser Schist	91	696	786	1.8	22	4
926257	East of East Zone	2.0 m chip 2% Py	Qtz-eyed Ser Schist	43	27	23	0.2	30	6
926258	East of East Zone	2.0 m chip 2% Py	Qtz-eyed Ser Schist	6	21	3	0.1	7	6
926259	East of East Zone	2.0 m chip 2% Py	Qtz-eyed Ser Schist	4	39	2	0.2	11	8
926260	NE of East Zone	1.0 m chip Qtz Veined	Qtz-Ser Phyllite	18	29	143	0.2	8	5

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926261	East of East Zone	2.0 m chip Fe Carb Veins	Chloritoid-Ser Schist	16	6	36	0.2	22	2
926262	East of East Zone	2.0 m chip, 1% Py Qtz Clots	Chloritoid-Ser Schist-Calcareous	60	5	50	0.1	25	1
926263	East of East Zone	1.0 m chip, Limonitic Qtz Clasts	Qtz-Ser Schist	4	3	1	0.2	5	1
926264	West End Middle Zone	Grab-10% Py Qtz-Py Veins	Platy Ser Schist	19	18	5	0.3	13	15
926271	West Zone	1.0 m chip w/massive Qtz Blocks	Qtz-Ser Schist	7	17	6	0.1	5	4
926272	West Zone	1.0 m chip, 1% Py	Sericitic Grit	39	15	51	0.1	6	3
926273	West Zone	2.0 m chip and Bleached	Grit, Sericitic	4	163	4	0.2	12	5
926274	West Zone	1.0 m chip, Qtz Veined	Grey Phyllite	35	27	249	0.1	13	1
926275	west Zone	1.0 m chip, Veined, Gypsum	Chloritoid-Ser Schist Calcareous	26	14	57	0.1	12	1

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926276	West Zone	1.0 m chip, Tr Py	Argillaceous Breccia	40	14	81	0.1	11	2
926277	Below West Zone	Mineralized Zone Grab, Py-Cp-10%	Silicified Ser Schist Brecciated Sulphide Filled	5892	202	3352	9.9	23	240
926278	Below West Zone	Same Mineralized Zone, 0.7 m chip 15-20% Py-Cp	Same, more Sulphide	12187	52	828	13.1	85	340
926279	Below West Zone	1.0 m chip	Massive Fe-Carb Altered Zone	28	4	49	0.1	9	1
926281	East Zone	0.5 m chip, 2-4% Py below Upper Py Zone	Silicified Sericitic Schist	44	11	7	0.4	43	9
926282	East Zone Upper Py Zone	Grab from Face of Adit Py, Cp	Massive Py	26781	107	813	14.6	398	190
926283	East Zone	0.9 m chip, Fw? to massive Py Zone Seams & Qtz Veins	Silicified Ser Schist Pyritic	616	38	241	0.5	112	17
926284	East Zone Upper Py Zone	1.5 m chip, Py, Po, Cp-Weathered	Massive Py	16870	69	241	10.2	486	240

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926285	East Zone Upper Py Zone	1.0 m chip, 4 m West of #284	Massive Py Fresher Sample	2497	90	73	1.9	781	450
926286	East Zone Upper Py Zone	Grab Sample from Test Pit 3 m West of #285	Massive Py Fresher Sample	6897	113	135	3.8	917	420
926287	East Zone Below Py Zone	1.0 m chip, 1% Py	Silicified Sericitic Schist	15	15	5	0.3	4	6
926288	East Zone Above Py Zone	0.5 m chip, 2-4% Py, Malachite	Bleached, Chloritic Schist	34	6	88	0.2	7	1
926289	Bx Showing	2.0 m chip, Fracture Py, Cp	Chloritoid Schist Silicified + Bleached	9001	6	380	6.3	29	5
926290	Bx Showing	2.0 m chip, Fracture Py, Cp	Chloritoid Schist Silicified + Bleached	11846	20	243	12.0	48	11
926291	East Zone (East of)	Float Boulder of Semi Massive Py-Cp	Host is Phyllite (metasediment)	3474	20	86	1.6	232	13
926292	Middle Zone	20 cm chip of Fe-Carb Bearing Qtz Veins	Quartz Vein	53	7	215	0.1	9	2



TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926293	Middle Zone	0.5 m chip Tr Py	Chloritoid- Ser Schist Limonitic	57	162	158	1.2	8	20
926294	Middle Zone	0.5 m chip, Tr Py Qtz- Carb Veined	Chloritoid- Ser Schist	42	21	75	0.2	37	7
926295	Middle Zone	30 cm chip Fe Carb Veins, Py	Chloritoid Schist	144	10	47	0.1	8	1
926296	Middle Zone	1.0 m chip Tr-1% Py	Qtz Veins in Chloritoid Schist	9	2	8	0.1	2	1
926297	Middle Zone	1.2 m chip Sheeted Qtz- Py Veins	Chloritoid- Schist	79	8	20	0.2	7	1
926298	Middle Zone	1.0 m chip	Same	257	8	30	0.2	12	2
926299	Middle Zone	Composite Chip	Silicified Pod in Chloritoid Schist	7	4	1	0.1	2	1
926300	Middle Zone	Composite Chip Tr Cp	Same	389	21	70	0.5	26	5
926301	Middle Zone	5.0 m chip Tr Cp?	Same	75	3	23	0.1	10	1

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926302	Middle Zone	Composite Chip-Sericitic	Silicified Pods in Chloritoid Schist	16	2	2	0.1	2	1
926303	Middle Zone	Core Sample, over 25 ft-30-50 ft in Hole	Chloritoid-Ser Schist	75	7	21	0.1	8	1
926304	Middle Zone	Core, over 4' Around 115 ft+ in Hole	Qtz Vein in Chloritoid Schist	243	8	42	0.3	8	1
926305	Middle Zone	Core, Over 25 ft, Tr-1% Py	Chloritoid-Ser Schist	130	6	35	0.1	7	1
926306	Middle Zone	Composite Chip 5% Py	Silicified Sericitic Schist	28	33	63	0.1	8	1
926307	Middle Zone	Talus Fines Base of Altered Zone	-	109	17	16	0.3	8	2
926308	Middle Zone	Same	-	197	11	32	0.2	13	4
926309	Middle Zone	Same	-	236	22	90	0.2	11	1
926310	Middle Zone	Same	-	144	16	77	0.2	7	1
926311	West Zone	Talus Fines West End of Zone	-	45	109	106	0.3	22	10

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926312	West Zone	0.5 m chip Qtz/Carb Veins w/Py	Chloritoid- Ser Schist	23	9	75	0.1	8	2
926313	West Zone	1.0 m chip Tr-1% Py	Silicified & Sericitic Metasediments	5	10	2	0.1	4	1
926314	West Zone	1.0 m chip, 1-2% Py Qtz/Fe Carb Veins	Ser Schist	40	9	77	0.1	10	1
926315	West Zone	Composite Chip 5% Py	Silicified- Ser Schist	18	35	3	0.3	26	1
926316	West Zone	Composite Chip	Qtz-Py Lenses in Sericitic Schist	145	9	98	0.1	16	1
926317	West Zone	Composite Chip 5% Py	Silicified- Ser Schist	24	61	420	0.4	41	8
926318	West Zone	Talus Fines Base of Altered Zone	-	61	18	69	0.1	11	1
926319	West Zone	Same	-	26	11	58	0.2	9	1
926320	West Zone	Same	-	26	15	25	0.1	11	1
926321	East Zone	Same	-	200	51	22	1.4	199	21

TABLE 2 (continued)

SAMPLE LIST

SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926322	East Zone	Talus Fines	-	130	215	103	3.1	186	68
926323	East Zone Upper Py Zone	2.0 m chip, Weathered	Massive Py	1050	106	236	1.7	221	71
926324	East Zone	Talus Fines	-	148	313	90	1.5	80	13
926326	East of East Zone	Composite Chip	Sericitic Grit	24	10	45	0.3	27	15
926327	East of East Zone	Grab (Higraded) 2-5% Py+ Galena	Sericitic Grit	46	4743	2248	4.8	2	13
926328	East of East Zone Mineralized Zone	10 cm chip across Pyritic Vein 15% Py	Grit & Sericite Schist	102	50	115	1.7	17	33
926329	East of East Zone Same Zone 20m to West	30 cm chip w/some Massive Py, Cp	Mineralized Sericitic Schist	6025	303	4162	6.7	65	132
926332	Between East & Middle Zones	1.0 m chip Qtz Veinlets	Carbonate	36	14	60	0.1	12	1
926333	Between East & Middle Zones	Grab-5% Py Qtz-Carb Veinlets	Sericite- Chlorite Schist-Calcareous	98	9	47	0.2	13	1
926342	East Zone	Grab from Lower Adit Dump Po, Cp	Dolomite?	4988	260	461	9.4	10	185

TABLE 2 (continued)

SAMPLE LIST

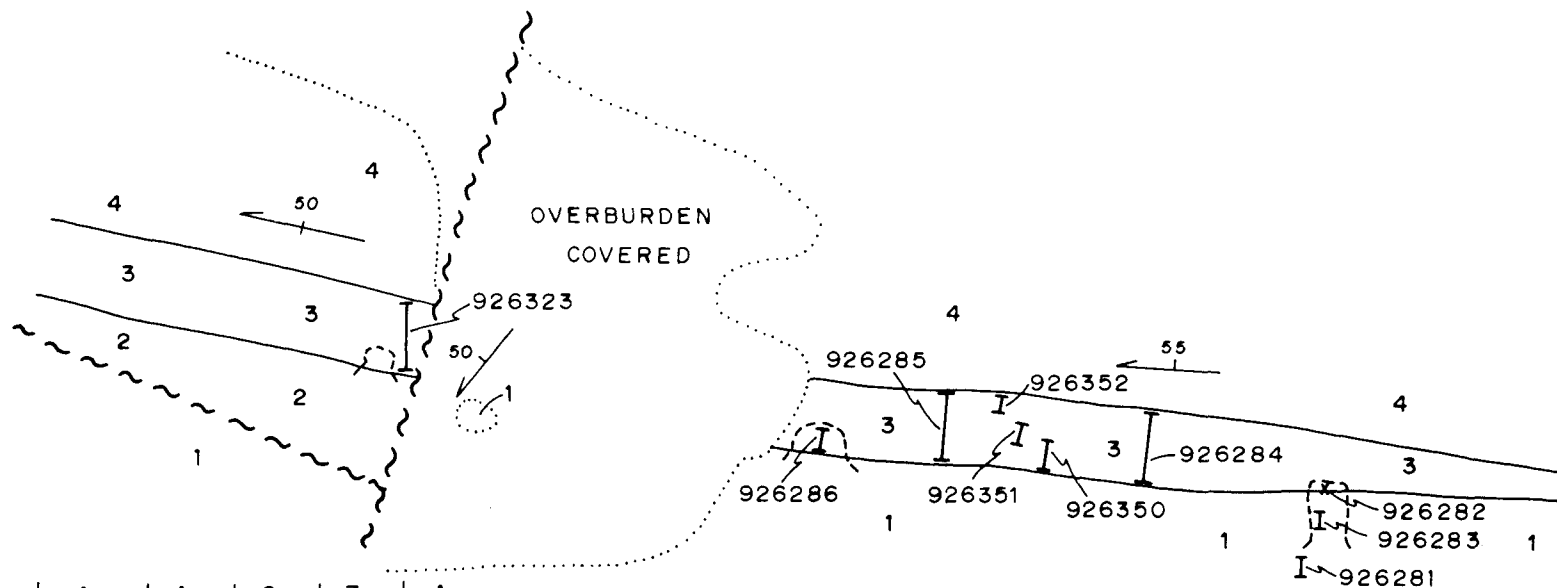
SAMPLE NO.	APPROX. LOCATION	DESCRIPTION	ROCK TYPE	RESULTS					
				ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm As	ppb Au
926343	East Zone	Grab from Lower Adit Dump Po, Py, Cp	Dolomite?	4665	274	223	8.7	89	101
926345	East of East Zone	Sample across 1m Sulphide Fractures only	Qtz-eyed Ser Schist	2994	143	483	2.0	203	38
926346	East of East of Zone	20 cm chip 10-12% Py	Brecciated, Silicified, Ser Schist	144	54	10	0.7	170	39
926347	East of East Zone	30 cm chip 2-4% Py	Qtz-eyed Ser Schist Fragmental	19	36	4	0.4	34	10
926348	Near South Claim Line	1.0 m chip 1% Py	Chloritic Schist-Carb Altered	55	7	81	0.1	18	1
926349	Near South Claim Line	Grab 1% Py, Po	Chl Schist	45	2	52	0.1	2	1
926350	East Zone Upper Py Zone	1.0 m chip, bottom of Sulphides	Massive Py	21876	62	353	12.3	178	80
926351	East(Upper Py Zone)	20 cm chip- Middle of Sulphides	Massive Py	162	96	13	1.5	886	395
926352	Same	30 cm chip- Top of Sulphides	Same	20361	60	396	12.0	218	118
926353	West of Middle Zone	25 cm chip- 10% Py	Chloritoid Schist	50	11	56	0.1	3	1
926354	Same	Grab-2% Py	Chloritoid Schist	12	2	5	0.1	5	1

samples of 2 metres each were taken from the trench and results average 1% copper and 6 g/t Ag over four metres. Higher grade material is present in the adit dump, however the adit was not investigated.

The most significant mineralized zone exposed occurs part way down the cliff face near the top of the East Zone. Mineralization consists of a coarse-grained massive pyrite zone approximately 2 metres thick and exposed for about 25 metres along strike. The zone appears to be conformable to the foliation. Figure 4 is a longitudinal section of the exposed occurrence looking north into the cliff face showing geology, sample locations and results. The zone is enhanced in copper, gold, silver and arsenic, and weakly enhanced in zinc. The sulphides are strongly weathered and in general the fresher samples tend to yield better results. Results indicate a relationship between gold and arsenic and one between copper and silver.

The mineralization is hosted by altered metasediments which are sericitic and silicified underlying mineralization and kaolinized and dolomite veined above mineralization.

Faulting near the west end has resulted in some rotation of the mineralization and enclosing strata as well as producing



SAMPLE NO.	Au ppb	Ag ppm	Cu ppm	Zn ppm	As ppm
926281	9	0.4	44	7	43
926282	190	14.6	26781	813	398
926283	17	0.5	616	241	112
926284	240	10.2	16870	241	486
926285	450	1.9	2497	73	781
926286	420	3.8	6897	135	917
926323	71	1.7	1050	236	221
926350	80	12.3	21876	353	178
926351	395	1.5	162	13	886
926352	118	12.0	20361	396	218

#### LEGEND

- 4 Siliceous, biotitic schist, kaolinized, gypsum, with sulphide and dolomite-sulphide fractures
- 3 Massive pyrite
- 2 Breccia zone - siliceous sericite schist + sulphide fragments
- 1 Silicified sericite schist, pyritic
- ADITS & TEST PITS



NOTE: Dips are into the page.

SELCO DIVISION - BP RESOURCES CANADA LIMITED			
<b>FORTUNA PROPERTY</b>			
<b>UPPER MASSIVE PYRITE ZONE</b>			
<b>GEOLOGY &amp; RESULTS</b>			
<b>LONGITUDINAL SECTION PROJECTED</b>			
<b>LOOKING NORTH</b>			
SCALE	1:200	DRAWN BY:	R.F.
DATE	DEC 1986	DRAFTED BY:	E.B.W.
N.T.S.	92P/1E	PROJ.	10112
		REPORT	BPVR86-15
			FIG. 4

a brecciated zone below the sulphides. The brecciated zone consists of fragments of both sulphide and underlying silicified sericite schist.

The apparent relationship between gold and arsenic may suggest that areas enhanced in arsenic are indicative of proximity to gold mineralization. One such prospective area is the quartz-eyed sericite schist where arsenic values vary from 25 ppm to 200 ppm and massive pyrite-chalcopyrite fractures up to 4 centimetres thick are locally present. The present survey did not assess the potential for platinum. Massive pyrrhotite mineralization said to carry values in platinum was not encountered and no samples were analyzed for platinum.

#### LITHOGEOCHEMISTRY

During the course of geological mapping rock chip samples were routinely collected. In general samples were collected only from areas of alteration and/or mineralization. A total of 93 samples were collected, 82 rock chip and 11 talus fines. Rock chip samples were analyzed for ICP, Au, Hg and talus samples for ICP and Au. All samples were sent to Acme Analytical Labs Ltd. of Vancouver.



Sample locations are plotted on Figure 6 (in pocket). Table 1 provides a listing of the samples collected with selected results. A complete listing of results can be found in Appendix III and 'location' refers to features indicated on Figure 6.

Numerous pyritic sulphide occurrences are present on the property and tend to be enhanced in copper, lead, zinc, silver, arsenic and gold. Gold content appears to be directly related to arsenic content and a similar relationship appears to be present between copper and silver. This is best demonstrated by results from the Upper Pyrite Zone (Figure 4 and Table 2). Furthermore, significant arsenic and therefore gold values only seem to be present in samples which are also enhanced in base metals, however there does seem to be a weak arsenic enrichment adjacent to these sulphide zones (i.e. sample 926281 & 926283 below the massive pyrite zone - Figure 4). From this, areas weakly enhanced in arsenic may be indicative of proximity to sulphide/precious metal mineralization (for example the quartz-eyed sericite schist unit east of the East Zone, samples #345-#347). Weathering may also be a factor, for example, at the upper pyrite zone fresher samples tend to yield higher grades for both precious and base metals. Earlier workers stated that massive pyrrhotite mineralization encountered in the lower adit (now caved) carried values in gold. While this mineralization

could not be sampled material from the lower adit dump containing disseminated pyrrhotite carried 100 ppb gold. It is conceivable that more massive mineralization of this type could carry better gold values this could only be verified by drilling or reopening of the adit.

Talus samples collected at the base of the exposed East Zone alteration are weakly enhanced in copper (100-200 ppm), arsenic (80-200 ppm) and gold (20-60 ppb), indicating that this method did identify the presence of the upper pyrite zone mineralization upslope. Systematic contour talus fines sampling along the slope below the alteration zones should help identify exposed mineralization in areas inaccessible to traverse.

#### CONCLUSIONS

A program of geological mapping and lithogeochemical sampling was carried out on the Fortuna property between August 21st and November 5th, 1986. The property is underlain primarily by metasediments and chloritoid schist, which strike NW and dip  $45^{\circ}$ - $60^{\circ}$  NE. An exposure of serpentinite occurs in the southern portion of the claims, however how extensive this unit is or what its relationship is to alteration or mineralization is not known.

Three large prominent alteration zones and many small ones are present. Alteration consists of sericite, silicification,

kaolinization, gypsum and pyritization. Alteration is related to northeast trending shear zones. Northeast trending faults are also common and areas of intersection may be important locations for concentration of mineralization.

Numerous zones of massive pyrite-chalcopyrite mineralization are present associated with northwest trending faults. Mineralization varies from a few centimetres to in excess of two metres thick and are enhanced in copper, lead, zinc, silver, arsenic and gold. Massive pyrrhotite is also reported to be present in the lower adit which apparently carries values in copper, nickel, gold, silver and platinum. However the adit is caved and the zone was not investigated. Best grades are from the upper massive pyrite zone where grab samples carry 2.68% copper, 14.6 g/t Ag, 0.69% Cu, 420 ppb Au, and 917 ppm As.

Although results of economic grade have not been obtained, the complex structure and broad areas of intense hydrothermal alteration combined with enhanced values in base and precious metals is considered to be encouraging.

#### RECOMMENDATIONS

- (1) Carry out a ground geophysical surveys utilizing VLF and magnetic methods in the East Zone area where most of the

altered zone is accessible. Pyrrhotite bearing sulphides and structures should respond and aid in the location of drill sites.

- (2) Diamond drill the East Zone. Drilling is the only method of truly testing the property and the only way to determine if sulphides encountered in the lower adit carry significant values in gold as reported.

REFERENCES

1. B.C. Minister of Mines Annual Reports: 1907 p. 220;  
1908 p. 123; 1913 p. 209; 1914 p.514;  
1917 p.236.
2. British Columbia Assessment Reports #8858, #10,008.

MAPS

Schiarizza, P. and Preto, V.A. (1984): Geology of the Adams Plateau-Clearwater Area. B.C. Ministry of Energy, Mines and Petroleum Resources, Preliminary Map No.56.

APPENDIX I

COST STATEMENT

COST STATEMENTGEOLOGICAL SURVEY

August 21st to November 5th, 1986

R. Farmer, Project Geologist	- 14 mandays @ \$150/day	\$2100.00
A. Findlay, Senior Geologist	- 2 mandays @ \$200/day	400.00
P. Friz, Assistant	- 3 mandays @ \$90/day	<u>270.00</u>

Subtotal Geology	<u>\$2770.00</u>
------------------	------------------

ACCOMMODATION

1. Motel	12 mandays @ \$32/day	\$ 384.00
2. Meals	12 mandays @ \$25/day	<u>300.00</u>

Subtotal Accommodation	<u>\$ 684.00</u>
------------------------	------------------

TRANSPORTATION

1. 4x4 truck lease - 1/2 month @ \$420/month	\$ 210.00
2. Fuel - 14 days @ \$5/day (average)	<u>70.00</u>

Subtotal Transportation	<u>\$ 280.00</u>
-------------------------	------------------

ANALYTICAL

1. 82 rock chip samples for ICP, AU, Hg	
82 @ \$15/each	\$1230.00
2. 11 soil (talus) samples for ICP, Au	
11 @ \$10.75/each	<u>118.00</u>

Subtotal Analytical	<u>\$1348.00</u>
---------------------	------------------

COST STATEMENT (continued)REPORT PREPARATION

1. Report writing - R. Farmer 6 days @ \$150/day	\$ 900.00
2. Drafting and reproduction 3 person days @ \$200/day	600.00
3. Typing 1 person day @ \$100/day	<u>100.00</u>

Subtotal Report \$1600.00

TOTAL COST OF SURVEY \$6682.00  
=====



COST ALLOCATION

Grouped as JM Group (JM 1, Fortuna, Fortuna #1, #2, #3, #4 Fr)

Total Cost of Survey	\$6682.00
Withdrawal from BP Resources Canada Limited PAC Account	<u>1418.00</u>

TOTAL APPLIED FOR ASSESSMENT	\$8100.00 =====
------------------------------	--------------------

JM 1 Claim,	18 Units	-	\$5400.00, 3 years applied
Fortuna Claim,	1 Unit	-	\$ 600.00, 3 years applied
Fortuna #1 Claim,	1 Unit	-	\$ 600.00, 3 years applied
Fortuna #2 Claim,	1 Unit	-	\$ 500.00, 3 years applied
Fortuna #3 Claim,	1 Unit	-	\$ 500.00, 3 years applied
Fortuna #4 Claim, Fraction		-	<u>\$ 500.00</u> , 3 years applied
		TOTAL	\$8100.00 =====

APPENDIX II

CERTIFICATE OF AUTHOR

CERTIFICATE OF AUTHOR

I, Randy Farmer, of #110 - 44 Whiteshield Crescent South,  
Kamloops, British Columbia, hereby certify that:

- 1) I am a geologist residing at the above address.
- 2) I graduated from Lakehead University, Thunder Bay,  
Ontario, with an Honours B.Sc. Degree (1980) in geology.
- 3) I have practised my profession for more than 6 years.
- 4) I carried out the geological and lithogeochemical surveys  
which are the subject of this report and can attest to  
the results described herein.
- 5) I hold no interest, direct or indirect, in the Fortuna  
Property which is the subject of this report.



Randy Farmer  
Project Geologist

December 1, 1986

APPENDIX III

GEOCHEMICAL RESULTS - ASSAY SHEETS

ACME ANALYTICAL LABS LTD.

RECEIVED  
 AUG 27 1986  
 SELCO - BP RESOURCES  
 VANCOUVER, B.C.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1041

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS REACH IS PARTIAL FOR MN, FE, CA, P, CR, HG, BA, TI, B, AL, NA, K, W, SI, ZR, CE, SH, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: ROCK CHIPS AUI ANALYSIS BY AA FROM 10 GRAM SAMPLE. Hg ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: AUG 25 1986 DATE REPORT MAILED: *Aug 27/86* ASSAYER: *D. Payne* ... DEAN TOYE. CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 10112-565 FILE # 86-2244 PAGE 1

SAMPLE#	Na	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Tb	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au	Hg
	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH	PPH

[REDACTED]

F0507100

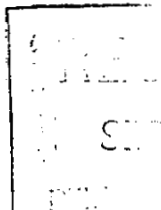
8186565 926232	1	134	23	41	.2	7	8	175	2.80	17	5	ND	3	6	1	2	2	1	.09	.021	8	4	.06	26	.01	3	.19	.01	.10	1	7	10
8186565 926233	1	76	68	18	.6	2	4	43	1.41	16	5	ND	4	3	1	2	2	1	.01	.012	8	3	.02	26	.01	2	.16	.01	.10	1	6	5
STD C	21	57	44	130	6.8	64	29	1041	3.72	41	22	8	31	44	18	15	17	58	.44	.102	35	55	.84	164	.07	38	1.62	.06	.13	15	4	-
8186565 926234	1	37	15	28	.2	2	2	133	1.22	14	5	ND	3	3	1	2	2	1	.02	.012	7	1	.02	22	.01	2	.12	.01	.08	1	5	20
8186565 926235	1	58	18	43	.2	5	4	171	1.69	12	5	ND	4	6	1	2	2	1	.06	.015	8	3	.03	28	.01	2	.17	.01	.11	1	2	10
8186565 926236	1	19	7	11	.1	3	1	45	.73	8	5	ND	4	4	1	2	2	1	.02	.008	9	3	.01	26	.01	2	.13	.01	.09	1	1	5
8186565 926237	1	15	15	2	.1	3	1	47	1.40	16	5	ND	2	4	1	2	5	4	.01	.020	4	3	.01	22	.01	2	.12	.01	.10	1	9	5
8186565 926238	2	7	13	2	1.7	3	1	49	.83	5	5	ND	2	4	1	2	10	1	.01	.006	6	4	.01	35	.01	2	.09	.01	.11	1	13	10
8186565 926239	1	6	10	1	.2	4	1	43	.66	8	5	ND	2	4	1	2	6	2	.04	.009	7	3	.01	35	.01	2	.12	.01	.11	1	7	5
8186565 926240	2	5	7	1	.4	1	1	36	.40	2	5	ND	2	2	1	4	3	1	.01	.004	6	4	.01	23	.01	2	.09	.01	.08	1	26	5
8186565 926241	1	48	6	24	.5	11	6	592	1.90	10	5	ND	3	22	1	2	5	2	.91	.024	9	4	.49	21	.01	2	.25	.02	.10	1	3	5
8186565 926242	1	96	10	96	.2	30	14	917	3.52	176	6	ND	5	12	1	2	2	1	.35	.025	8	5	.28	22	.01	4	.29	.01	.10	1	6	5
8186565 926243	1	49	12	101	.1	18	11	1679	4.13	308	5	ND	6	12	1	2	3	1	.35	.036	14	3	.40	24	.01	4	.29	.01	.12	1	9	5
8186565 926244	1	36	10	134	.1	17	7	765	1.62	21	5	ND	7	10	1	2	2	1	.33	.010	11	3	.25	18	.01	2	.20	.01	.09	1	1	5
8186565 926245	1	1806	53	97	.7	24	48	1813	34.14	31	5	ND	2	7	1	2	3	2	.40	.021	5	4	.84	7	.01	2	.18	.01	.04	1	21	150

STD C/AU 0.5 21 58 44 137 7.0 66 30 1098 3.93 41 19 8 32 48 17 15 17 62 .48 .106 37 59 .88 179 .08 36 1.73 .06 .14 13 493 1300



FOOTUNA

RANDY.



ACME ANALYTICAL LABORATORIES LTD.

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

PHONE 253-3158

DATA LINE 251-10.1

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SM.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCKS AND SOIL -BOMESH AUM ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: AUG 30 1986

DATE REPORT MAILED: *Sept 4/86*

ASSAYER: *D. J. ...* DEAN TOYE, CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 10112 FILE # 86-2387

PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Ti	B	Al	Na	K	W	Au	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	I	PPM	PPM	I	PPM	I	PPM	I	I	I	PPM	PPB	PPB
8186565 926271	1	7	17	6	.1	3	1	30	.71	5	5	ND	2	3	1	2	2	2	.07	.004	6	2	.03	27	.01	2	.13	.02	.08	1	4	20
8186565 926272	1	39	15	51	.1	7	5	313	2.03	6	5	ND	5	5	1	2	2	2	.11	.020	9	7	.14	22	.01	2	.27	.01	.10	1	3	5
8186565 926273	4	4	163	4	.2	2	1	29	1.48	12	5	ND	1	6	1	2	2	5	.07	.040	2	4	.01	47	.01	2	.15	.01	.19	1	5	50
8186565 926274	1	35	27	249	.1	16	10	575	4.04	13	5	ND	7	4	1	2	2	2	.03	.045	15	5	.09	29	.01	2	.37	.01	.11	1	1	10
8186565 926275	1	26	14	57	.1	18	11	989	2.75	12	5	ND	3	10	1	2	3	2	.65	.016	8	4	.77	23	.01	2	.40	.01	.10	1	1	5
8186565 926276	3	40	14	81	.1	23	12	1117	3.34	11	5	ND	4	26	1	2	2	6	1.35	.044	10	8	2.44	26	.01	2	.63	.01	.11	1	2	10
8186565 926277	5	5892	202	3352	9.9	31	27	835	10.92	23	5	ND	2	4	5	5	28	10	.03	.012	7	15	.12	22	.01	2	.39	.01	.09	1	240	12400
STD C	21	56	40	129	6.9	64	30	1065	3.76	38	19	7	31	48	16	15	19	63	.49	.099	36	65	.86	170	.09	35	1.79	.06	.14	12	-	1300
RE 8186565 926275	1	25	17	58	.1	21	11	1002	2.77	10	5	ND	3	10	1	2	2	2	.65	.016	9	5	.78	23	.01	3	.41	.01	.10	1	1	10
8186565 926278	3	12187	52	828	13.1	27	44	116	11.29	85	5	ND	1	3	1	5	25	5	.10	.005	9	4	.04	10	.01	2	.12	.01	.04	1	340	3000
8186565 926279	1	28	4	49	.1	13	8	658	2.64	9	5	ND	8	84	1	2	2	3	4.00	.054	24	4	1.03	32	.01	2	.47	.05	.13	1	1	70
<del>8186565 926279</del>	<del>1</del>	<del>28</del>	<del>4</del>	<del>49</del>	<del>.1</del>	<del>13</del>	<del>8</del>	<del>658</del>	<del>2.64</del>	<del>9</del>	<del>5</del>	<del>ND</del>	<del>8</del>	<del>84</del>	<del>1</del>	<del>2</del>	<del>2</del>	<del>3</del>	<del>4.00</del>	<del>.054</del>	<del>24</del>	<del>4</del>	<del>1.03</del>	<del>32</del>	<del>.01</del>	<del>2</del>	<del>.47</del>	<del>.05</del>	<del>.13</del>	<del>1</del>	<del>1</del>	<del>70</del>
STD C/AU-0.5	22	59	36	136	7.1	71	31	1108	3.94	40	20	8	32	48	17	16	20	62	.48	.110	36	60	.88	178	.08	36	1.73	.06	.13	12	490	1300

30.

FORTUNA

ACME ANALYTICAL LABORATORIES LTD.

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

PHONE 253-3158

DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, Tl, B, AL, NA, K, W, SI, ZR, CE, SN, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK CHIPS AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: SEPT 18 1986

DATE REPORT MAILED: *Sept 23/86*

ASSAYER: *D. Toyne* DEAN TOYNE, CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 220-10112 FILE # 86-2743

PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	%	%	%	%	PPM	PPB	PPB
8186565 926281	1	44	11	7	.4	5	9	33	2.44	43	5	ND	2	3	1	2	2	1	.09	.005	6	2	.02	23	.01	2	.12	.01	.08	1	9	10
8186565 926282	5	26781	107	813	14.6	76	119	1364	28.26	398	5	ND	2	2	5	11	3	6	.09	.006	10	1	.81	.6	.01	2	.13	.01	.03	1	190	1500
8186565 926283	2	616	38	241	.5	27	27	1248	9.90	112	5	ND	1	14	1	2	3	3	.36	.022	7	7	1.12	24	.01	2	.38	.01	.10	1	17	40
8186565 926284	4	16870	69	241	10.2	35	94	874	27.66	486	6	ND	1	17	4	6	4	7	.76	.008	7	1	.36	5	.01	2	.17	.01	.02	1	240	360
8186565 926285	2	2497	90	73	1.9	9	51	724	21.60	781	8	ND	1	54	1	6	4	6	1.72	.014	12	1	.49	3	.01	3	.15	.01	.01	1	450	150
RE 8186565 926288	1	31	9	89	.1	10	11	1342	5.98	5	5	ND	2	213	1	2	2	1	3.74	.046	9	1	1.50	26	.01	4	.15	.02	.10	1	1	30
STD-C	21	61	40	132	7.0	70	30	1006	3.93	39	19	8	33	46	17	15	20	62	.46	.104	37	57	.85	175	.08	33	1.68	.06	.13	15	1	1300
8186565 926286	2	6897	113	135	3.8	6	79	1139	21.08	917	5	ND	1	50	1	4	3	5	1.77	.003	7	1	.71	2	.01	2	.09	.01	.02	1	420	100
8186565 926287	1	15	15	5	.3	1	2	81	.41	4	5	ND	2	7	1	2	5	1	.38	.003	5	4	.04	17	.01	2	.10	.01	.07	1	6	10
8186565 926288	1	34	6	88	.2	8	11	1351	6.03	7	7	ND	3	215	1	2	2	1	3.76	.046	9	1	1.51	24	.01	3	.15	.02	.11	1	1	30
8186565 926289	4	9001	6	380	6.33	11	50	3219	5.08	29	5	ND	3	65	2	2	3	5	3.39	.011	7	4	1.41	13	.01	2	.40	.01	.05	1	5	90
8186565 926290	4	11846	20	243	12.0	32	90	1796	7.22	48	5	ND	4	8	1	2	2	5	.17	.017	11	6	.22	13	.01	2	.59	.01	.05	2	11	20
8186565 926291	3	3474	20	86	1.6	6	63	189	27.12	232	5	ND	3	3	2	5	7	.20	.03	.010	9	1	.12	8	.01	5	.88	.01	.04	1	13	30
STD-C/AU-R	22	62	38	136	7.0	69	31	1037	3.89	42	16	8	33	49	18	16	20	.64	.48	.108	37	59	.88	181	.09	36	1.72	.06	.13	12	520	1300

31.



FORTUNA

ACME ANALYTICAL LABORATORIES LTD.

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

PHONE 253-3158

DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 MCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, P, NI, SI, ZR, CE, SM, Y, NE AND TA. ALL DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: SOILS/ROCKS/CORES AUI ANALYSIS BY AA FROM 10 GRAM SAMPLE. HF ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: SEPT 21 1986 DATE REPORT MAILED: Sept 26/86 ASSAYER: A. Jones DEAN TOYE, CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 220-10112 FILE # 86-2830

PAGE 1

Table with columns: SAMPLE#, Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, St, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, R, Al, Na, K, W, AuP, Hg. Rows include various sample IDs like 5086220 926307, 5086220 926308, etc., and STD C.

32.

ACME ANALYTICAL LABORATORIES LTD.

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

PHONE 253-3158

DATA LINE 251-1011

## GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, K, W, SI, ZR, CE, SM, Y, NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: SOIL -80 MESH & ROCKS AU: ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: OCT 16 1986 DATE REPORT MAILED: *Oct 18/86* ASSAYER: *D. Dejeu* DEAN TOYE, CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 220-10112 FILE # 86-3226

PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Hg	Ba	Ti	B	Al	Na	K	W	Au	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	I	PPM	PPM	I	PPM	I	PPM	I	I	I	PPM	PPM	PPM	
5086220 926311	2	45	109	106	.3	15	9	218	4.97	22	5	ND	5	21	1	2	2	5	.06	.055	7	6	.18	17	.01	2	.32	.04	.06	1	10	-
8186220 926326	1	24	10	45	.3	8	6	578	4.02	27	5	ND	4	3	1	2	2	2	.28	.015	7	4	.03	16	.01	3	.25	.01	.07	1	15	5
8186220 926327	2	46	4743	2248	4.8	16	8	750	2.81	2	5	ND	4	16	6	4	2	1	1.15	.015	6	5	.10	17	.01	2	.13	.01	.07	1	13	210
8186220 926328	1	182	50	115	1.7	1	20	171	8.88	17	5	ND	1	2	1	3	4	1	.03	.004	3	2	.01	7	.01	2	.04	.01	.03	1	33	160
8186220 926329	5	6025	303	4162	6.7	4	68	2166	24.68	65	5	ND	2	37	13	2	18	15	1.38	.001	11	1	.83	5	.01	2	.91	.02	.03	1	132	660
8186220 926332	4	36	14	60	.1	4	6	1308	4.33	12	5	ND	6	573	1	2	2	4	13.95	.011	6	2	5.49	15	.01	2	.07	.02	.04	1	1	10
8186220 926333	3	98	9	47	.2	7	17	691	4.02	13	5	ND	9	140	1	2	2	12	3.63	.049	11	7	1.28	38	.01	3	.75	.07	.12	1	1	5
STD C/AU-R	21	59	37	133	6.9	70	29	1012	3.95	39	18	7	32	47	17	15	19	62	.48	.104	35	57	.88	177	.08	34	1.73	.06	.13	13	510	1300

ACME ANALYTICAL LABORATORIES LTD.  
**RECEIVED**  
 OCT 29 1986  
 SELCO-BP RESOURCES  
 VANCOUVER, B.C.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011  
**GEOCHEMICAL ICP ANALYSIS**

.50 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MM.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.V.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPK.  
 SAMPLE TYPE: ROCK CHIPS AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: OCT 20 1986 DATE REPORT MAILED: *Oct 23/86* ASSAYER: *A. Toy*. DEAN TOYE. CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 220 10112 FILE # 86-3304 *Banire* PAGE 1

SAMPLE#	Na	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	*Ba	Ti	B	Al	Na	K	W	Au1	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	I	PPM	PPM	I	PPM	I	PPM	I	I	I	PPM	PPB	PPB
0186220 926342	1	4988	260	461	9.4	71	144	3200	31.44	10	5	4	3	4	1	2	2	10	.10	.017	8	9	1.85	9	.01	10	.73	.01	.03	1	185	10
8186220 926343	1	4665	274	223	8.7	62	352	1354	27.40	89	5	ND	4	6	1	2	11	13	.17	.042	2	10	.86	10	.01	8	.82	.01	.05	1	101	30
STD C/AU-R	20	58	40	135	7.2	68	30	1064	3.99	41	18	8	35	50	18	15	19	66	.45	.108	38	61	.84	189	.08	38	1.72	.06	.13	12	-	1300

34.

RECEIVED

NOV 13 1986

ACME ANALYTICAL LABORATORIES LTD.

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

PHONE 253-3158

DATA LINE 251-1011

SELCO - B.P. VANCOUVER

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NR, K, V, SI, ZR, CE, SM, Y, ND AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: ROCK CHIPS AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: NOV 6 1986

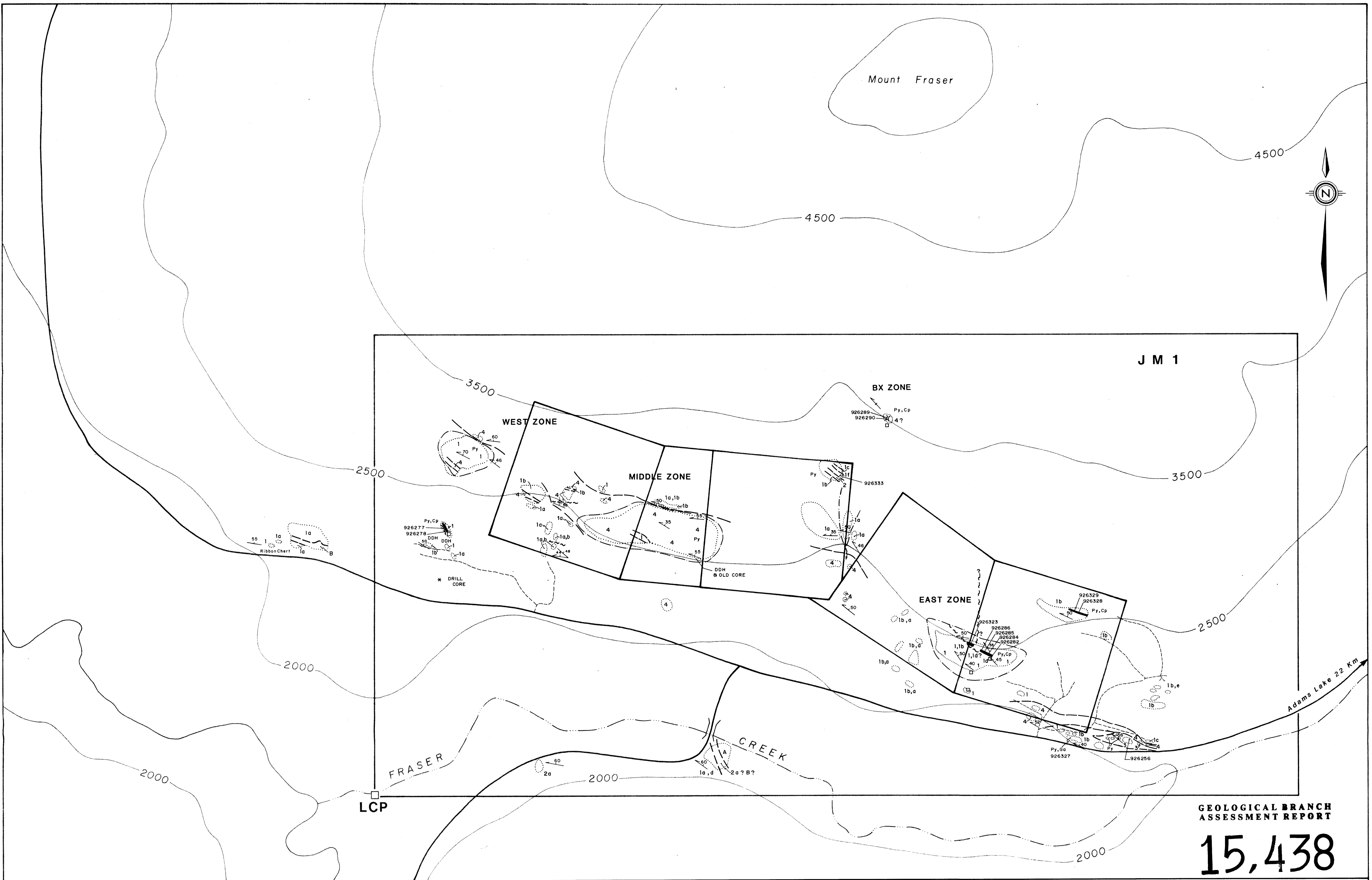
DATE REPORT MAILED: Nov 10/86

ASSAYER: *D. J. Jepsen* DEAN TOYE, CERTIFIED B.C. ASSAYER.

SELCO - A DIVISION OF BP PROJECT - 220-10112 FILE # 86-3579 *Barriere Huber* PAGE 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Ei	V	Ca	P	La	Cr	Hg	Ba	Ti	B	Al	Na	K	W	Au1	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	%	%	%	PPM	PPB	PPB	
8186220 926345	1	2994	143	483	2.0	1	20	474	29.68	203	5	ND	2	8	1	2	12	5	.15	.023	2	3	.34	9	.01	6	.62	.02	.11	1	38	50
8186220 926346	5	144	54	10	.7	25	30	121	14.65	170	5	ND	2	2	1	5	14	3	.05	.003	2	4	.06	12	.01	2	.17	.01	.06	1	39	20
STD C	21	55	41	129	6.8	65	27	972	3.79	38	21	8	33	46	16	15	17	61	.47	.095	36	54	.85	170	.08	34	1.74	.06	.13	14	-	1300
8186220 926347	3	19	36	4	.4	4	6	28	2.85	34	5	ND	2	6	1	2	2	1	.01	.045	2	2	.01	47	.01	3	.21	.02	.17	1	10	20
8186220 926348	1	55	7	81	.1	6	23	1151	7.36	18	6	ND	1	104	1	2	2	221	4.89	.088	7	8	2.01	109	.07	3	2.37	.02	.03	1	1	30
8186220 926349	1	45	2	52	.1	28	18	557	3.54	2	5	ND	1	16	1	2	2	75	1.03	.055	2	58	1.38	25	.50	2	1.53	.10	.03	1	1	10
8186220 926350	1	21876	62	353	12.3	18	231	1706	29.03	178	5	ND	2	3	1	7	2	4	.13	.002	2	2	.82	8	.01	6	.19	.01	.03	1	86	-
RE 8186220 926347	3	17	32	4	.3	6	6	27	2.76	32	5	ND	2	6	1	2	2	1	.01	.044	4	3	.01	46	.01	2	.20	.02	.16	1	13	30
8186220 926351	1	162	46	13	1.5	4	25	86	20.50	886	5	ND	2	2	1	2	10	2	.04	.001	2	2	.06	6	.01	2	.01	.01	.02	1	395	-
8186220 926352	1	20361	60	396	12.0	49	141	1471	29.41	218	5	ND	2	6	1	6	2	6	.36	.004	13	10	.62	6	.01	2	.29	.01	.02	1	118	-
8186220 926353	1	50	11	56	.1	53	28	1438	5.12	3	6	ND	1	57	1	2	2	3	2.31	.020	5	3	1.02	33	.01	2	.28	.02	.11	1	1	20
8186220 926354	1	12	2	5	.1	4	4	40	1.30	5	5	ND	4	3	1	2	2	1	.01	.020	7	3	.01	23	.01	2	.15	.01	.09	1	1	30
STD C/AU-R	21	56	35	132	7.0	67	29	1016	3.96	38	26	6	33	48	17	15	17	63	.48	.103	35	58	.88	181	.08	35	1.73	.07	.13	14	500	1300

35.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

15,438

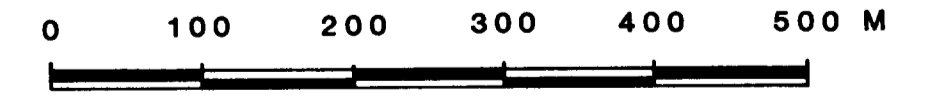
LEGEND:

- B** MAFIC DYKE/SILL  
Fine-coarse grained chl+ bio+amph ± proxene  
may be related to A?
- A** SERPENTINITE

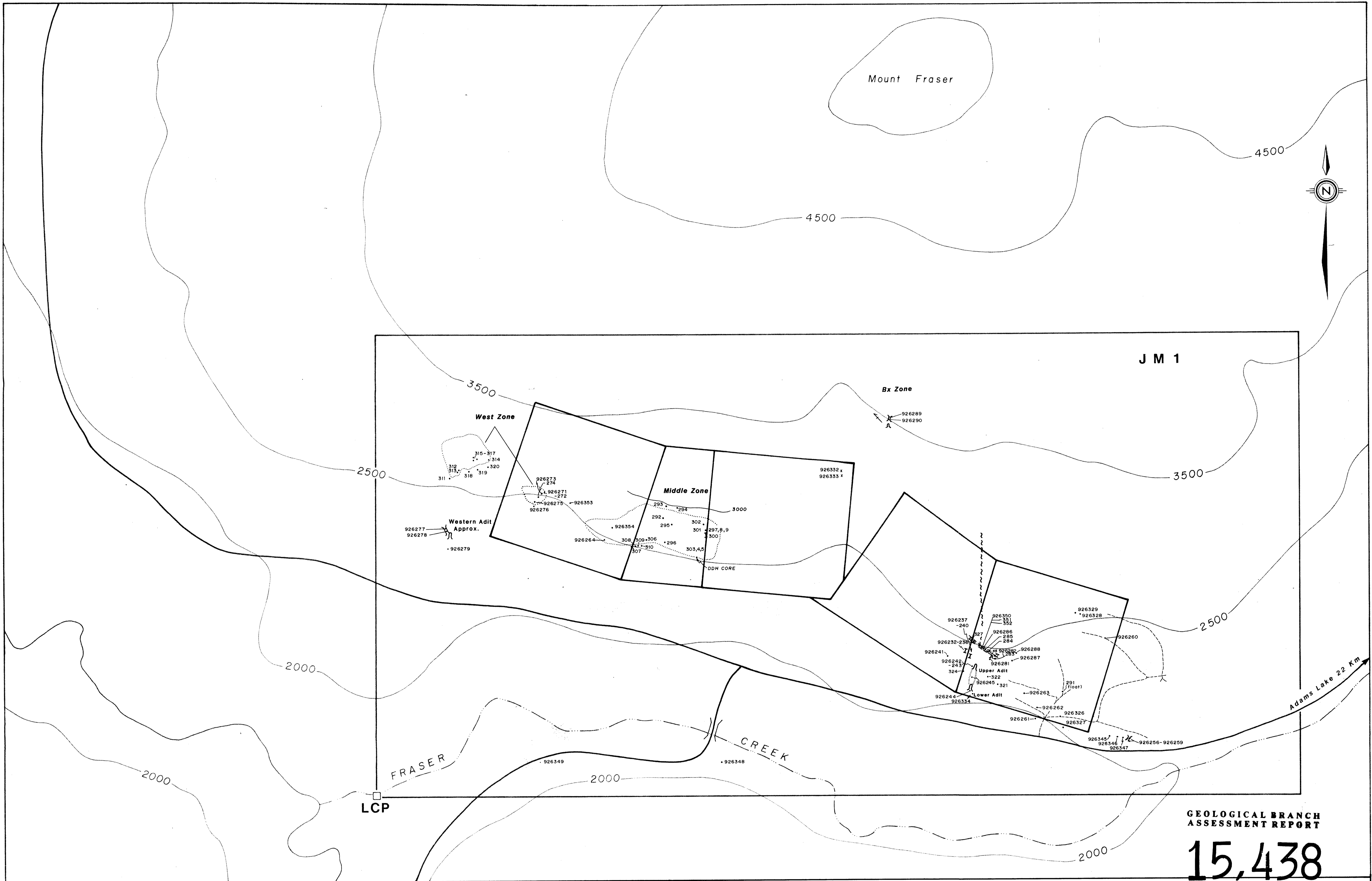
EAGLE BAY FORMATION

- 4** CHLORITOID-SERICITE SCHIST
- 3** QUARTZ EYED SERICITE SCHIST
- 2** CHLORITE SCHIST (Tuff or reworked volcanoclastic ?)  
2a) Mafic volcanic
- 1** METASEDIMENTS-UNDIVIDED
  - a) Argillite, argillaceous breccia
  - b) Sericitic quartz eyed grit
  - c) Dolomitic limestone
  - d) Quartzite
  - e) Sericite and chlorite - sericite schist  
(meta mudstone ?)
  - f) Medium grained limy chlorite-sericite schist

- PROMINENT ALTERATION (SILICIFICATION, SERICITE, KAOLINITE)
- TRENCH
- ADIT
- GEOLOGICAL CONTACT
- CAT TRAIL
- OUTCROP
- MINERALIZED ZONE
- BEDDING
- FOLIATION
- FAULT



SELCO DIVISION - BP RESOURCES CANADA LIMITED			
BARRIERE LAKE PROJECT B.C.			
<b>JM 1 CLAIM AND FORTUNA CROWN GRANTS GEOLOGY</b>			
SCALE 1:5,000	DRAWN BY: R.F.	FIG. 5	
DATE SEPT 1986	DRAFTED BY: EBW		
N.T.S. 82P/1E	PROJ. 10112	REPORT BPVR 86- 16	

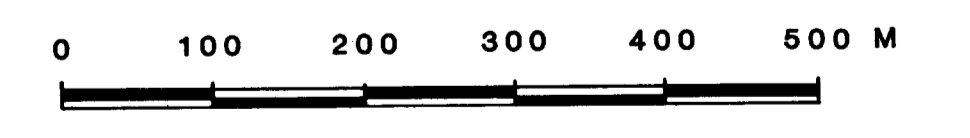


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**15,438**

**Legend**

- 926261 • Sample location
- Outcrop
- - - Fault
- ⋯ Old cat trail



SELCO DIVISION - BP RESOURCES CANADA LIMITED	
<b>BARRIER LAKE PROJECT B.C.</b>	
<b>JM 1 CLAIM AND FORTUNA CROWN GRANTS SAMPLE LOCATION MAP</b>	
SCALE 1:5,000	DRAWN BY: R.F.
DATE SEPT 1986	DRAFTED BY: EBW
N.T.S. 92P/1E	PROJ. 10112
REPORT BPVR 86- 16	FIG. 6