1992 GEOLOGICAL AND GEOCHEMICAL REPORT ON THE SWAN PROPERTY

Located on the Nechako Plateau
Omineca Mining Division
NTS 93F/6E,W
53° 21′ North Latitude
125° 15′ West Longitude

-prepared for-
BULL PINE EXPLORATIONS LTD.

-prepared by-
David A. Caulfield, P.Geo.

September, 1992

1992 GEOLOGICAL AND GEOCHEMICAL REPORT ON THE SWAN PROPERTY

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1.0 INTRODUCTION

The Swan property is located on the Nechako Plateau, approximately 120 kilometres southwest of Vanderhoof in central British Columbia. It is underlain by felsic and andesitic Hazelton Group volcanics which have been intruded by the Cretaceous Capoose Batholith. Previous exploration on the property was carried out by Rio Tinto Canadian Exploration Ltd. in 1970 and by BP Minerals Ltd. in 1983. This work led to the recognition of a 1,500 metre long lead-zinc-arsenic soil geochemical anomaly overlying the contact between rhyolites and argillites. The property was staked by Bull Pine Explorations Ltd. in 1991 for its volcanogenic massive sulphide potential.

Limited mapping and sampling were carried out over the Swan property in June 1992. Equity Engineering Ltd. conducted this exploration program for Bull Pine Explorations Ltd. and has been retained to report on the fieldwork.

2.0 LIST OF CLAIMS

Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the Swan 1 claim (Figure 2), located in the Omineca Mining Division, is owned by Bruno Kasper. Separate documents indicate that it is held in trust for Bull Pine Explorations Ltd.. Claim data for the Swan property is summarized in Table 2.0.1.

TABLE 2.0.1
CLAIM DATA

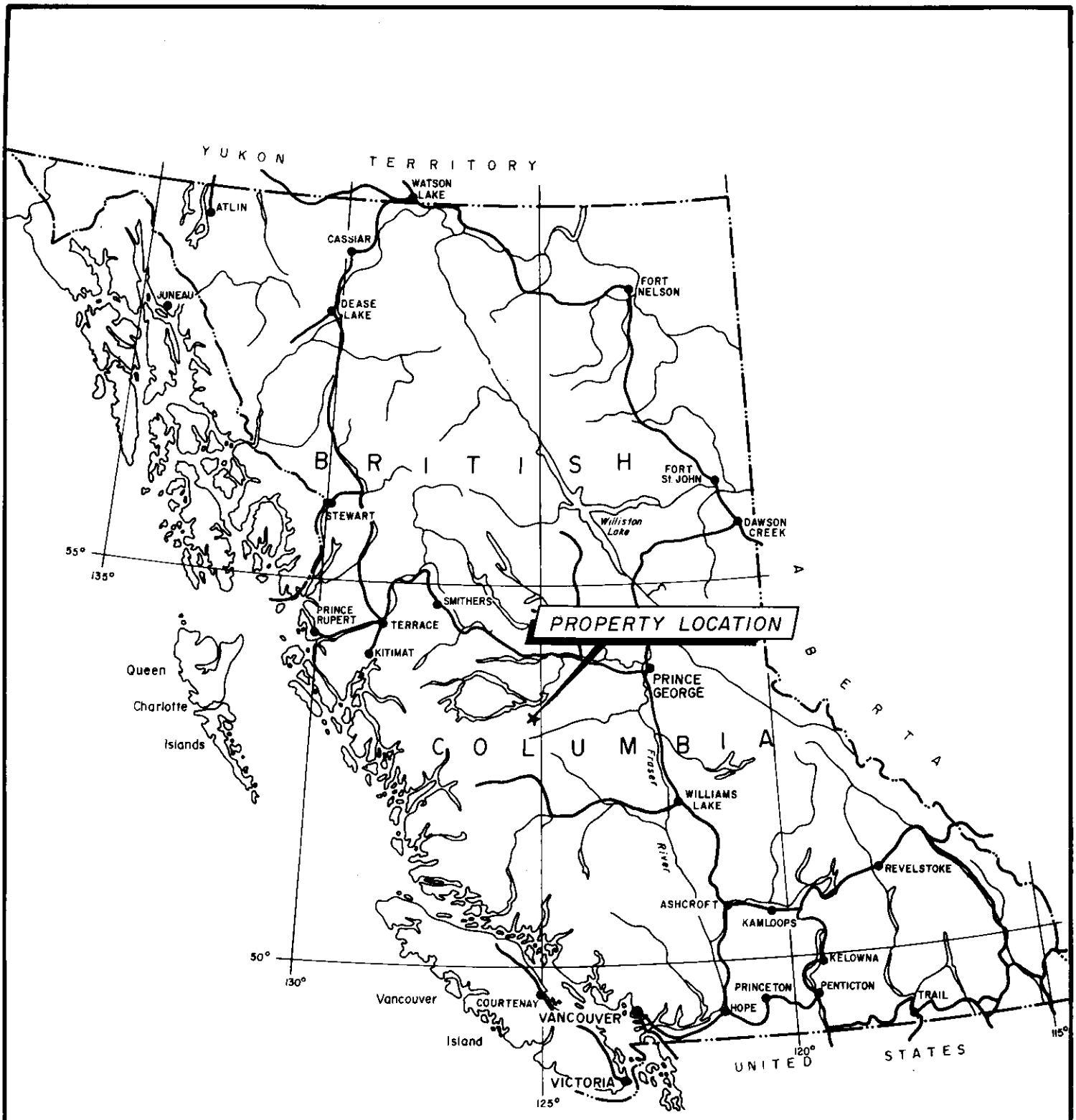
Claim Name	Mineral Tenure No.	No. of Units	Record Date	Expiry Year
Swan 1	300584	20	June 22, 1991	1992

The position of the legal corner post for the Swan 1 claim has been verified by the author.

3.0 LOCATION, ACCESS AND GEOGRAPHY

The Swan property is situated on the Nechako Plateau of central British Columbia, approximately 120 kilometres southwest of Vanderhoof and 460 kilometres north of Vancouver (Figure 1). The claims are located within the Omineca Mining Division, centred at 53° 21′ north latitude and 125° 15′ west longitude.

The centre of the Swan property lies 2,500 metres north of the north end of Capoose Lake, which is accessible by float-planes of any size. A ten-kilometre mining access road built in the early 1970's connects Capoose Lake with the Van Tine Forest Road and



Km 0 100 200 300 400 500 Km

MILES 0 50 100 200 300 MILES

BULL PINE EXPLORATIONS LTD.

SWAN 1 CLAIM

LOCATION MAP

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN:	MINING DIV. OMINECA	FIGURE
N.T.S.: 93F/6	SCALE: AS SHOWN	1
DATE: SEPT., 1992	REVISED:	

arrives within two kilometres of the property. The Van Tine Forest Road, a major logging road, leads to the Westar mill at Engen on Highway 16, a road distance of approximately 150 kilometres. The general area is undergoing active logging at present and new roads are being constructed annually. Access for the 1992 exploration program was provided by float plane to Capoose Lake and then by foot into the property.

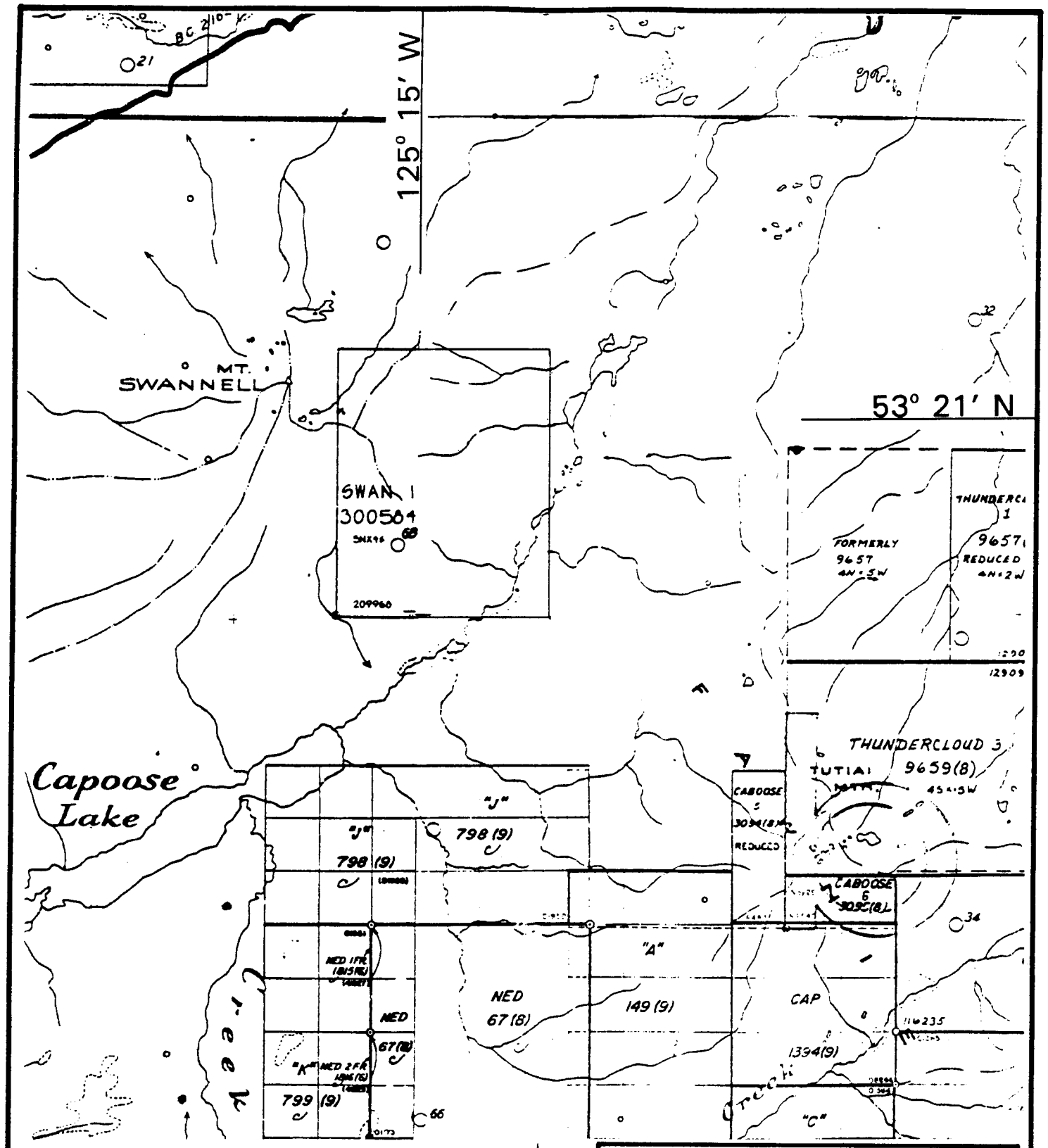
The claim covers the eastern slope of Mount Swannell, a rounded hill at the northwestern end of the Fawnie Range, within the Nechako Plateau. Upland surfaces are generally well drained with few lakes or marshes. Lower creek valleys are broad and swampy. Topography is moderate, with elevations ranging from 1,020 metres on the swamp draining into Capoose Lake to almost 1,700 metres on the eastern summit of Mount Swannell.

The property is largely covered by spruce and lodgepole pine with a light undergrowth of huckleberry and alder. Tree-line lies at 1,600 metres, with open alpine vegetation at higher elevations. The Swan property is subject to a continental climatic regime, with warm summers and cold winters. Snowfall is moderate with an accumulation of one to two metres during the winter.

4.0 REGIONAL AND PROPERTY MINING HISTORY

4.1 Previous Work

The area around the Swan property received little exploration until the late 1960's, when Rio Tinto Canadian Exploration Ltd. carried out stream and lake sediment sampling surveys throughout the Nechako Plateau, searching primarily for copper-molybdenum porphyry deposits (Hoffman, 1976). Several copper, molybdenum, lead and zinc geochemical anomalies were located within the Capoose Lake batholith, which extends south and west for several kilometres from the southern boundary of the Swan property. Rio Canex carried out reconnaissance mapping (Hewton and Marsh, 1970) and geochemistry over the entire batholith, taking 11,000 soil samples at 61 metre intervals on lines 850 metres apart and analyzing them for Cu, Mo, Pb, Zn and Ni (Mehrtens and Marsh, 1970). This survey returned several anomalous areas, including their Cap claim group, which lay immediately south from the current Swan 1 claim. A further 1,047 soil samples were taken in this area at 61 metre spacings on lines 210 metres apart. Of most interest to Rio Canex was a 750 x 4,000 metre copper-molybdenum soil anomaly with peak values to 550 ppm copper, lying approximately two kilometres south of the current Swan property within the Capoose Batholith. This survey also revealed a coincident, multi-station, lead-zinc soil geochemical anomaly, with maximum values of 95 ppm lead and 740 ppm zinc, lying at the northern extremity of the geochemical grid on ground currently covered by the Swan property (Mehrtens and



BULL PINE EXPLORATIONS LTD.

SWAN 1 CLAIM
CLAIM MAP
BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: HJA	MINING DIV.: Omineca	FIGURE	
N.T.S.: 93F/6E, 6W	SCALE: 1:50000	2	
DATE: July, 1992	REVISED:		

Baird, 1970).

Rio Canex carried out 20.9 line-kilometres of induced polarization and magnetometer surveys on their Cap claims in order to evaluate the soil geochemical anomalies (Baird, 1970). Seven north-south lines spaced 425 metres apart were surveyed, demonstrating a background chargeability of 2.0-7.0 milliseconds and a fairly flat magnetic pattern with just 1,000 nT relief. The highest chargeability (20 ms) was recorded at the northern tip of the surveyed area on the current Swan 1 claim, in the area of the lead-zinc soil geochemical anomaly. This chargeability anomaly was recorded at the northern tip of one line which extended further north than the others; it remains undefined and unexplained.

Follow-up work on another of Rio Canex's lead-zinc anomalies by Granges Exploration Ltd. and Cominco Ltd. led to the discovery in 1979 of the Capoose silver-lead-zinc deposit approximately eight kilometres southeast of the Swan property. Reserves at Capoose have been estimated at 20 million tonnes grading 48 g/tonne silver and 0.5 g/tonne gold (Schroeter and Panteleyev, 1986).

Following the recognition of a major silver resource at Capoose, BP Minerals Limited staked several other lead-zinc geochemical anomalies underlain by similar geology in the area, including their Swan 1-4 claims on Mount Swannell. In 1983, they carried out geological mapping and soil sampling on Mount Swannell, taking a total of 342 soil samples, 23 stream sediment samples and 8 rock samples (Smith and Hoffman, 1983). BP Minerals flagged a 3,100 metre baseline, oriented at 135° (southeast-northwest), with northeast-trending crosslines every 100 or 200 metres. Soil samples were taken at 100 metre intervals along the crosslines. This survey showed a coincident zinc-arsenic-lead soil geochemical anomaly extending for 1,800 metres along the contact between Jurassic rhyolites and argillites, trending northeast from the Capoose Batholith along the southeastern flank of Mount Swannell. This anomaly remains open to the northeast. Maximum soil geochemical values were 1297 ppm zinc, 198 ppm arsenic, 50 ppm lead and 3.0 ppm silver; no analyses were done for gold. A grab sample of argillite contained 2098 ppm zinc.

BP Minerals' Swan 1-4 claims were allowed to lapse; the soil geochemical anomaly was re-staked as the Swan 1 claim by Bull Pine Explorations Ltd. in 1991 for its volcanogenic massive sulphide potential.

4.2 1992 Exploration Program

During June 1992, Bull Pine Explorations Ltd. carried out an initial exploration program on the Swan property, designed to locate, verify and explain the BP Minerals soil anomalies and evaluate the property's potential for volcanogenic massive sulphide and epithermal mineralization.

Unfortunately, it was not possible to immediately locate the 1983 BP Minerals soil grid. Two man-days were spent searching for the 1983 grid and subsequently re-locating BP Minerals line 111E. The origin of a new geochemical line (labelled TL) was located 150 metres northwest of station 111E 110N. Soil samples were taken at 50 metre intervals along line TL, which was chained and flagged for 400 metres at an orientation of 045°. Prospecting was carried out in the vicinity of the soil sampling. A total of 7 rock samples and 10 soil samples were taken. Rock samples are described in Appendix C; analytical certificates form Appendix D.

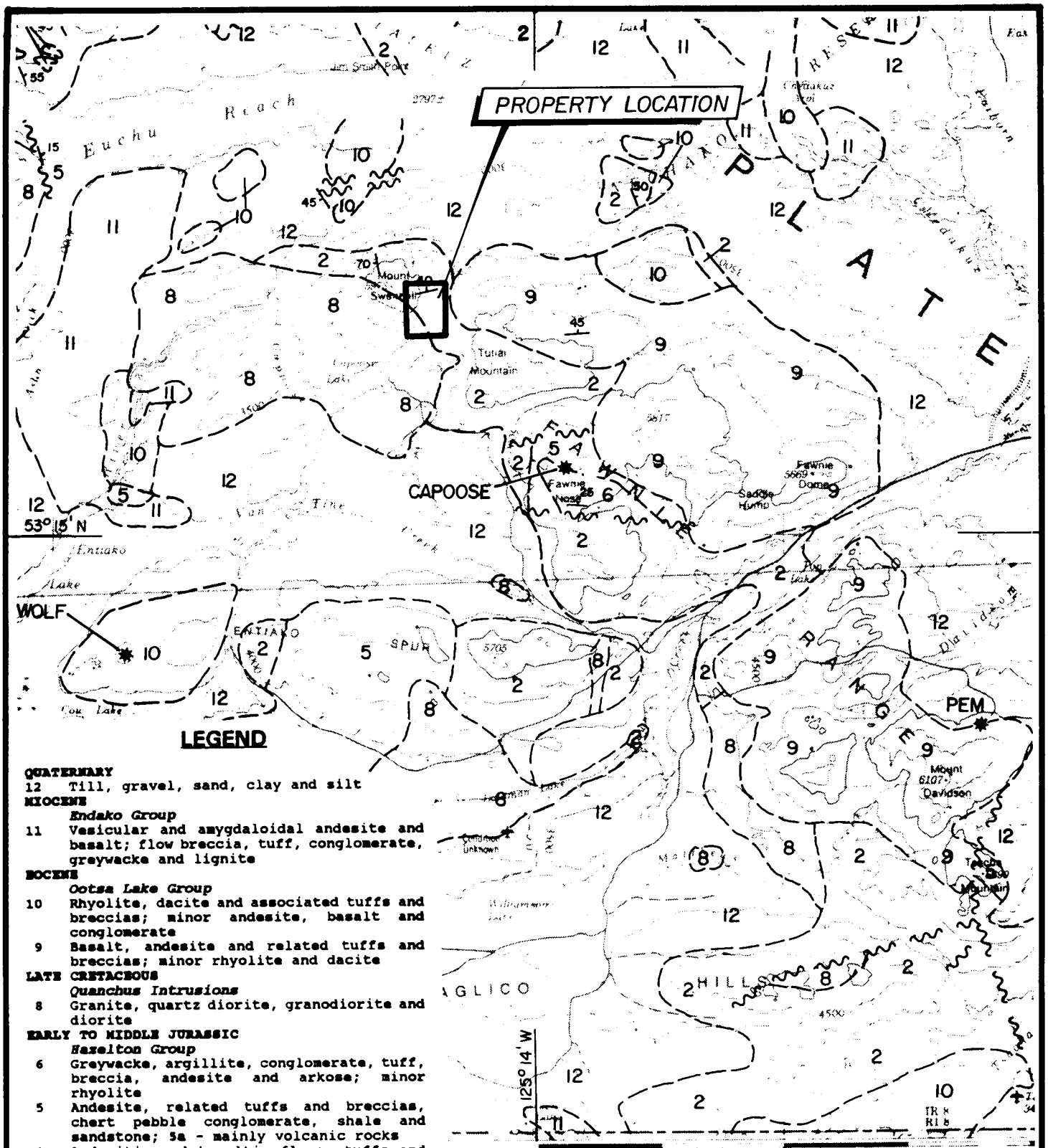
5.0 REGIONAL GEOLOGY

Geological mapping in the area surrounding the Swan property is quite preliminary in nature (Figure 3). H. W. Tipper mapped the Nechako River map sheet from 1949 to 1952 at a scale of 1:253,440 (Tipper, 1963). The ages and regional correlations of several of his units were reassigned by Tipper et al (1974) in their 1:1,000,000 compilation. The British Columbia Geological Survey is planning to re-map portions of this region at a scale of 1:50,000 in the next few years, beginning with map-sheet 93F/6 (which covers the Swan 1 claim) in 1992.

The oldest rocks identified in the area were assigned to the Upper Triassic and Lower Jurassic Takla Group by Tipper (1963). These rocks consist largely of basalt and andesite with lesser interflow sediments (Unit 2). Felsic pyroclastics form part of this package on the Swan property. Based on fossil evidence, radiometric dating and nomenclature revision, portions of the previously mapped Takla Group rocks in the vicinity of the Swan property were re-assigned to the Lower Jurassic section of the Hazelton Group (Tipper et al., 1974).

Tipper's (1963) Units 5 and 6 comprise andesites, chert pebble conglomerate, marine clastic sediments and minor rhyolite which he assigned to the Middle and Upper Jurassic Hazelton Group. Tipper (pers. comm., 1991) feels that re-mapping may show the chert pebble conglomerates to be Cretaceous in age. Fossil evidence (Tipper, 1963) shows the Unit 6 sediments to be Bajocian (early Middle Jurassic). The Hazelton Group rocks (Units 2, 5 and 6) are broadly folded about a northwesterly-trending axis, forming a northwesterly-trending belt at least eighty kilometres long, centred on the Fawnie Range.

The Capoose Batholith, a member of the Late Cretaceous to Paleocene Quanchus Intrusions of granitic to granodioritic composition (Unit 8), cuts Hazelton Group rocks immediately south of the Swan property. These batholiths are generally coarse-grained, equigranular and light coloured. Potassium-argon dating indicates an age of 64.3±2.4 Ma for the Capoose Batholith (Andrew, 1988).



LEGEND

QUATERNARY

12 Till, gravel, sand, clay and silt

MIOCENE

Endako Group

11 Vesicular and amygdaloidal andesite and basalt; flow breccia, tuff, conglomerate, greywacke and lignite

EOCENE

Ootsa Lake Group

10 Rhyolite, dacite and associated tuffs and breccias; minor andesite, basalt and conglomerate

9 Basalt, andesite and related tuffs and breccias; minor rhyolite and dacite

LATE CRETACEOUS

Quanchus Intrusions

8 Granite, quartz diorite, granodiorite and diorite

EARLY TO MIDDLE JURASSIC

Hazelton Group

6 Greywacke, argillite, conglomerate, tuff, breccia, andesite and arkose; minor rhyolite

5 Andesite, related tuffs and breccias, chert pebble conglomerate, shale and sandstone; 5a - mainly volcanic rocks

2 Andesitic and basaltic flows, tuffs and breccias; interbedded argillite and minor limestone

SYMBOLS

✸ Mineral deposit or prospect

40 Bedding with dip

Fault (inferred)

Adapted from Tipper, 1963

0 5 10 15

KILOMETRES

N

BULL PINE EXPLORATIONS LTD.

SWAN 1 CLAIM
REGIONAL GEOLOGY MAP
BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN:	MINING DIV.: OMINECA	FIGURE 3
N.T.S.: 93F/6	SCALE: 1:250 000	
DATE: SEPT., 1992	REVISED:	

Flat-lying to moderately dipping, subaerial volcanics of the Ootsa Lake Group unconformably overlie older Mesozoic rocks, including the Cretaceous batholiths. Potassium-argon dating of Ootsa Lake rocks at the Wolf prospect gave an age of 48±2 million years (mid-Eocene). Tipper (1963) divided the Ootsa Lake into two broad lithological units composed predominantly of andesites (Unit 9) and rhyolites (Unit 10). Each unit also contains minor clastic sediments, such as basal conglomerate, tuffaceous shales and sandstones.

Miocene plateau basalts and andesites of the Endako Group (Unit 11) unconformably overlie all other units.

Low grade regional metamorphism and weak deformation are pervasive on the Nechako Plateau. Contact metamorphism is pronounced around intrusives. Tipper (1959) observed that the overall lack of structural features may, in part, be attributed to the abundance of often structureless volcanics in the area. The Hazelton volcanics appear more strongly deformed in comparison to other rock types, with dips of up to 70°. At the Capoose deposit, a few kilometres southeast of the Swan property, bedding dips moderately (20-40°) to the southwest, with a synclinal fold axis plunging at 10° to the southeast (Andrew and Godwin, 1987). The Ootsa Lake Group volcanics were deposited in a period of extensional tectonism. Another period of deformation during the Oligocene produced broad open folds in the Ootsa Lake Group volcanics and sediments. The relatively undeformed Endako Group consists of generally flat-lying to gently easterly dipping plateau lavas (Tipper, 1963).

Several styles and ages of mineralization have been documented in the vicinity of the Swan property (Figure 3), despite a relative lack of exploration attention. The Capoose silver deposit, located eight kilometres southeast of the Swan 1 claim, is hosted by Lower to Middle Jurassic Hazelton Group mafic flows, rhyolite tuff, argillite and lithic wacke intruded by Late Cretaceous quartz-garnet rhyolite sills related to the Capoose Batholith. Mineralization consists of pyrite, sphalerite, galena, chalcopyrite and arsenopyrite in disseminations, fracture-fillings and replacing garnets, and is thought to be Late Cretaceous in age (Andrew, 1988). The Capoose deposit contains 20 million tonnes grading 48 g/tonne silver and 0.5 g/tonne gold (Schroeter and Panteleyev, 1986). The Capoose Batholith itself has been explored for porphyry-style copper-molybdenum mineralization immediately south of the Swan 1 claim.

The Wolf epithermal gold-silver deposit, located twenty kilometres southwest of the Swan 5 claim, is hosted by Eocene Ootsa Lake rhyolitic flows, tuffs and subvolcanic intrusives. Repeated low-sulphide silicification, brecciation and stockwork veining have been accompanied by up to 8.49 g/tonne gold and 42.2 g/tonne silver across 7.5 metres in trenching (Cann, 1984). It has been suggested

that the Wolf deposit may have been related to maar (Andrew et al, 1986), collapse caldera (Andrew, 1988) or hot-spring (Andrew, 1988) paleo-environments.

The PEM property, located thirty kilometres southeast of the Swan property, is underlain by andesitic, dacitic and rhyolitic tuffs, presumably of the Ootsa Lake Group. These have been brecciated and altered over an area of several hundred metres, with introduction of 2-7% pyrite and lesser sphalerite. Zbitnoff (1988) reports drill intersections up to 6.3 metres grading 14.3 g/tonne gold, 27 g/tonne silver and 1.25% zinc. It appears that the PEM mineralization may also be epithermal in nature, but probably emplaced at greater depths (hence the higher sulphide and base metal contents) than the Wolf deposit.

6.0 PROPERTY GEOLOGY AND MINERALIZATION

6.1 Geology

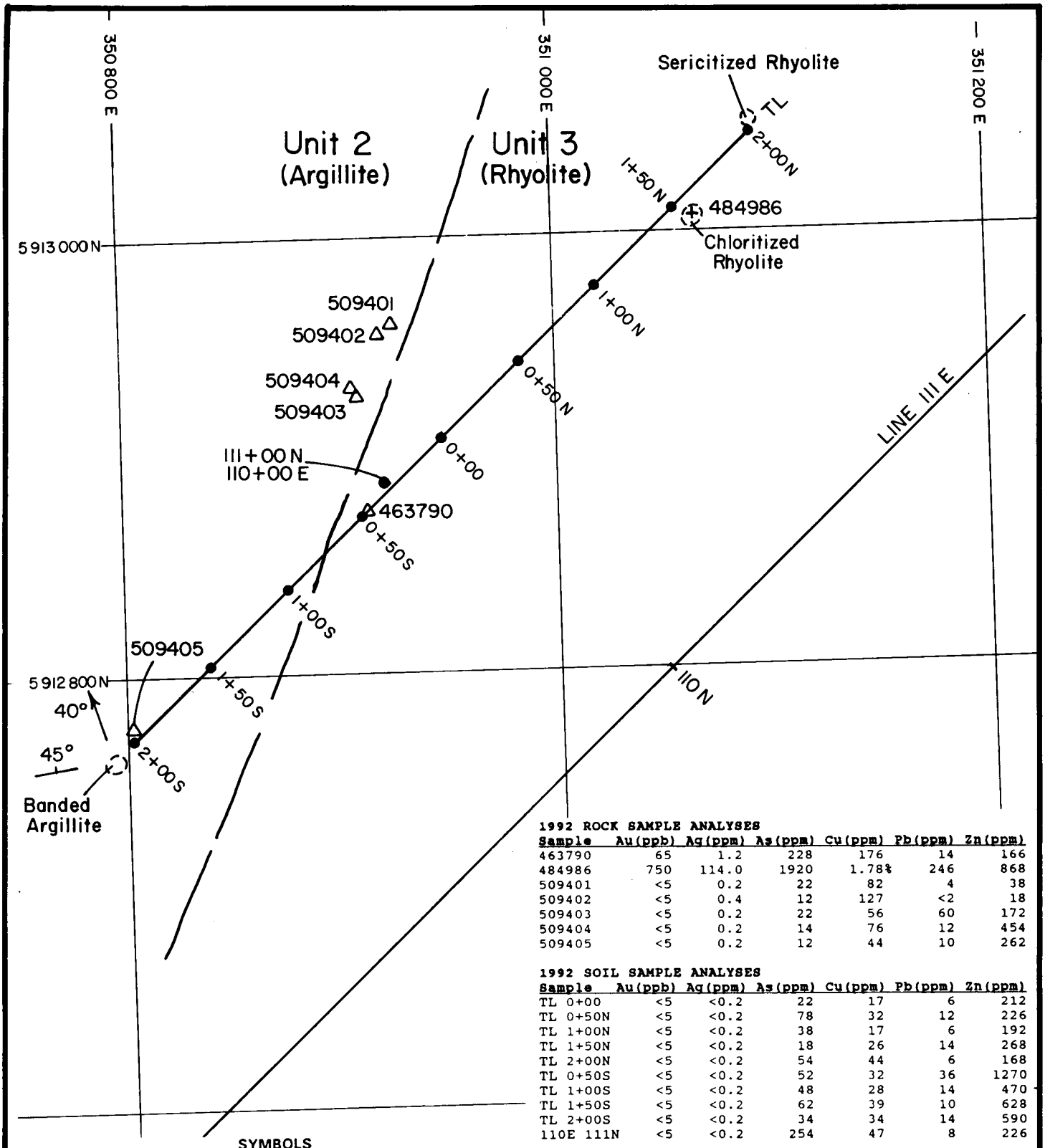
The Swan property is underlain by a sequence of Jurassic Hazelton Group volcanic and sedimentary rocks intruded by the Paleocene Capoose Batholith. Property-wide mapping was carried out by Smith and Hoffman (1983); the following descriptions and Figure 4 are based upon their work, as modified by the 1992 exploration program.

The oldest lithology on the Swan 1 claim is a fine-grained, light grey, quartz-phyric rhyolite (Unit 3), assigned on the basis of lithology and regional correlations to the Lower Jurassic Hazelton Group. It is exposed on the southeastern flank of Mount Swannell, striking 055° and dipping 30-40° to the northwest.

The rhyolites are overlain by finely-bedded argillites, siltstones and greywackes (Unit 2). Bedding strikes 070-080° and dips 38-45° to the northwest. Conformably overlying the argillites are dark green andesitic lapilli tuffs (Unit 1) and feldspar-phyric andesitic lapilli tuffs. Smith and Hoffman (1983) assigned Units 1, 1a and 2 to the Upper Triassic Takla Group, but the author prefers to assign them to the Hazelton Group, based on stratigraphic relations within similar lithologies on the Fawn property, fifteen kilometres to the south (Awmack, 1991).

6.2 Mineralization

Seven rock samples were taken in 1992 from the vicinity of the BP Minerals zinc-arsenic-lead soil geochemical anomaly on the southeastern slope of Mount Swannell (Figure 5). Five of these were taken from float boulders of laminated argillite with up to 7% pyrrhotite and local pyrite, chalcopyrite and sphalerite. None of these contained significant base or precious metals.



1992 ROCK SAMPLE ANALYSES

Sample	Au(ppb)	Ag(ppm)	As(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)
463790	65	1.2	228	176	14	166
484986	750	114.0	1920	1.78%	246	868
509401	<5	0.2	22	82	4	38
509402	<5	0.4	12	127	<2	18
509403	<5	0.2	22	56	60	172
509404	<5	0.2	14	76	12	454
509405	<5	0.2	12	44	10	262

1992 SOIL SAMPLE ANALYSES

Sample	Au(ppb)	Ag(ppm)	As(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)
TL 0+00	<5	<0.2	22	17	6	212
TL 0+50N	<5	<0.2	78	32	12	226
TL 1+00N	<5	<0.2	38	17	6	192
TL 1+50N	<5	<0.2	18	26	14	268
TL 2+00N	<5	<0.2	54	44	6	168
TL 0+50S	<5	<0.2	52	32	36	1270
TL 1+00S	<5	<0.2	48	28	14	470
TL 1+50S	<5	<0.2	62	39	10	628
TL 2+00S	<5	<0.2	34	34	14	590
110E 111N	<5	<0.2	254	47	8	226

SYMBOLS

- Rock outcrop
- Geological contact (approximate)
- Bedding with dip
- Minor fold axis with plunge
- Rock sample (float, outcrop)
- Soil sample

0 50 100 150

METRES

N

BULL PINE EXPLORATIONS LTD.

SWAN 1 CLAIM

GEOLOGY & GEOCHEMISTRY

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN:	MINING DIV.: OMINECA	FIGURE
N.T.S.: 93F/6	SCALE: 1:2500	5
DATE: SEPT., 1992	REVISED:	

Two rock samples tested altered rhyolite below its contact with the argillite. Grab sample 484986, taken across 2.0 metres of chloritized rhyolite with 2-3% pyrrhotite and only traces of visible chalcopyrite, assayed 1.78% copper with 750 ppb gold, 114.2 ppm silver and 1920 ppm arsenic. Similar float of chloritized rhyolite with 5% pyrite and minor chalcopyrite was sampled (463790) 200 metres to the southwest, returning 176 ppm copper, 65 ppb gold and 228 ppm arsenic.

7.0 GEOCHEMISTRY

Nine soil samples were taken at 50 metre intervals along a northeasterly-trending flagged line located in the heart of the 1983 BP Minerals zinc-arsenic-lead soil anomaly. A tenth soil sample was taken nearby at the site of BP Minerals grid station 110E 111N (Figure 5). Arsenic and molybdenum values were generally high throughout, with maximum values of 254 ppm and 24 ppm, respectively. Zinc values were highest for the southernmost samples, which were taken from areas underlain by argillite or immediately downslope from the argillite-rhyolite contact. Only one sample exceeded 30 ppm lead, taken immediately below the argillite-rhyolite contact. Copper, gold and silver values were very low for all soil samples.

It is interesting to note that the two most anomalous samples, TL 0+50S (1270 ppm zinc) and 110E 111N (254 ppm arsenic) were each taken within a few metres downslope from the rhyolite-argillite contact. This lends some support for the model of volcanogenic massive sulphide mineralization along the rhyolite-sedimentary contact.

8.0 DISCUSSION AND CONCLUSIONS

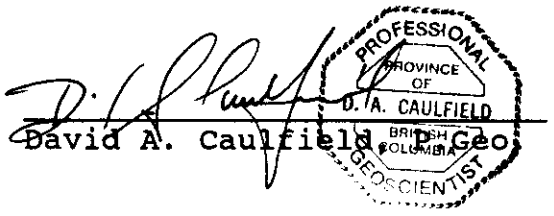
The 1992 exploration program on the Swan property was designed to test its potential for volcanogenic massive sulphide (VMS) mineralization. The Swan property's underlying geology shows many similarities to the shallow submarine Hazelton Group mafic-felsic volcanics which host the gold-rich Eskay Creek deposit approximately 500 kilometres to the northwest. The Eskay Creek deposit is hosted by a carbonaceous, pyritic, laminated black mudstone which overlies Hazelton Group rhyolite and underlies a thick sequence of post-mineralization andesite (Britton et al, 1990). A similar sequence of Hazelton Group lithologies is present on the Swan property, with altered rhyolite overlain by laminated argillite and in turn by andesite.

Zinc-arsenic-lead soil geochemical anomalies reported by BP Minerals, and partially confirmed by the 1992 program, extend for 1,800 metres along the contact between rhyolite and the overlying argillite. The most anomalous 1992 soil samples were taken within

a few metres downslope from this contact, with maximum values of 1270 ppm zinc and 254 ppm arsenic. If the Eskay Creek analogy holds true, gold-silver-zinc-lead-arsenic-rich massive sulphide mineralization could be expected along the rhyolite-argillite contact and could be responsible for the soil geochemical anomalies. The rhyolites underlying this contact on the Swan property are chloritized or sericitized, alterations typical of the footwall of VMS deposits. Grab sample 484986, taken from chloritized and sulphide-rich rhyolite, contained 1.78% copper, 750 ppb gold, 114.0 ppm silver and 1920 ppm arsenic. This geochemical signature is comparable to that reported from the footwall rhyolite immediately below Eskay Creek's #21A Zone: "low to moderate-tenor gold (1 to 15 grams per tonne) and locally high silver, associated with base metal sulphides and minor to trace antimony, arsenic and mercury minerals" (Britton et al, 1990).

No volcanogenic massive sulphide mineralization has yet been discovered on the Swan property. However, the property exhibits a favourable regional geological setting near the top of a submarine mafic/felsic submarine volcanic sequence, coincident soil geochemical anomalies along a rhyolite-argillite contact, and possible footwall alteration with significant copper, gold, silver and arsenic values in chloritized rhyolites. These features, combined with several interesting similarities to the Eskay Creek gold-rich VMS deposit, provide a strong impetus for further exploration of the Swan property.

Respectfully submitted,
EQUITY ENGINEERING LTD.



David A. Caulfield, P.Geo.

Vancouver, British Columbia
September, 1992

APPENDIX A

BIBLIOGRAPHY

BIBLIOGRAPHY

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APPENDIX B

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES
SWAN CLAIMS
June 13 to 15, 1992

PROFESSIONAL FEES AND WAGES:		
David A. Caulfield, P. Geo.		
2.5 days @ $375/day	$ 937.50	
Tom Bell, Prospector		
2.5 days @ $250/day	625.00	
		$ 1,562.50
EQUIPMENT RENTAL:		
Fly Camp		
5 mandays @ $25/day		125.00
JOINT MOBILIZATION COSTS: (Pro-rated between three clients in the Fawnie Range Area)		595.24
CHEMICAL ANALYSES:		
Rock Geochemical Analyses		
7 @ $15.27 each	$ 106.89	
Soil Geochemical Analyses		
10 @ $11.83 each	118.35	225.24
EXPENSES:		
Materials and Supplies	$ 29.95	
Maps and Publications	36.79	
Printing and Reproductions	32.55	
Camp Food	158.01	
Expediting and Fixed Wing	562.70	820.00
MANAGEMENT FEES:		
15% on expenses		156.78
REPORT (estimated)		1,500.00
SUBTOTAL:		$ 4,984.76
GST:		
7% on subtotal		348.93
TOTAL:		$ 5,333.69

APPENDIX C

ROCK SAMPLE DESCRIPTIONS

MINERALS AND ALTERATION TYPES

AS	arsenopyrite	BA	barite	BI	biotite
CA	calcite	CB	Fe-carbonate	CC	chalcocite
CL	chlorite	CP	chalcopyrite	CY	clay
DI	diopside	EP	epidote	GA	garnet
GE	goethite	GL	galena	HE	hematite
HS	specularite	JA	jarosite	MC	malachite
MG	magnetite	MN	Mn-oxides	MS	sericite
PO	pyrrhotite	PY	pyrite	QZ	quartz
SI	silica	SP	sphalerite	TT	tetrahedrite

Property : Swan 1 Claim NTS : 93F/6E, 6W Date : 09/01/92

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5912 875 N		Float		sCL, ?QZ		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	350 910 E	Strike Length Exp. : ------ m			Sulphides	: <1%CP, 5%PY, ?SP						
463790	Elevation: 1230 m	Sample Width : ------ m			Oxides	: GE, HE, MN	65.	1.2	228.	176.	14.	166.
	Orientation: ---- / ---	True Width : ------ m			Host	: Altered rhyolite						

Comments : Float (5cm x 5cm) from soil hole TL 0+50S.

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5913 010 N		Grab		wCL, wCY		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	351 065 E	Strike Length Exp. : 4.0 m			Sulphides	: trCP, 2-3%PO						
484986	Elevation: 1190 m	Sample Width : 2.0 m			Oxides	: GE, JA	750.	114.2	1920.	>10000	246.	868.
	Orientation: ---- / ---	True Width : ? m			Host	: Quartz eye rhyolite						

Comments : Sample taken 150m west from Club Creek below flat open area, in area of anomalous soil geochemistry. Located 10 metres at 110 degrees from TL 1+50N.

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5912 960 N		Float		mBI, mCL		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	350 925 E	Strike Length Exp. : ------ m			Sulphides	: trCP, trPO						
509401	Elevation: 1165 m	Sample Width : ------ m			Oxides	: wGE, mJA	<5	0.2	22.	82.	4.	38.
	Orientation: ---- / ---	True Width : ------ m			Host	: Argillite						

Comments : 73m at 040 from L110+00E, 111+00N (BP). Barite or tremolite present?

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5912 955 N		Float		mBI, mCL, wCY,		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	350 920 E	Strike Length Exp. : ------ m			Sulphides	: <1%CP, 1-2%PY						
509402	Elevation: 1165 m	Sample Width : ------ m			Oxides	: mGE, mJA	<5	0.4	12.	127.	<2	18.
	Orientation: ---- / ---	True Width : ------ m			Host	: Argillite						

Comments : 7m at 230o from 509401. Unidentified black, tabular mineral.

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5912 925 N		Float		CL		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	350 910 E	Strike Length Exp. : ------ m			Sulphides	: trCP, 5%PO, trSP						
509403	Elevation: 0 ft	Sample Width : ------ m			Oxides	: mGE, wJA	<5	0.2	22.	56.	60.	172.
	Orientation: ---- / ---	True Width : ------ m			Host	: Argillite (banded)						

Comments : 45m at 340o from 110+00N, 109+50E.

Sample No.	Location		Type		Alteration		Au	Ag	As	Cu	Pb	Zn
	5912 930 N		Float		CL		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
	350 905 E	Strike Length Exp. : ------ m			Sulphides	: 5-7%PO						
509404	Elevation: 0 ft	Sample Width : ------ m			Oxides	:	<5	0.2	14.	76.	12.	454.
	Orientation: ---- / ---	True Width : ------ m			Host	: Banded argillite						

Comments : 49m at 340o from 110+00E, 110+100N (BP). Sidehill float.

Property : Swan 1 Claim NTS : 93F/6E, 6W Date : 09/01/92

Sample No.	Location :	5912 775 N	Type : Float	Alteration :	None	Au	Ag	As	Cu	Pb	Zn
		350 800 E	Strike Length Exp. : ------ m	Sulphides :	3-5%PO	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
509405	Elevation:	0 ft	Sample Width : ------ m	Oxides :		<5	0.2	12.	44.	10.	262.
	Orientation:	---- / ---	True Width : ------ m	Host :	Banded argillite						

Comments : 5m at 010o from TL 2+00S.

APPENDIX D

CERTIFICATES OF ANALYSIS

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

A9216737

Comments: ATTN: D.A. CAULFIELD

CERTIFICATE A9216737

EQUITY ENGINEERING LTD.

Project: BVL92-01
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 2-JUL-92.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	7	Geochem ring to approx 150 mesh
274	7	0-15 lb crush and split
229	7	ICP - AQ Digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	7	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2118	7	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2120	7	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2123	7	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2128	7	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2131	7	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2136	7	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2140	7	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	7	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2149	7	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

Project : BVL92-01
Comments: ATTN: D.A. CAULFIELD

Certificate Date: 02-JUL-92
Invoice No. :I9216737
P.O. Number :
Account :EIA

CERTIFICATE OF ANALYSIS A9216737

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	As ppm	Bi ppm	Cu ppm	Hg ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm
463790	205	274	65	1.2	228	< 2	176	1	42	14	2	166
484986	205	274	750	114.0	1920	12	>10000	1	2	246	2	868
509401	205	274	< 5	0.2	22	< 2	82	< 1	1	4	< 2	38
509402	205	274	< 5	0.4	12	< 2	127	2	< 1	< 2	< 2	18
509403	205	274	< 5	0.2	22	2	56	2	35	60	< 2	172
509404	205	274	< 5	0.2	14	< 2	76	< 1	72	12	2	454
509405	205	274	< 5	0.2	12	< 2	44	< 1	32	10	< 2	262

CERTIFICATION: Jhai D'Ma

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

A9217040

Comments: ATTN: D.A. CAULFEILD

CERTIFICATE A9217040

EQUITY ENGINEERING LTD.

Project: BVL91-05
P.O. # : NONE

Samples submitted to our lab in Vancouver, BC.
This report was printed on 8-JUL-92.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
244	1	Pulp; prev. prepared at Chemex

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	1	Cu %: Reverse Aqua-Regia digest	AAS	0.01	100.0

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

Project : BU9105
Comments: ATTN: D.A. CAULFEILD

Page Number :1
Total Pages :1
Certificate Date: 08-JUL-92
Invoice No. :19217040
P.O. Number :NONE
Account :EIA

CERTIFICATE OF ANALYSIS A9217040

SAMPLE	PREP CODE	Cu %
484986	244 --	1.78

CERTIFICATION:

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221

To: EQUITY ENGINEERING LTD.

207 - 675 W. HASTINGS ST.
VANCOUVER, BC
V6B 1N2

A9216738

Comments: ATTN: D.A. CAULFIELD

CERTIFICATE A9216738

EQUITY ENGINEERING LTD.

Project: BVL92-01
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 2-JUL-92.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	10	Dry, sieve to -80 mesh
229	10	ICP - AQ Digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	10	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2118	10	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2120	10	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2123	10	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2128	10	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2131	10	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2136	10	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2140	10	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	10	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2149	10	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

Chemex Labs Ltd.

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212 Brooksbank Ave., North Vancouver
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207 - 675 W. HASTINGS ST.
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V6B 1N2

Project : BVL92-01
Comments: ATTN: D.A. CAULFIELD

Page Number :1
Total Pages :1
Certificate Date: 02-JUL-92
Invoice No. :I9216738
P.O. Number :
Account :EIA

CERTIFICATE OF ANALYSIS A9216738

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	As ppm	Bi ppm	Cu ppm	Hg ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm
TL 0+50N	201	229	< 5	< 0.2	78	< 2	32	< 1	14	12	4	226
TL 1+00N	201	229	< 5	< 0.2	38	< 2	17	< 1	2	6	< 2	192
TL 1+50N	201	229	< 5	< 0.2	18	< 2	26	< 1	2	14	< 2	268
TL 2+00N	201	229	< 5	< 0.2	54	< 2	44	1	3	6	2	168
TL 0+50S	201	229	< 5	< 0.2	52	< 2	32	< 1	21	36	2	1270
TL 1+00S	201	229	< 5	< 0.2	48	< 2	28	1	6	14	2	470
TL 1+50S	201	229	< 5	< 0.2	62	< 2	39	< 1	20	10	< 2	628
TL 2+00S	201	229	< 5	< 0.2	34	< 2	34	< 1	15	14	2	590
TL 0+00	201	229	< 5	< 0.2	22	< 2	17	< 1	3	6	< 2	212
L110+00E 111+00N	201	229	< 5	< 0.2	254	< 2	47	< 1	24	8	4	226

CERTIFICATION: Jhai D'Ma

APPENDIX E

GEOLOGIST'S CERTIFICATE

GEOLOGIST'S CERTIFICATE

I, DAVID A. CAULFIELD, of 3142 Gambier Street, Coquitlam, in the Province of British Columbia, DO HEREBY CERTIFY:

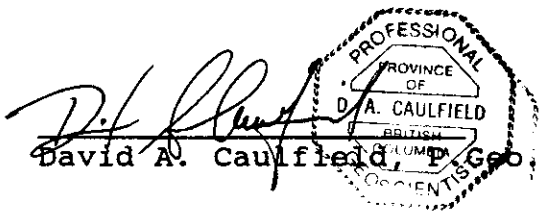
1. THAT I am a Consulting Geologist with offices at Suite 207, 675 West Hastings Street, Vancouver, British Columbia.

2. THAT I am a graduate of the University of British Columbia with a Bachelor of Science degree in Geology.

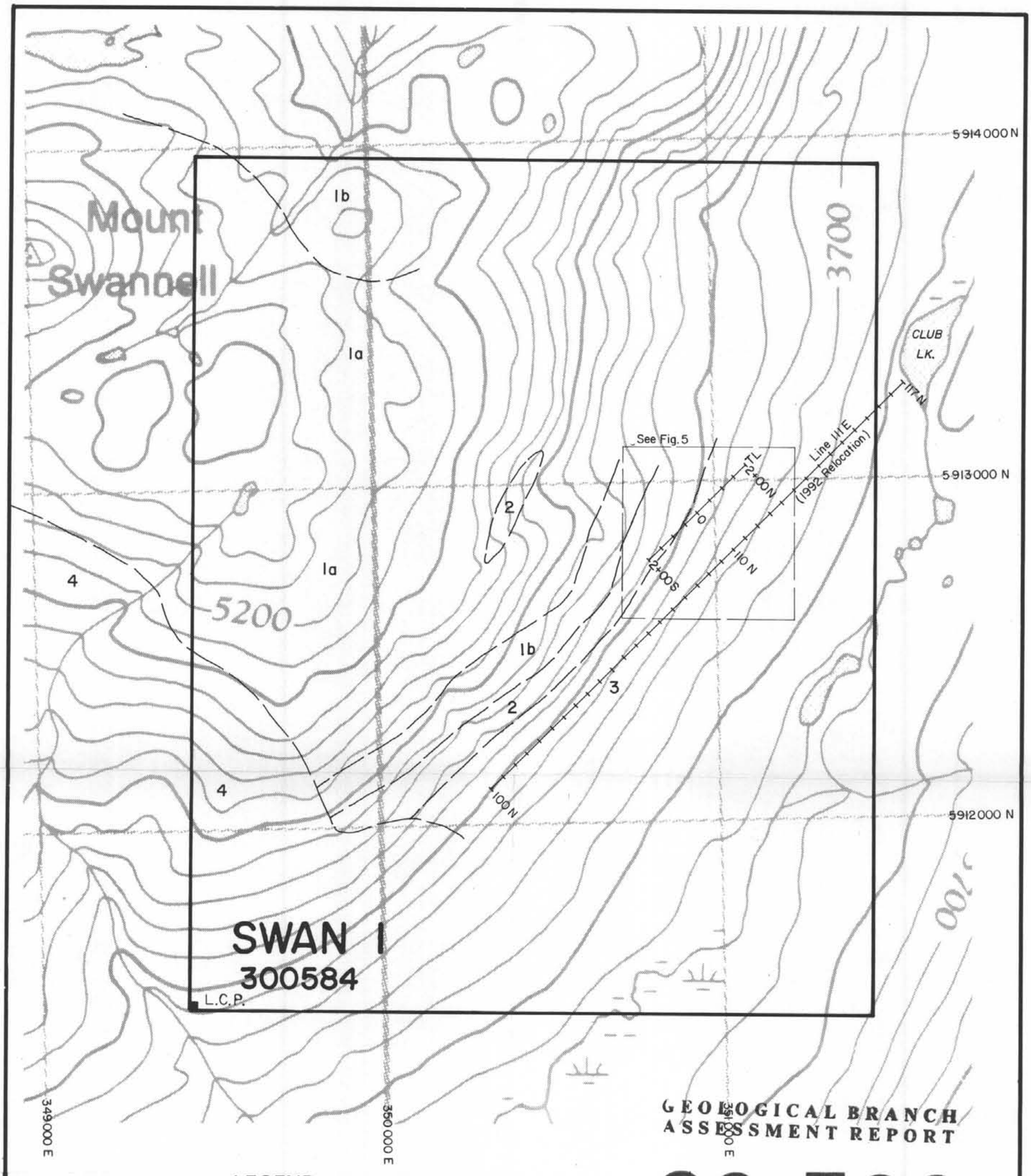
3. THAT I am a Professional Geoscientist registered in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

4. THAT this report is based on fieldwork carried out under my direction in June 1992, government publications and assessment reports filed with the Province of British Columbia. I have examined the property in the field.

DATED at Vancouver, British Columbia, this 18 day of September, 1992.



David A. Caulfield, P.Geo.



LEGEND

LITHOLOGIES

PALEOCENE

Capoose Batholith (Quanchus Intrusions)

4 Granodiorite

EARLY TO MIDDLE JURASSIC

Hazelton Group

3 Quartz-eye rhyolite

2 Argillite and volcaniclastic sediments

1 Andesitic lapilli tuff

- 1a Andesite
- 1b Andesite with feldspar phenocrysts

SYMBOLS

Geological contact (approximate)

L.C.P., L.C.P. Legal corner post (located, approximate)

Geology modified from Smith and Hoffman (1983)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,522

BULL PINE EXPLORATIONS LTD.

SWAN 1 CLAIM

COMPILATION MAP

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: J.J.E.	MINING DIV.: OMINECA	FIGURE 4
N.T.S.: 93F/6E, 6W	SCALE: 1:10000	
DATE: SEPT., 1992	REVISED:	