

2371

A REPORT ON  
GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL EXPLORATION  
OF THE  
FIVE GROUP OF MINERAL CLAIMS  
CHRISTINA LAKE, B.C.  
FOR  
BOUNDARY EXPLORATION LIMITED

BY

J.S. KERMEEN, P. ENG.  
CONSULTING GEOLOGICAL ENGINEER

March 28, 1970

Grand Forks, B.C.

## TABLE OF CONTENTS

	Page
Introduction	1
Physiography	3
General Geology	4
Geochemical Surveys	6
Stream sediment sampling	7
Soil sampling	10
Magnetometer Survey	13
Conclusions	14
Recommendations	15
Table I	Summary of stream silt sample results
Table II	Summary of soil sample results
Figure 1	Distribution of copper readings in Baker Creek
Figure II	Distribution of copper readings in M Area soil sample grid

### MAPS:

- #1 Fife Group; 1 in. =  $\frac{1}{2}$  mi.
- #2 Portion of Fife Group; 1 in. = 1,000 ft.
- #3 Geochemical Survey Sutherland, Maida and Italy Creeks  
1 in. = 200ft.
- #4 Geochemical Survey Lower Baker Creek; 1 in. = 200 ft.
- #5 Geochemical Survey "M" and "P" Areas, Upper Baker Creek,  
G, E, F and N Creeks; 1 in. = 200 ft.
- #6 Geochemical Survey (copper) N area; 1 in. = 200 ft.
- #7 Geochemical Survey (zinc) N area; 1 in. = 200 ft.
- #8 Geochemical Survey A area; 1 in. = 200 ft.

#9 "M" Area Soil Samples; 1 in. = 100'

~~Geochemical Survey A area; 1 in. = 200 ft.~~

#10 Magnetometer Survey N Area; 1 in. = 200 ft.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2371 MAP.....

INTRODUCTION

The Fife Group of mineral claims comprises 106 staked mineral claims and three crown grants as listed below:

Staked Claims

FFC 1 to 92 inclusive, record nos. 29522E to 29613E inclusive  
 FFC 93 to 106 inclusive, record nos. 30936P to 30949P inclusive

Crown Grants

Prize No. 2	Lot 120s
Messenger	Lot 121s
Cannonball	Lot 1036

The above listed claims blanket an area which includes the following claims and crown grants not controlled by Boundary Exploration Limited.

Staked Claims

Dana 1 to 4 inclusive, record nos. 26048K to 26051K inclusive

Crown Grants

Elmore	Lot 972
Eureka	Lot 1145
Big Chief	Lot 962

Fife                    Lot 1185s  
Three Bells            Lot 1182s  
Benhar                 Lot 1183s  
Dike Head # 2        Lot 1184s

(The latter five comprise the group indicated as "Fife Mine" on the accompanying property plan).

Because boundaries of crown grants were not discernible in the field, the FTC claims were staked to blanket the area.

The net area controlled by Boundary Exploration Limited is thus approximately 5,000 acres.

The group is located immediately east of Christina Lake, some 15 miles by highway east of Grand Forks, B.C.

The exploration program detailed herein was carried out from September, 1969 through February 1970. Reconnaissance geological observations were made in the field by the writer; all other field work was done by Boundary Exploration Limited personnel under the supervision of the writer.

PHYSIOGRAPHY

The claim area is one of subdued, generally tree-covered mountains. Local relief varies from 1,460 above sea level at Christina Lake to a maximum of 4,300 on the Fife Group. The property is drained by Baker and Sutherland Creeks, and a number of freshet tributaries.

Bedrock is obscured by overburden over perhaps 85% of the property. In the valleys and lower parts of slopes the overburden probably includes glacial debris up to several tens of feet thick. In higher ground glacial material is less conspicuous and some areas of residual soil exist.

## GENERAL GEOLOGY

The general geology is indicated on the accompanying property map and, where greater detail is known, on various accompanying geochemical maps. The geology is based partly upon Geological Survey of Canada Map 6-1957, Kettle River (East Half) with a number of alterations based on reconnaissance field observations made by the writer.

### Rock Types

The oldest rocks on the property are sediments, chiefly limestone and greywacke of the Permian Mount Roberts formation. They underlie about 60% of the group in a belt, from  $\frac{1}{4}$  mile to  $1\frac{1}{2}$  miles wide, trending northerly along the west part of the property and then easterly through the northeast corner of the group. This belt is bounded to the south and east by granodiorite and diorite of the Mesozoic Nelson Intrusions, and to the north by a band of syenite of the Paleocene Coryell Intrusions. To the south of the property another belt of the Mount Roberts formation is followed by intermediate to basic volcanics of the Jurassic Roseland Group.

A body of serpentized ultrabasic rock underlying an area measuring 1 miles by  $1\frac{1}{2}$  miles is known to occur four miles south of the property.

Gabbro and a pyroxene-rich rock were observed on the property in the vicinity of the Elmore showing.

Along the contacts of the Mount Roberts formation and the Nelson Intrusives local areas of garnetiferous skarn were noted.

### Structure

Rocks of the Mount Roberts and Rossland formations have been intensely folded with very variable strikes and dips.

A major fault zone underlies Christina Lake and forms the contact between rocks on the property and the older, uplifted Proterozoic rocks west of the lake.

The parallel valleys of Baker and Sutherland Creeks are suggestive of fault zones although there is no direct geological evidence to support this view.



### GEOCHEMICAL SURVEYS

Stream sediment samples were taken from Baker (A) and Sutherland (B) Creeks as well as a number of tributaries. Samples consisted of non-organic silt taken, where possible, from running water; some of the tributaries were dry at the time of sampling.

Two reconnaissance soil sample traverses were run (A and Z) and soil sample grids were run in three areas (M, N and P). All soil samples were collected from the upper part of the B horizon, using a stainless steel garden trowel. The observed soil profile in all the areas sampled consisted of a thin surface layer of organic material (1 inch to 6 inches thick), a thinner grey leached zone (0 to 2 inches thick) and a yellow-brown silty soil of undetermined thickness from which samples were collected. The average soil sample depth was about 6 inches. All silt and soil samples were shipped to Chemex Laboratories Limited, North Vancouver for determination of total extractable copper and zinc by hot acid extraction followed by atomic absorption determination. Sample preparation consisted of drying and screening to minus 80-mesh. A number of stream sediment samples from Sutherland Creek were mistakenly run for lead and the results are also indicated. In addition a few samples from various areas were run for cold extractable

copper, and total gold, silver, nickel and molybdenum; results are indicated on the accompanying plans.

#### Stream Sediment Survey

A total of 422 stream sediment samples were taken at intervals of 100 feet from the Baker and Sutherland Creek systems.

The purpose of this work was to attempt to localize areas on the property which might be worthy of more detailed work.

Table 1 shows a summary of the source of samples and the average readings. Results are plotted in detail on the 1 inch = 200 feet scale plan. Copper results from the Baker Creek system are also indicated, in a more general way on the 1 inch = 1,000 feet plan. Survey control was by chain and compass between sample stations; on steep gradients slope corrections were made.

#### Interpretation

The results from the Sutherland Creek system are all low in copper, zinc and lead and no readings considered to be anomalous were returned.

In the Baker Creek system the average of 219 samples

is: copper 69 ppm; zinc 51 ppm. The distribution of copper readings in Baker (A) Creek, not including tributaries (E, F, G and M Creeks), is shown graphically in Figure 1. No distinctive anomalous patterns emerge from the zinc readings. Copper readings in the 50 to 99 ppm range are considered possibly anomalous and values of 100 ppm or over are considered probably anomalous.

In addition to the routine total extractable copper and lead determinations, the following determinations were made:

Source	Sample No.	Total Cu (ppm)	Total Zn (ppm)	Cold Extractable Cu (ppm)	Total Silver (ppm)	Total Gold (ppb)	Total Mo. (ppm)
"E" Creek	E-2	42 (33)	(49)	11	0.2	30	---
	E-3	51 (35)	(53)	20	0.7	30	---
	E-32	(195)	(53)	---	0.5	---	1
	E-34	(200)	(56)	---	0.5	---	1
"M" Creek	M 25	220 (200)	(65)	82	2.2	30	---
	M 27	(179)	(65)	---	0.5	---	1
	M 30	107 (93)	(60)	38	1.5	30	---
	M 35	206 (206)	(46)	89	2.0	30	---
	M 36	(220)	(58)	---	1.0	---	1

Note: Figures in brackets are determinations on original sample submitted; other figures are determinations on duplicate samples collected at the same time.

Cold extractable copper readings on E and M Creeks range from 25% to 43% of corresponding total copper and average 33%. These high ratios suggest that the copper anomalies are of the "drainage" type (introduced in solution by drainage water) rather than to detrital copper minerals in the stream sediments. On the other hand, the silver readings on samples M 25, 30, 35 and 36 appear anomalously high, and suggest a significant nearby sulphide source.

No anomalous gold or molybdenum content is indicated.

### SOIL SAMPLING

Three soil sample grids (M,N and P) and two reconnaissance soil sample traverses were run. Results are plotted on 200-scale plans and summarized in Table 11.

#### M Area

A grid comprising 36 samples was run in low, but dry area straddling "M" Creek immediately north of its confluence with Baker Creek. No anomalous patterns emerged; one erratic high copper reading (330 ppm) was returned from a sample taken adjacent to a high silt sample in the Creek (267 ppm).

#### P Area

This grid was run to attempt to determine the source of + 100 ppm copper readings near the headwaters of E Creek. Copper readings north and east of the headwaters are considerably higher than those to the south, but no distinct anomalies are indicated.

#### N Area

This covers an area approximately 1500' x 3300', adjoining the Elmore crown grant where a strong pyrrhotite zone

containing minor chalcopyrite is exposed in old trenches and a shaft. The area is believed to be underlain chiefly by greenstone in intrusive contact with Nelson granodiorite in the southeasterly portion of the grid area. The terrane slopes southerly at from 5° to 15°. Overburden covers perhaps 90% of the area; in the northern half it is quite light and in part at least residual soil; to the south the overburden is of undetermined depth and may include glacial debris.

Samples were taken from the upper "B" horizon, initially at intervals of 300 feet on north-south lines spaced 300 feet apart. Fill-in samples at intervals of 100 feet were taken where deemed advisable.

Control was provided by flagged lines run by chain and compass; sample numbers and grid co-ordinates were marked on the flag at each station.

Copper and zinc results are plotted and contoured on separate 200-scale plans, and summarized in Table 11.

Figure 11 shows the percentage distribution of copper values in the M grid. Tentatively readings in the 60 to 100 ppm range are considered possibly anomalous and readings in excess of 100 ppm, probably anomalous. The anomaly centred at the north end of line 3+00E is at the base of the shaft dump on the Elmore zone. It, and the anomaly centred at 5+00N on line 3+00E are probably related to mineralization on the Elmore

property.

High copper readings centred at 3+00S on line O are distinctly anomalous and correlated with above average readings to the west, form an anomaly 1500 feet in length. The above-normal copper readings toward the north end of lines 15+00W and 18+00W are not distinctly anomalous, but suggest the advisability of further sampling to the west.

Zinc readings show a vague correspondance with copper readings but are not considered distinctly anomalous.

#### Traverse A

This is a reconnaissance traverse run north-south for approximately 4100 feet on Prize No. 2 crown grant and claims FFC 43, 45 and 47. The traverse area is underlain chiefly by limestone not far west of its contact with the Nelson granodiorite. Near the north end of the traverse the line crosses an old trench in garnetiferous skarn with minor chalcopyrite. Seven of 32 samples yielded copper values in excess of 100 ppm, the highest being 252 ppm.

#### Traverse Z

This is a base of slope traverse between Creeks E and F. No anomalous readings were returned.

### MAGNETOMETER SURVEY

A magnetometer survey using a Scintrex MF-1 Fluxgate instrument was run on the M area grid. It covers the area of the geochemical survey plus three additional lines to the west. Readings were taken at intervals of 100 feet on lines spaced 300 feet apart, with some detail at intervals of 50 feet. All readings were adjusted to base station readings taken approximately every two hours. Readings and contours are shown on the 200-scale plan.

A strong magnetic high runs southwesterly from 11+50N on line 21+00W to 8+00N on line 15+00W. Negative readings adjoin to the north. This anomaly suggests a pyrrhotite or magnetite zone in the greenstone.

Moderately high magnetic areas centred at 9+00W - 1+00N and line 0+00 - 4+00S are indicative of moderately magnetic bodies, possibly sulfides.

The relatively lower undisturbed magnetics in the easterly quarter of the area are believed to correspond to Nelson granodiorite, the contact approximating the 1500 gamma contour.



CONCLUSIONS

Geologically, the contact between limy sediments and the Nelson granodiorite is considered favorable for skarn type copper deposits.

The general results of stream sample work suggest that the sediments and Coryell syenite drained by the Baker Creek system are more favorable for sulphide mineralization than the Nelson granodiorite which the Sutherland Creek system drains.

The source of anomalous copper readings in G and M creeks has not been determined. Accordingly, further soil sample investigation and detailed prospecting is warranted in these areas.

The source of the anomalous copper readings in F creek is probably pyrrhotite zones in greywacks, either extensions of, or zones similar to the two showings indicated on the map.

Both geochemical and magnetic results in the N area suggest possible sulfide zones and further work to define possible drill targets is warranted.

RECOMMENDATIONSG Creek Area

- (1) Detailed prospecting upstream from section of anomalous copper readings.

M Creek Area

- (1) Base of slope soil samples at intervals of 100 feet from either side of the Creek north of M grid area.
- (2) Soil sample grid on plateau area immediately north of sampled section of creek.
- (3) Bulldozer trench across creek near upper end of anomalous section to expose possible mineralized fault structure occupied by creek.

N Area

- (1) Bulldozer trench on line G from 3+005 to baseline, expose bedrock if possible and take profile soil samples.
- (2) Vertical loop EM survey of N area to delineate possible sulphide conductors.
- (3) Extension of N area grid of soil sampling and geophysics at least 1000 feet to west.

GENERAL

Continue reconnaissance soil sampling, similar to traverse A to test the sedimentary side of the Mount Roberts formation - Nelson granodiorite contact throughout the property, where glacial overburden conditions are not prohibitive.

A handwritten signature in cursive script, appearing to read "J. Kermeen". The signature is written in dark ink and is located in the lower right quadrant of the page.

TABLE 1  
 BOUNDARY EXPLORATION LIMITED  
 FIFE GROUP  
 SUMMARY OF STREAM SILT SAMPLE RESULTS

Creek	No. of Samples	Average Cu (ppm)	Average Zn (ppm)	Average Cu/Zn
Sutherland Creek and tributaries (B, C and D Creeks)	203	10	33	0.30
Baker Creek (A Creek)	123	47	43	1.09
"E" Creek	34	94	47	2.00
"F" Creek	20	36	49	0.73
"G" Creek	16	96	99	0.99
"H" Creek	26	147	71	2.07
Baker Creek and tributaries (A, E, F, G, and H Creeks)	219	69	51	1.35
All Creeks - Fife Group	422	40	42	0.95

**TABLE 11****BOUNDARY EXPLORATION LIMITED****FIVE GROUP****SUMMARY OF SOIL SAMPLE RESULTS**

---

<b>Area</b>	<b>No. of Samples</b>	<b>Average Cu ppm</b>	<b>Average Zn ppm</b>	<b>Average Cu/zr</b>
<b>M</b>	<b>36</b>	<b>33</b>	<b>105</b>	<b>.31</b>
<b>N</b>	<b>127</b>	<b>70</b>	<b>99</b>	<b>.72</b>
<b>P</b>	<b>40</b>	<b>36</b>	<b>100</b>	<b>.36</b>
<b>A Traverse</b>	<b>16</b>	<b>84</b>	<b>145</b>	<b>.58</b>
<b>Z Traverse</b>	<b>12</b>	<b>24</b>	<b>126</b>	<b>.19</b>
<b>Combined</b>	<b>231</b>	<b>56</b>	<b>104</b>	<b>.54</b>

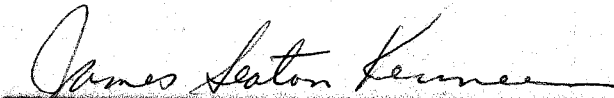
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CERTIFICATE

I, JAMES SEATON KERMEEN OF GRAND FORKS, BRITISH COLUMBIA

DO HEREBY CERTIFY:

- (1) That my occupation is that of a Consulting Geological Engineer.
- (2) That I am a graduate of the University of Saskatchewan with the degrees of Bachelor of Science in Geological Engineering, 1951, and Master of Science, Geology, 1955.
- (3) That I have practised my profession continuously for 18 years.
- (4) That I am a member in good standing of the Association of Professional Engineers of British Columbia.
- (5) That the attached report is based on a personal examination of the mineral property discussed, made from September 16, 1969 to February 28, 1970, as well as a study of available pertinent data.
- (6) That I do not have, nor do I expect to receive, either directly or indirectly, any interest in the properties or securities covered by this report.

  
JAMES SEATON KERMEEN, P. Eng.

I, J.S. Kermeen, Consulting Geological Engineer of Grand Forks in the Province of British Columbia do hereby certify that the following is an accurate summary of expenses incurred carrying out exploration work on the Fife Group of mineral claims (FFC 1 to 92 inclusive, record nos. 29522E to 29613E inclusive and FFC 93 to 106 inclusive, record nos. 30936P to 30949P) located at Christina Lake, British Columbia, between the dates of September 16, 1969 and February 28, 1970:

Field men wages and salaries

J.P. Marshall	50 days @ \$35.75	1,787.50	
P. Verigin	5 days @ \$35.75	178.75	
N. From	30 days @ \$27.50	825.00	
T. Nurse	15 days @ \$27.50	412.50	
			<u>3,203.75</u>

Supervision, engineering, field mapping, drafting etc.

J.S. Kermeen, P. Eng.		2,996.45
J.W. Carson - Manager - 1 month		1,000.00
K. Osachoff - drafting		108.00

Secretarial & accounting - F. Makaoff - 10 days @ \$21.00	210.00
---	--------

Geochemical analyses - Chemex Laboratories	1,237.77
--	----------

Assaying - Granby Mining Company Limited	64.75
--	-------

Snowmobile expense - 18 days @ \$20.00	360.00
--	--------

Magnetometer rental - (Coast Eldridge)	262.94
--	--------

Truck expenses - 50 days @ \$15.00	750.00
------------------------------------	--------

Car rental - J.P. Marshall	50.00
----------------------------	-------

Total	<u>10,243.66</u>
-------	------------------

SWORN BEFORE ME at Grand Forks )  
 in the Province of British )  
 Columbia this 13 day )  
 of May, 1970. )

*[Signature]*  
 A. Commissioner for  
 Taking Affidavits within  
 British Columbia.

*[Signature]*  
 J.S. Kermeen, P. Eng.

FIGURE 2 - DISTRIBUTION OF COPPER IN "N" AREA SOIL SAMPLES

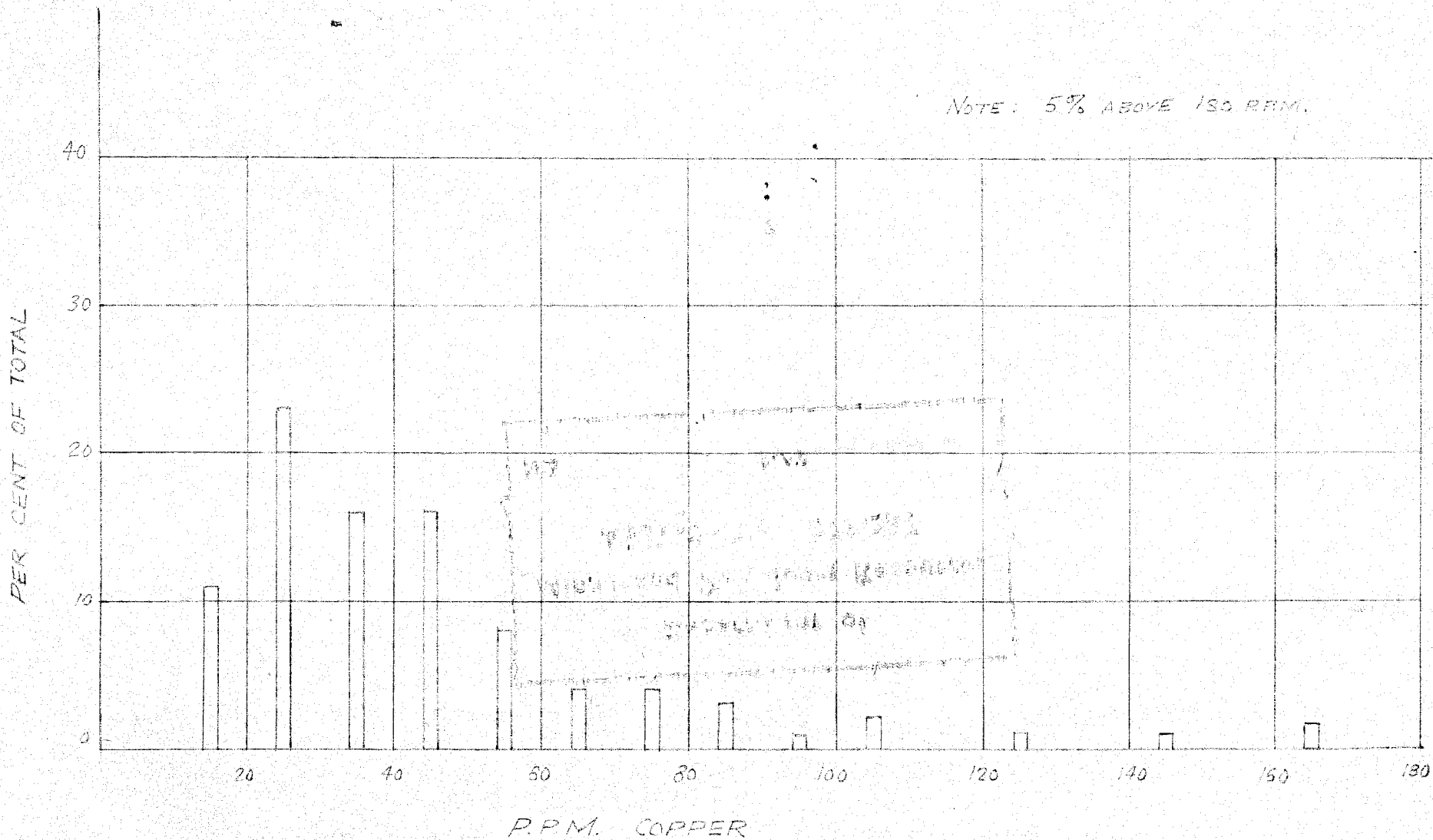
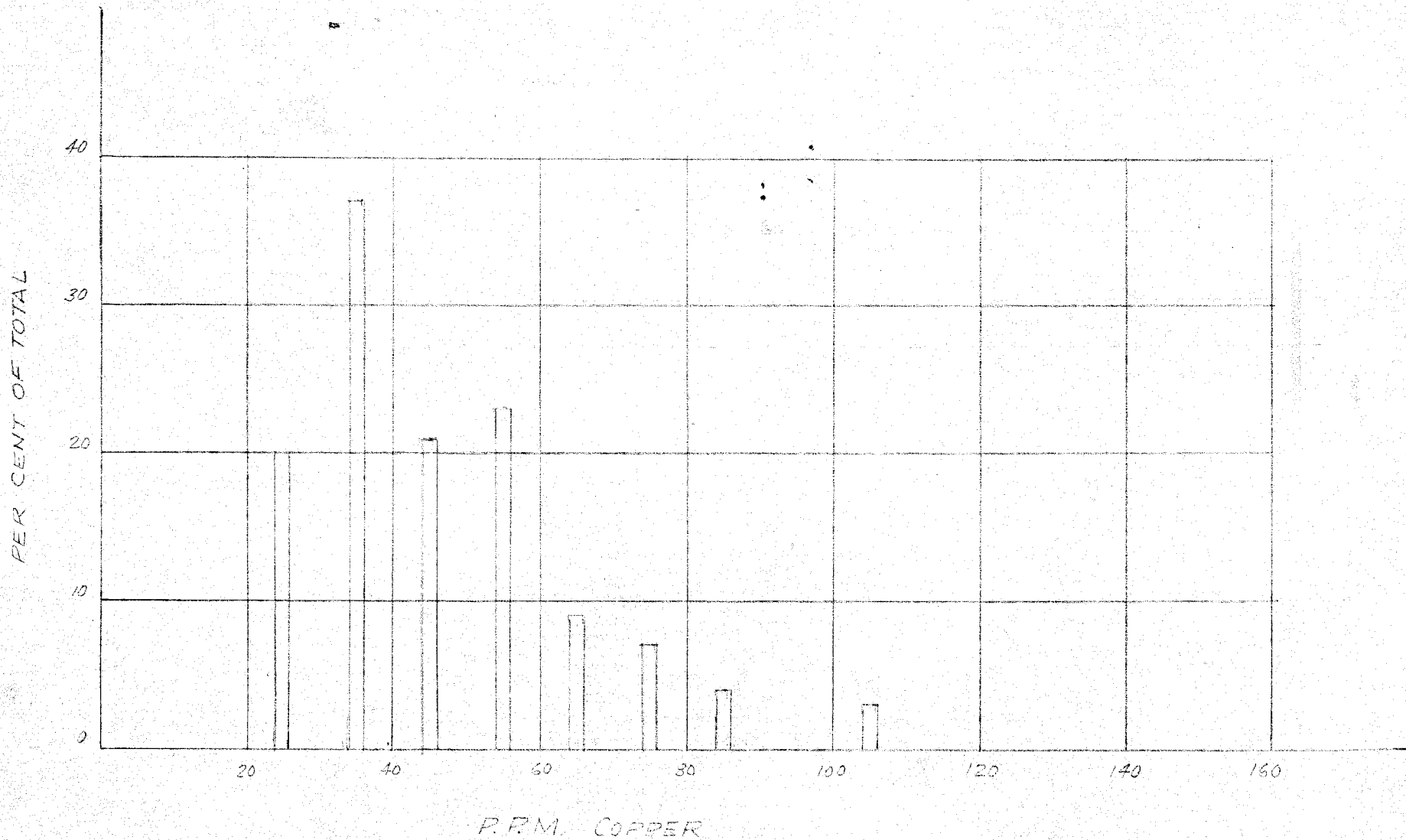
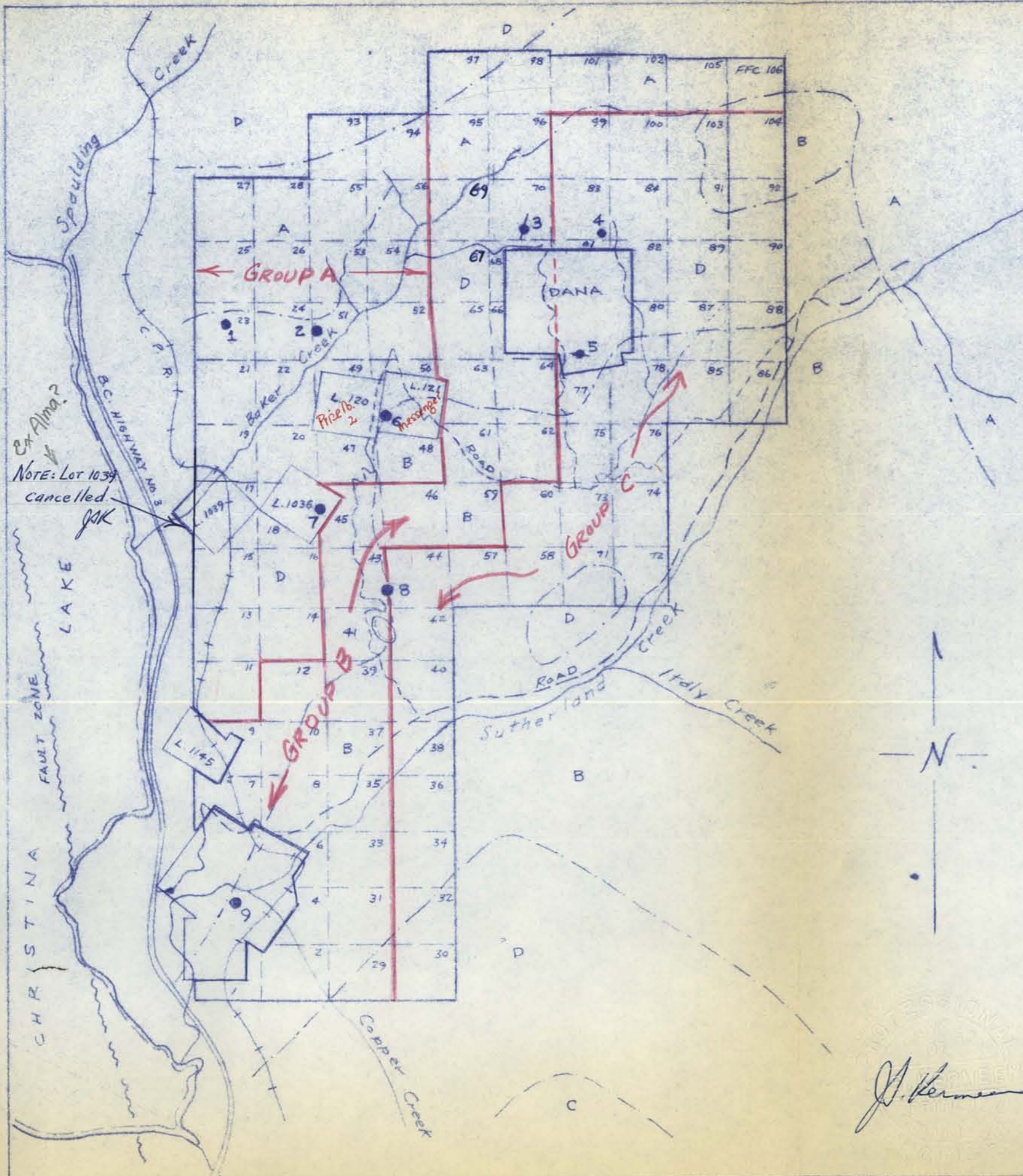




FIGURE 1 - DISTRIBUTION OF COPPER IN BAKER CREEK SILT SAMPLES  
(NOT INCLUDING TRIBUTARIES)





### Rock Types

CENOZOIC	CORYELL INTRUSIONS:	Syenite Monzonite Granite	A
	NELSON INTRUSIONS:	Granodiorite Granite Diorite Monzonite	B
MESOZOIC	ROSSLAND GROUP:	Andesite Latite Agglomerate Greywacke	C
PALEOZOIC	MOUNT ROBERTS FORMATION:	Greywacke Limestone Greenstone Paragneiss	D

### MINERAL OCCURRENCES

- 1 Iron Mountain
- 2 Crackerjack
- 3 Big Iron
- 4 Beech
- 5 Elmore
- 6 Garnet
- 7 Cannonball
- 8 ?
- 9 Fife Mines

### FIFE GROUP

CHRISTINA LAKE, B C

BOUNDARY EXPLORATION LTD.

GRAND FORKS, B C

SCALE 1 IN = 1/2 MILE March, 1970

*J. Kermeen*



IMPERIAL OIL LIMITED

Minerals Section  
D. B. Loyer, Sr. Advisor

INITIAL	FILE
J.M.	
C.G.C.	✓
C.C.	
D.C.G.C.	
D.C.C.	
ACCTS.	
C.M.B.	✓
C.I.	
C.A.	
R. T.	
C.P.E.	
FILE	

100 -- 6th Avenue S.W.  
Calgary 1, Alberta

February 18, 1972.

File: 82-E-1

Your  
File: 166-Greenwood

MI-112

Mr. R. H. McCrimmon,  
Chief Gold Commissioner,  
Dept. of Mines & Petroleum Resources,  
VICTORIA, British Columbia.

2201

Dear Sir:

Re: Fife Group - FFC, IOE Claims - Green  
Group - Geochemical Report

In reply to queries in your letter of February 8, 1972 concerning data required in the geochemical report, the following information is presented.

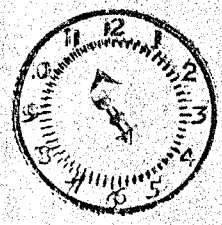
1. The "B" soil horizon was sampled throughout the property.
2. The samples were tested in the geochemical laboratory of Imperial Oil in Calgary. The samples were digested by hot nitric acid at 100 degrees centigrade for 1 1/2 hours.
3. The metal content of the samples were determined by the atomic absorption method.

Yours very truly,  
*Leo D. Kirwan*  
Leo D. Kirwan

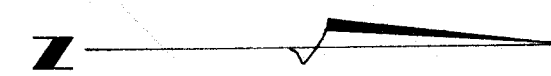
LDK/gf

cc: Mr. G.A. Broomfield,  
Mining Recorder,  
Grand Forks, B.C.

FEB 21 '72 AM



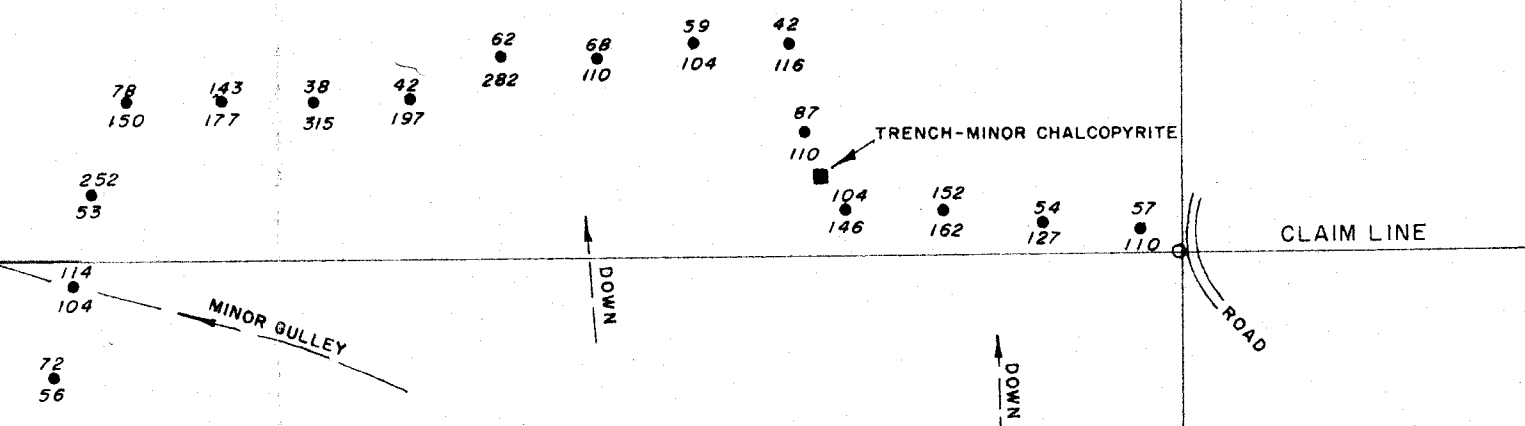
DEPT. OF MINES  
AND PETROLEUM



57 42 88 16 48 30 28 33 36 51 48 129 107 45 64 64  
 113 85 46 70 120 120 58 172 100 98 154 107 192 123 172 292

FFC 45 FFC 47  
 FFC 46 FFC 48

FFC 47 FFC 49  
 FFC 48 FFC 50



HIGH AREA  
 CONSIDERABLE OUTCROP  
 DIORITE ?

2371

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 2371 MAP #8

To accompany a report on the Fife  
 Group of mineral claims by  
 J.S. Kermeen, March 28, 1970

J.S. KERMEEN P.Eng.  
 CONSULTING GEOLOGICAL ENGINEER  
 GRAND FORKS, B.C.

SOIL SAMPLES 78 (PPM Cu)  
 92 (PPM Zn)

BOUNDARY EXPLORATION LTD.  
 FIFE GROUP  
 CHRISTINA LAKE B.C.

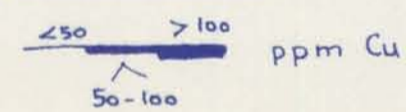
FIELD SAMPLING BY:  
 ANALYSES: Total extraction, atomic adsorption, by CHEMEX LABORATORIES  
 DATES OF FIELD WORK:

GEOCHEMICAL SURVEY  
 "A" AREA  
 (COPPER - ZINC)  
 SCALE: 1" = 200'  
 NOVEMBER 1969

**LEGEND**

- Sy. Syenite - monzonite (Coryell)
- Gr. Granite - granodiorite (Nelson)
- D Diorite (?)
- G Gabbro (?)
- Gwk. - Greywacke
- Lst. - Limestone } (Mount Roberts Fmt.)
- Ch. - Chert
- Gn. - Greenstone
- Mineral Showing
- Py - pyrrhotite
- P - py
- cp - chalcopyrite
- ap - arsenopyrite

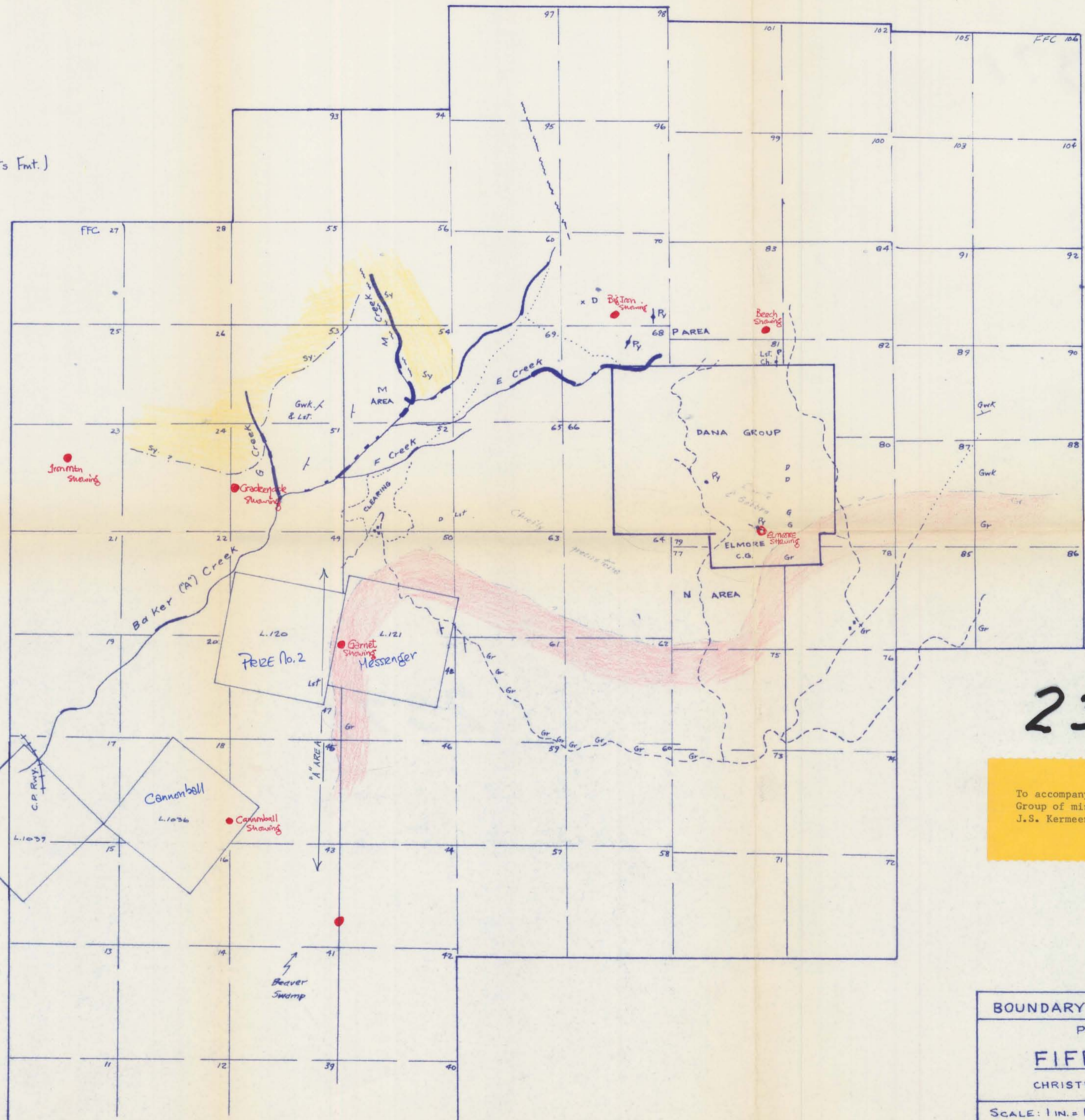
**Silt Sampling**



- Jeep road
- ..... Foot path
- Clearing
- Building

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **2371** MAP #2

Lot 1039 cancelled  
JK



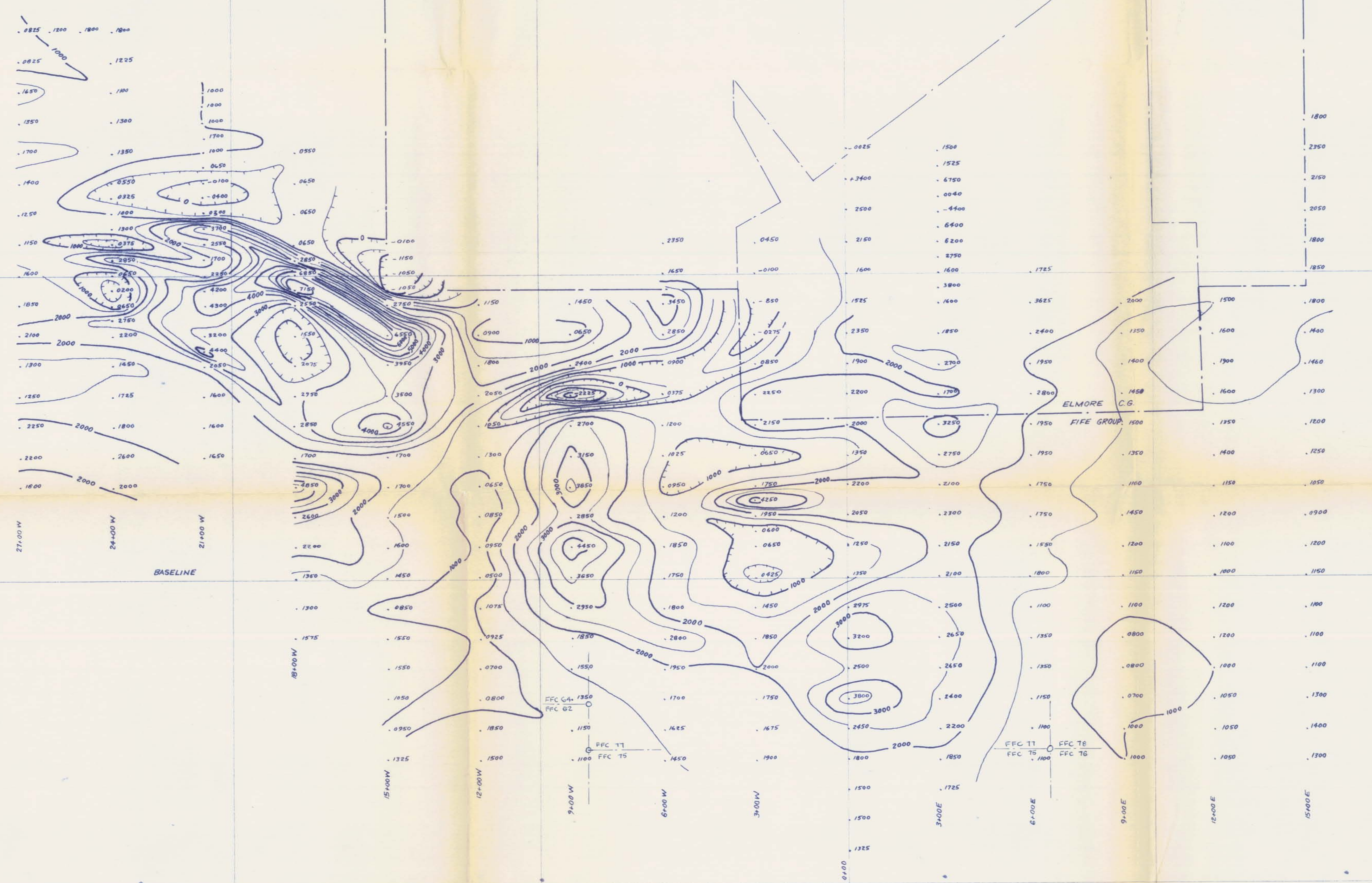
→ Sutherland Cr. road

**2371**

To accompany a report on the Fife Group of mineral claims by J.S. Kermeen, March 28, 1970

*J. Kermeen*

BOUNDARY EXPLORATION LTD.  
PORTION OF  
**FIFE GROUP**  
CHRISTINA LAKE, B.C.  
SCALE: 1 IN. = 1000 FT.      FEBRUARY 1970



2371  
 Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 2371 MAP #10

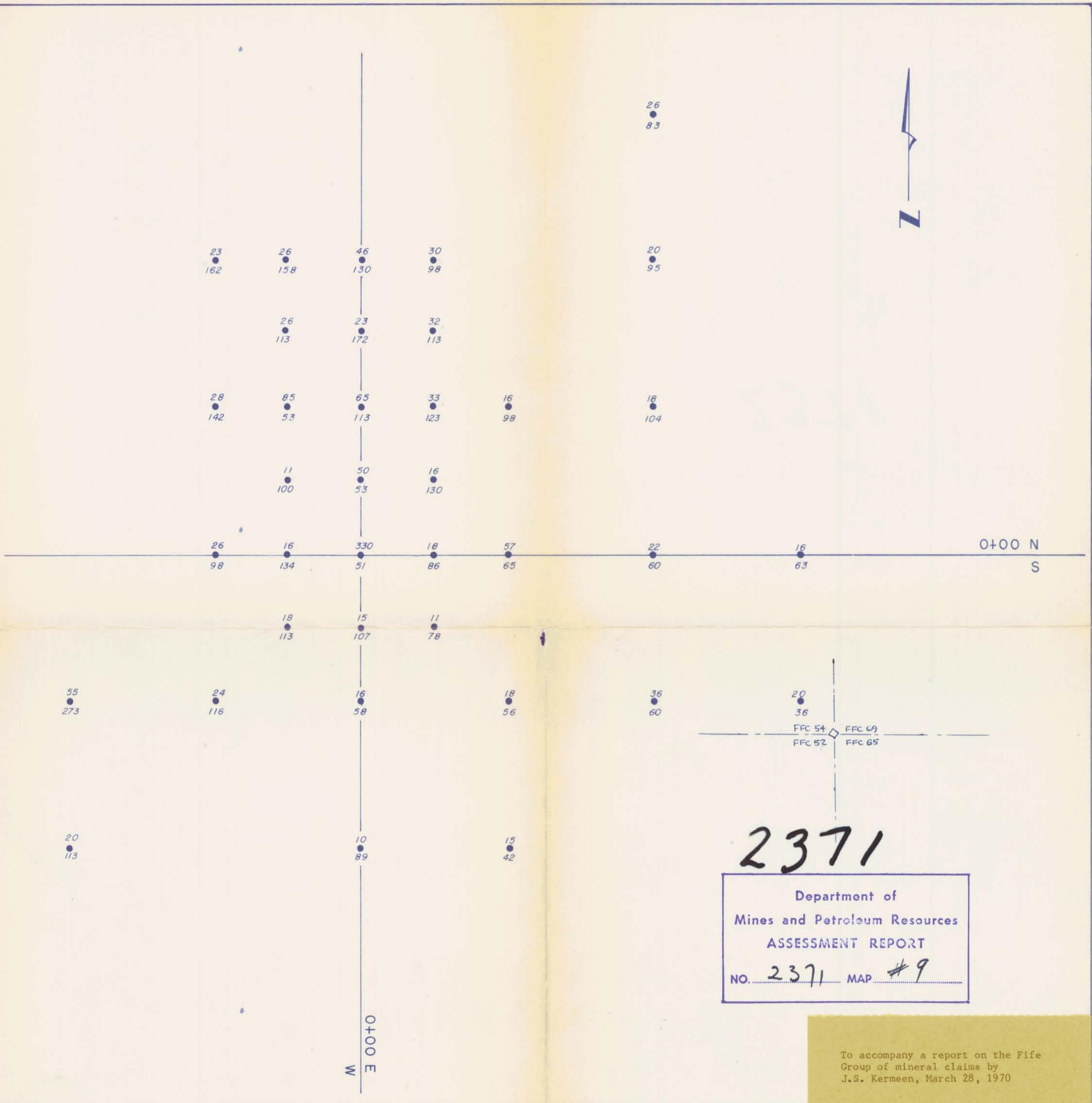
To accompany a report on the Fife Group of mineral claims by J.S. Kermeen, March 28, 1970

J.S. KERMEEN P.Eng.  
 CONSULTING GEOLOGICAL ENGINEER  
 GRAND FORKS, B.C.  
*J.S. Kermeen*

BOUNDARY EXPLORATION LTD.  
 FIFE GROUP  
 CHRISTINA LAKE, B.C.

INSTRUMENT: Scintrex Model MF-1 (Fluxgate)  
 READINGS: Vertical component - relative field in gammas  
 OPERATOR: J.P. Marshall & T. Nurse  
 DATES OF SURVEY: .....1970

MAGNETOMETER SURVEY  
 "N" AREA  
 SCALE: 1" = 200'  
 JANUARY 1970



2371

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP #9

To accompany a report on the Fife  
Group of mineral claims by  
J.S. Kermeen, March 28, 1970

J.S. KERMEEN P. Eng.  
CONSULTING GEOLOGICAL ENGINEER

GRAND FORKS, B.C.

*J.S. Kermeen*

78 (ppm Cu)  
●  
92 (ppm Zn)

BOUNDARY EXPLORATION LIMITED

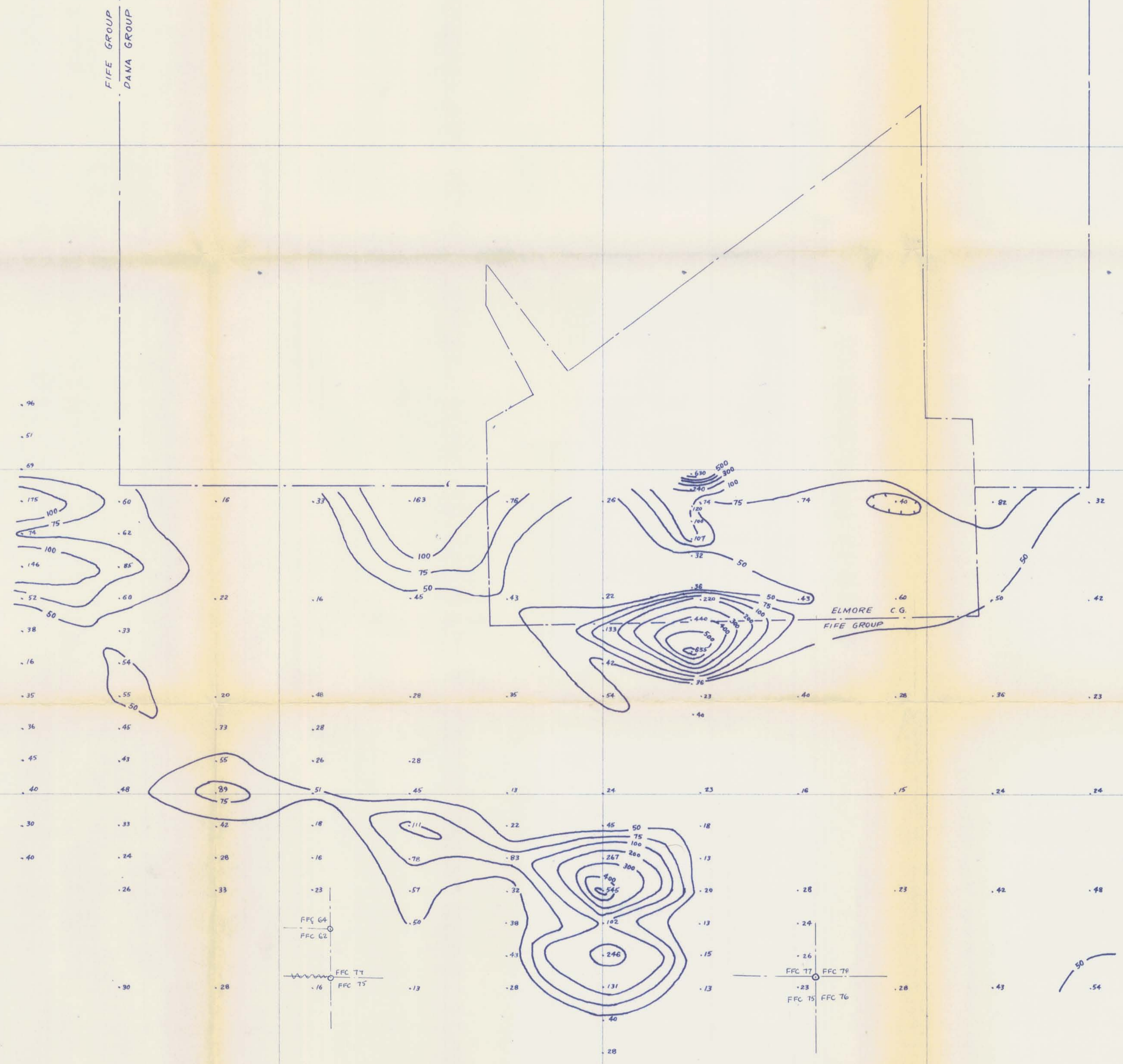
FIFE GROUP

CHRISTINA LAKE, B.C.

"M" AREA

SOIL SAMPLES

SCALE - 1" = 100' NOVEMBER 1969



2371

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP 426

To accompany a report on the Fife  
Group of mineral claims by  
J.S. Kermeen, March 28, 1970

J. S. KERMEEN P. Eng.  
CONSULTING GEOLOGICAL ENGINEER  
GRAND FORKS, B.C.  
*J. Kermeen*

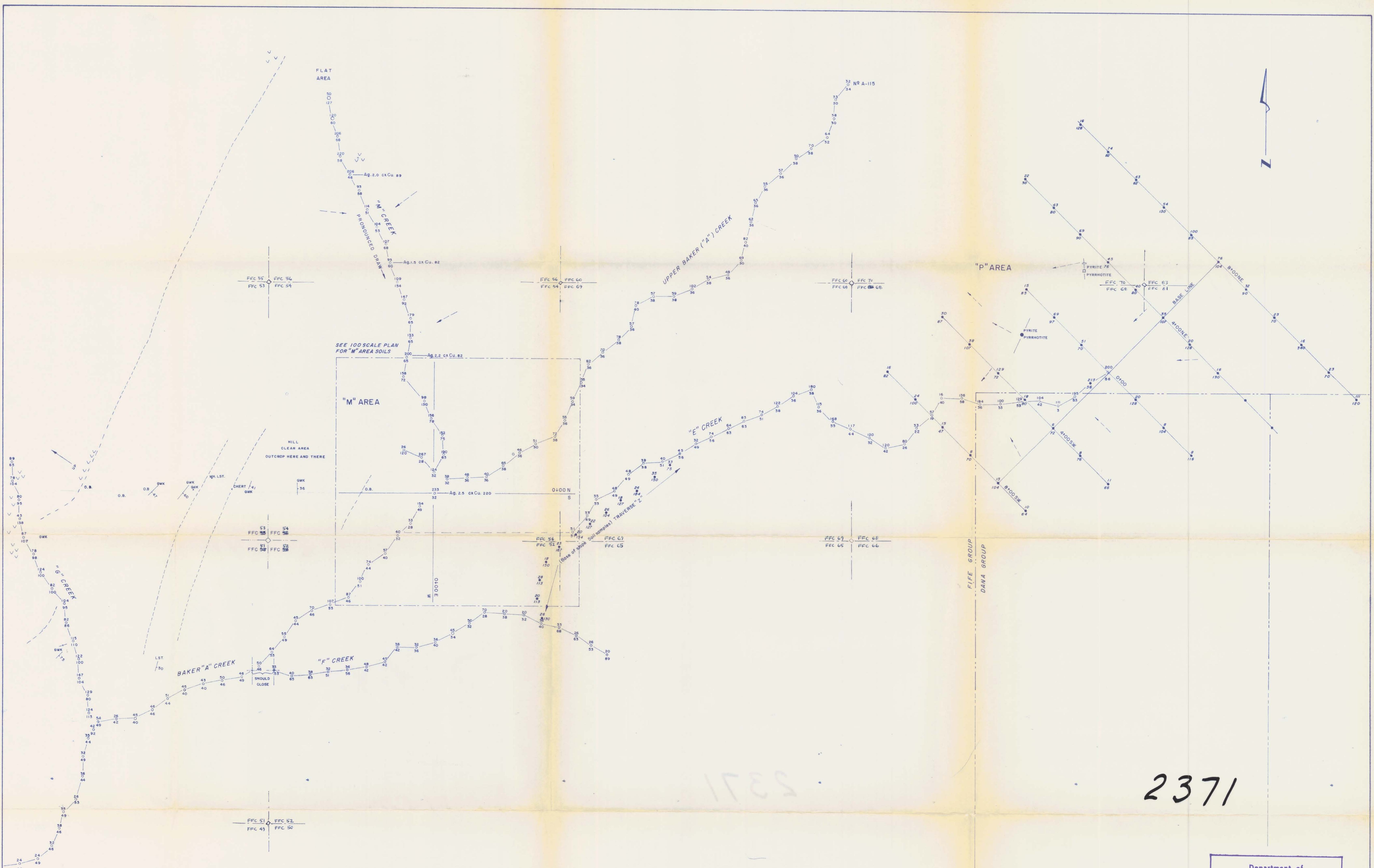
SOIL SAMPLE ANALYSES: .75 ppm. Copper  
CONTOUR INTERVAL: AS INDICATED

BOUNDARY EXPLORATION LTD.  
FIFE GROUP  
CHRISTINA LAKE B.C.

SAMPLES COLLECTED BY: J.P. Marshall, N.F. Form.  
ANALYSES: TOTAL EXTRACTION-ATOMIC ADSORPTION BY CHEMEX LABORATORIES  
DATES OF FIELD WORK: .....

GEOCHEMICAL SURVEY  
(COPPER)  
"N" AREA  
SCALE: 1"=200'  
JANUARY 1970





1785

2371

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP #5

To accompany a report on the Fife Group of mineral claims by J.S. Kermeen, March 28, 1970

J. S. KERMEEN P. Eng.  
CONSULTING GEOLOGICAL ENGINEER  
GRAND FORKS, B.C.

OWK GREYWACKE  
LST LIMESTONE  
SYENITE  
O.B. OVERBURDEN

STREAM SEDIMENT SAMPLES 78 (PPM CU)  
92 (PPM ZN)  
SOIL SAMPLES 78 (PPM CU)  
92 (PPM ZN)  
NOTE: Analyses for other metals as shown on plan  
Direction of surface drainage

BOUNDARY EXPLORATION LTD.  
FIFE GROUP  
CHRISTINA LAKE B.C.

FIELD SAMPLING BY: J.P. Marshall, P. Verigin, N. From  
ANALYSES: Total extraction, Copper & Zinc, atomic adsorption by CHEMEX LABORATORIES  
DATES OF FIELD WORK: .....

GEOCHEMICAL SURVEY  
"M" & "P" AREAS, UPPER BAKER CREEK  
"G" "E" "F" & "M" CREEKS  
SCALE: 1" = 200'  
NOVEMBER 1969



2371

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP #3

To accompany a report on the Fife  
Group of mineral claims by  
J.S. Kermeen, March 28, 1970

J. S. KERMEEN P. Eng.  
CONSULTING GEOLOGICAL ENGINEER  
GRAND FORKS, B.C.  
*J. S. Kermeen*

STREAM SEDIMENT SAMPLES  
OFF SET REFERENCE  
10 (PPM Cu)  
0.20 (PPM Pb)  
30 (PPM Zn)  
0+00

BOUNDARY EXPLORATION LTD.  
FIFE GROUP  
CHRISTINA LAKE B.C.

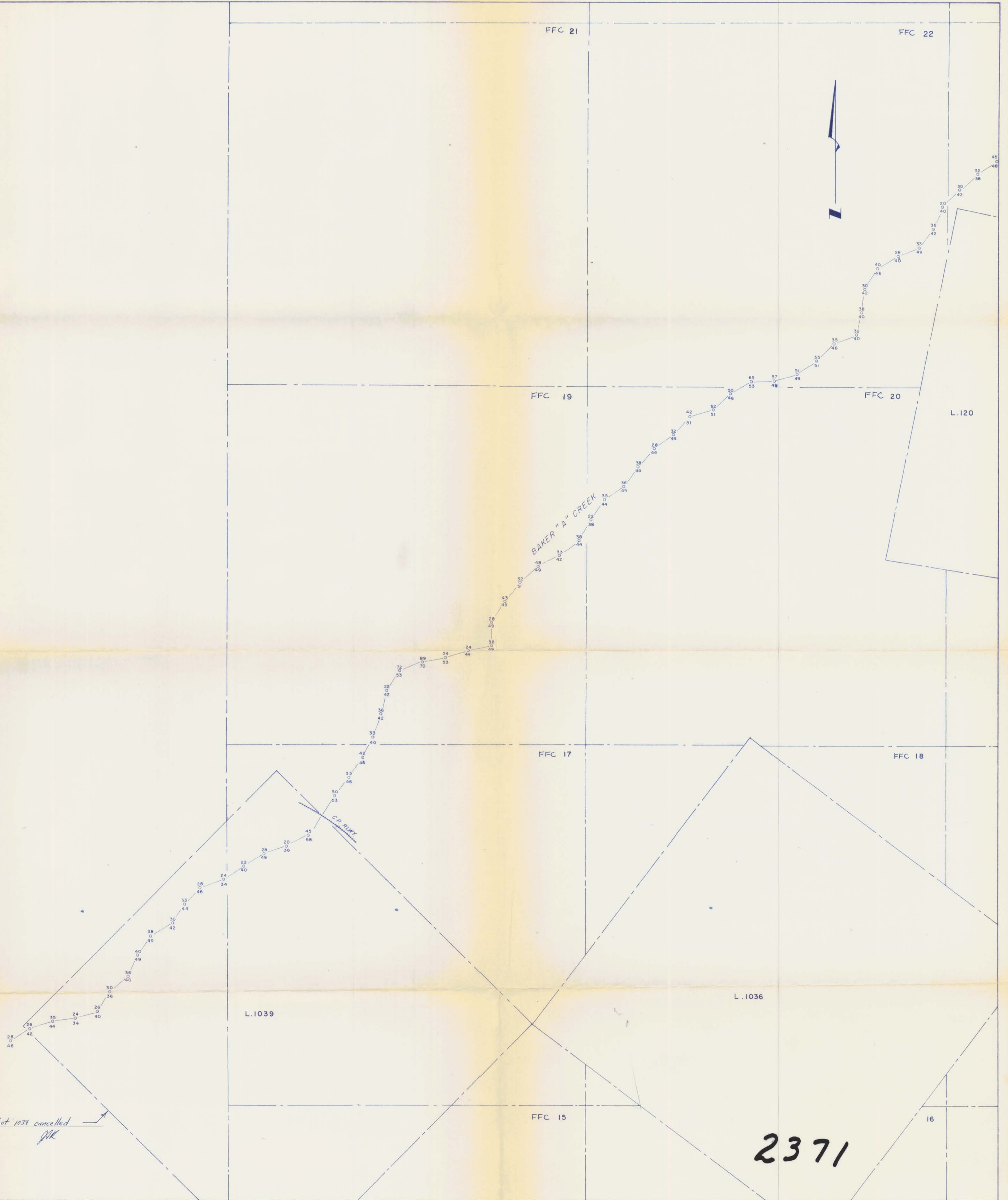
FIELD SAMPLING BY: J.P. Marshall, N. Freen  
ANALYSES: Total extraction, atomic adsorption by CHEMEX LABORATORIES  
DATES OF FIELD WORK: .....

GEOCHEMICAL SURVEY  
SUTHERLAND "B" CREEK,  
MAIDA "C" CREEK & ITALY "D" CREEK  
SCALE: 1" = 200'  
MARCH 1970

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP #4

To accompany a report on the Fife  
Group of mineral claims by  
J.S. Kermeen, March 28, 1970

Note: Lot 1039 cancelled  
JK



J.S. KERMEEN P.Eng.

CONSULTING GEOLOGICAL ENGINEER  
GRAND FORKS, B.C.

*J.S. Kermeen*

STREAM SEDIMENT SAMPLES 78 (PPM CU)  
0 92 (PPM ZN)

BOUNDARY EXPLORATION LTD.

FIFE GROUP

CHRISTINA LAKE B.C.

FIELD SAMPLING BY: J.P. Marshall, P. Verigin

ANALYSES: Total extraction, atomic adsorption by CHEMEX LABORATORIES

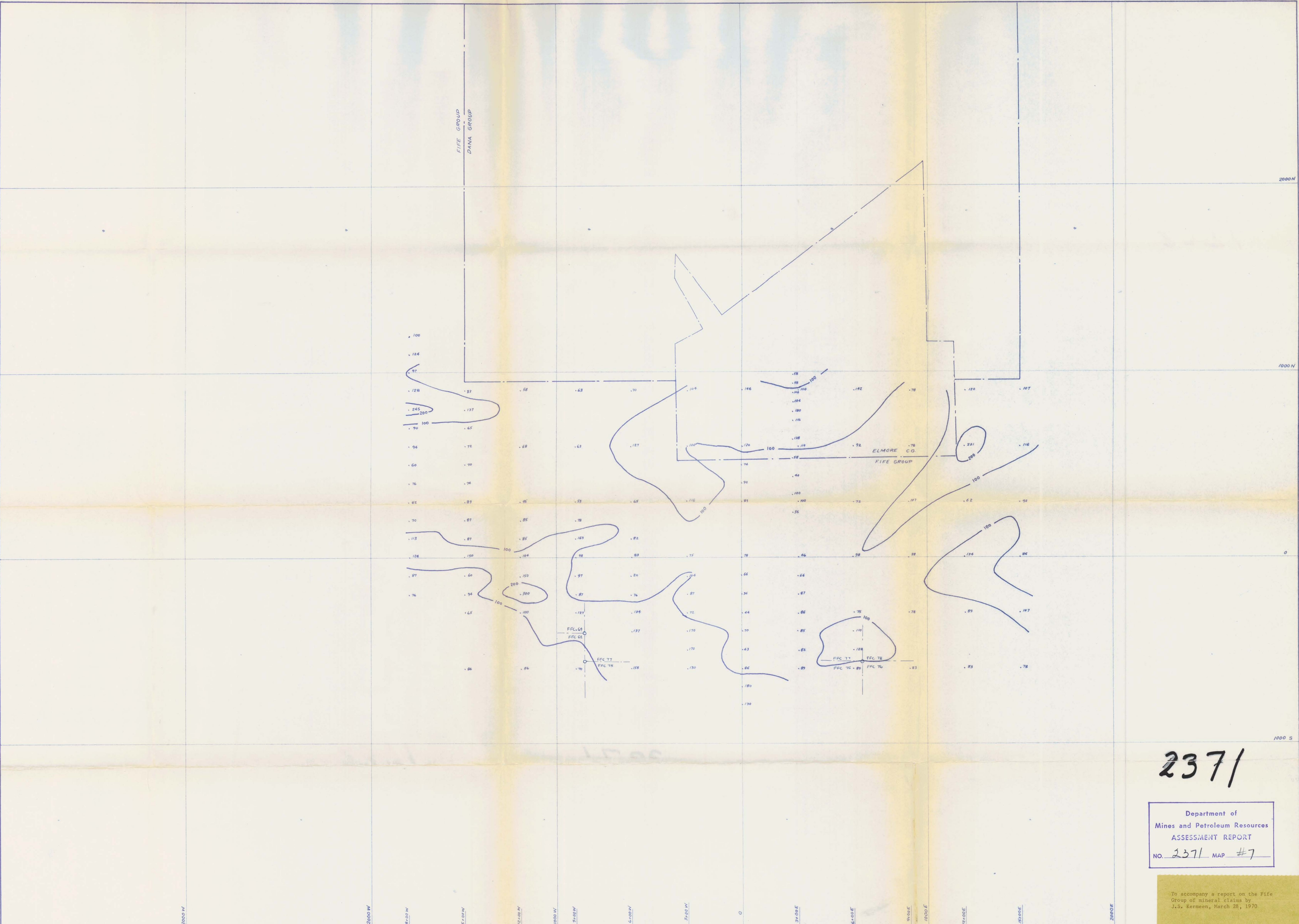
DATES OF FIELD WORK

GEOCHEMICAL SURVEY

LOWER BAKER CREEK

SCALE: 1"=200'

NOVEMBER 1969



2371

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 2371 MAP #7

To accompany a report on the Fife  
Group of mineral claims by  
J.S. Kermeen, March 28, 1970

J. S. KERMEEN P. Eng.  
CONSULTING GEOLOGICAL ENGINEER  
GRAND FORKS, B.C.  
*J. Kermeen*

SOIL SAMPLE ANALYSES: 130 ZINC  
CONTOUR INTERVAL: AS INDICATED

BOUNDARY EXPLORATION LTD.  
FIFE GROUP  
CHRISTINA LAKE B.C.

SAMPLES COLLECTED BY: *J.R. Marshall, N. From*  
ANALYSES: Total extraction-atomic adsorption-by CHEMEX LABORATORIES  
DATES OF FIELD WORK: .....

GEOCHEMICAL SURVEY  
(ZINC)  
"N" AREA  
SCALE: 1"=200'  
JANUARY 1970