84-#49 - 11968

GEOLOGICAL AND GEOCHEMICAL REPORT

ON

FOGGY F GROUP
(JOSEPH 19 AND JOSEPH 20 MINERAL CLAIMS)

KAMLOOPS MINING DIVISION
NTS 92P/8E
Latitude 51°32'N By Longitude 120°10'W

by

C. C. EVERETT

JANUARY 20, 1983

Owner: Barrier Reef Resources Ltd.
904 - 675 West Hastings St.
Vancouver, B.C.

Operator: Esso Resources Canada Limited
600 - 1281 West Georgia St.
Vancouver, B.C.
V6E 3J7

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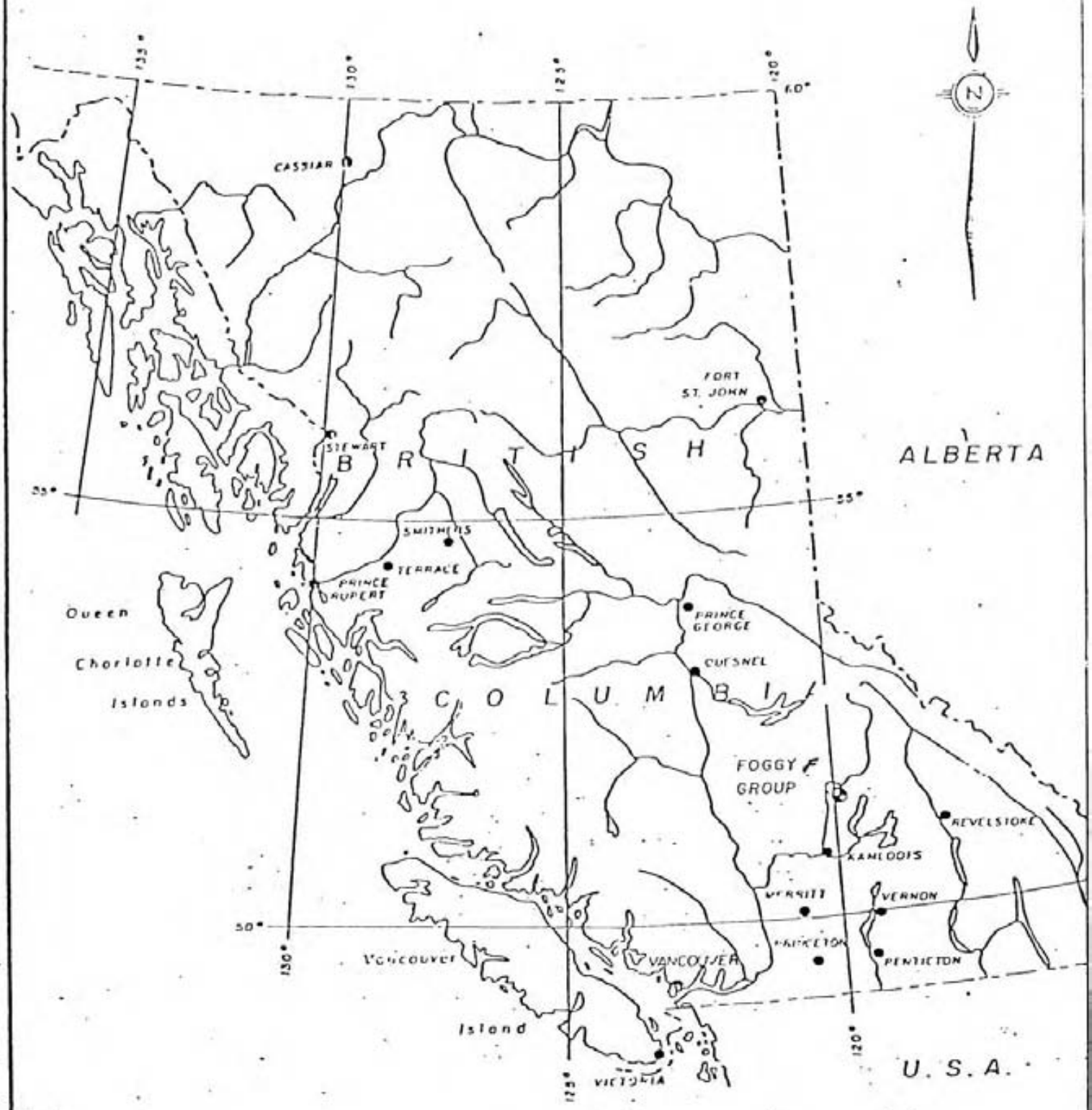
Summary

The Foggy "F" Group is located in south central British Columbia, approximately 100 km NNE of Kamloops and 14 km southwest of the town of Clearwater.

This report documents a reconnaissance prospecting and soil geochemical survey covering untested 1979 Dighem II airborne EM and magnetics anomalies. Results from the 1983 exploration program indicate the source of EM anomalies to be graphitic argillites and chert. The aeromagnetic anomalies are unexplained. Soil geochemical results are low and do not indicate the presence of base metals in this area.



ESSO MINERALS CANADA	
LOCATION MAP	
FOGGY F GROUP	
KAMLOOPS MINING DIVISION, B.C.	
Drawn By: C. E.	Date : AUG. 1983
Scale : 1cm. = 87 km.	Fig No. 1

1.0 Introduction

1.1 Location and Access

The Foggy "F" Group is located in south central British Columbia approximately 100 km NNE of Kamloops and 14 km southwest of Clearwater. Access to the property is gained by driving 25 km west and south along the south side of the North Thompson River and then 4 km northeast along a B.C. Hydro microwave tower road, figure #2.

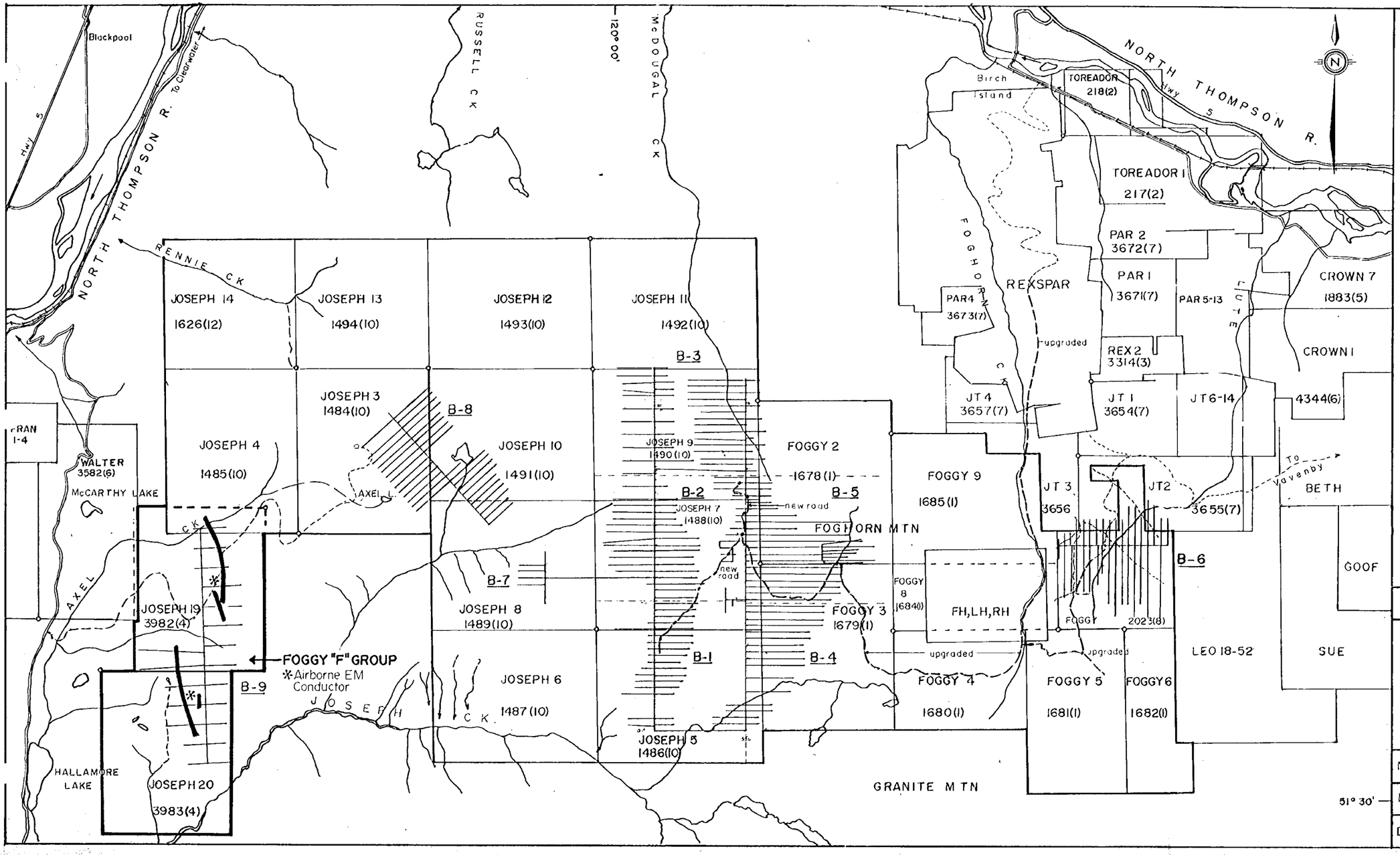
The claim group is located on the western flank of Foghorn Mountain. Estimated depth of overburden is 1-50 metres. Much of the prospect is covered with stunted poplar, spruce, buck brush and devils club. Elevations vary between 430 and 1100 metres.

1.2 Property

The Foggy "F" Group comprises 2 mineral claims aggregating 40 contiguous units. Claim names, record numbers, month of record, units and anniversary dates are listed below in Table #1. Claim locations are shown in figure #2.

(Table #1)

Claim	Record #	Month of Record	Units	Anniv. Date
Joseph 19	3982	4	20	April 13/1984
Joseph 20	3983	4	20	April 13/1984



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——·——·—: new road construction, Barrier prospect

— — —: upgraded Barrier prospect access road

B-1: GRID NO.

SCALE 1:50000

0 500 1000 2000 metres

ESSO MINERALS CANADA

BARRIER PROJECT
FOGGY "F" GROUP
CLAIM and GRID LOCATION MAP

Project No. 2189

NTS: 92P/8E, 82M/12W	LAT.: 119° 54' LONG: 51° 32'
Min. Div.: KAMLOOPS	Drawn by: C.E.
Date: Nov., 1983	Figure 2

1.3 History of Property

The Joseph 19 and Joseph 20 mineral claims were staked by Barrier Reef Resources Limited in 1982 to cover untested airborne EM and magnetics anomalies from a 1979 Craigmont Mines Ltd. Dighem II survey. There is no documentation of previous work in the immediate claim area prior to 1979.

1.4 Regional Geology

The regional geology of the Barrier prospect is taken from Paper 1982-1, B.C.D.M. Geological Fieldwork 1981, Clearwater Area, by P. Schiarizza. Figure 3 is a generalized geological map of the Clearwater-Chu Chua area. Vertical cross-sections to accompany figure #3 are shown on figure #3A.

East of the Foghorn showings, the property is underlain by rusty weathering greenish-grey feldspathic chlorite schists, chlorite schists, sericite schists, quartz sericite schists and sericitic quartzites of the Eagle Bay Formation. These units comprise a relatively flat lying plate, occurring as a gentle north plunging synform.

West of the Foghorn showings the property is underlain by rocks of the Lower and Upper Fennell Formation. The Lower Fennell Formation consists of (5a) aphanitic to very coarse grained basalt with both extrusive and intrusive phases, (5b) chert and cherty mudstone, (5c) quartz-feldspar porphyry, (5d)

BARRIER PROJECT
REGIONAL GEOLOGY MAP

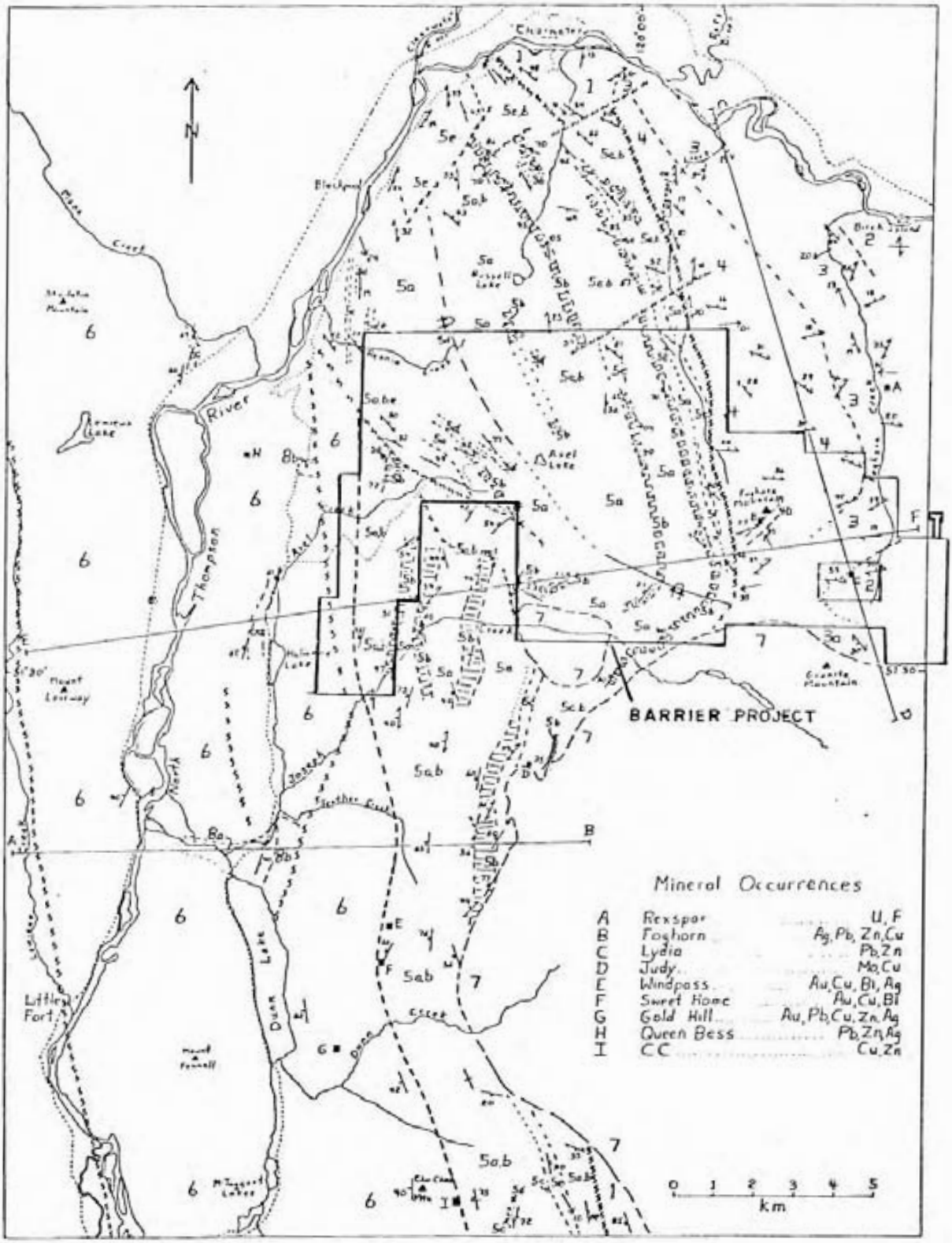

Figure 3. Generalized geological map of the Clearwater-Chu Chua area.

LEGEND (See figure 3)

EOCENE AND LATER (?)

8 (b) Skull Hill Formation: vesicular andesite
(a) Chu Chua Formation: conglomerate, sandstone, shale

CRETACEOUS

7 Biotite quartz monzonite of Baldy Batholith and Joseph Creek stock

UPPER PALEOZOIC

FENNELL FORMATION

6 Upper Fennell Formation: pillowed and massive greenstone, minor chert
6a: bedded chert

5 Lower Fennell Formation
PERMO-TRIASSIC
(f) limestone
(e) sandstone, argillite, phyllite
(d) conglomerate
(c) quartz feldspar porphyry
(b) bedded chert
(a) greenstone

FAULT CONTACT?~~~~?

Eagle Bay Formation

4 Rusty weathering, greenish grey, feldspathic chlorite-sericite schist
4a: quartzite
3 Quartz-sericite schist with interbedded dark grey phyllite;
MISSISSIPPIAN minor chlorite schist, platy sericitic quartzite, and trachyte
3a: biotite-quartz gneiss, amphibolite, pelitic hornfels
2 Chlorite schist, minor grey phyllite and limestone
1 Black phyllite with interbedded siltstone, sandstone, and grit

Symbols

Bedding: tops known, overturned; tops not known .....
Schistosity: inclined; horizontal .....
Early mesoscopic fold axis .....
Late mesoscopic fold axis .....
Inferred fault .....
Early synclinal axial trace, overturned .....
Geological contact .....
Mineral occurrence .....

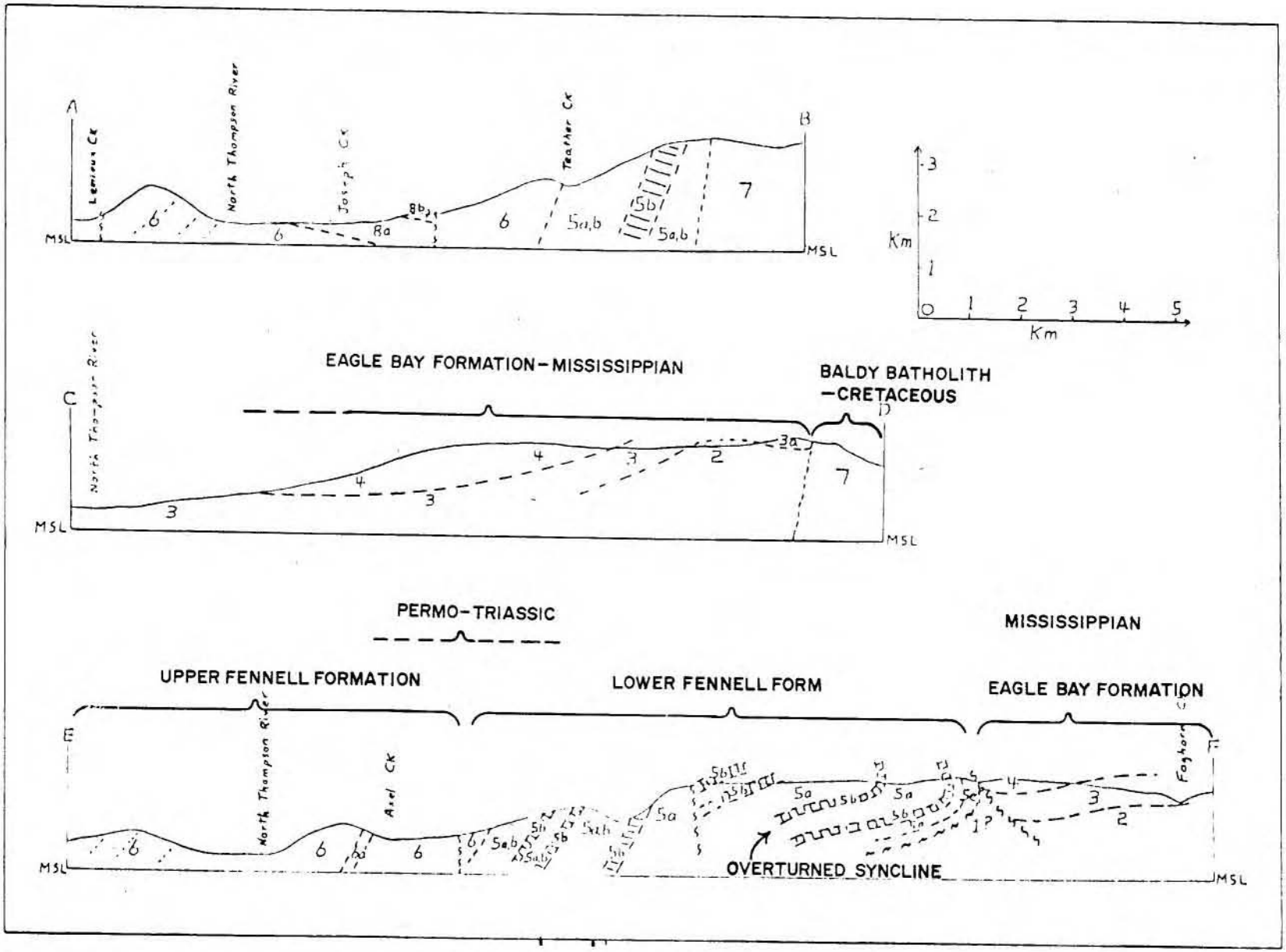

Figure . Vertical cross-sections to accompany Figure .

conglomerate, (5e) sandstone, argillite and phyllite, and (5f) partly crystalline limestone. The Upper Fennell Formation consists mainly of aphanitic to fine grained pillowed basalts with minor discontinuous pods of chert.

Although it is not exposed, the contact between the Lower and Upper Fennell appears to be stratigraphic rather than tectonic.

Unit 7, the Middle Cretaceous Baldy Batholith occupies the southeast corner of the map area. Coarse grained biotite quartz monzonite comprises much of the batholith. A small body of similar rock outcrops in the Joseph Creek valley to the northwest.

A westerly overturned syncline in the Lower Fennell Formation is the dominant structure between Joseph Creek and Clearwater. It plunges shallowly towards the north-northwest. There appears to be a slight flexure in the axial trace from the northeast to the north.

West of the Baldy Batholith, the Fennell Formation comprises a west-dipping and facing homocline. The homocline may be an anitformal deflection of the western upright limb of the syncline.

The Eagle Bay Formation stratigraphy appears to be discordant with the adjacent Fennell Formation. The contact may be an east-dipping thrust fault that post-dates the Fennell Formation syncline.

The Foggy "F" Group appears to be situated near the assumed Upper Fennell-Lower Fennell Formation contact zone.

1.5 Details of 1983 Program

Field work completed in 1983 (Oct. 8-15th) comprised geological mapping and soil geochemical surveying. Details of the exploration program are listed below in Table #2.

(Table #2)

Work Summary

Flag Lines	13.9 km
Soils	223
Geological Mapping	2.3 km^2

All field data is plotted at a 1:5000 metric scale, map #1. Soils were taken at 300 metre line spacings and 50 metre sample intervals. A description of geochemical methods is in Appendix A. Grid lines are chained and flagged at 25 metre intervals.

2.0 Technical Data And Interpretation Of Results

2.1 Introduction

Approximate locations of the Craigmont Mines Ltd. airborne EM and magnetics anomalies and the Foggy "F" Group grid are shown on figure #2. The grid was established using a wide line and soil sample spacing as a first pass ground evaluation of the area. Ground geophysics was not done.

2.2 Geology

The Foggy "F" Group is underlain by Lower Fennell Formation marine volcanic and sedimentary rocks. Units trend NNE to SSW with variable gentle dips to the east or west. Graded bedding attitudes from the chert horizons show the units to be upright, not overturned as in the eastern portion of Foghorn Mountain, figure #3. There is not sufficient grid control to supply adequate geological data which would imply local or prospect scale folding.

A gabbro-diorite sill, four basaltic and four chert/ argillite horizons are shown on map #1. The gabbro- diorite and basaltic rocks are easily traced from line to line. The sedimentary units are less resistant and appear to have been squeezed into lens shaped bodies by previous deformational events. This might account for the erratic nature of the

airborne EM anomalies and the poor continuity of these units between lines.

Sediments identified on the property include white-green-black chert and black platy argillite. Both the black chert and argillite contain minor amounts of graphite. These units are presumed to be the source of the airborne EM conductors. The argillites typically contain Tr-2% disseminated pyrite and have gossanous weathered surfaces. The chert beds vary from silty to argillaceous to extremely siliceous. A strong basaltic component is noticeable in the green cherts near Joseph Creek. This is demonstrated by chloritic or mafic crystal layers +/- disseminated pyrite in fine silty interbeds.

Basaltic rocks dominate the grid area. They are divided into three groups to show variations in volcanic type.

A. Light green, aphanitic, homogenous, no depositional textures noted.

B. Dark green, aphanitic to granular textured, commonly has a trachytic character with a noticeable increase in feldspar content when proximal to the gabbro-diorite sill.

C. Micro or coarsely porphyritic, dark green, massive, no depositional textures noted.

Phenocrysts in the coarsely porphyritic basalt are often packed together giving the unit a gabbroic texture.

The gabbro-diorite sill (?) is dominantly a pyroxene plagioclase diorite with apparent gabbroic margins. Texturally the unit is medium to coarse grained and displays a definite intrusive character. Mafics make up approximately 30%

of the groundmass. The unit was noted only between lines 6+00N-9+00N and appears to pinch out to the south.

There is no evidence of base metal mineralization or prominent sulphide bearing horizons on the property. The airborne EM conductors appear to be caused by graphite in chert and argillite. The aeromag anomalies are unexplained.

2.3 Soil Geochemistry

Soil geochemical results are low and do not indicate any zones with anomalous copper, lead, zinc or silver values. Estimated background results for each element are as follows:

Copper	20-40 ppm
Lead	15-30 ppm
Zinc	60-120 ppm
Silver	0.4-0.8 ppm

One sample copper (127-278 ppm) and silver (2.2-3.3 ppm) anomalies are erratically distributed throughout the grid. There is no continuity of anomalies between lines or any similarity in expected underlying rock type which would imply a specific horizon with above background copper or silver content.

Overburden depths vary between 1-50 metres. Areas marked by (g) on map #1 have deep glacial cover, in excess of 25 metres. The deep overburden might affect the soil geochemistry in these zones.

STATEMENT OF QUALFIICATIONS

I am a Bachelor of Science graduate from the University of New Brunswick (May 1977) and have been employed as an exploration geologist within the mining industry for seven years, the last 4 years with Esso Resources Canada Limited.

CAL C. EVERETT

SUMMARY OF COSTS

COST ESTIMATE: FOGGY F GROUP (OCT 8-15th, 1983)

Type of Work	Man Days	Cost/Man Day	Cost Total
Geology	1	$ 157.00	$ 157.00
	3	$ 142.00	$ 426.00
	3	$ 96.00	$ 288.00
Geochemistry	3	$ 142.00	$ 426.00
	3	$ 96.00	$ 288.00
Laboratory: 223 soils @ $6.50 per unit (A.A. Analysis Cu, Pb, Zn, Ag)			$ 1449.00
Transportation: Vehicle Rental 3/4 ton pickup; 0.2 months @ $700.00/month			$ 140.00
Fuel			$ 61.00
Food and Accommodation 7 man days @ 35.00 per man/per day			$ 245.00
Material and Supplies (equipment, field supplies etc.)			$ 75.00
Report Preparation:			
Writing - 2 man days @ 157.00 per day			$ 314.00
Drafting - 3 man days @ 96.00 per day			$ 288.00
Map Reproduction			$ 20.00
		TOTAL	$ 4177.00

COST DISTRIBUTION

Geology	$ 871.00
Geochemistry	$ 714.00
Analysis	$ 1449.00
Transportation	$ 201.00
Food/Accommodation	$ 245.00
Supplies	$ 75.00
Report Preparation	$ 622.00
TOTAL	$ 4177.00
TOTAL APPLIED	$ 4000.00

LIST OF PERSONNEL

Cal Everett (Project Geologist)
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Ross Almberg (Technician)
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APPENDIX A

Geochemical Methods

Soil samples were taken at the B horizon with hand tools, stored in brown gusset bags, dried and shipped to Min En Laboratories in North Vancouver for geochemical analysis. Each sample was oven dried, sieved to obtain the -80 mesh fraction and then subjected to nitric perchloric acid digestion. Measurement of trace element concentrations was done by Atomic Absorption Analysis. Samples were analyzed for Cu, Pb, Zn and Ag. Pulps for all samples are stored at the Esso Minerals Canada office in Vancouver, B.C.

GEOLOGICAL UNITS

FENNELL FORMATION PERMO-TRIASSIC

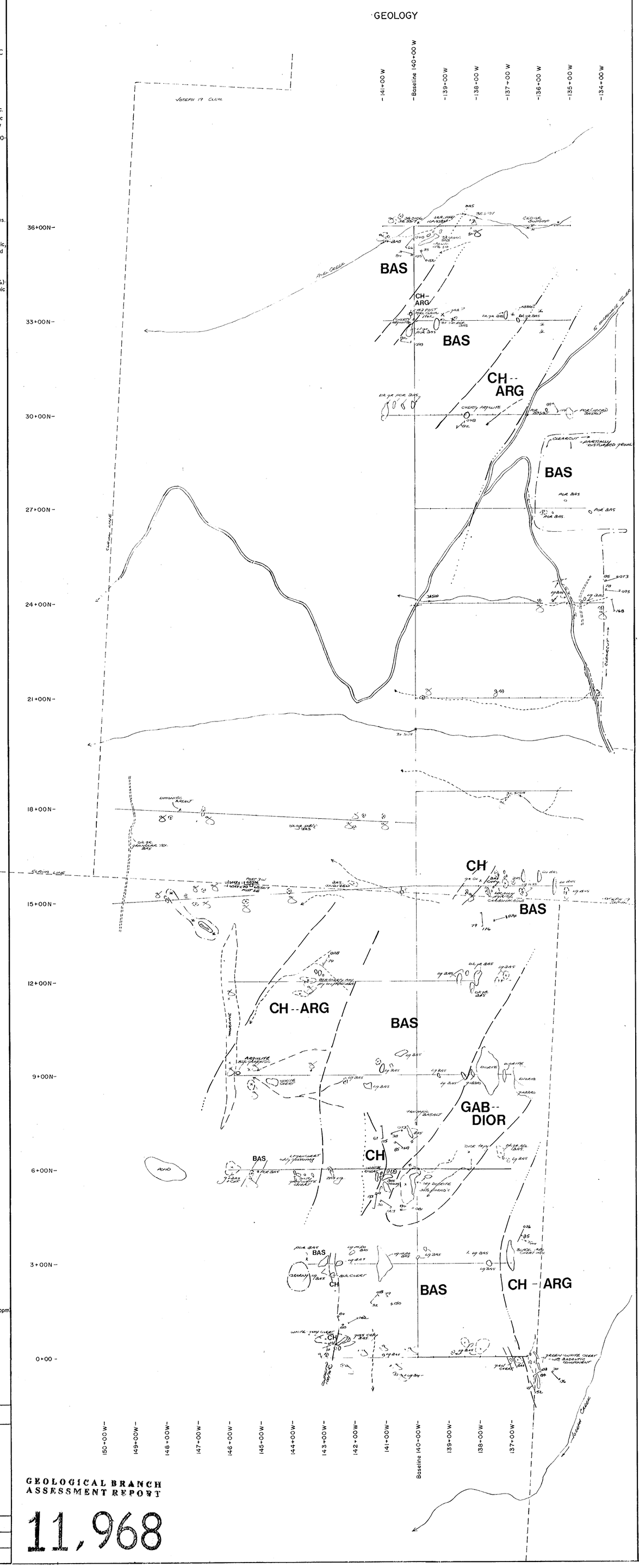
BAS BASALT - (L.G.BAS) - Light green, Aphanitic.
- (D.G.BAS) - Dark green, Aphanitic to granular textured, commonly trachytic with an increase in feldspar content near GABBRO-DIORITE SILL.
- (POR.BAS) - Micro to coarsely porphyritic, 1-5% pyroxene phenocrysts, dark green.

CH CHERT - Green-white-black, silty to intensely siliceous, locally graphitic, locally contains a basaltic component near contacts to basic volcanic flows.

ARG ARGILLITE - Black, platy, locally graphitic, often gossanous on weathered surfaces.

GAB-DIOR GABBRO-DIORITE - Pyroxene(10-30%) plagioclaise diorite with gabbroic margins; PROBABLE SILL.

GEOLOGY



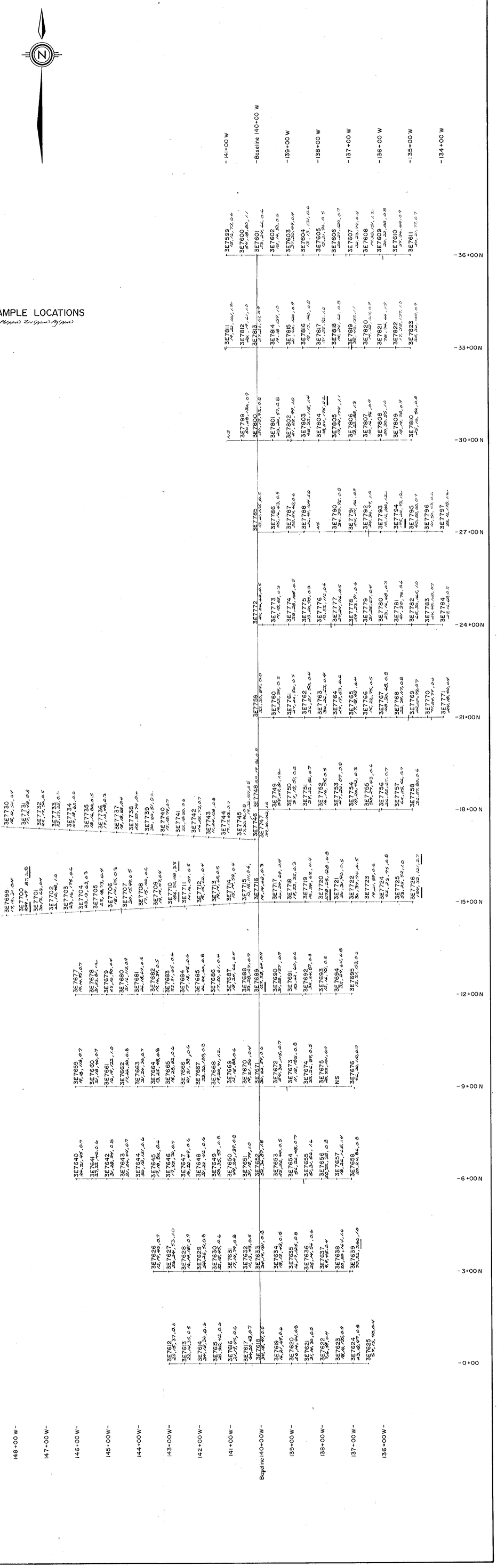
Sample No., Cu, Pb, Zn, Ag (ppm)
3E7800, 100, 50, 200, 1.5

SCALE 1:5000

0 200 metres

SOIL SAMPLE LOCATIONS

(Cu (ppm) Pb (ppm) Zn (ppm) Ag (ppm))



ESSO MINERALS CANADA

BARRIER PROJECT

RECONNAISSANCE PROSPECTING-GEOCHEMISTRY MAP

Project No. 2189

NTS 92 P/8E	Long. 119°54'W Lat. 51°32'N
Mining Division: KAMLOOPS	Drawn By: C.E.
Date: NOV. 1983	Map No. 1

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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