Box 6

SUMMARY REPORT

JASPER GROUP - PN 101

NTS 92C/15E

S.LEAR
Jan/86

#190-101-85

Maps accompany this Report

FALCONBRIDGE

Memorandum Expl. 067/86

Date: February 11, 1986

To: L.C. Kilburn WDH

Copies to: TEC

From: J.B. Gammon

Subject: Report #190-101-85 Jasper Claim, Vancouver Island, B.C.

Please find attached Shelley Lear's summary report on work carried out to date on the Jasper property. The original showing was quite impressive but drilling failed to locate any depth extent to the zone. Some geochemical indications remain to be followed up and an attempt will be made to joint venture the property.

J.B. Gammon

JBG:mm
Attach.

SUMMARY REPORT ON THE JASPER CLAIM GROUP

VANCOUVER ISLAND, B.C.

1985 FIELD PROGRAMME

NTS 92C 15E, LAT. 48° 51', LONG. 124° 35'

PN 101

Report # 190-101-85

S. Lear
January, 1986

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FIGURES AND TABLES

1. SUMMARY

Field work in 1985 was concentrated in an area surrounding the original Cu-Zn showing. This area was delineated by anomalous soil geochemical values from 1984 sampling.

The 1985 exploration programme commenced on June 30 and was prematurely shut down on July 24 due to extreme fire hazard conditions. The drill programme in progress was resumed and completed in early October.

A cut grid of 13.6 km was established. Soil sampling, geological mapping, magnetometer, VLF-EM 16, and "GENIE" EM surveys were conducted on the grid. Soil sampling outlined an anomalous Cu/Zn zone within dacitic volcanics in the western portion of the grid. The various geophysical surveys did not produce any encouraging results.

Geological mapping on the cut grid allowed for more complete coverage than the 1984 programme. A north-south trending contact between dacitic and basaltic volcanics was firmly defined. Several units were added and others revised from the 1984 mapping.

A short drill program using a "Winkie" drill tested the down-dip tenor and strike continuity of the main showing. Four holes totalling 188.37 metres were drilled. Generally low assay values were obtained from drill core samples and poor continuity of surface mineralization was indicated. The best intersection assayed 1.67% Cu, 11 g/tonne Ag over 1.62 metres drilled length.

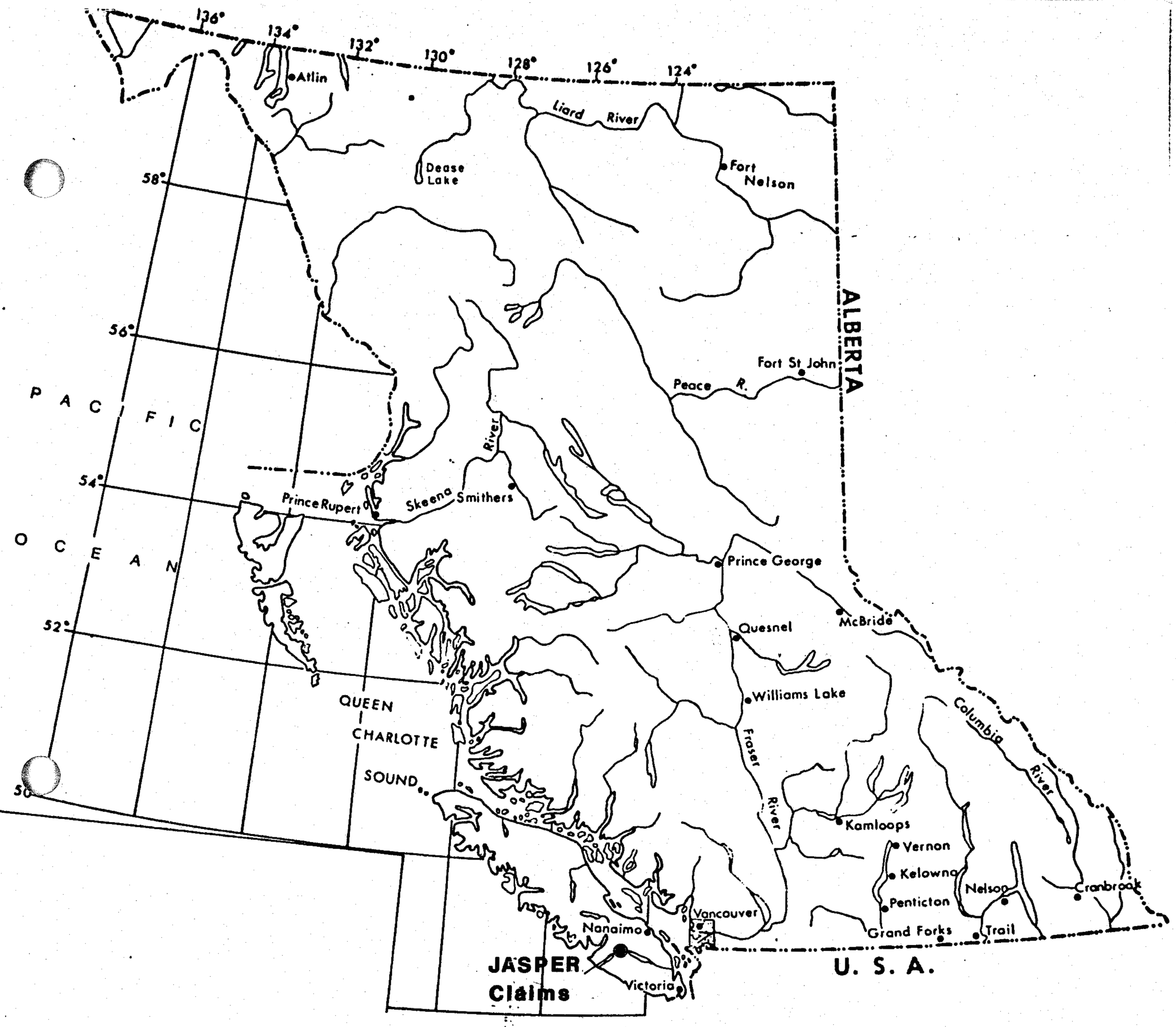
2.1 Location and Access

The Jasper Claims are situated between Caycuse Creek and Jasper Creek, 7 km NE of the north end of Nitinat Lake and within the Victoria Mining Division. The property is easily reached by the public access road from Cowichan Lake to the east or from Port Alberni to the northwest. Subsidiary road systems provide excellent access within the claim area (Figure 1). Access was denied during August 1985 due to an unusually severe fire hazard.

2.2 Claim Status

The Jasper Claim Group consists of four modified grid located claims - Jasper 1,2,3 and 4 totalling 40 units. Jasper #1 is under option from Ron Bilquist and Les Allen per agreement dated July 1, 1984. Jasper 2 - 4 were staked by Falconbridge Ltd. during the 1984 field season.

Claim Name	Record No.	Expiry Date
JASPER #1	915	May 3, 1988
JASPER 2	1363	Sept. 5, 1988
JASPER 3	1364	Sept. 5, 1988
JASPER 4	1365	Sept. 5, 1988



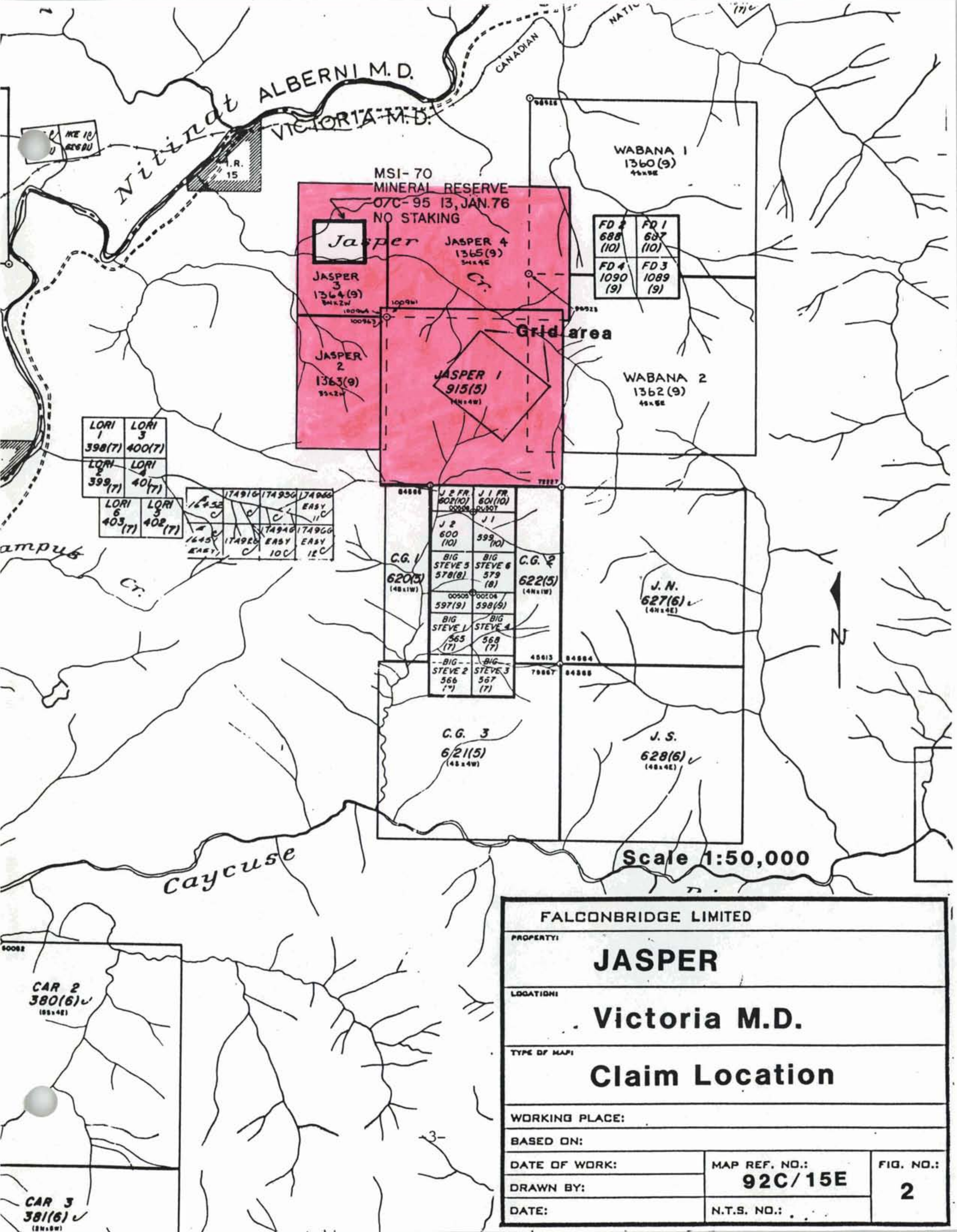
INDEX MAP

BRITISH COLUMBIA

150 0 150 300 450 Km.

SCALE 1: 7·500·000

Fig. 1



FALCONBRIDGE LIMITED

PROPERTY:
JASPER

LOCATION:
Victoria M.D.

TYPE OF MAP:
Claim Location

WORKING PLACE:		
BASED ON:		
DATE OF WORK:	MAP REF. NO.: 92C/15E	FIG. NO.: 2
DRAWN BY:		
DATE:	N.T.S. NO.:	

2.3 Previous Work

The Jasper Group was previously staked by Hudson Bay Exploration under claim names TAM and EASY. Hudson Bay worked on the property between 1971 and 1975. They conducted a rock geochemical sampling programme over the road network established at that time. Several areas of high copper values were found.

The present Jasper 1 claim was staked by Les Allen and Ron Bilquist in 1983. They conducted a prospecting programme along the network of newly developed logging roads. The main showing was discovered in a new rock cut and returned interesting values in Cu, Zn, Au and Ag assays.

T. Chandler visited the property in 1984 and Falconbridge Ltd. subsequently optioned it from Bilquist and Allen. Mineral claims Jasper 2,3,4 were staked by Falconbridge in 1984.

Field work in 1984 consisted of geological mapping, rock chip sampling and geochemical soil sampling mainly along road cuts (see Summary Report, K. Hudson, S. Lear, March 1985). A small VLF-EM 16 grid was also established over the original showing.

3. REGIONAL GEOLOGY

Table 1 and Figure 2 (Muller, 1981) summarize the regional stratigraphy of Vancouver Island.

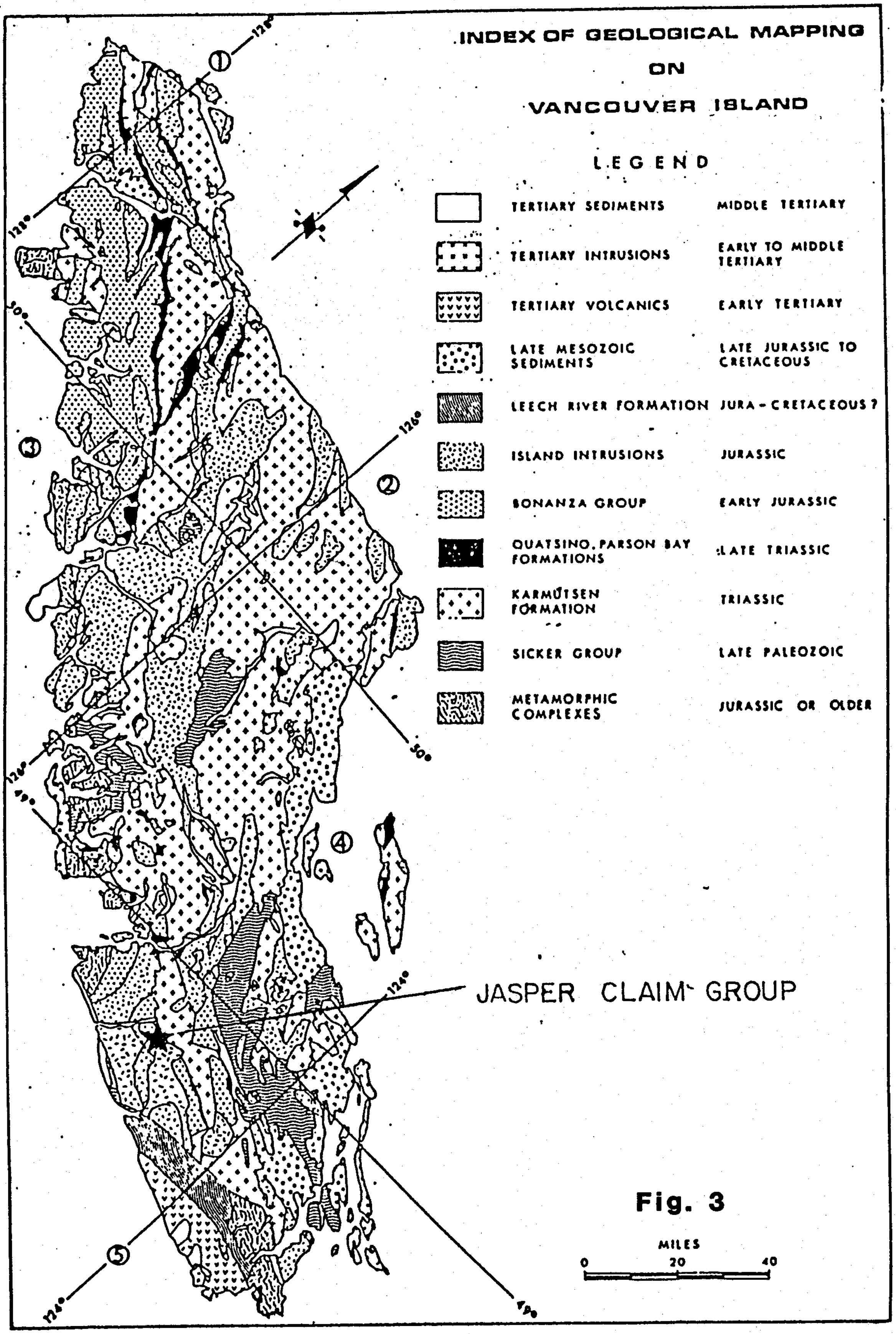
The oldest rocks are the Paleozoic Sicker Group consisting of a lower volcanic and an upper sedimentary unit. The Sicker Group averages 4,400 m. in thickness; the lower 3000 m. consists of pillowed and agglomerate basalts, pyroclastics, argillite and chert. The upper 1400 m. of sediments includes some limestone. Folding and metamorphosis has produced chlorite-actinolite and chlorite-sericite schists. Structures are mainly overturned and isoclinally folded indicating two or more phases of tectonism (Muller, 1980).

The Vancouver Group of late to middle Triassic age dominates the island's lithologies and averages 6,100 m. in thickness (Muller, 1980). The group is composed of Karmutsen Formation volcanics, capped by Quatsino Formation limestones and Parson Bay Formation calcareous sediments.

The Karmutsen Formation consists of tholeiitic ocean floor pillow lavas, massive flows, breccias and tuffs with minor layers of limestone and other sediments in the upper 1,100 m. In central Vancouver Island this formation reaches a thickness of 6000 m. while in the southwest region the estimated thickness is between 1000 and 2000 metres (Muller, 1980). Large scale northerly and westerly block faulting is common.

The Quatsino Formation overlies the Karmutsen and consists of mainly massive, fairly pure, flat lying limestone of upper Triassic age.

The Bonanza Group (Muller, 1979) is described as having a varied and heterogeneous lithology. The lavas range in composition from



INDEX OF GEOLOGICAL MAPPING
ON
VANCOUVER ISLAND
LEGEND
TERTIARY SEDIMENTS
MIDDLE TERTIARY
TERTIARY INTRUSIONS
EARLY TO MIDDLE TERTIARY
TERTIARY VOLCANICS
EARLY TERTIARY
LATE MESOZOIC SEDIMENTS
LATE JURASSIC TO CRETACEOUS
LEECH RIVER FORMATION
JURA-CRETACEOUS ?
ISLAND INTRUSIONS
JURASSIC
BONANZA GROUP
EARLY JURASSIC
QUATSINO, PARSON BAY FORMATIONS
LATE TRIASSIC
KARMUTSEN FORMATION
TRIASSIC
SICKER GROUP
LATE PALEOZOIC
METAMORPHIC COMPLEXES
JURASSIC OR OLDER
JASPER CLAIM GROUP
MILES
0
20
40

Fig. 3

TABLE I: TABLE OF FORMATIONS OF VANCOUVER ISLAND

SEQUENTIAL LAYERED ROCKS

ERA	PERIOD		STAGE	GROUP	FORMATION	SYMBOL	AVE. THICK. in m	LITHOLOGY
CENOZOIC					late Tert. volc's of Port McNeill	Tvs		
					SOOKE BAY	mpTSB		conglomerate, sandstone, shale
			EOCENE to		CARMANAH	eoTc	1,200	sandstone, siltstone, coglomerate
			OLIGOCENE		ESCALANTE	eTE	300	conglomerate, sandstone
			early EOCENE		METCHOSIN	eTM	3,000	basaltic lava, pillow lava, breccia, tuff
MESOZOIC		LATE	MAESTRICHTIAN	NANAIMO	GABRIOLA	uKGA	350	sandstone, conglomerate
					SPRAY	uKS	200	shale, siltstone
					GEOFFREY	uKG	150	conglomerate, sandstone
					NORTHUMBERLAND	uKN	250	siltstone, shale, sandstone
			CAMPANIAN		DE COURCY	uKDC	350	conglomerate, sandstone
					CEDAR DISTRICT	uKCD	300	shale, siltstone, sandstone
					EXTENSION - PROTECTION	uKEP	300	conglomerate, sandstone, shale, coal
					HASLAM	uKH	200	shale, siltstone, sandstone
			SANTONIAN		COMOX	uKC	350	sandstone, conglomerate, shale, coal
		EARLY	CENOMANIAN ALBIAN	QUEEN	Conglomerate Unit	lKac	900	conglomerate, greywacke
			APTIAN?	CHARLOTTE	Siltstone Shale Unit	lKop	50	siltstone, shale
			VALANGINIAN BARREMIAN		LONGARM	lKL	250	greywacke, conglomerate, siltstone
	JURASSIC	MID to LATE	TITHONIAN CALLOVIAN		Upper Jurassic Sediment Unit*	uJs	500	siltstone, argillite, conglomerate
		EARLY	TOARCIAN?	BONANZA	Volcanics	lJB	1,500	basaltic to rhyolitic lava, tuff, breccia, minor argillite, greywacke
			PLIENSBACHIAN SINEMURIAN		HARBLEDOWN	lJH		argillite, greywacke, tuff
	TRIASSIC	LATE	NORIAN	VANCOUVER	PARSON BAY	uTrPB	450	calcareous siltstone, greywacke, silty-limestone, minor conglomerate, breccia
			KARNIAN		QUATSINO	uTrQ	400	limestone
					KARMUTSEN	muTrK	4,500	basalic lava, pillow lava, breccia, tuff
		MID	LADINIAN		Sediment - Sill Unit	Tds	750	metasiltstone, diabase, limestone
PALEOZOIC	PENN. and ? PERM.			SICKER	BUTTLE LAKE	CPBL	300	limestone, chert
					Sediments	CPss	600	metagreywacke, argillite, schist, marble
					Volcanics	CPsv	2,000	basaltic to rhyolitic metavolcanic flows, tuff, agglomerate
	DEV. or EARLIER							

CRYSTALLINE ROCKS, COMPLEXES OF POORLY DEFINED AGE

NAME	SYMBOL	ISOTOPIC AGE Pb/U	ISOTOPIC AGE K/Ar	LITHOLOGY
SOOKE INTRUSIONS - silicic	Tg		32–59	quartzdiorite, trondhjemite, agmatite, porphyry
SOOKE INTRUSIONS - basic	Tgb		31–49	gabbro, anorthosite, agmatite
METCHOSIN SCHIST, GNEISS	Tmn		47	chlorite schist, gneissic amphibolite
LEECH RIVER FM.	JKL		38–41	phyllite, mica schist, greywacke, argillite, chert
PACIFIC RIM COMPLEX	JKP			greywacke, argillite, chert, basic volcanics, limestone
ISLAND INTRUSIONS	Jg		141–181	granodiorite, quartzdiorite, granite, quartz monzonite
WESTCOAST COMPLEX silicic	PMns	264	163–192	quartz-feldspargneiss, metaquartzite, marble
WESTCOAST COMPLEX basic	PMnb			hornblende-plagioclase gneiss, quartz diorite, agmatite, amphibolite
diabase sills	PTrb			
metavolcanic rocks	PMmv			metavolcanic rocks, minor metasediments; limestone, marble
TYEE INTRUSIONS	Pg	>390		metagranodiorite, metaquartzdiorite, metaquartz porphyry
COLQUITZ GNEISS	Pns	>390		quartz feldspar gneiss
WARK DIORITE GNEISS	Pnb	>200	163–182	hornblende-plagioclase gneiss quartz diorite, amphibolite

basaltic andesites which are commonly amygdaloidal, to rhyodacites. Interbedded with these flows are maroon and green coloured tuff breccias and several intercalated marine sediments. Regional metamorphism has reached zeolite grade.

Island intrusions form NW trending regions in the southwest part of Vancouver Island. These intrusions are mainly quartz diorite and granodiorite which postdate the Bonanza volcanics.

4. PROPERTY GEOLOGY

4.1 Lithology

New road cuts and the establishment of a cut grid enabled detailed mapping of the area east and southeast of the showing. This area was previously unmapped or poorly covered. The 1984 mapping was revised and several new units were added.

The Jasper claim group is underlain by lower Jurassic Bonanza volcanics (Muller, 1977). The major geologic contact is approximately north-south and separates dacitic tuffs and flows from basaltic flows and breccias. A large zone of cherty tuff has been mapped in the central eastern portion of the grid area.

The basaltic volcanics are frequently hematized and hematitic basalt fragments are present within the breccias. This suggests a subaerial environment for at least part of the volcanism.

Dacite Tuffs and Flows (Unit 9)

These rocks dominate the western portion of the grid area. Previous (1984) mapping identified much of this area as mafic volcanics, but these dacitic units are clearly different from the magnetic basalts found to the east. There is a sharp change in Cu, Zn soil results at the dacite - basalt contact with significantly higher background values over the dacite units.

Dacite volcanics are grey to medium green on fresh surface with iron and manganese staining on weathered surfaces. Rocks are frequently porphyritic with feldspar (plagioclase) phenocrysts comprising up to 25 - 30%. Occasional hornblende phenocrysts (2 - 4mm long) are present. These are often partially replaced by epidote. From thin section analysis, the groundmass consists of a fine intergrowth of plagioclase and chlorite with sericite and quartz as minor constituents. Epidote and chlorite alteration are common. Epidote occurs as blebs (1 - 4mm long) that form up to 20% of the rock. Epidote and quartz are also found infilling vesicles (1mm long). Many samples display fragmental textures and the rocks are probably a mixture of flows and tuffs. Moderate to intense silicification is associated with pyrite and minor chalcopyrite/sphalerite mineralization. Sheared sections also have pyrite occurrences. Intense quartz stockwork is present in the southern portion of the grid area. The area is also characterized by intrusive dykes. These may be feeder dykes for the basalt flows to the east.

Basalt Flows (Unit 8)

The basaltic volcanics occur mainly in the northeast section of the grid with a small exposure to the south. They exhibit textures varying from massive to porphyritic with amygdular and/or hematized varieties.

The basalts are dark grey-black commonly with plagioclase feldspar phenocrysts (0.5 - 2mm long) comprising up to 20% of the rock. Hematized varieties weather a deep maroon. Amygdules are open or occasionally infilled with calcite, epidote and minor pyrite. Amygdules are 1 to 5mm across.

Non-hematitic varieties are often strongly magnetic while hematitic basalts are usually slightly or non-magnetic. Hematite is thus thought to have formed by subaerial alteration of original magnetite.

Epidote alteration of feldspars is common. Calcite often occurs as veinlets and fracture coatings. One sample of calcite and sphalerite on a fracture surface was found 300 metres east of the main sulphide occurrence.

Basaltic Breccia (Unit 7)

This unit is equivalent to K. Hudson's intermediate breccia (Unit 2ibx, 1984 report). The breccia consists of a variety of subrounded to angular volcanic rock fragments. Composition of the fragments ranges from vesicular lava to porphyritic volcanics with a fine grained hematitic matrix (see Lakefield Research Petrographic Report, Sample 3). Fragments range in size from 1 cm to 10 cm with a mode of 4-6 cm. Coarse grained euhedral phenocrysts (0.5 - 2mm long) of albite and orthoclase are pervasive and abundant (up to 30%). The phenocrysts appear to have formed during initial deposition. The breccia consists almost entirely of fragments with very little matrix.

The brecciated texture is most apparent on a weathered surface. On fresh surface, the breccia resembles hematitic basalt and could easily be confused if a good weathered surface is not exposed (i.e. along road cuts). No flow textures were observed in hand specimen or thin section. These breccias most likely represent proximal facies avalanche or debris flows.

Lapilli Tuff (Unit 6)

Lapilli tuff covers a small area in the central and northern portion of the grid. Rock fragments are poorly sorted, angular to sub-rounded 0.5 - 15mm long (mode is 2 - 4mm). Fragments are mostly grey and bleached white volcanics with occasional hematitic fragments. Matrix is very soft and light grey-green in colour. The Lapilli tuff may be a finer grained version of the basaltic breccia unit.

Hematized Lahar (Unit 5)

The Lahar was first identified by K. Hudson in 1984. Subsequently, a second exposure was discovered along a new road cut above the first outcrop. Rounded and chaotic porphyritic basalt and dacite volcanic clasts occur in a friable hematite rich mudstone. Clasts range from 5 cm to 1.5 metres across and are poorly sorted. Due to the scale of the clasts and the lack of colour contrast between clasts and matrix, the lahar can be difficult to identify unless a good road cut is available.

Cherty Tuff (Unit 4)

This unit is exposed in the central eastern section of the grid and may be equivalent to the bedded tuff unit of the 1984 mapping. The tuff is white-grey on weathered surface and light to medium olive green on fresh surface. Rocks are aphanitic, highly silicified with a cherty appearance. Occasional small (1-2mm long) feldspar laths are visible in hand sample. Thin section analysis (Lakefield Research Report, Sample 2) reveals euhedral to subhedral phenocrysts of orthoclase (35-40%) and occasional laths of chlorite (4-6%) in a very fine grained siliceous matrix. The matrix is reported to be similar to that of the pyroclastic breccia. Very rare, small rock fragments were observed.

The cherty tuffs are frequently well-bedded. Orientation varies from 100° to 140° with dips of 67° - 84° N. One measurement of 010°/25° E was taken near the contact with the pyroclastic breccia unit. Layers are very thin and frequently warped.

Pyroclastic Volcanic Flow Breccia (Unit 3)

This unit is found in the central eastern section of the grid. It is well exposed along a road cut from 650W to 625W and is bordered by cherty tuff. The breccia consists of feldspar-rich volcanic fragments and chloritic patches possibly formed by alteration of original volcanic fragments (see Lakefield Research Report, Sample 1). Fragments are 0.5 to 2 cm long and both types are partly digested in the fine grained siliceous matrix. Towards the south along the road cut, angular white chert fragments (0.5 to 4mm long) appear with trace pyrite. An exposure of pyroclastic breccia at 1000N/800W has up to 20% pyrite in places. Vague flow lines transect the fine grained matrix.

Mafic Intrusive (Diabase) Dykes (Unit 2)

Small dykes occur throughout the grid area, often at contacts or in shear zones. Dykes are fine grained, dark grey-black and are slightly to moderately magnetic.

Aquagene Tuff (Unit 1)

Only one outcrop of this unit was observed, although many large pieces of float were found in the vicinity. The tuff is dark grey-black and ranges from fine to medium grained. Graded bedding was noted indicating that this unit is right side up. Disseminated euhedral pyrite (1-2%) occurs in the coarser-grained bands. Bands are oriented at $055^{o}/17^{o}$ SE.

4.2 Structure

The contact between dacite and basaltic volcanics displays a general north-south trend. The basaltic breccia, lahar, lapilli tuff and pyroclastic flow breccia also have an approximate north-south orientation.

Bedding measurements were obtained from the cherty tuff with orientations of 100^{o} to 140^{o} dipping 67^{o} - 84^{o}N. Field relations indicate that the cherty tuff overlies older basalt flows.

The presence of a lahar and coarse-grained breccia suggests downslope movement of pyroclastic units during deposition. The distribution of these units was probably strongly influenced by variations in paleotopography.

Fractures and shears are common throughout the grid especially within the dacite and basalt volcanics. The most common shear orientation is $144^{o}/84^{o}$E (K.Hudson, 1985) and is the shear set related to the main showing mineralization.

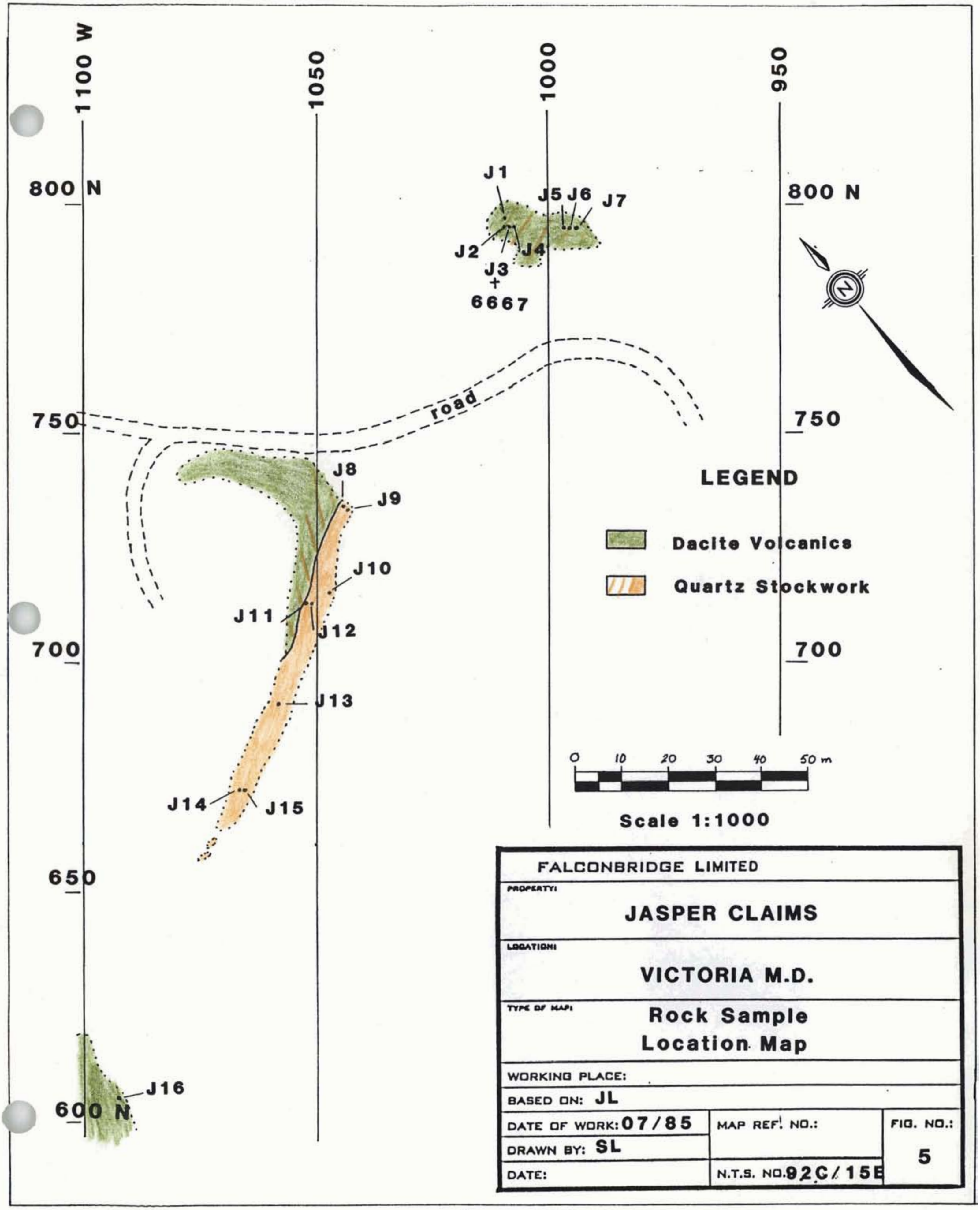
No evidence of folding was noted.

4.3 Mineralization

The best showing on the property is termed the "Main Showing". Mineralization consists of a series of wedge and block shaped zones of pyrite with lesser amounts of chalcopyrite, sphalerite and minor galena across a 28 metre road cut (see K. Hudson, 1985). The sulphides occur in a porphyritic dacite and are controlled by shears. Chlorite is commonly associated with the sulphides. Copper values in the main showing were as high as 2.3%; zinc values were up to 2.4%; gold ranged from 83 to 725 ppb; silver values were 2.1 to 14.6 ppm (1984 sampling). During the 1985 season four drill holes were completed at the main showing to test for continuity at depth.

Sheared zones with associated disseminated pyrite and occasional sphalerite are common in the dacite volcanics southwest of the main showing. Shear zones are frequently accompanied by intense silicification. One rock sample of a small limonitic vein assayed 19000 ppb Au. Subsequent detailed sampling in the area indicated that the the anomalous gold values are small, isolated occurrences (see section 5. LITHOGEOCHEMISTRY).

Minor disseminated and amygdule-filling pyrite and sphalerite occur in the basaltic volcanics.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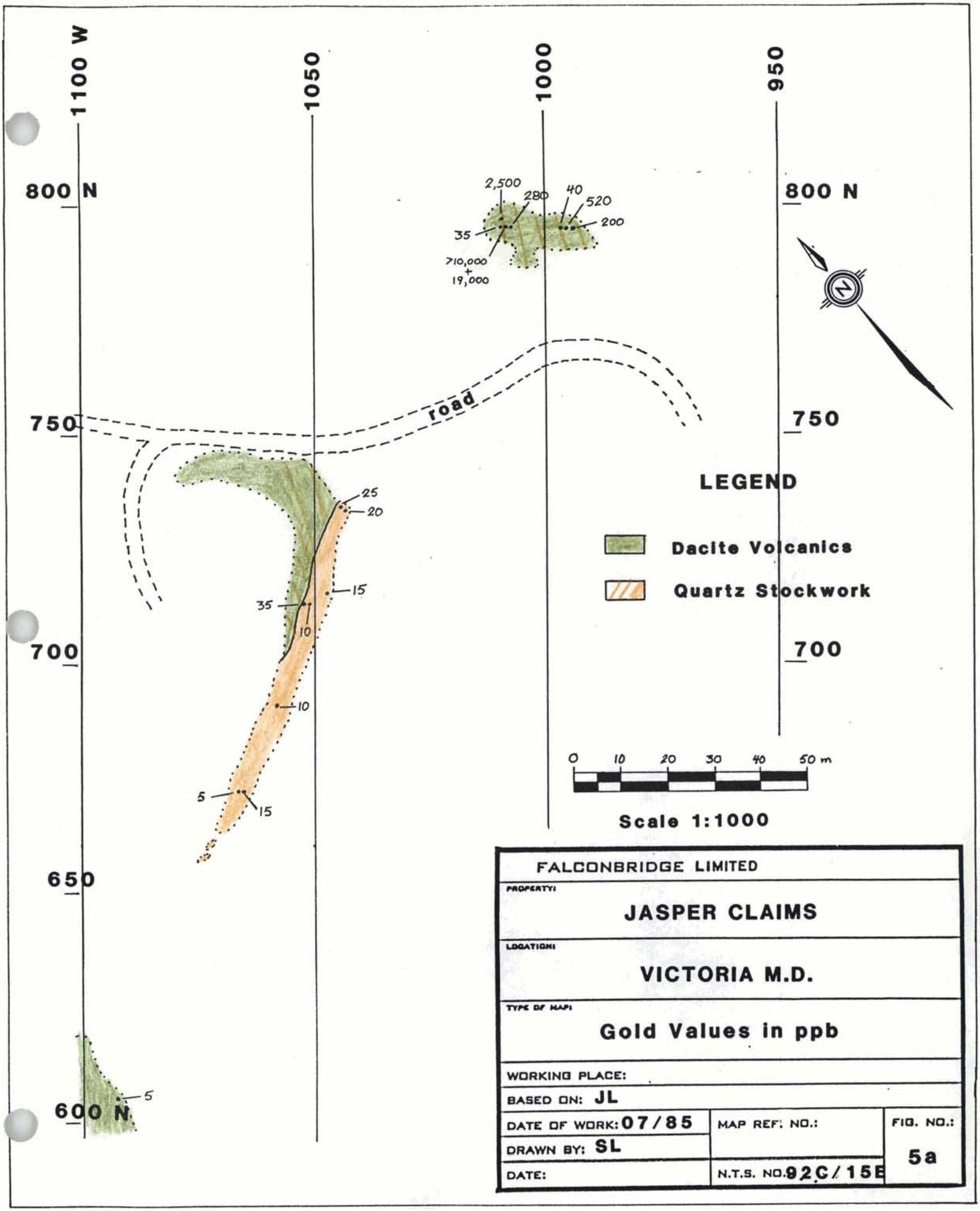
600 N
J1
J2
J3
J4
J5
J6
J7
6667
road
J8
J9
J10
J11
J12
J13
J14
J15
J16
LEGEND
Dacite Volcanics
Quartz Stockwork
0
10
20
30
40
50 m
Scale 1:1000
FALCONBRIDGE LIMITED
PROPERTY:
JASPER CLAIMS
LOCATION:
VICTORIA M.D.
TYPE OF MAP:
Rock Sample
Location Map
WORKING PLACE:
BASED ON: JL
DATE OF WORK: 07/85
MAP REF. NO.:
FIG. NO.:
5
DRAWN BY: SL
DATE:
N.T.S. NO. 92C/15E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950
800 N
800 N
750
750
700
700
650
600 N
road
2,500
280
40
520
200
35
>10,000
+
19,000
25
20
15
35
10
10
5
15
5
LEGEND
Dacite Volcanics
Quartz Stockwork
0
10
20
30
40
50 m
Scale 1:1000
FALCONBRIDGE LIMITED
PROPERTY:
JASPER CLAIMS
LOCATION:
VICTORIA M.D.
TYPE OF MAP:
Gold Values in ppb
WORKING PLACE:
BASED ON: JL
DATE OF WORK: 07/85
MAP REF. NO.:
FIG. NO.:
5a
DRAWN BY: SL
DATE:
N.T.S. NO. 92C/15E

5. LITHOGEOCHEMISTRY

Rock chip samples were taken of intensely mineralized or limonitic sections encountered during the geological mapping. Samples were analyzed for 26 element I.C.P. at ACME Analytical Labs in Vancouver. Sample locations and numbers are shown on figures 4 and 5 with gold results presented on figure 5a. A list of sample decriptions and locations is presented on Table 2 (following page). Copies of assay cerficates are in Appendix B.

One result of 19,000 ppb gold was received from sample 6667. Subsequent detailed sampling in the vicinity did not indicate any significant strike length to this zone. A resample of #6667 returned a value of >10,000 ppb Au, 12.50 g/t on fire assay. Three samples were taken within one metre of #6667 and did not show anomalous gold values.

6. GEOCHEMISTRY

6.1 Introduction

Soil samples of "B" horizon material were collected at 25 metre intervals along the grid lines. A total of 417 samples were collected. Samples were analyzed at CDN Labs in Delta for copper, zinc, lead, gold, and silver. The minus 80 mesh fraction was analyzed using nitric acid digestion with atomic absorption finish for Ag, Cu, Zn, Pb and fire assay with AA finish for Au. Results are presented in figures 6 to 9.

6.2 Results

Copper values range from 2 ppm to 1010 ppm. Results are shown on Fig.6 and contoured at 100, 200 and 400 ppm.

Zinc values range from 10 ppm to 1240 ppm. Results are shown on Fig. 7 and contoured at 100, 200 and 400 ppm. Values >400 ppm occur mainly as isolated highs.

Zinc and copper anomalies (>100 ppm) are concentrated within the dacitic volcanics. A few zinc anomalies (>100 ppm) occur within the basalts. Copper values are very low in the basalts, generally <40 ppm. Values of 250 ppm zinc and 890 ppm copper occur in the vicinity of the main showing. Unfortunately it was not possible to collect soil samples at many of the locations near the main showing due to the presence of road materials and heavy logging debris. An isolated anomaly of 1010 ppm Cu and 1240 ppm Zn occurs at 1200W/825N. Follow-up work in this area did not disclose any evidence of mineralization. Most of the soil anomalies occur as isolated highs with no discernible broad trends or zones. The soil programme did indicate that any further exploration work should be concentrated within the dacitic volcanics.

Lead values range from 1 to 440 ppm (Fig. 8). The 440 ppm result occurs at 650W/975N within the cherty tuff unit. A broad high (>50 ppm) extends south from the main showing along the dacite - basalt contact.

TABLE 2 - LITHOGEOCHEMISTRY

SMPL #	ROCK TYPE	SAMPLE DESCRIPTION	LOCATION	Au
6660	Vol. Breccia	Grab smpl. Abdt chert frags Highly sil. Tr. py.	800W/1000N	ND
6661	Cherty Tuff	Chip smpl.-0.30m limonitic zone	760W/1020N	ND
6662	Mafic Dyke	Chip smpl-2m. Magnetic intr. chlorite alt.	655W/1035N	ND
6663	Mafic Dyke	Chip smpl-1m. Limonitic shear zone	650W/1035N	ND
6664	Dacite Vol.	Chip smpl-1m. Shear zone. highly sil. py:20%	960W/690N	ND
6665	Dacite Vol.	Grab smple of boulder on road cut. Chlorite, py:15% Cu-19411 ppm, Ag-11.1 ppm	1070W/1135N	ND
6666	Dacite Vol.	Chip smpl-0.5m. Highly sil. Py:2%	1010W/880N	ND
6667	Dacite Vol.	Chip smpl-5cm. Limonite zone Tr. Py	1000W/780N	15ppm
6668	Dacite Vol.	Chip smpl-0.5m. Highly sil.	980W/750N	ND
6669	Dacite Vol.	Chip smpl-0.5m. Mod. sil. Py:20%	1070W/750N	ND
6670	Dacite Vol.	Chip smpl-0.5m. Mod. sil. Py:10%	1250W/1190N	ND
6671	Dacite Vol.	Chip smpl-0.3m. Mod. sil. Py:10%	1250W/1045N	ND
6672	Dacite Vol.	Chip smpl-0.3m. Highly sil. Py:10%	1300W/915N	ND
6673	Dacite Vol.	Chip smpl-0.5m. Mod. Sil. Py:15%. Tr. Cpy	930W/950N	ND
J1	Dacite Vol.	Channel-0.25m. Qtz stockwork	1009N/797N	2500ppb
J2	Dacite Vol.	Channel-0.45m. Py:5%	1009N/795N	35ppb
J3	Dacite Vol.	Chip smpl-0.25m. Limonite alt. Max. width 9 cm	1008N/795N	12.5g/t
J4	Dacite Vol.	Chip smpl-0.45m Py:5%	1007W/795N	280ppb
J5	Dacite Vol.	Channel-0.25m Py:3%	996W/785N	40ppb
J6	Dacite Vol.	Channel-0.60m Highly sil. FeOx	995W/785N	520ppb
J7	Dacite Vol.	Channel-0.70m Sil.,alt. wallrx	994W/785N	200ppb
J8	Dacite Vol.	Channel-1.65m Intense Qtz stockwork in alt. dacite	1044W/734N	25ppb
J9	Dacite Vol.	Channel-0.70m Sil. zone, FeOx	1043W/733N	20ppb
J10	Dacite Vol.	Chip smpl-3.5m. Highly sil.	1047W/715N	15ppb
J11	Dacite Vol.	Channel-1.65m. Mod. sil. FeOx	1052W/713N	35ppb
J12	Dacite Vol.	Chip smpl-4m. Highly sil.	1051W/713N	10ppb
J13	Dacite Vol.	Chip smpl-2m. Qtz stockwork. Tr Py.	1058W/691N	10ppb
J14	Dacite Vol.	Chip smpl-2m. Qtz stockwork.	1066W/692N	5ppb
J15	Dacite Vol.	Chip smpl-1.5m. Highly sil. Tr. Py	1065W/672N	15ppb
J16	Dacite Vol.	Chip smpl-1.4m. Qtz stockwork	1092W/605N	5ppb

extends south from the main showing along the dacite - basalt contact. Other isolated highs (>50 ppm) are scattered throughout the dacite volcanics with a few highs in the basaltic units.

Gold and silver values are generally low. One isolated value of 1200 ppb gold and 1.1 ppm silver was reported. Follow-up in the vicinity did not reveal any unusual rocks or alteration.

7. GEOPHYSICS

7.1 VLF-EM 16 Survey

VLF readings were taken at 25 metre intervals along cut lines. A Ronka EM-16 instrument was used and the Seattle Transmission station (18.6 kHz) was monitored. Both inphase field dip readings and quadrature readings were recorded (Fig. 10). Readings were taken facing south. Fraser filtered and contoured data is shown in Fig. 11.

Inphase values are highest in the northeast sector. A strong conductor (>60 Fraser Filter value) runs from Line 800w/1150N to Line 550W/1200N approximately parallel to the contact between the cherty tuff and the basalt flows. Several springs were noted on the road cut north of this conductor. The VLF anomaly may be due to a sharp change in resistivity between the two units at the contact with possible faulting/or shearing influences. This anomaly is not supported by any enhanced geochemical values. No other strong conductors were indicated. The main showing and the dacite - basalt contact do not appear to be VLF-EM conductors.

7.2 Magnetometer Survey

A ground magnetometer survey was conducted on the grid using a Barringer Geophysics GM 122 proton magnetometer. Contoured data are presented in Fig. 12. Readings were taken every 25 meters along cut lines. A magnetic storm occurred during the survey and magnetometer work was postponed until the storm abated. Readings were corrected using a straight line plot. A base station was established and readings were taken there twice a day to enable correlation with the previous days' work.

Corrected readings range from 55324 to 56577 gammas. The basaltic volcanics have generally higher values than the dacite volcanics reflecting the magnetic nature of the basalts. The map shows a N-S discontinuity parallel to the contact between basalt and dacite. The cherty tuff unit also shows high magnetometer values. No other trends were observed.

7.3 "GENIE" E.M. Survey

A small ground GENIE electromagnetic survey was conducted by Peter E. Walcott & Associates Limited between July 3rd and July 13th.

The survey was carried out on grid cut lines. Readings were taken at 25 metre intervals using three frequency pairs: 3037.5/112.5 Hz, 1012.5/112.5 Hz, and 337.5/112.5 Hz. A Scintrex SE 88 EM unit was utilized with a coil separation of 100 metres.

A more detailed survey was conducted over the main showing using coil separations of 25, 50, and 100 metres. No electromagnetic response was obtained over the mineralized zone.

Basic coverage over the remainder of the grid returned essentially negative results. Peter Walcott recommended that a small dipole induced polarization traverse be run across the known mineralization to determine its response, if any, to an I.P. survey. Time and budget constraints did not permit this (see APPENDIX 3).

8. DIAMOND DRILLING

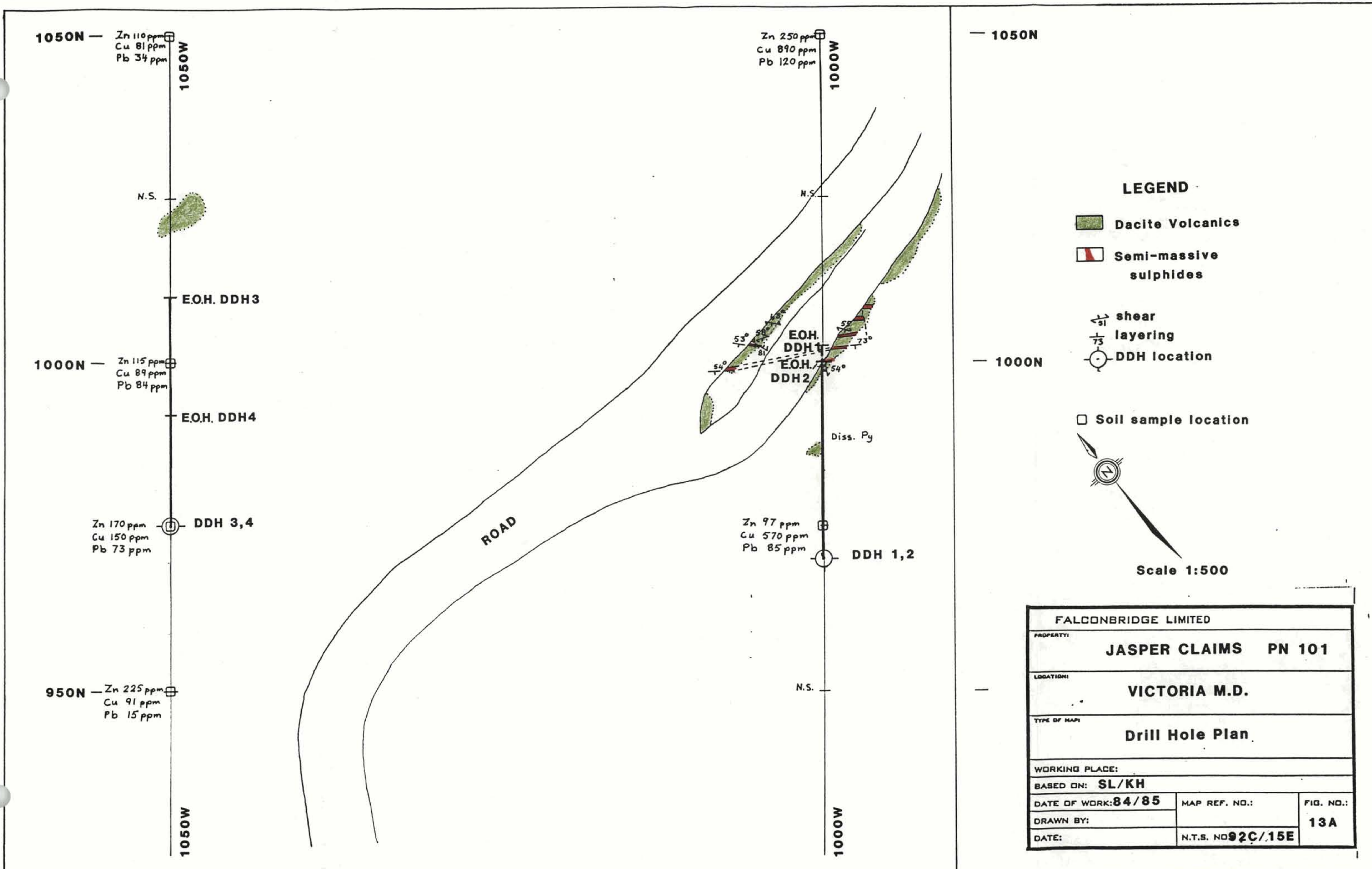
Four holes were drilled from two set-ups using a "Winkie" Drill with AX size core. Total meterage was 188.37 metres. Due to the small core size, whole core samples were sent for assay rather than split sections.

DDH 1 and 2 were located on Line 1000 W/970 N approximately 30 metres south of the main showing. DDH 1 was drilled 45.72 metres on bearing 038^{o} with a dip of 45^{o} ;DDH 2 extended 60.05 metres at 038^{o} with a 60^{o} dip. DDH 1 intersected three small mineralized zones totalling 14 metres drilled length. Best assay results were: 1.34 m of 1.65% Cu, 3.52% Zn, 6.0 g/t Ag and 1.69 m of 1.57% Cu, 0.11% Zn, 4.5 g/t Ag. DDH 2 encountered a few zones of disseminated pyrite with minor chalcopyrite and sphalerite. Assay results were disappointing with no significant values returned.

DDH 3 and 4 were situated on Line 1050 W at 975 N. DDH 3 was drilled for 49.07 metres at 038^{o} /45^{o} dip. DDH 4 extended 33.53 metres on the same bearing with a dip of 60^{o} . A few small zones of disseminated sulphides were encountered. DDH 4 had anomalous assay results: 0.21 m of 2.5 g/t Ag and 1.62 m of 1.67% Cu, 11.0 g/t Ag.

Gold assays in all four holes were very low, generally less than detection limits with a maximum value of 0.30 g/t. Lead was also low with a high of 0.12%.

Mineralization appears to be associated with silicified, volcanic tuffs. Surface evidence indicates that the mineralization is structurally controlled and is not syngenetic. A rough interpretation of Drill Section 1+00 W (Fig. 13) confirms this hypothesis.



FALCONBRIDGE LIMITED		
PROPERTY: JASPER CLAIMS PN 101		
LOCATION: VICTORIA M.D.		
TYPE OF MAP: Drill Hole Plan		
WORKING PLACE:		
BASED ON: SL/KH		
DATE OF WORK: 84/85	MAP REF. NO.:	FIG. NO.: 13A
DRAWN BY:		
DATE:	N.T.S. NO 92C/15E	

The results of the short drill programme indicate that the grade and continuity of the surface showing decreases at depth. Only small zones of disseminated sulphides with isolated moderate Cu, Zn and Ag assays were intersected.

9. CONCLUSIONS

The Jasper Group is underlain by the Bonanza Formation which is composed of a complex assemblage of basalts, dacites, tuffs and tuff-breccias.

Mineralization on the property consists of pyrite, chalcopyrite sphalerite and minor galena in structurally controlled blocks within a sequence of dacitic tuffs and flows. The "Main Showing" returned interesting values on surface but drill testing did not indicate depth continuity of grade.

Soil geochemical, VLF-EM 16, "GENIE" E.M. and magnetometer surveys were completed over the cut grid. No new areas of interest were indicated other than ill-defined broad soil geochemical anomalies within the dacites. These may be indicative of other shear-related Cu/Zn mineralization similar to the main showing occurrence.

10. RECOMMENDATIONS

Sufficient work was conducted to evaluate the "Main Showing" massive sulphide occurrence. Results of the drill programme indicate that further work in this area is not warranted.

As geological, geochemical and geophysical surveys did not reveal any other zones of potential economic significance, it is recommended that Falconbridge Limited not renew the option on JASPER 1. The JASPER 2,3,4 mineral claims are wholly owned by Falconbridge and are in good standing until 1988. These claims could be offered for sale or option to another party if future interest is expressed.

11. REFERENCES

Hudson, K., S. Lear, 1985:
Falconbridge Limited Summary Report on the Jasper Claim Group.

Muller, J.E., K.E. Northcote, D. Carlisle, 1974;
Geology and Mineral Deposits of Albert - Cape Scott Map Area, Vancouver Island, B.C. GSC Paper 74-8 pp 19-25.

Muller, J.E., 1979; Geology of Vancouver Island GSC Open File 463.

Muller, J.E., 1980; The Paleozoic Sicker Group of Vancouver Island, B.C., GSC Paper 79-30.

Muller, J.E., 1981; Insular and Pacific Belts; Field Guides to Geology and Mineral Deposits, Calgary 81 GAC, MAC, CGU, 1981, Edited by R.I. Thompson and D.G. Cook, pp 316-334.

APPENDIX 1

Petrographic Reports

FALCONBRIDGE LIMITED

6415 - 64th Street, Delta, B.C., Canada V4K 4E2

Tel. (604) 946-0441

Telex 04-357583

August 14, 1985
Expl. 575/85

Mr. R. Buchan
c/o Lakefield Research Ltd.
P. O. Box 430
Lakefield, Ontario

Dear Mr. Buchan:

Enclosed are four (4) samples for petrographic (thin section) analysis. The samples are from a suite of Bonanza Formation rocks located on Vancouver Island, B.C. These rocks are thought to represent a sub-marine volcanic sequence.

SMPL #	LOCATION	DESCRIPTION
1	LN 650W/950N	Breccia. Alt. Volc? fragments + minor white chert frags in highly silicified matrix.
2	LN 640W/970N	Tuffaceous chert. Small, dark green frags? Visible.
3	LN 915W/1035N	Heterolithic Flow-Breccia? Rounded Hematite + volc. frags. Pervasive F.S. phenocrysts.

Some specific questions we would like addressed are:

Smpl 1: This sample is bounded on both sides by tuffaceous chert (smpl 2).
- -What is the composition of the fragments? Are they altered volcanics?
- -Is silicification secondary or was matrix originally highly silicified?
- -Have fragments been rebrecciated?
- -Comment on origin. Pyroclastic Breccia?

Smpl 2: Rock is well bedded? in places.
- -Is this a sedimentary or volcanic rock.
- -Are fragments visible? What is composition?
- -Does this rock represent deposition in a marine environment?

Smpl 3: In contact with rocks of smpl 2 possibly older than smpl 2.
-Is hematite a later alteration, or were fragments originally hematitic.
-Any evidence of flow structures? Is rock pyroclastic?
-Were F.S. phenocryst formed during initial depostion?

Smpl 4: Found within a sequence of Dacitic tuffs and Flows.
-Intrusive or extrusive origin?

Please quote project No. 301608-001101.

Thank you,

Sincerely,

FALCONBRIDGE LIMITED

Shelly Lear

Shelley Lear
Geologist

SL/gd

LAKEFIELD RESEARCH
A DIVISION OF FALCONBRIDGE LIMITED

PHONE (705) 652-3341
TELEX NO. 06962842

August 26, 1985

RECEIVED
8 1985

Ms. Shelley Lear
Falconbridge Limited
6415-64th Street
R.R. No. 5
Delta, BC
V4K 4E2

Dear Shelley:

The four rock samples submitted on August 19th have been examined in pol thin section Brief descriptions of each are given on the accompanying pages and the specific questions that you posed in your letter are answered below:

Sample No. 1

The fragments are of two types - volcanics consisting mainly of lath feldspar and chloritic patches which may also be of volcanic origin. Both types appear to be partly digested in the fine grained siliceous matrix. The silicification does not appear to be secondary but probably reflects the original composition of the rock. There is no evidence of rebrecciation of the inclusions, only partial digestion. The rock is most likely a pyroclastic breccia.

Sample No. 2

The rock appears to be of volcanic rather than of sedimentary origin. Euhedral crystals of orthoclase and elongate lath pseudomorphs of chlorite are the only coarse minerals in the otherwise very fine grained rock. The mottled texture of the rock suggests that original rock fragments have been wholly digested into the rock matrix. There is no evidence to indicate that the rock was deposited in a marine environment.

Sample No. 3

Hematite is not a later alteration as some of the fragments were originally hematitic. No flow textures were observed but the rock has a pyroclastic texture. The phenocrysts appear to have formed during initial deposition.

Sample 4

On the basis of texture and mineral assemblage the rock is classified as a basalt rather than a diabase.

... Continued ...

Sample 1 LN650W/950N PTS141

55-60 % Quartz
20-25 % Feldspar
15-20 % Chlorite
~1 Sericite
Tr Carbonate
Tr Sphene/Leucoxene

A very fine grained siliceous matrix contains crystals and rock fragments. The former consist of orthoclase and chlorite, the latter of volcanic rock fragments. Vague flow lines transect the fine grained matrix and the rock is classified as a tuff or pyroclastic breccia.

Sample 2 LN640W/970N PTS142

50-55 % Quartz
35-40 % Feldspar
4-6 % Chlorite
<1 % Chloritoid?
Tr Sericite
<1 % Altered Magnetite

Coarse euhedral to subhedral phenocrysts of orthoclase and laths of chlorite occur in a very fine grained siliceous matrix. The matrix resembles that of the previous sample. A mottled texture may be due to the complete digestion of rock fragments within the fine grained matrix. Euhedral laths of a mineral resembling chloritoid are scattered throughout the section and are probably the result of low temperature metamorphism.

Sample 3 LN915W/1035N PTS143

55-60 % Feldspar
4-5 % Quartz
15-18 % Chlorite
2-3 % Carbonate
~1 % Epidote
1-2 % Titaniferous Magnetite
8-10 % Hematite

The rock consists of a variety of volcanic rock fragments ranging from vesicular lava to porphyritic volcanics with a fine grained hematitic matrix. Coarse grained phenocrysts of albite and orthoclase are abundant and some of them are partly replaced by carbonate. The breccia consists almost entirely of fragments with very little matrix material and no evidence of flow structures are evident.

Sample 4 LN1210W/775N PTS144

55-60 % Feldspar ± An_{50} Andesine/Labradorite
8-10 % Clinopyroxene
1-2 % Epidote/saussurite
15-20 % Chlorite
1-2 % Carbonate
~1 % Quartz
8-10 % Magnetite/Hematite

Coarse grained sub to euhedral phenocrysts of clinopyroxene and plagioclase are set in a fine grained matrix of clinopyroxene, feldspar and oxides. Chlorite forms pseudomorphous replacements of a lath-shaped mineral and is also present in the groundmass. The rock texture is porphyritic rather than diabasic and it is classified as a basalt rather than an intrusive diabase.

Yours sincerely,
LAKEFIELD RESEARCH

Bob Buchan/sk

B. Buchan, P. Eng.
Head, Mineralogy

BB:slk

FALCONBRIDGE LIMITED
6415 - 64th Street, Delta, B.C., Canada V4K 4E2
Tel. (604) 946-0441
Telex 04-357583

Expl. 705/85
November 5, 1985

Vancouver Petrographics Limited
P.O. Box 39
8887 Nash Street
Fort Langley, B.C.
VOX 1J0

Dear Mr. Vinnell:

Enclosed please find one (1) diamond drill core sample, size AX, which requires thin section preparation and petrographic description. The core is from the Vancouver Island Bonanza Group. A few questions we would like addressed are:

1) Are the epidotized fragments all altered feldspars?

2) Are there any lithic fragments?

3) Were feldspar phenocrysts formed during original deposition?

4) Comment on origin. (Pyroclastic?)

Please return thin section and cut sections along with the petrographic report.

Quote project No. 301-608-001-101. Thank you.

Yours truly,
FALCONBRIDGE LIMITED

J. Lehtinen
Geologist

JL:mm
Encl.

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph. D. Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
VOX 1JO

PHONE (604) 888-1323

Invoice 5529

Report for: J. Lehtinen,
Falconbridge Limited,
6415 - 64th Street,
Delta, B.C.,
V4K 4E2.

November 15, 1985

Sample: One diamond drill core sample.

Project No. 310-608-001-101.

ANDESITE (TUFF), ALTERED WITH EPIDOTE.

The sample is a fine to medium grained inequigranular volcanic rock of andesitic composition. It consists largely of plagioclase phenocrysts in a very fine plagioclase matrix. The phenocrysts are altering to epidote; in places large patches have developed which overlap onto the groundmass. The epidote is associated with chlorite and quartz, occuring mainly in the groundmass.

The plagioclase phenocrysts are quite variable in size, sometimes occuring in aggregates and are irregularly distributed in the groundmass. They may contain embayments and are sometimes broken into angular pieces. All this suggests that the phenocrysts are not in equilibrium with the groundmass and that some of them, at least, have been caught up in the groundmass during eruption; ie. there is a strong pyroclastic component. There are no recognisable lithic fragments (apart from plagioclase aggregates). Minerals are:

plagioclase phenocrysts	20%
plagioclase groundmass	25
epidote	25
chlorite groundmass	20
chlorite	5
sericite	3
quartz	1
Fe-Ti oxide	1
sphene	trace

(continued)

ANDESITE (TUFF) (cont.)

Plagioclase phenocrysts mostly range in size from 1 to 5mm and are subhedral to rounded with a few rather thin elongated ones. Aggregates of a few more irregularly shaped ones sometimes occur. Embayments occur in some. There are many phenocrysts which are less than 1mm in size and most of these are angular in shape, being fragmented pieces of larger grains. They are being incorporated into the groundmass. A widely spaced, fine network of extremely fine sericite occurs in most of them, sometimes grading into small patches.

Almost all the phenocrysts have been affected by epidote alteration. It forms rounded to prismatic grains 0.1 to 0.5mm in size occuring as scattered grains or in clusters and aggregates within them. The epidote patches vary in size from 0.5mm to complete replacement of the phenocryst, sometimes overlapping onto the groundmass. In the larger patches the epidote is sometimes intergrown with fine quartz. At the edges of the epidote patches, within the groundmass, the well formed grains grade into diffuse zones of extremely fine cloudy epidote. Small shapeless patches of this material occur throughout. Fine chlorite flakes sometimes occur in a thin partial zone at the edge of some of the epidote patches. In those phenocrysts which are less altered there is sometimes small sphene grains scattered within them, along with epidote. These are up to 0.2mm in size.

Apart from the chlorite associated with epidote and in the groundmass there are several aggregates and clusters which appear to be psuedomorphs after subidiomorphic hornblende (pyroxene ?). These are 0.5 to 1.0mm in size.

The groundmass consists mainly of a fine intimate intergrowth of plagioclase and chlorite. The plagioclase forms very thin laths up to 0.1mm in length along with a few grains up to 0.5mm. These may be microphenocrysts in equilibrium with the magma. There is a crude flow texture in places. The chlorite is extremely fine grained occuring between the laths and is sometimes intimately mixed with sericite in diffuse patches. Chloritisation is patchy. In places there are small shapeless patches of fine chlorite which have a thin rim of fine quartz around them. The laths are incipiently altered with chlorite and sericite. Extremely fine Fe-Ti oxides are disseminated throughout the groundmass, often being concentrated in small aggregates and whisps.

A. L. Littlejohn

A. L. Littlejohn, M.Sc.

APPENDIX 2

Rock Chip Sample Assays

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

ASSAY CERTIFICATE

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H20 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.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AG* ANALYSIS BY AA BACKGROUND CORRECTED. AU** BY FIRE ASSAY

DATE RECEIVED: JULY 4 1985 DATE REPORT MAILED: July 9/85 ASSAYER. T Saundry .DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

FALCONBRIDGE LTD PROJECT - 301608-100/101 FILE # 85-1228 PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Pb %	Zn %	Ag OZ/T	Au** OZ/T
6651	17	217	15269	4562	142.3	3	9	3411	6.19	136	5	ND	3	7	26	3	2	10	.24	.10	12	1	.21	24	.01	6	.89	.01	.17	1	-	-	-	-
6652	2	39	82	192	1.1	11	17	5397	4.95	58	5	ND	3	16	1	2	2	24	1.19	.16	11	3	.53	98	.01	5	1.54	.01	.16	1	-	-	-	-
6653	2	21	21	181	.6	4	9	3833	3.12	9	5	ND	3	28	1	2	2	21	1.31	.13	13	1	.72	618	.01	3	1.64	.02	.26	1	-	-	-	-
6654	7	36	539	6321	5.2	1	3	6755	2.67	93	5	ND	3	34	37	2	2	2	2.80	.09	10	1	.12	21	.01	4	.39	.01	.17	1	-	.62	.14	-
6655	2	62	22	133	.4	4	15	2109	6.74	6	5	ND	4	54	1	2	2	179	2.68	.11	5	2	1.73	69	.35	7	2.48	.07	.06	1	-	-	-	-
6656	27	390	5608	74336	262.5	1	2	1524	3.29	173	5	ND	4	5	817	92	16	3	.14	.07	9	3	.12	10	.01	6	.41	.01	.15	8	-	-	-	-
6657	27	418	18849	82630	107.8	1	3	1004	7.20	742	5	ND	6	5	465	7	16	3	.21	.06	5	2	.11	9	.01	7	.37	.01	.14	1	-	8.45	3.08	-
6658	137	512	19313	44714	164.7	1	4	120040	15.85	194	5	8	12	74	480	33	2	17	.98	.02	2	1	.41	28	.01	10	.53	.01	.05	76	-	5.80	5.19	-
6659	7	41	1547	9522	7.4	5	6	9337	3.49	47	5	ND	2	56	52	2	2	8	4.52	.08	9	3	.51	87	.01	7	1.05	.01	.14	1	.16	-	.21	-
6660	1	8	78	324	.6	3	4	1135	2.06	6	5	ND	3	10	2	2	2	17	.12	.05	11	2	.90	248	.01	4	1.17	.03	.12	1	-	-	-	.001
6661	3	6	23	81	.2	1	2	464	1.62	6	5	ND	3	4	1	2	2	8	.07	.03	15	2	.67	50	.01	9	1.50	.02	.23	1	-	-	-	-
6662	2	66	15	127	.1	15	17	1490	5.51	2	5	ND	3	73	1	2	2	205	1.80	.11	8	23	2.75	97	.39	11	3.45	.22	.09	1	-	-	-	-
6663	3	69	288	737	2.3	14	20	2678	7.28	7	5	ND	4	3	7	2	2	130	.02	.10	8	38	2.65	97	.02	8	5.03	.01	.18	1	-	-	-	-
STD C	21	60	39	137	6.8	67	28	1216	3.98	38	17	7	38	48	18	16	18	59	.48	.14	40	62	.88	187	.08	40	1.72	.06	.11	11	-	-	-	-

JASPER 101 (6660–6663)

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.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU** ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 11 1985 DATE REPORT MAILED: July 18/85 ASSAYER. T. Saundry. DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

FALCONBRIDGE LTD PROJECT - 301608-101 FILE # 85-1350 PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** PPB
R-6664-101	2	27	8	112	.1	1	4	444	2.82	10	5	ND	1	4	1	2	2	16	.14	.07	2	1	.60	17	.08	3	.79	.01	.09	1	17
R-6665-101	8	19411	23	333	11.1	28	12	3852	14.48	10	5	ND	4	1	2	2	2	118	.02	.18	11	104	3.69	21	.09	2	4.03	.01	.04	6	9
R-6666-101	4	180	10	153	.3	9	15	1959	6.43	18	6	ND	4	10	1	5	2	92	.30	.10	2	27	2.66	23	.24	2	3.08	.03	.05	1	4
R-6667-101	58	164	1886	1273	7.1	2	1	67	1.64	16	5	15	2	1	28	4	2	6	.01	.05	2	3	.07	30	.02	2	.22	.01	.07	1	19000
R-6668-101	1	13	22	86	.3	5	11	1015	5.45	16	8	ND	3	5	1	6	3	91	.22	.12	2	4	1.42	22	.21	2	1.61	.04	.10	1	28
R-6669-101	4	11	13	277	.3	3	6	1604	4.72	16	5	ND	3	3	1	3	3	38	.05	.08	8	4	1.12	54	.03	2	1.63	.01	.11	1	75

TEC
XC SK

→ 56.

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.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU** ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 16 1985 DATE REPORT MAILED: July 19/85 ASSAYER T. Saundry ..DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

FALCONBRIDGE LTD PROJECT - 301608-101 FILE # 85-1407 PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM
R-6670-101	6	24	32	17	.5	5	7	85	6.55	291	5	ND	1	3	1
R-6671-101	1	12	17	112	.1	2	5	1442	3.06	19	5	ND	1	7	1
R-6672-101	7	72	49	91	.2	2	4	960	6.24	2	6	ND	1	4	1
R-6673-101	2	68	23	146	.1	7	13	1291	4.94	12	5	ND	1	5	1
STD C/FA-AU	19	58	39	129	7.3	63	30	1142	3.90	41	17	6	39	47	18

SAMPLE#	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au** PPB
R-6670-101	2	2	27	.07	.09	2	2	.09	25	.16	8	.37	.01	.25	1	55
R-6671-101	2	2	24	.27	.10	5	3	1.24	121	.10	2	1.52	.03	.14	1	6
R-6672-101	2	5	71	.12	.10	2	3	1.30	101	.28	3	1.82	.02	.11	1	8
R-6673-101	2	2	56	.16	.11	2	10	2.20	75	.08	6	2.37	.02	.15	1	29
STD C/FA-AU	15	20	61	.48	.13	41	57	.88	172	.07	38	1.72	.09	.12	11	50

RECEIVED
JUL 22 1985
Ans'd..........

CDN RESOURCE LABORATORIES LTD.

#8, 7550 RIVER ROAD, DELTA, B.C. V4G 1C8 / TEL. (604) 946-4448

GEOCHEMICAL REPORT

TO: Falconbridge Ltd.
6415 - 64th Street
Delta, B.C.
V4K 4E2

FILE NO.: 85-195

DATE: October 8, 1985

ATTENTION: J. Gammon cc. T. Chandler

PROJECT: 301 608 101

Sample Description	Au ppb	Ag ppm
J101 J-16 605/1092	5	.6
J15 672/1065	15	.4
J14 672/1066	5	.3
J13 691/1058	10	.6
J12 713/1051	10	.4
J11 713/1052	35	.2
J10 715/1047	15	.3
J9 733/1043	20	.4
J8 734/1044	25	.2
J7 785/994	200	.6
J6 785/995	520	.9
J5 785/996	40	.4
J4 795/1007	280	.9
J3 795/1008	>10,000	8.3
J2 795/1009	35	.5
J1 797/1009	2,500	1.4
JL 031085-1	5	.1

Results of file 85-195 are geochemical determinations:
Au: fire assay, AA.
Ag: aqua regia digestion, AA.

Duncan Sanderson

CDN RESOURCE LABORATORIES LTD.
#8, 7550 RIVER ROAD, DELTA, B.C. V4G 1C8 / TEL. (604) 946-4448

ASSAY REPORT

TO: Falconbridge Ltd.
6415 - 64th Street
Delta, B.C.
V4K 4E2

FILE NO.: 85-195A

DATE: October 8, 1985

ATTENTION: J. Gammon cc. T. Chandler

PROJECT: 301 608 101

Sample Description		Au g/tonne
J101 - 795/1008	J3	12.50
J101 - 797/1009	J1	3.00

Results of file 85-195A are assays:
Au: fire assay, gravimetric finish.

[Rej]ects retained one month, pulps one year, unless specific arrangements made.

Duncan Sanders
Certified Assayer of British Columbia

APPENDIX 3

"GENIE" EM Survey Report

A REPORT

ON

AN ELECTROMAGNETIC SURVEY

Nitinat Lake Area, British Columbia

48°51'N., 124°35'W.
N.T.S. 92-C-15E

Survey Dates: July 3rd - 13th, 1985

FOR

FALCONBRIDGE LIMITED

Vancouver, B.C.

BY

PETER E. WALCOTT AND ASSOCIATES LIMITED

Vancouver, B.C.

AUGUST 1985

TABLE OF CONTENTS

INTRODUCTION

Between July 3rd and 13th, 1985, Peter E. Walcott & Associates Limited carried out a small Genie electromagnetic survey programme over a property located in the Nitinat Lake area, Vancouver Island, British Columbia for Falconbridge Limited.

The survey was carried out over N38^{o} E lines established by the personnel of Falconbridge Limited.

Readings at three frequency pairs, 3037.5/112.5, 1012.5/112.5 and 337.5/112.5, were taken at 25 metre intervals along the lines using a Scintrex SE 88 electromagnetic unit with a coil separation of 100 metres. Initially 25 and 50 metre separation work was carried out on lines 9+50 and 10+100 W respectively in the vicinity of the showing.

The data are presented in profile form on plan maps on the line grid that accompany this report.

The progress of the survey was hampered by the steepness of the terrain and the malfunction of the transmitter.

LOCATION AND ACCESS

The grid - the Jasper grid - is located in the Victoria Mining Division of British Columbia. It is situated some 7 kilometres north east of Nitinat Lake.

Access was obtained from Youbou by four wheel drive vehicle along the logging roads that cross the area.

PREVIOUS WORK

Previous work on the property, to the best of the writer's knowledge, consisted of geological prospecting and geochemical soil sampling by the staff of Falconbridge Limited. This is documented in reports prepared and/or held by the same.

PURPOSE

The purpose of the survey was to (1) determine the electromagnetic response of the narrow showing approximately located around 10+00 N on or L 10+00W and thence to outline its strike length, and (2) detect if possible similar occurrences of the same on the grid.

GEOLOGY

The reader is referred to forementioned reports by the staff of Falconbridge Limited.

SURVEY SPECIFICATIONS

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

The electromagnetic survey was carried out using a SE 88 Genie-electromagnetic system manufactured by Scintrex Limited of Metropolitan Toronto, Ontario. The operation of this system is based on the simultaneous transmission of two preselected, well-separated frequencies from the transmitter, and the simultaneous reception and amplitude comparison of the resultant signals by that single receiver. There is no cable or radio link between the coils, and since there are effectively no coil geometry errors, the instrument is very effective in rugged topography and heavily forested areas. In the absence of atmospheric noise useful amplitude ratio changes may be made up to a transmitter-receiver separation of 200 metres.

On this survey measurements were made at three frequency pairs at a 100 metre coil separation. In addition, some initial surveying was carried out on Lines 9+50 and 10+00 W. respectively with 25 and 50 metre coil separation.

In all some 13 kilometres of electromagnetic surveying were carried out.

DISCUSSION OF RESULTS

As can be readily discernible from the respective profiles - Map W-368-2 - on the 25, 50 and 100 metre coil separation work in the area of the mineralized showing no electromagnetic response was found to be associated with the mineralization.

Basic coverage was then provided with a 100 metre coil separation over the rest of the survey grid, and with the exception of a narrow conductor on or L-10+50 W. gave essentially negative results.

The response of L-10+50 W. is characteristic of that of a narrow conductor dipping some 60° to the north and exhibiting moderate to good conductivity burried at a depth of some 25 to 30 metres. However, as the response profile varies somewhat with strike direction and profile offset, additional coverage on lines at 10+25 and 10+75 W respectively would be necessary to properly determine its characteristics, not considered economic here in view of its limited strike length.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between July 3rd and 13th, 1985, Peter E. Walcott & Associates Limited undertook a small Genie electromagnetic survey over a grid in the Nitinat Lake area, Vancouver Island, British Columbia for Falconbridge Limited.

The survey produced essentially negative results with the exception of a narrow conductor of limited strike length as discussed in the previous section.

Although the writer would have like to have run a small dipole induced polarization traverse across the known mineralization to determine its characteristics before investigation by drilling, such was not allowed by budgetary considerations. He, therefore, recommends that no additional work be carried out on the basis of the above electromagnetic survey.

Respectfully submitted,
Peter E. Walcott & Associates Limited

Peter E. Walcott, P. Eng.
Geophysicist

Vancouver, B.C.
August, 1985

APPENDIX

COST OF SURVEY

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Reporting costs were extra so that the total cost of services provided was $6,994.12.

PERSONNEL EMPLOYED ON SURVEY

NAME	OCCUPATION	ADDRESS	DATES
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court Coquitlam, B.C. V3J 3T8	August 8, 1985
R. Summerfield	Geophysical Operator	"	July 3-13, 1985
D. Jensen	Geophysical Operator	"	July 3-13, 1985
G. MacMillan	Draughting	"	August 2-4, 1985
S. Vese	Typing	"	August 16, 1985

APPENDIX 4

Diamond Drill Logs

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-45°	038°

PROPERTY JASPER
Location VANCOUVER ISLAND
Elevation
Coordinates N1000 N / 970 N — N / E

Length 45.72 metres
Hor. Comp / Vert Comp
Bearing 038°
Begun July 18/85 / Completed July 23
Core size AX / Recovery 73 %

HOLE No: 85-1 Page #
Sheet 1 of 3
Logged by S.LEAR / J. LEHTINEN
Sampled by S.LEAR
Driller VAN ALPHEN EXPLORATION

metres From	To	RECOV'Y	%	DESCRIPTION	Intersection Angle		SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
0	1.83			CASING.											
1.83	2.72	0	85	DACITE TUFF Faint 1-2 mm long frags in lt to med grey-green matrix. Epidote 1-7 mm long comprising 20-25% Epidote-qtz veinlets. Minor hbl crystals. FeOx staining on fractures. Tr. Py near lower contact.	50° vnlts contact 50°		11626	1.83	4.83	3	<.05	<.5	—	—	—
2.72	6.28	32	74	F.S - Hbl Porphyry mod. to highly silicified. med. gray-green matrix with Hbl (1-2cm) 20%, Epidote (1-3mm) 10% Epidote patches otten cored by pyrite. white F.S crystals 1-4mm long - 25% of rock Occ. qtz patches / veinlets. F.g. diss. Py associated with qtz/Ep patches. Py . 1% Lower contact at ~~45~~ 45° C.A.	vnlts 0°, 55° contact 45°		11627	4.83	6.28	1.45	<.05	<.5	—	—	—
6.28	7.62	0	43	Dacite Tuff w/ sulphide mineralization med. green. Subrounded to subangular rock frags 1 to 4 mm long; 30% of rock Small Hbl crystals (1%) near upper contact. Occ. 1-3 mm long frags of Jasper. Thin qtz veinlets 6.31-6.35: 20% Cpy, 5% Sphal. in drk gray matrix Minor Jasper 6.35-7.62: Diss. f.g. patches of Py with chlorite rims. Py: 10% Cpy: Tr. 6.35-6.52: Py: 15-20%	vnlts 55°										
7.62	16.60	17	64	F.S - Ep Porphyry as 2.72 to 6.28 metres Lt to med grey-green. Mod. silicified. Thin veinlets of quartz - 10%. Diss. Py: 2% 9.45-9.50: F.g. Py: 20% sphal: 5% rimming Py patches	vnlts 20°, 60°										
16.60	18.29	9	32	Dacite Tuff med. green groundmass White angular highly silicified rock frags. 3-4 mm long (5%) Cpy at 17.38 m; 17.67 m Much core lost											
18.29	22.20	0	31	Dacite Tuff med to lt. green groundmass. Lt grey-green subrounded rock Frags. Minor Jasper/Qtz Poor core recovery Py: 5% 18.29-18.40: f.g. Py mud. Minor chlorite.											

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-45°	038°

PROPERTY JASPER
Location VANCOUVER ISLAND
Elevation
Coordinates LN 1000W / 970 N

Length 45.72 metres
Hor. Comp / Vert Comp
Bearing 038°
Begun JULY 18/85 / Completed JULY 23
Core size AX / Recovery 72 %

HOLE No: DDH-1-85 Page # 1
Sheet 2 of 3
Logged by J. Lehtinen
Sampled by S. LEAR
Driller VAN ALPHEN EXPLORATION

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	Au g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
22.05	25.76		Mafic / Intermediate Volcanic (Possible tuffaceous horizons) - Medium to dark green-gray, fine grained with light green epidote centres throughout. Epidote modal 1-2 mm. Max. 5 mm. Some epidote centres cored with pyrite or quartz. Dark mafic specks < 1 mm. Minor fragmental (darker) pieces up to 1 cm. Some amygdaloidal sections with well rounded amygdules generally 3-5 mm in diameter with chlorite epidote as infill. Some quartz and pyrite (as infill). Epidotized haloes around amygdules										
~~25.76~~	25.76		Clay at contact = fault gouge? Change of Lithology										
25.76	27.76		Lithic Tuff / breccia Variable "spattered" colouring but overall: medium gray-green. Numerous lithic fragments and crystals set in a dark green-gray fine grained chloritic matrix. Fragment size - max 1.5-2.0 cm. modal 4.0 mm - numerous epidotized fragments - minor jasperitic / hematitic fragments - some epidote and epidote / quartz veins										
27.27	31.5		Tuff (Porphyritic appearance) - Medium to dark green-gray Fragments and crystals set in a dark green-black fine grained matrix. Frags. + Crystals vary in colour from dirty white to light green and reds to black. Fragments up to 2 cm. Crystals up to 2-3 mm. Crystal and fragment size modal 2-3 mm. Minor jasper / hematite "Microfracture texture" noted (Tuffaceous fragment contacts?)										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N / E

Length
Hor. Comp / Vert Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH 1-85 Page#
Sheet 3 of 3
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	SAMPLES from	SAMPLES to m.	ASSAYS g/tonne Au	ASSAYS g/tonne Ag	Cu %	Pb %	Zn %
31.5	39.2		Similar to section above but wider variety of clasts and a larger clast size overall the core is lighter in colour due to a medium to light pastel green matrix colour. Noticeable = less epidotized feldspar. Some 10-15 cm. epidotized sections 38.8 = large fine grained medium purple gray fragment(?) surrounded by hematite stained margin									
39.20	41.25		Tuff (Porphyritic Appearance) Coarse crystal zone of fragments of feldspar crystals. Modal size 3-4 mm. set in medium to dark fine grained matrix. Minor chlorite and hematitic zones									
41.25	42.67		Tuff / Breccia Overall = medium green - Angular to subrounded fragments of variable composition set in light green-gray matrix. Fragments generally medium to dark gray-green to black - hematite common in matrix (apparent textural "swirl" caused by microfractures									
42.67	43.3		Silicified Tuff - finer grained medium gray-green - numerous quartz veins									
44.2	45.72		Coarse grained unit medium to light green-gray Crystals / crystal fragments up to 3mm. (little epidotization) minor chloritized mafics. Hematite stain in fractures, usually with epidote 45.5 - 45.72 - Breccia Angular fragments up to 1.5 cm dark green set in light green siliceous matrix									

DRILL HOLE RECORD

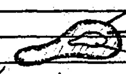
FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-60°	038°

PROPERTY Jasper | Location Vancouver Island | Elevation | Coordinates LN 1000 W N, 970 N E

Length 60.05 m | Hor. Comp / Vert. Comp. | Bearing 038° | Begun 3/10/85 / Completed 4/10/85 | Core size Ax / Recovery %

HOLE No: DDH-2-85 | Page # 1 | Sheet 1 of 8 | Logged by J. Lehtinen | Sampled by J. Lehtinen | Driller Van Alphen Exploration Services

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle (B.C.A.)	Samples No	from	to	m.	Assays Au g/t	Ag g/t	Cu %	Pb %	Zn %
0	1.68		Casing										
1.68	1.98	73	Dacite(?) Tuff - pale to medium pastel green - Highly fractured, microfractures - epidote clots up to 5 mm. - epidotized feldspars up to 3 mm. - angular fragments up to 3 mm. - minor chloritized mafics (Core highly broken & "balled")										
1.98	2.23	89	Dacite (?) Tuff - pale to medium pastel gn with epidote and chlorite as phenocrysts or clots. → generally < 3 mm average 1 mm. - open space filling by epidote - some cavities with chlorite rims, with epidote and quartz cores  - rusty stain in some vesicles and on fracture surfaces - core highly fractured										
2.23	3.19	89	Dacite - Dacite Tuff (Porphyritic Sections) - generally medium to light pastel green - chlorite as rims and clots varying throughout the section, but ending at 3.19 m - large epidotized sections and along fractures @ 2.77 m fracture = - porphyritic sections, generally less than 10 cm. intersection - feldspar phenocrysts 2 mm width, laths up to 7 mm.	30°									
3.19	8.08	70	Feldspar (Epidote) Porphyry 3.45 - 3.48 m - Disseminated Pyrite and minor chalcopyrite. Chalcopyrite following thin veinlets. Pyrite disseminated and in small clusters of less than 1 mm. Quartz = gray to purple gray Fractured and rusty below mineralized zone Euhedral cubic pyrite on fracture surfaces with heavy Fe oxides - Purple - gray (clays?) along fracture surfaces		10292	3.45	3.96	0.51	<0.05	<0.5	0.03	0.01	0.03

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun / Completed
Core size / Recovery %

HOLE No: DDH-2-85 Page# 2
Sheet 2 of 8
Logged by
Sampled by
Driller

From	To	RECOV'Y	DESCRIPTION	Intersection Angle B.C.A.	Samples No	from	to	m	Assays Au g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
			with pyrite less than 2%										
			4.39 - 4.45 m - Fault Plane	27°									
			Slickensides with Fe Oxide Coating										
			small dilation fractures with drusy Fe										
			oxide coated quartz										
			4.77 - Large epidote quartz veinlet ± 1cm										
			width, minor pyrite clusters surrounding										
			epidote										
			4.97 - 5.06 Trace pyrite concentrated along										
			fractures and surrounding fragments(?)										
			5.06 - 5.79 - Broken core - very rusty										
			fracture planes, silica content increasing										
			downhole										
			5.79 - 8.08 Zone of numerous qtz. veinlets	55°	10293	6.71	7.01	0.30	<0.05	<0.5	0.01	0.01	0.04
			Maximum width = 2mm. Some		10294	7.01	8.23	1.22	0.10	<0.5	0.08	0.01	0.25
			sulphides, pyrite, sphalerite generally										
			associated with epidotized centres										
			- lensey vugs (up to 2cm.) with drusy										
			quartz										
			7.01 - 7.13 Sulphides ± 1% (Pyrite, minor										
			sphalerite)										
8.08	8.79	54	Mafic to Intermediate Volcanic										
			Fine grained medium to dark green-gray.										
			Epidote centres up to 5mm. modal 3 mm.										
			Possible amygdules - pyrite concentrations										
			along fractures and fracture infill -										
			quartz associated. Some epidote										
			as veins and clots										
			8.67 - minor trace chalcopyrite										
			and galena. Cream coloured $CaCO_3$										
			and galena associated.										
			8.08 - 8.63 Quartz - CO_3 vein 70:30	35°									
			" " " 70:30	45°									
			- Hairline fracture with pyrite along ...	10°									
			axis (appears to interrupt qtz - CO_3 and										
			epidote veining										
			8.29 - Chlorite rimmed, epidote filled amygdules										
			8.08 - 8.13 - Fractured sulphide zone										
			- quartz veinlets and slightly silicified										
			volcanics Pyrite 5% chalcopyrite 1%										
			Sphalerite and Galena each < 1%										
			Minor CO_3 veining, Pyrite										
			as clusters up to 4mm, cubes and										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N / E

Length
Hor. Comp / Vert. Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-Z-85 Page # 3
Sheet 3 of 8
Logged by
Sampled by
Driller

From	To	RECOV'Y	DESCRIPTION		Samples No.	from	to	m.	Assays Au g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
			disseminated. Chalcopyrite in clots up										
			to 2mm. Vuggy and vesicular core										
8.79	8.84	62	Mafic to Intermediate Volcanic										
			Similar to above section but with small										
			epidote (after feldspar?) in medium grained										
			medium to ~~dk~~ dark green-gray matrix										
			Trace pyrite										
8.84	10.92	64	Dacite Tuff										
			Medium green with some locally pink-										
			gray hematitic matrix. Some localized										
			jasper. Pyrite massive along fractures										
			and usually as ovoid clusters up to 5mm.										
			Quartz and pyrite associated. Minor										
			feldspar laths (epidotized) in matrix										
			– Long mineralized fracture	15°									
			8.84 – 9.30 – Poor core recovery										
			(crumbled) Quartz-carbonate veining		10295	8.84	9.91	1.07	0.30	<0.5	0.29	0.12	0.89
			with disseminated pyrite and minor		10296	9.97	10.36	0.45	<0.05	1.0	0.01	0.01	0.12
			chalcopyrite and galena										
			9.39 – 9.45 – Breccia - Vein Zone										
			Epidotized fragments up to 7 mm.										
			Very angular. Quartz vein concentration										
			increased. Sulphide content increased										
			Pyrite 10% chalcopyrite 1%										
			sphalerite < 1% Total vein										
			Breccia intersection ≈ 8 cm.....	30°									
			Note: 8.84 – 10.91 – Numerous										
			sulphide concentrations associated with										
			quartz veining generally < 3mm.										
			width – Minor Carbonate on										
			fracture surfaces.										
10.91	11.04	59	Feldspar Porphyry										
			Dark to medium green matrix with										
			light "pistachio" green phenocrysts of epidote										
			(after feldspar). Some partially altered										
			phenocrysts, minor quartz veining, chloritized		10297	10.97	11.46	0.49	0.10	<0.5	0.59	<0.01	0.20
			matrix										
			Upper Contact	40°									
			Lower Contact – Broken Core										
			Vuggy core with fine drusy quartz										
			crystals less than 0.5mm.										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

Logged by
Sampled by
Driller

From	To	RECOV'Y	DESCRIPTION		Samples No.	from	to	m	Assays Au g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
11.04	11.73		Dacite Tuff										
			Mottled medium green. Angular to										
			sub-rounded fragments up to 5 mm.										
			modal 2mm. Fragments dark green										
			in lighter green matrix. Numerous										
			quartz veins	35°									
			Minor epidote and jasper										
			11.22 - 11.31 Banded sulphides	30°									
			Pyrite 20%, Chalcopyrite 3%; sphalerite 1%										
			Appear to be vein origin. $CaCO_3$										
			on fracture surfaces										
11.73	19.96	70	Feldspar Porphyry - Feldspar (Epidotized) Porphyry										
			Medium to dark green with white feldspar										
			phenocrysts varying to epidotized feldspar										
			phenocrysts. Phenocrysts variable in size										
			but generally large and distinct (5 mm.)										
			altering around rim of phenos. Chlorite										
			in matrix										
			11.85 - 12.05 - Silicified zone - thick zone of quartz		10298	11.89	13.11	1.22	<0.05	<0.5	0.01	0.10	0.23
			veining and quartz flood. Epidote with										
			trace pyrite										
			12.05 - 14.53 Numerous quartz veinlets	35°	10299	13.72	14.33	0.61	<0.05	0.5	0.01	<0.01	0.09
			Also with numerous random orientations.										
			13.05 - Quartz - carbonate veinlet (3mm)										
			with chalcopyrite, galena, sphalerite										
			14.54 - $CaCO_3$ on fracture surfaces										
			15.78 - 16.28 - Silicified zone - discrete		10300	15.77	16.31	0.54	<0.05	<0.5	<0.01	0.09	0.02
			veins as well as replacement. Minor										
			CO_3 - Galena in small fractures,										
			trace pyrite, feldspars altered to epidote										
			16.28 - 18.99 - Numerous quartz veins		10326	17.07	17.53	0.46	<0.05	<0.5	<0.01	0.03	0.04
			in stockwork. Trace Pyrite and Galena in		10327	17.53	18.44	0.91	<0.05	<0.5	<0.01	0.01	0.02
			veins. Matrix = purple-gray (hematitic)		10328	18.44	18.99	0.55	<0.05	<0.5	<0.01	0.01	0.04
			Prominent veins	35°									
			19.14 Fabric in core = flow structure? or fractures?	45°									
			↗ Possible Pyroclastic										
19.96	22.20	88	Feldspar Porphyry (Feld. (epidote) Porphyry)										
			Dark to medium gray-green										
			Light green-gray feldspar phenocrysts										
			(1 mm) in dark gray-green matrix.										
			Chlorite in patches in matrix										
			19.96 - Contact at end of silicification										
			and reduction in phenocryst size and										
			lack of epidotization of feldspars - Section	(Cont'd.)									

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-2-85 Page# 5
Sheet 5 of 8
Logged by
Sampled by
Driller

	From	To	RECOV'Y	DESCRIPTION		Samples No.	from	to	m.	Assays Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %
(cont'd)	19.96	22.20		is highly variable with short intersections of light green unepidotized core. (possibly fragments or alteration zones) Clotty epidote up to 5mm at boundaries of unepidotized zones. Small microfractures as well as larger vuggy fractures. . . .	35°									
				Trace disseminated pyrite										
				21.21 - 21.56 - epidote veining. Pyrite up to 1%. Epidote vein	25°									
	22.20	31.62	81	Feldspar Porphyry - Jasper Silicified Zone Dark to medium green-gray Feldspars usually white but some epidotization towards bottom of intersection Matrix: dark green gray Jasper varies in concentration through section. Commonly as matrix replacement or as vein-like concentrations. In places jasper associated with quartz-epidote veining.										
				22.25 - 22.48 - Disseminated Pyrite < 1%		10329	22.25	22.56	0.31	<0.05	<0.5	0.02	0.01	0.02
				Minor chalcopyrite - Quartz - carbonate vein (with 2% epidote)	50°	10330	22.56	22.86	0.30	<0.05	<0.5	0.02	0.01	0.02
				22.59 - 22.89 - Epidote veining	40°									
				Veins up to 5mm width. Associated pyrite up to 1-3% in and bounding veins										
				22.89 - 23.07 Jasper in matrix Pyrite concentration increased to 2% minor sphalerite with quartz-epidote		10331	22.86	23.41	0.55	<0.05	<0.5	<0.01	0.01	0.02
				23.38 - 23.77 - Heavy jasper silicification Jasper ≈ 25% Cut by minor parallel quartz - carbonate veins (90:10)	25°									
				Jasper occurs as patches, up to 2/3 of core surface. Trace disseminated Pyrite										
				23.77 - 25.45 Rusty fracture surfaces										
				23.84	25°									
				25.09	25°									
				25.82	28°									
				26.70 - 26.88 - Patchy jasper with very fine disseminated pyrite										
				28.47 - Epidote-quartz vein - minor pyrite as parallel bands.	45°									

DRILL HOLE RECORD

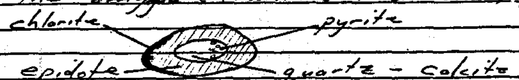
FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N / E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-2-85 Page#: 6
Sheet 6 of 8
Logged by
Sampled by
Driller

From	To	RECOV'Y	DESCRIPTION		Samples No	from	to	m.	Assays Au	Ag	Cu %	Pb %	Zn %
22.20	31.62		29.05 - 30.14 - Much epidotization of feldspars. 30.14 - 31.62 - Numerous small (< 1mm) parallel fracture infill (quartz-epidote)	28°									
31.62	34.24	49	Amygdaloidal Mafic - Intermediate Volcanic. Dark to medium gray green, fine to medium grained, numerous amygdules dominantly of epidote but also with chlorite, epidote, quartz, calcite and pyrite. Pyrite appears to concentrate on one side of the amygdule. (Volatiles to one side, top?)  34.14 - 34.24 amygdules grade to porphyritic epidotized feldspar generally < 1mm.										
34.24	36.12	100	Dacite - Dacite Tuff (?) (Porphyritic) - Dark to medium green-gray. White feldspars, light green partly epidotized feldspars. Jasper in matrix, also chlorite. 35.74 - 35.97 - Jasper silicification prominent in matrix - few feldspar phenocrysts										
36.12	39.72	85	Dacite Tuff. Medium gray-green. Variable grain size, fine to medium green. Partly assimilated feldspar - some epidotized feldspars. Well developed tuff 37.49 - 38.10. Mottled in appearance. Numerous epidote clots - hairline fractures with quartz and/or carbonate infill < 0.5mm. 38.16 - 38.33 - quartz - epidote vein, minor jasper and pyrite	35°									
39.72	44.53	86	Intermediate Volcanic(?) or Tuff(?) medium gray-green - Pyrite concentration at contact ~39.72m. Medium grained sub-angular to subrounded fragments. Some variation in grain size → to fine. 42.64 - 42.70 - Quartz - Calcite veining, small concentration of 1mm veins, net texture with trace chalcopyrite and sphalerite										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing	PROPERTY	Length	HOLE No: DDH-2-85	Page #: 7
			Location	Hor. Comp / Vert. Comp.	Sheet 7 of 8	
			Elevation	Bearing	Logged by	
			Coordinates N / E	Begun /Completed; Core size /Recovery %	Sampled by; Driller	

From	To	RECOV'Y	DESCRIPTION		Samples No.	from	to	m.	Assays Au g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
			43.13 - 43.40 - Minor epidote veins with marginal epidotized feldspars	20°									
44.53	50.75	49	Dacite Tuff / Porphyritic Dacite - Gradational change from unit above. Generally more porphyritic after 44.53 m. - Medium gray green. Feldspar phenocrysts ≈ 2mm - light pastel gray-green in medium gray-green matrix. Feldspars becoming epidotized downsection										
			46.02 - small jasper patch 5mm x 2mm										
			46.94 - Jasper - Epidote vein, minor pyrite	30°									
			48.37 - 48.71 - Jasper-quartz zone, minor veining < 3mm.										
			48.71 - 49.29 - Some alignment of feldspars creating crude banding especially at 48.89 and 49.16 m. Trace disseminated pyrite.										
			49.32 - 49.41 - Quartz veins < 2mm. minor jasper and epidote in quartz	20°									
			Epidote vein - 7mm, swelling to 2cm. Trace pyrite and jasper	30°									
			50.17 - 50.75 - Numerous quartz - epidote - jasper veins - Character of host rock changes toward tuffaceous character. Mottled green with numerous fracture and matrix infill of jasper	30°									
50.75	56.66	86	- Tuff medium gray-green. Clast up to 4mm modal 1mm - angular to subangular Clast composition - feldspars → also as white flecks (clay kaolinized feldspar ?) Near top of section chlorite is more common. Pyrite concentrations and some epidote appear to be infilling and lining cavities										
			50.75 - 51.82 - Chlorite clast zone - numerous chloritized clasts, generally < 1mm - commonly rimmed with lighter alteration margin (sericite ?) - numerous Quartz - carbonate Veins (90:10)										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert. Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-2-85 Page# 8
Sheet 8 of 8
Logged by
Sampled by
Driller

From	To	RECOV'Y	DESCRIPTION		Samples No.	from	to	m.	Assays Au (Au g/tonne?)	Ag	Cu %	Pb %	Zn %
50.75	56.66	86	- 50.81 - Dark grey quartz - jasper - pyrite vein	75°									
			1.2 cm width. Vein walls = pyrite concentration										
			and in fractures within vein										
			- Quartz vein above, displaced 8 mm. by										
			fracture. Fracture dominantly calcite	8°									
			infill, generally < 1 mm. pyrite as infill										
			in small concentrations < 2 mm diameter										
			51.82 - 52.55 - Numerous quartz - jasper										
			veins - no preferred orientation										
			52.55 - 56.66 "White fleck zone"										
			- Distinct angular clasts < 1 mm. Soft,										
			white and concentration variable but										
			always < 1%. Generally smaller										
			than modal clast size										
			53.68 - Quartz - jasper veining - pyrite 5%	25°									
			53.71 - 53.75 Quartz - epidote - pyrite										
56.66	60.05	82	Tuff (Reddish Green Vein Zone)										
			Dark to medium green with hematite -										
			jasper in matrix. Numerous quartz										
			jasper veins (Orientation variable)										
			- Chlorite commonly in matrix and										
			as complete clasts										
			- Sheared clasts → Rolled Clasts.										
			- Pyrite as individual euhedral crystals										
			common throughout section.										
			58.52 alignment of discrete bands of	60°									
			chlorite + jasper										
			59.62 - Quartz, Quartz - epidote	38°									
			veining, minor pyrite. Maximum										
			width = 1 cm.										
			End of Hole 60.05 m.										
			Inclinometer test = 65°										
			Corrected reading = 58°										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	45	038

PROPERTY Jasper
Location Vancouver Island
Elevation
Coordinates 1050W / 975 N

Length 49.07 m.
Hor. Comp / Vert Comp
Bearing 038°
Begun Oct. 6/85 / Completed Oct. 9/85
Core size AX / Recovery 54.6%

HOLE No: DDH-3-85 Page # 1
Sheet 1 of 4
Logged by J. Lehtinen
Sampled by J. Lehtinen
Driller Van Alphen Exploration Services

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
0	2.13		Casing										
2.13	8.84	41	Lithic Tuff or Breccia - Light gray green with numerous rusty fracture surfaces. Zones of epidotized and kaolinized feldspars. Fragments up to 3 cm. of various composition → feldspar crystals, tuffaceous fragments both coarse and fine and generally darker in colour than matrix. Hematitic fine grained fragments. 2.59 - Silicified, fractured, rusty tuff 3.05-3.63 - Pyritized. Some small < 3mm qtz veinlets. Euhedral pyrite cubes up to 1mm. and clusters of pyrite generally localized in fractures. 3.63-8.84 - Variable in composition. Lots of epidotized and kaolinized feldspar crystals and fragments. Whole section has an appearance of being heavily weathered with numerous iron oxide stained fractures		10286	3.05	3.96	0.91	<0.05	1.0	0.03	0.02	0.06
8.84	15.39	22	Tuff Dark gray-green. Fine grained with zones of crystal and/or lithic fragment up to 4 mm. 8.87 quartz and epidote veining < 2mm width - minor pyrite 9.60-12.19 - Highly fractured and quartz veined. Veins < 3mm. Minor pyrite	55° 55°	10287	8.84	10.06	1.22	0.15	<0.5	0.03	0.02	0.04
15.39	20.73	27	Tuff Medium to light gray-yellow-green. Weathered appearance. Variable in composition from feldspar (epidote) porphyritic with some well developed feldspar crystals and unaltered feldspar in porphyritic fragments. Minor fragments. Numerous rusty fractures ... No preferred orientation 16.92 - Minor disseminated pyrite										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-3-85 Page # 2
Sheet 2 of 4
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	g/tonne Ag	Cu %	Pb %	Zn %
20.73	26.82	32	Tuff - pyritized fracture zone Medium gray to green-gray. Disseminated pyrite and thin fracture infill bands of		10288	21.34	22.86	1.52	<0.05	<0.5	<0.01	<0.01	0.03
			pyrite. Tuff clasts up to 5 mm. Numerous feldspar clasts giving porphyritic appearance. Some alteration of feldspars. Zoning of feldspars → alteration zoning? Rock appears relatively fresh compared to previous core.										
			22.86 - 24.38 - Fracture controlled	50°	10289	22.86	24.38	1.52	<0.05	<0.5	<0.01	0.01	0.03
			pyrite up to 5 mm. width	55°	10290	24.38	25.30	0.92	0.05	<0.5	0.01	0.01	0.02
			24.38 - 26.82 Pyrite zone - Heavily		10291	25.30	26.82	1.52	0.05	<0.5	0.01	0.01	0.03
			pyritized with massive and disseminated pyrite. Pyrite commonly fracture infilled. Minor chalcopyrite at 24.51m 24.48 - 24.63 Numerous qtz + loc epidote										
			veinlets 24.96 - Banded pyrite ... fracture related	60°									
			26.06 - Veins - Pyrite estimate overall	50°									
			= 5 - 10% Trace chalcopyrite	20°									
			Chlorite commonly associated with pyritized zone										
26.82	26.97	133	Fault Fault clay and fragments of silicified and epidotized tuff.										
			26.91 Slickensided plane with quartz infill	30°									
26.97	40.23	88	Tuff / Breccia (Porphyritic Appearance) Medium to dark green with numerous epidote phenocrysts /crystals. Epidote (after feldspar) crystals up to 5mm long and 3mm width - Other fragments/clasts appear as rounded to angular. Microfracture pattern of hairline fractures which produce a fine net-like fracture pattern in which the eyes of the net are generally < 1mm across - Most noticeable as light perimeter around subrounded (darker clasts)										
			27.95 - Rusty Fracture plane and minor quartz vein	35°									

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N / E

Length
Hor. Comp / Vert Comp
Bearing
Begun / Completed
Core size / Recovery %

HOLE No: DDH - 3-85 Page # 3
Sheet 3 of 4
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
26.47	40.23		28.35 - Quartz vein max. 2mm	20°									
(Cont'd)			28.74 - Fracture Plane	20°									
			29.26 " "	10°									
			Note: narrow areas of silicification generally associated with very small <1mm veins Fractures along core common within 5 cm. intervals - rusty surfaces - occassional small vugs <5mm with epidote crystal 33.68 - 33.77 - Silicified tuff - purple hematitic - quartz matrix 34.29 - 34.59 Light coloured matrix with clotty chlorite < 2mm but appearing as infill into open space 35.05 - 36.27 Large 6cm. clasts of feldspar porphyry (Pyroclasts?) in finer matrix - Matrix partly hematitic purple-gray 36.27 - 40.33 - relatively coarse tuff / breccia with clasts / fragments / crystals up to 5 mm. Average 2mm. - Intermittent hematitic matrix - numerous rusty fractures with minor quartz infill										
40.33	40.84	88	Fine grained Tuff. Dark gray-black fine grained tuff Delicate bedding structures and very fine laminae. Occassional epidote fragments. Minor fault / Slumping? Beds ≃ subhorizontal, perpendicular to core axis										
40.84	45.11	91	Tuff / Breccia (Porphyritic Appearance) Medium to dark gray green, with white-gray to gray-green "phenocrysts" or clasts. Rusty orange-brown zones at vein &/or clast material. Large epidotized feldspars up to 5mm. Modal 2-3mm. Numerous rusty fractures and occassional vugs. some areas of zoned clasts or altered perimeters. Minor clotty chlorite										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH- 3 -85 Page# 4
Sheet 4 of 4
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
			43.13 - 43.53 - heavily fractured and veined										
			Zone. Quartz veins up to 4 mm	20°									
			Quartz Veining - - - <	18°									
			Epidote veining . . . . <	35°									
			Trace Pyrite	33°									
45.11	49.07	64	Lithic Tuff										
			Dark green to dark purple-green accassional epidote centre or quartz hematitic or jasperitic concentrations surrounding fragments										
			45.11 Contact	65°									
			Top = coarse crystal (tuff/breccia) epidotized fragments up to 4 mm. modal 3 mm. Set in dark green matrix										
			Bottom = chlorite fragments modal 1 mm. - subrounded to angular fragments set in medium to light gray matrix. Thin 1 cm hematitic band paralleling contact - chlorite (mafic) fragments increasing in size downhole within 10 cm.										
			45.32 - 46.91 Breccia fragments set in a hematitic matrix. Fragments up to 2 to 3 cm. Usually med to dark gray-green.										
			46.91 - 49.07 - Generally finer grained matrix with dark gray matrix some hematite/jasper in matrix. Epidote fragments widely spaced throughout section										
			End of Hole 49.07										
			Inclinometer test = 55°										
			Corrected Inclination 47°										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-45	38

PROPERTY Jasper
Location Vancouver Island
Elevation
Coordinates 1050W/975N

Length 33.53 m
Hor. Comp / Vert Comp
Bearing 038
Begun Oct 10/85 / Completed Oct. 11
Core size Ax / Recovery 31 %

HOLE No: DDH-4-85 Page # 1
Sheet 1 of 3
Logged by J. Lehtinen
Sampled by J. Lehtinen
Driller Van Alphen Exploration Services

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
0	2.13		Casing										
2.13	6.40	40	Tuff - Medium - light gray green Dark green angular to subrounded fragments and irregular shaped (clotty) concentrations of chlorite. Fragment size: max. 3mm, modal 1mm. Highly fractured with numerous rusty surfaces and rusty boundary zones up to 1cm. paralleling fractures. Minor silicified zones and disseminated pyrite										
			2.13-3.96 Highly fractured, silicified, disseminated pyrite, rusty										
			2.83 - Thin (2mm.) quartz veining, minor epidote veining (small thin "mesh" veining)	65°									
			4.48 Quartz-epidote veining at contact between... Top = fine grained Tuff, Bottom = brecciated tuff	25°									
			4.48-5.33 - Brecciated Tuff - highly fractured, rusty, recemented breccia (fault?)										
			5.33-6.40 - Disseminated pyrite through highly fractured rusty zone. Quartz epidote veining with associated pyrite. At 6.37 m. Larger lithic fragments up to 4 mm.										
6.40	10.36	50	Mafic - Intermediate Volcanic or Tuff? Medium to dark gray, cut by numerous veins of quartz - calcite - epidote medium to fine grained unit. Pyrite concentrations along fractures and associated with veining - Dissem. pyrite throughout. Mesh textured veins		10276	6.40	7.01	0.61	0.05	<0.5	<0.01	<0.01	0.02
					10277	7.01	7.92	0.91	0.05	<0.5	0.01	<0.01	0.01
					10278	8.99	9.75	0.76	<0.05	1.0	<0.01	<0.01	0.02
			6.71 Carbonate - quartz vein	65°									
			6.77 Quartz vein	35°									
			7.92-10.36 Medium grained, texturally coarser than 6.40 to 7.92 m also becoming darker green in colour - localized concentrations of jasper/hematite										
			9.11 Vuggy rusty veining										
			9.20-10.06 - Heavily veined zone, stockwork of quartz, quartz carbonate and epidote veining - some pyrite concentrations										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
Elevation
Coordinates N E

Length
Hor. Comp / Vert. Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-4-85 Page# 2
Sheet 2 of 3
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
6.40	10.36	30	9.97 2 episodes of veining:										
(Cont'd.)			① - Qtz-epidote-pyrite veining, cut by	0°-10°									
			② Qtz-carbonate veining	50°									
10.36	13.50	40	Tuff / Tuff Breccia										
			Medium to dark gray green variable coloured matrix. Numerous subrounded to angular clasts. Colours generally light gray-green to medium green to dark green and black. Epidotized feldspar. Matrix occassionaly medium to light purple gray										
			12.80 - 12.95 Epidote after feldspar, giving porphyritic appearance										
13.50	30.69	33	Tuff / Breccia										
			Variable colour - generally medium tones of gray greens. Mottled appearance also porphyritic. Poor recovery due likely to numerous fractures as evidenced by rusty fracture surfaces - Variability in clast size, shape and composition. Size max. 2 cm. modal 2 mm.										
			14.63 - 14.94 Dark gray finer grained tuff. Less lighter fragments, finer matrix										
			15.09 - Rusty vuggy fracture - minor qtz infill	10°									
			17.37 - Quartz - epidote vein infill	55°									
			17.68 - 17.98 Fine grained dark gray green Volcanic?/tuff? Epidote stringers +/or alteration along fractures		10279	18.44	18.68	0.24	<0.05	0.5	0.13	<0.01	0.01
			18.90 Numerous "hairline" fractures										
			19.20 - Quartz, pyrite, epidote infill, minor chalcopyrite. Clasts up to 1 to 2 cm. in light purple gray matrix	30°									
			21.49 - Rusty vuggy quartz stringer 1 mm. - minor chalcopyrite	25°									
			22.10 - 23.77 - Epidotized feldspar crystals and fragments giving porphyritic appearance										

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

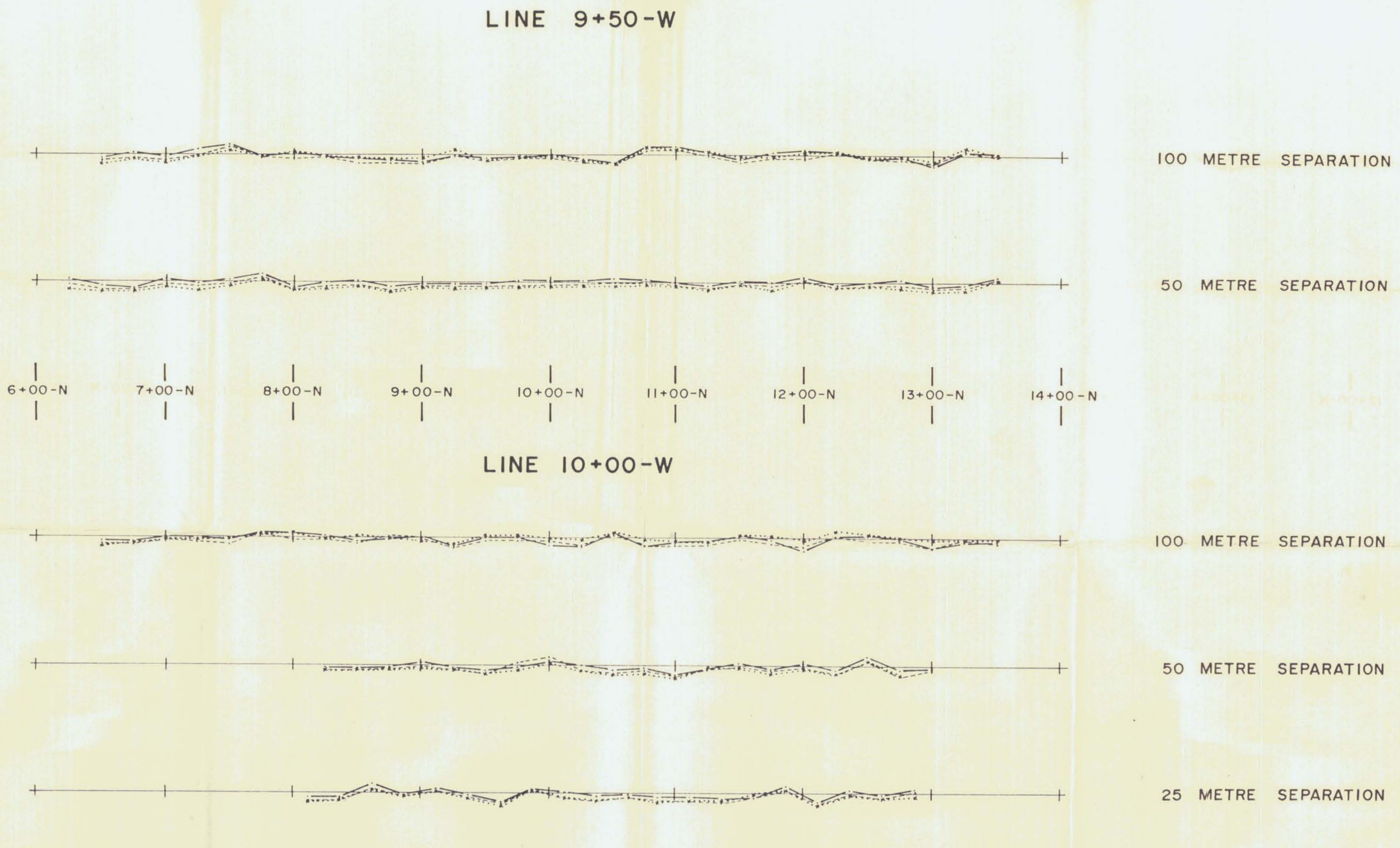
Collar	Inclination	Bearing

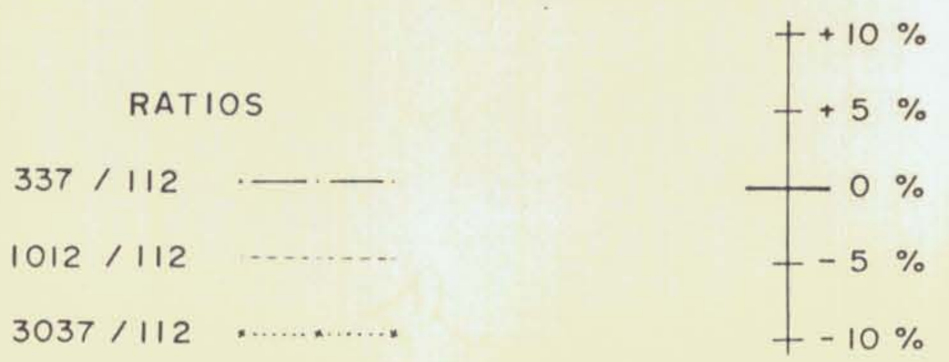
PROPERTY
Location
Elevation
Coordinates N / E

Length
Hor. Comp / Vert Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: DDH-4-85 Page #
Sheet 3 of 3
Logged by
Sampled by
Driller

metres From	metres To	RECOV'Y %	DESCRIPTION	Intersection Angle	SAMPLES No.	from	to	m.	ASSAYS g/tonne Au	Ag	Cu %	Pb %	Zn %
13.50 (cont'd)	30.69	33	23.77-25.30 Pyrite and chalcopyrite disseminated zone. Poor recovery but chalcopyrite estimated < 0.5 %		10280	23.77	25.30	1.53	<0.05	<0.5	0.22	<0.01	0.03
			26.51-28.04 - Zone of epidotized feldspar giving porphyritic appearance		10281	29.26	30.02	0.76	<0.05	<0.5	0.02	<0.01	0.03
			30.02-30.33 Pyritized zone - minor chalcopyrite. Pyrite vein thickness = 5mm.		10282	30.02	30.48	0.46	0.05	0.5	0.17	<0.01	0.03
					10283	30.48	30.69	0.21	0.10	2.5	0.09	<0.01	0.02
			30.18 - Quartz-pyrite vein	30°									
			30.42-30.48 Silicified vuggy zone with pyrite along margin										
			30.57-30.69 Partially silicified zone. Chaotic quartz-epidote veining in tuff/breccia generally < 2mm.										
30.69	32.31	25	Mineralized Zone - heavy sulphide mineralization - Pyrite, chalcopyrite. Silicified and pyritized massive sections. Dominantly pyrite, but some chalcopyrite. py:cp 90:10		10284	30.69	32.31	1.62	0.05	11.0	1.67	<0.01	0.04
					10285	32.31	32.92	0.61	<0.05	<0.5	0.03	<0.01	0.02
32.31	33.53	57	Dacite(?) Tuff Light green-gray to medium green-gray. Clasts and phenocrysts up to 5mm. set in medium to dark green matrix. Some epidotized feldspars										
			End of Hole = 33.53 m.										
			Inclinometer Test = 70° Corrected Inclination = 63°										





FALCONBRIDGE LIMITED

JASPER PROPERTY ; VICTORIA M.D. ; B.C.

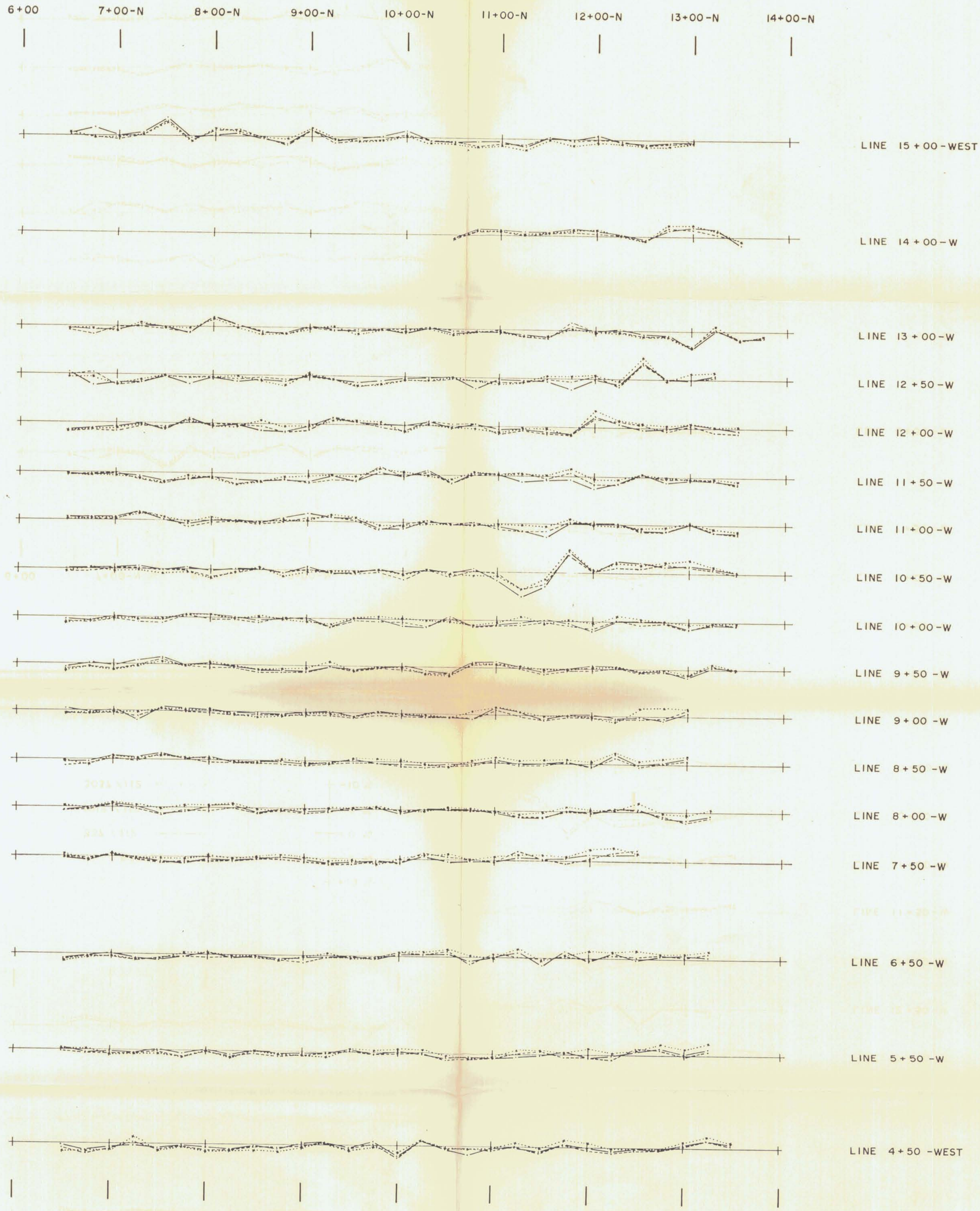
S.E. 88 GENIE SYSTEM

ELECTROMAGNETIC PROFILES

SCALE 1:2,500

MAP No. W-368-2
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT, P. Eng.

PETER E. WALCOTT & ASSOC. LTD.
JULY — 1985



RATIOS

337 / 112 —·—·—

1012 / 112 - - - - -

3037 / 112 ··········

+10 %
+5 %
0 %
-5 %
-10 %

FALCONBRIDGE LIMITED

JASPER PROPERTY ; VICTORIA M.D. ; B.C.

S.E. 88 GENIE SYSTEM

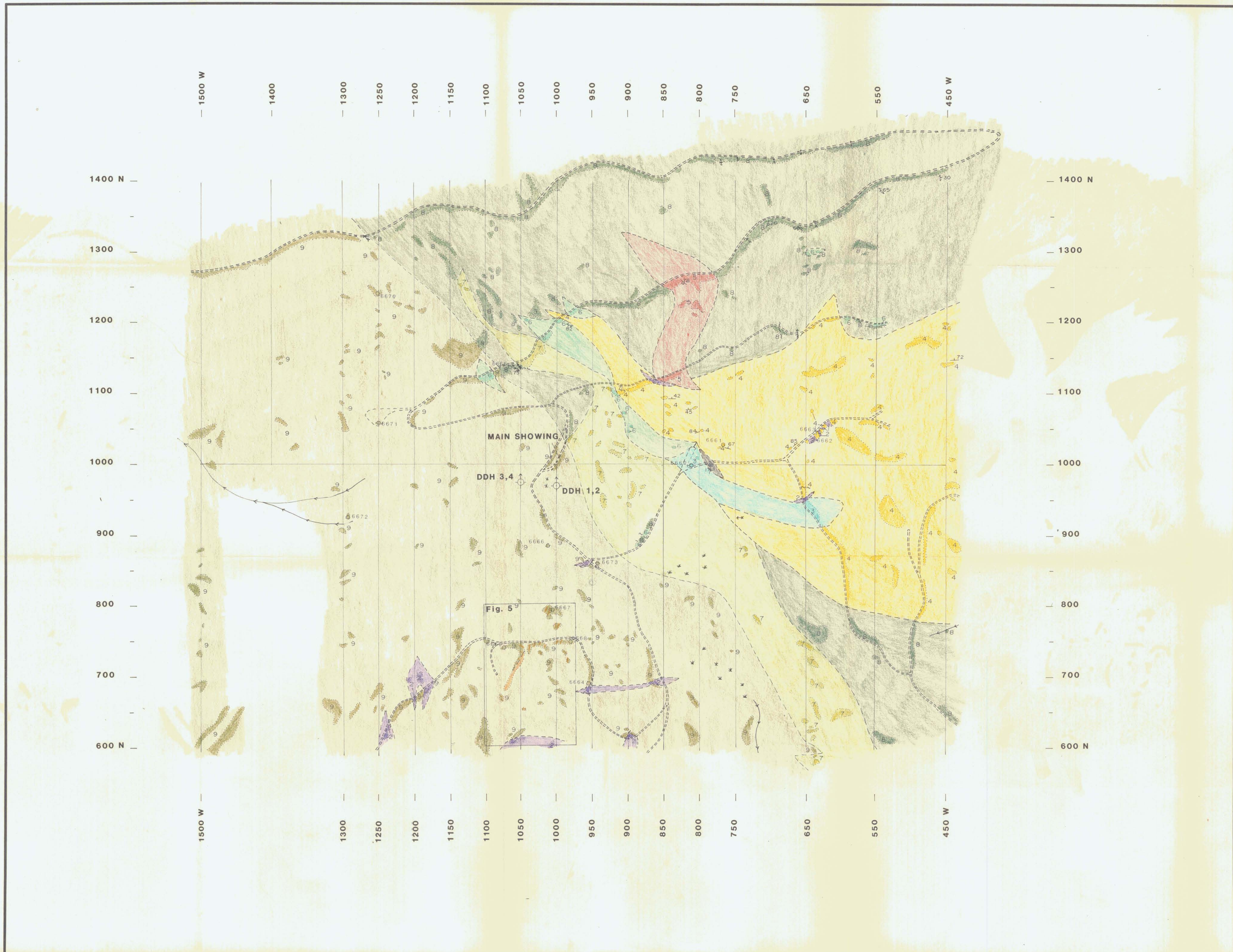
ELECTROMAGNETIC PROFILES

"a" = 100 METRES

SCALE 1:2,500

MAP No. W-368-1
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT, P. Eng.

PETER E. WALCOTT & ASSOC. LTD.
JULY – 1985



LEGEND

- 1 Aquagene Tuff
- 2 Mafic Dyke
- 3 Pyroclastic Flow Breccia
- 4 Cherty Tuff
- 5 Hematitic Lahar
- 6 Lapilli Tuff
- 7 Basaltic Breccia
- 8 Basalt Flows
- 9 Dacite Tuffs and Flows

Quartz stockwork

- road
- 6661 ○ Rock sample location
- bedding
- shear
- fracture
- geologic contact
- fault
- DDH site
- spring
- swamp
- creek

0 50 100 150 200 m

SCALE: 1:2500

MAP REF. NO.:
N.T.S.:

FALCONBRIDGE LTD.		
PROPERTY: JASPER CLAIMS - PN 101		
LOCATION: VICTORIA M.D.		
TYPE OF MAP: GEOLOGY		
WORKING PLACE:		
BASED ON: SL		
DATE OF WORK: 07/85	MAP REF. NO.:	FIG. NO.: 4
DRAWN BY: SL		
DATE:	N.T.S. NO.: 92C/15E	

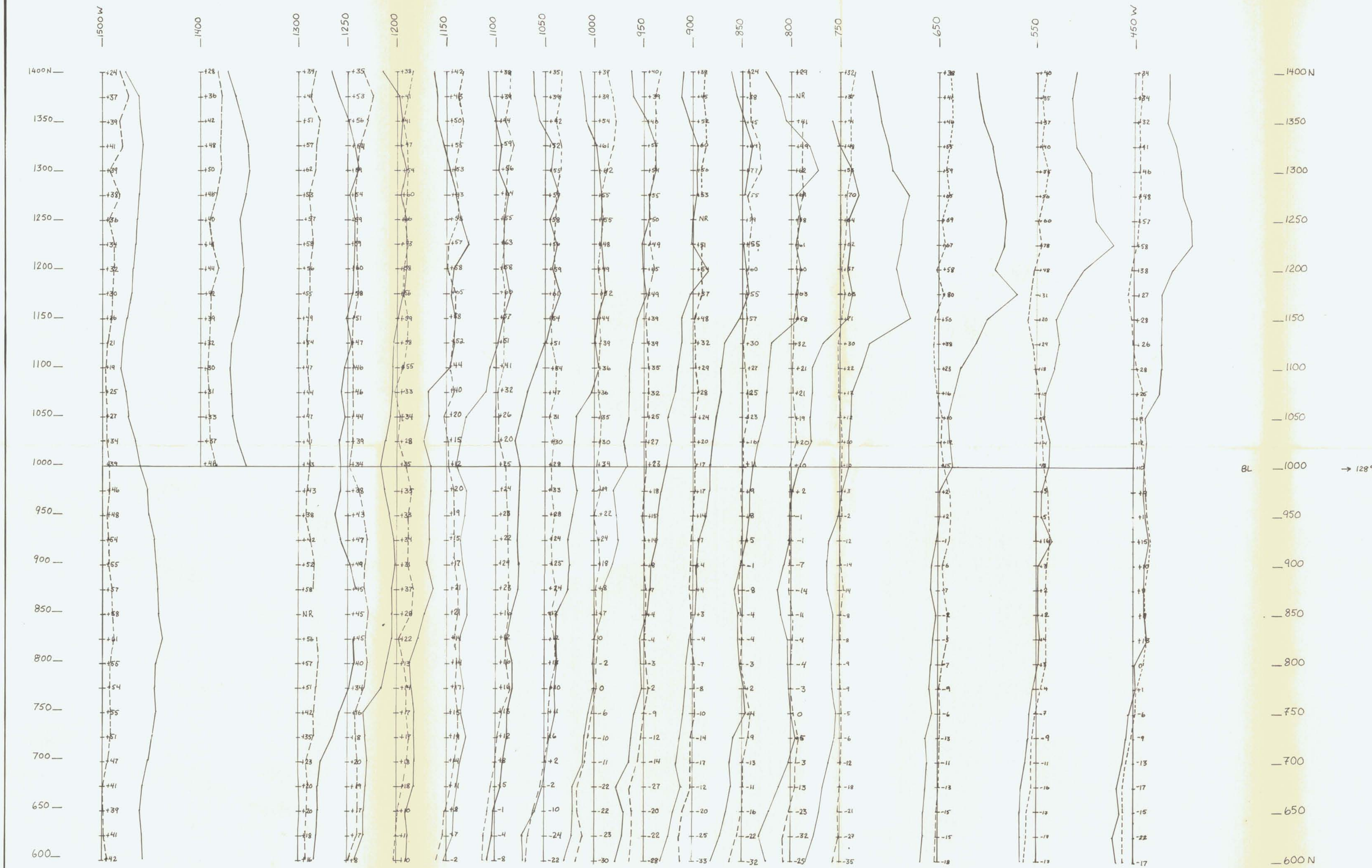
LEGEND
> 100 ppm
> 200 ppm
> 400 ppm
Scale 1:2500
0 50 100 150 200m
FALCONBRIDGE LIMITED
PROPERTY: JASPER CLAIMS PN101
LOCATION: VICTORIA M.D.
TYPE OF MAP: Soil Geochem - Cu in ppm
WORKING PLACE:
BASED ON:
DATE OF WORK: 07-85
MAP REF. NO.:
FIG. NO.: 6
DRAWN BY:
DATE:
N.T.S. NO. 92C/15E
BL
128°
1400N
1300
1200
1100
1000
900
800
700
600
1500W
1400
1300
1250
1200
1150
1100
1050
1000
950
900
850
800
750
650
550
450W

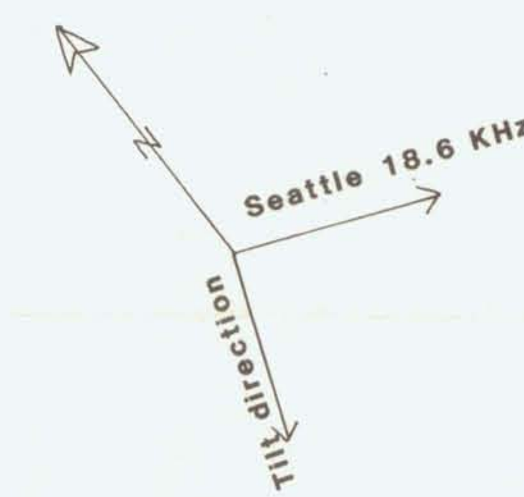
LEGEND
>100 ppm
>200 ppm
>400 ppm
Scale 1:2500
0 50 100 150 200 m
FALCONBRIDGE LIMITED
PROPERTY: JASPER CLAIMS PN 101
LOCATION: VICTORIA M.D.
TYPE OF MAP: Soil Geochem - Zn ppm
WORKING PLACE:
BASED ON:
DATE OF WORK: 07/85
MAP REF. NO.:
FIG. NO.: 7
DRAWN BY:
DATE:
N.T.S. NO. 92C/15E
1500W
1400
1300
1250
1200
1150
1100
1050
1000
950
900
850
800
750
650
550
450W
1400N
1300
1200
1100
BL 1000
900
800
700
600
128°


Contours
55600
55800
56000
56200
56400
Readings in gammas
0 50 100 150 200m
Scale 1:2500
BL 1000
128°
FALCONBRIDGE LIMITED
PROPERTY: JASPER CLAIMS - PN 101
LOCATION: VICTORIA M.D.
TYPE OF MAP: MAGNETOMETER SURVEY
WORKING PLACE:
BASED ON: OP
DATE OF WORK: 07/85
MAP REF. NO.:
FIG. NO.: 12
DRAWN BY: SL
DATE:
N.T.S. NO. 92C/15E

LEGEND
> 20 ppm
> 50 ppm
SCALE 1:2500
0 50 100 150 200 m
FALCONBRIDGE LIMITED
PROPERTY: JASPER CLAIMS
LOCATION: VICTORIA M.D.
TYPE OF MAP: GEOCHEM Pb,ppm
WORKING PLACE:
BASED ON:
DATE OF WORK: 07-85
MAP REF. NO.:
FIG. NO.: 8
DRAWN BY:
DATE:
N.T.S. NO. 92C/15E
1500W 1400 1300 1250 1200 1150 1100 1050 1000 950 900 850 800 750 650 550 450 W
1400N 1350 1300 1250 1200 1150 1100 1050 1000 950 900 850 800 750 700 650 600N
BL
128°


LEGEND
Au — Ag
Au values >5ppb plotted
Ag values >.1 ppm
Scale 1:2500
FALCONBRIDGE LIMITED
JASPER CLAIMS PN 101
VICTORIA, M.D.
Soil Geochem Au ppb, Ag ppm
DATE OF WORK: 07/85
N.T.S. NO. 92C/15E
FIG. NO.: 9





LEGEND

Inphase

Quadrature

SCALE :

0 20 40 60 80 100°

0 50 100 150 200m

Scale 1:2500

FALCONBRIDGE LIMITED

PROPERTY:

JASPER CLAIMS

LOCATION:

VICTORIA M.D.

TYPE OF MAP:

VLF-EM 16 PROFILES
INPHASE & QUAD

WORKING PLACE:

BASED ON: OP

DATE OF WORK: 07-85

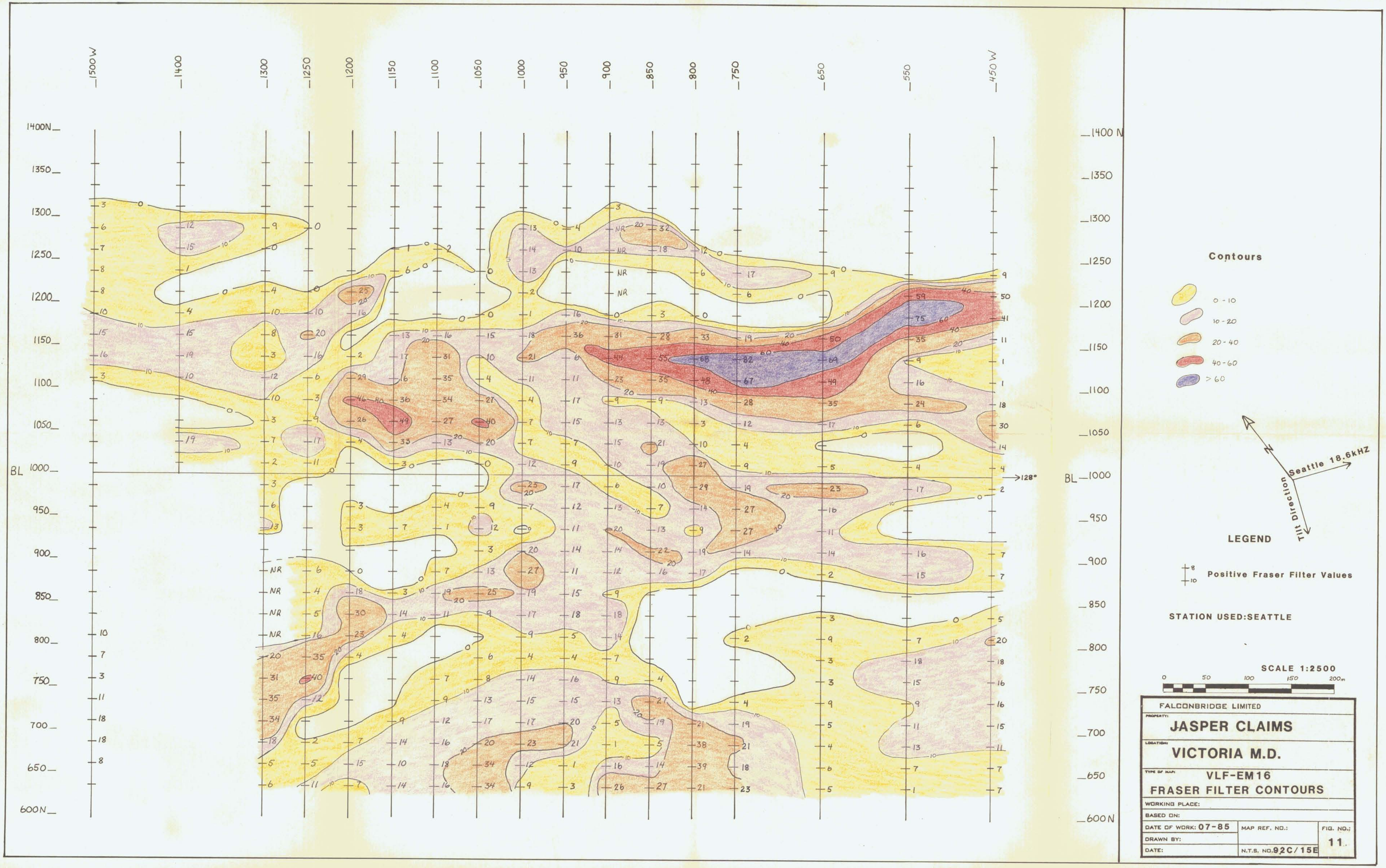
MAP REF. NO.:

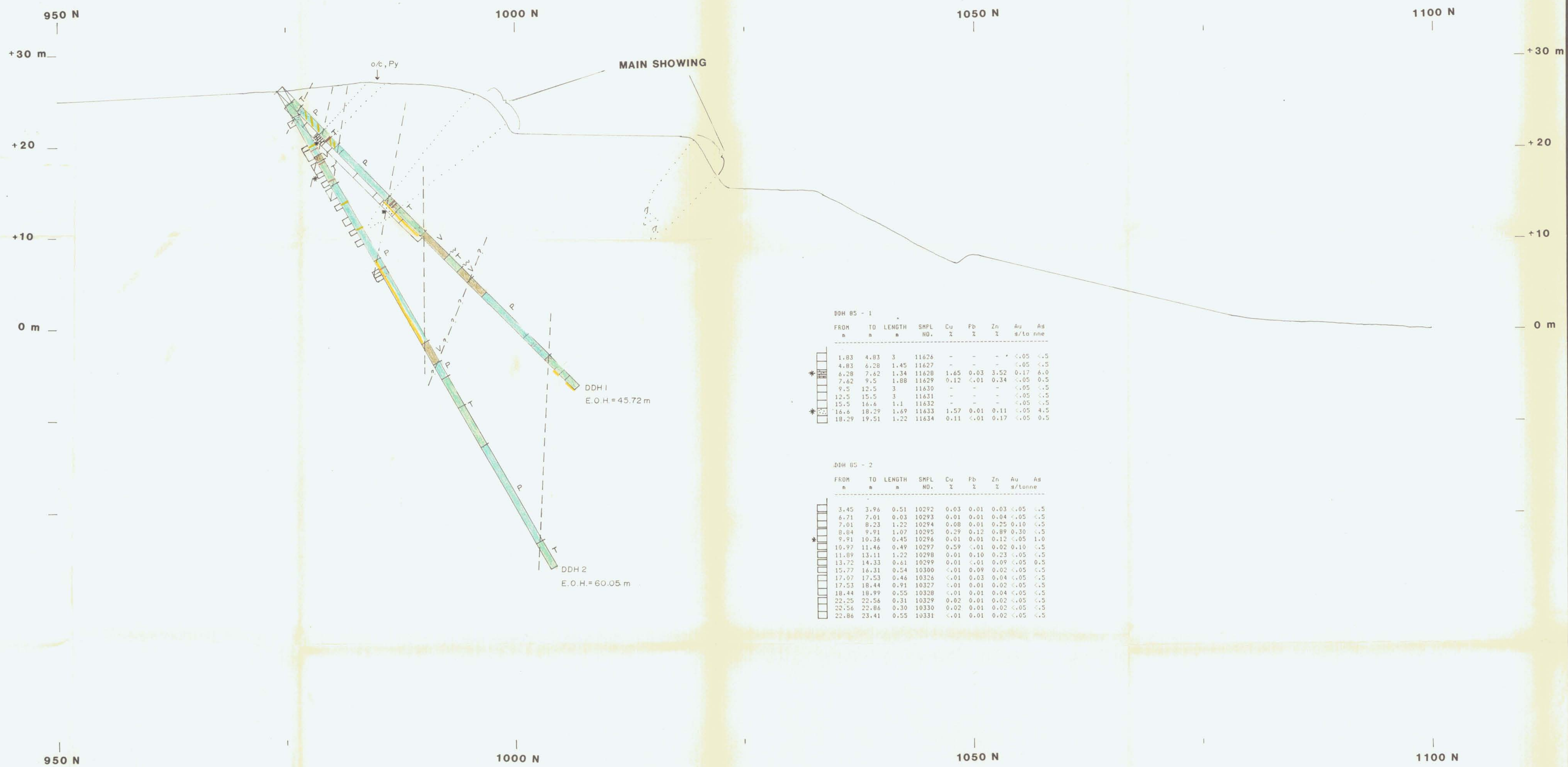
FIG. NO.: 10

DRAWN BY: SL

DATE:

N.T.S. NO.:


Contours
0 - 10
10 - 20
20 - 40
40 - 60
> 60
Seattle 18.6kHZ
Tilt Direction
LEGEND
Positive Fraser Filter Values
STATION USED:SEATTLE
SCALE 1:2500
FALCONBRIDGE LIMITED
JASPER CLAIMS
VICTORIA M.D.
VLF-EM16
FRASER FILTER CONTOURS
WORKING PLACE:
BASED ON:
DATE OF WORK: 07-85
MAP REF. NO.:
FIG. NO.: 11.
DRAWN BY:
DATE:
N.T.S. NO. 92C/15E
BL
128°
1400N
600N
1500W
450W



DDH 85 - 1

FROM m	TO m	LENGTH m	SMPL NO.	Cu %	Pb %	Zn %	Au g/to	Ag nne
1.83	4.83	3	11626	-	-	-	<.05	<.5
4.83	6.28	1.45	11627	-	-	-	<.05	<.5
* 6.28	7.62	1.34	11628	1.65	0.03	3.52	0.17	6.0
7.62	9.5	1.88	11629	0.12	<.01	0.34	<.05	0.5
9.5	12.5	3	11630	-	-	-	<.05	<.5
12.5	15.5	3	11631	-	-	-	<.05	<.5
15.5	16.6	1.1	11632	-	-	-	<.05	<.5
* 16.6	18.29	1.69	11633	1.57	0.01	0.11	<.05	4.5
18.29	19.51	1.22	11634	0.11	<.01	0.17	<.05	0.5

DDH 85 - 2

FROM m	TO m	LENGTH m	SMPL NO.	Cu %	Pb %	Zn %	Au g/tonne	Ag
3.45	3.96	0.51	10292	0.03	0.01	0.03	<.05	<.5
6.71	7.01	0.03	10293	0.01	0.01	0.04	<.05	<.5
7.01	8.23	1.22	10294	0.08	0.01	0.25	0.10	<.5
8.84	9.91	1.07	10295	0.29	0.12	0.89	0.30	<.5
* 9.91	10.36	0.45	10296	0.01	0.01	0.12	<.05	1.0
10.97	11.46	0.49	10297	0.59	<.01	0.02	0.10	<.5
11.89	13.11	1.22	10298	0.01	0.10	0.23	<.05	<.5
13.72	14.33	0.61	10299	0.01	<.01	0.09	<.05	0.5
15.77	16.31	0.54	10300	<.01	0.09	0.02	<.05	<.5
17.07	17.53	0.46	10326	<.01	0.03	0.04	<.05	<.5
17.53	18.44	0.91	10327	<.01	0.01	0.02	<.05	<.5
18.44	18.99	0.55	10328	<.01	0.01	0.04	<.05	<.5
22.25	22.56	0.31	10329	0.02	0.01	0.02	<.05	<.5
22.56	22.86	0.30	10330	0.02	0.01	0.02	<.05	<.5
22.86	23.41	0.55	10331	<.01	0.01	0.02	<.05	<.5

MAP REF. NO.:
N.T.S.:

LEGEND

- P Feldspar - Epidote Porphyry
- T Volcanic Tuff/Tuff - Breccia
- V Mafic - Intermediate Volcanic
- Jasper &/or Silicified Zone
- Sulphides - Py, Cpy, Sphal,Gn
- Geological Contact
- Mineralized Zones

ASSAYS

Cu
- <1 %
- 1 - 1.99 %

Zn
- <1 %
- 1 - 1.99 %
- 2 - 2.49 %
- >2.5 %

Ag
- * 1.0 - 7.0 g/t
- ** > 7.0 g/t

Section drawn facing WEST

0 5 10 15 20 m

SCALE: 1:250

FALCONBRIDGE LTD.

PROPERTY: JASPER PN 101

LOCATION: VANCOUVER IS.

TYPE OF MAP: DRILL SECTION 1+00 W
DDH 1, DDH 2

WORKING PLACE:

BASED ON: JL/SL

DATE OF WORK: OCT/85

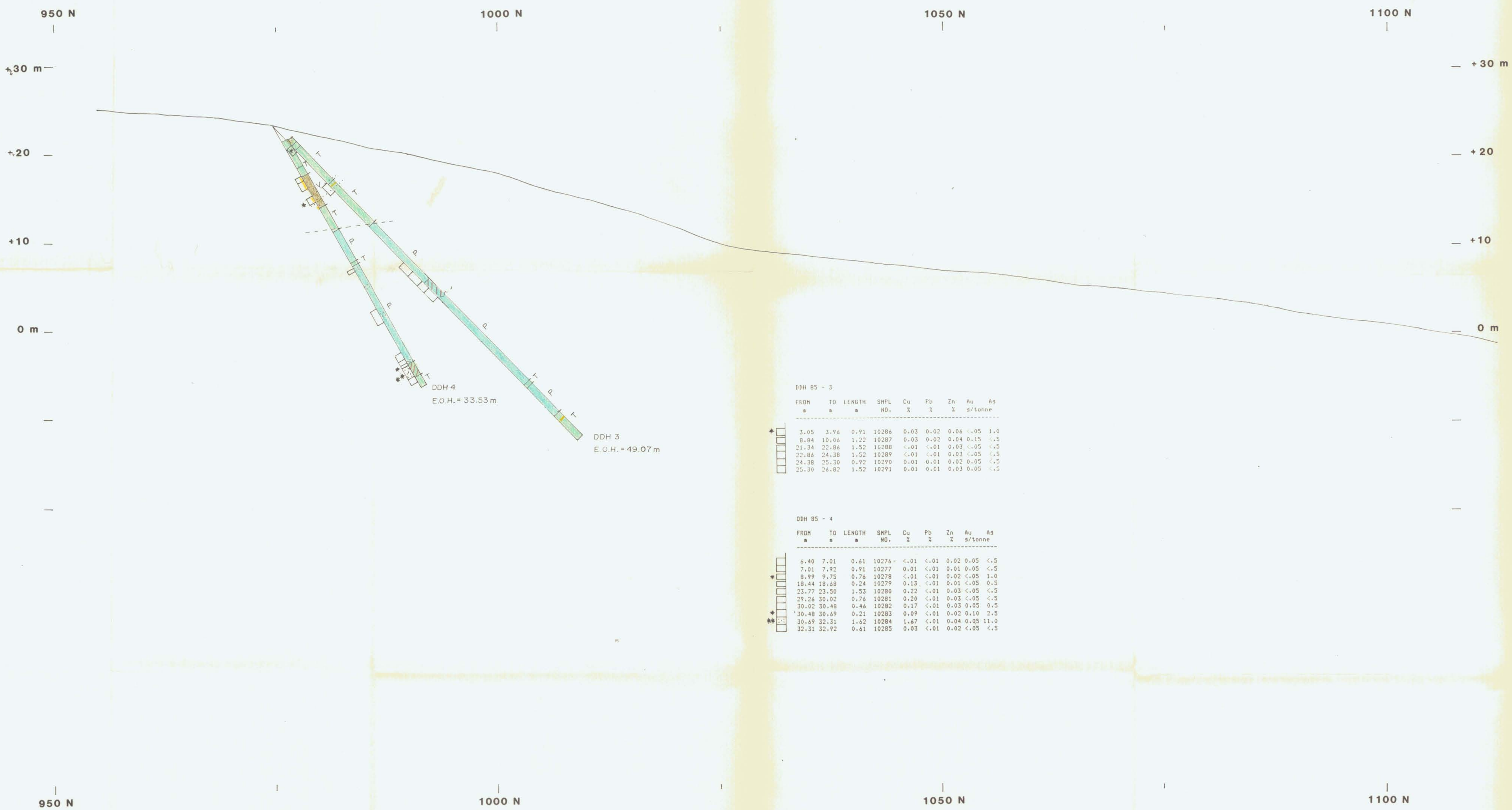
DRAWN BY: SL

DATE:

MAP REF. NO.:

N.T.S. NO.: 92C/15E

FIG. NO.: 13



DDH 85 - 3

	FROM m	TO m	LENGTH m	SMPL NO.	Cu %	Pb %	Zn %	Au g/tonne	Ag
*	3.05	3.96	0.91	10286	0.03	0.02	0.06	<.05	1.0
	8.84	10.06	1.22	10287	0.03	0.02	0.04	0.15	<.5
	21.34	22.86	1.52	10288	<.01	<.01	0.03	<.05	<.5
	22.86	24.38	1.52	10289	<.01	<.01	0.03	<.05	<.5
	24.38	25.30	0.92	10290	0.01	0.01	0.02	0.05	<.5
	25.30	26.82	1.52	10291	0.01	0.01	0.03	0.05	<.5

DDH 85 - 4

	FROM m	TO m	LENGTH m	SMPL NO.	Cu %	Pb %	Zn %	Au g/tonne	Ag
	6.40	7.01	0.61	10276	<.01	<.01	0.02	0.05	<.5
	7.01	7.92	0.91	10277	0.01	<.01	0.01	0.05	<.5
*	8.99	9.75	0.76	10278	<.01	<.01	0.02	<.05	1.0
	18.44	18.68	0.24	10279	0.13	<.01	0.01	<.05	0.5
	23.77	23.50	1.53	10280	0.22	<.01	0.03	<.05	<.5
	29.26	30.02	0.76	10281	0.20	<.01	0.03	<.05	<.5
	30.02	30.48	0.46	10282	0.17	<.01	0.03	0.05	0.5
*	30.48	30.69	0.21	10283	0.09	<.01	0.02	0.10	2.5
**	30.69	32.31	1.62	10284	1.67	<.01	0.04	0.05	11.0
	32.31	32.92	0.61	10285	0.03	<.01	0.02	<.05	<.5

LEGEND

- P Feldspar - Epidote Porphyry
- T Volcanic Tuff/Tuff - Breccia
- V Mafic - Intermediate Volcanic
- Jasper &/or Silicified Zone
- Sulphides - Py, Cpy, Sphal,Gn
- Geological Contact
- Mineralized Zones

ASSAYS

Cu
- < 1 %
- 1 - 1.99 %

Zn
- < 1 %
- 1 - 1.99 %
- 2 - 2.49 %
- > 2.5 %

Ag
- * 1.0 - 7.0 g/t
- ** > 7.0 g/t

Section drawn facing WEST

0 5 10 15 20 m
SCALE: 1:250

FALCONBRIDGE LTD.

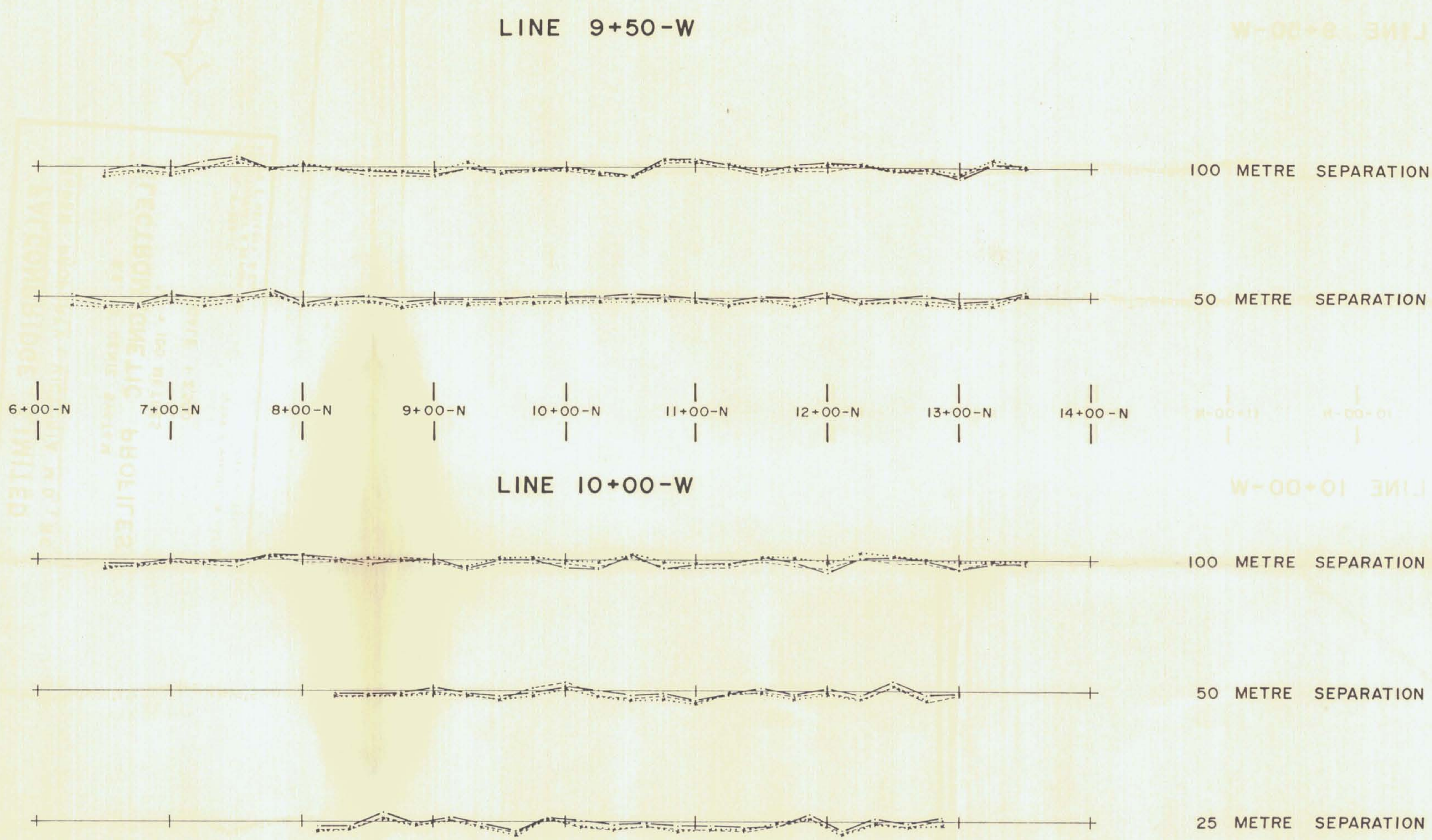
PROPERTY: JASPER PN 101

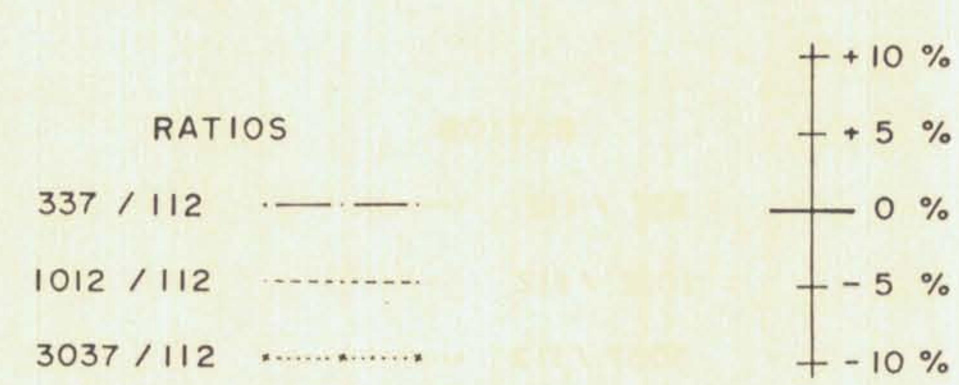
LOCATION: VANCOUVER IS.

TYPE OF MAP: DRILL SECTION 1+50 W
DDH 3, DDH 4

WORKING PLACE:
BASED ON: JL
DATE OF WORK: OCT/85
DRAWN BY: SL
DATE:
MAP REF. NO.:
N.T.S. NO.: 92C/15E
FIG. NO.: 14

MAP REF. NO.:
N.T.S.:





FALCONBRIDGE LIMITED

JASPER PROPERTY ; VICTORIA M.D. ; B.C.

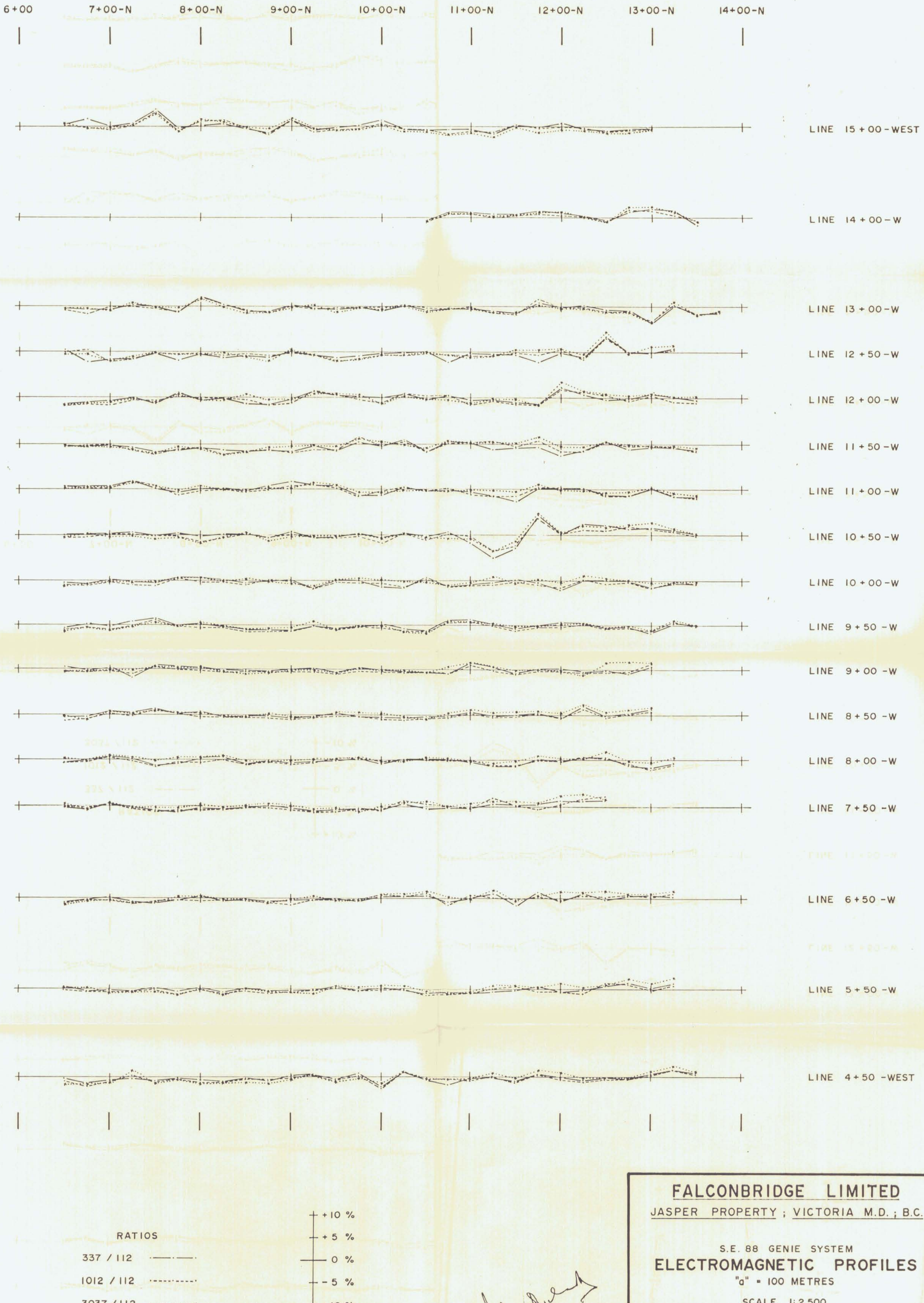
S.E. 88 GENIE SYSTEM

ELECTROMAGNETIC PROFILES

SCALE 1: 2,500

MAP No. W-368-2
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT, P. Eng.

PETER E. WALCOTT & ASSOC. LTD.
JULY — 1985



FALCONBRIDGE LIMITED

JASPER PROPERTY ; VICTORIA M.D. ; B.C.

S.E. 88 GENIE SYSTEM

ELECTROMAGNETIC PROFILES

"a" = 100 METRES

SCALE 1:2,500

MAP No. W-368-1
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PETER E. WALCOTT & ASSOC. LTD.
JULY — 1985