ASSESSMENT REPORT - BENCH TOO, BENCH DYNO, SUNDAY, TARA LEE, CONNIE, KAY1 KAY2, KAY3, KAY4, and KAY5 CLAIMS

FORT STEELE M.D.

N.T.S. M82 J/2W

LAT. 50° 5' LONG. 114° 57'

GEOPHYSICAL MAGNETOMETER SURVEY
GEOCHEMICAL SURVEY
Period: May 29, 1980 to June 21, 1980

OWNER: Frank Moore
OPERATOR: C. F. Mineral Research Ltd.

Kelowna, B.C.
September 30, 1980

Consultant: C. Fipke
Author: L. Johnson

TABLE OF CONTENTS

	Page
INTRODUCTION	1
LOCATION AND ACCESS	1
RELIEF	1-2
GEOLOGY	2
METHODS OF SURVEYS	2-3
RESULTS OF SURVEYS	5-6
CONCLUSIONS	6-7

APPENDICES

-A- Statement of Expenditues

-B- Statement of Qualifications

-C- Mining Receipt #808442G

MAPS

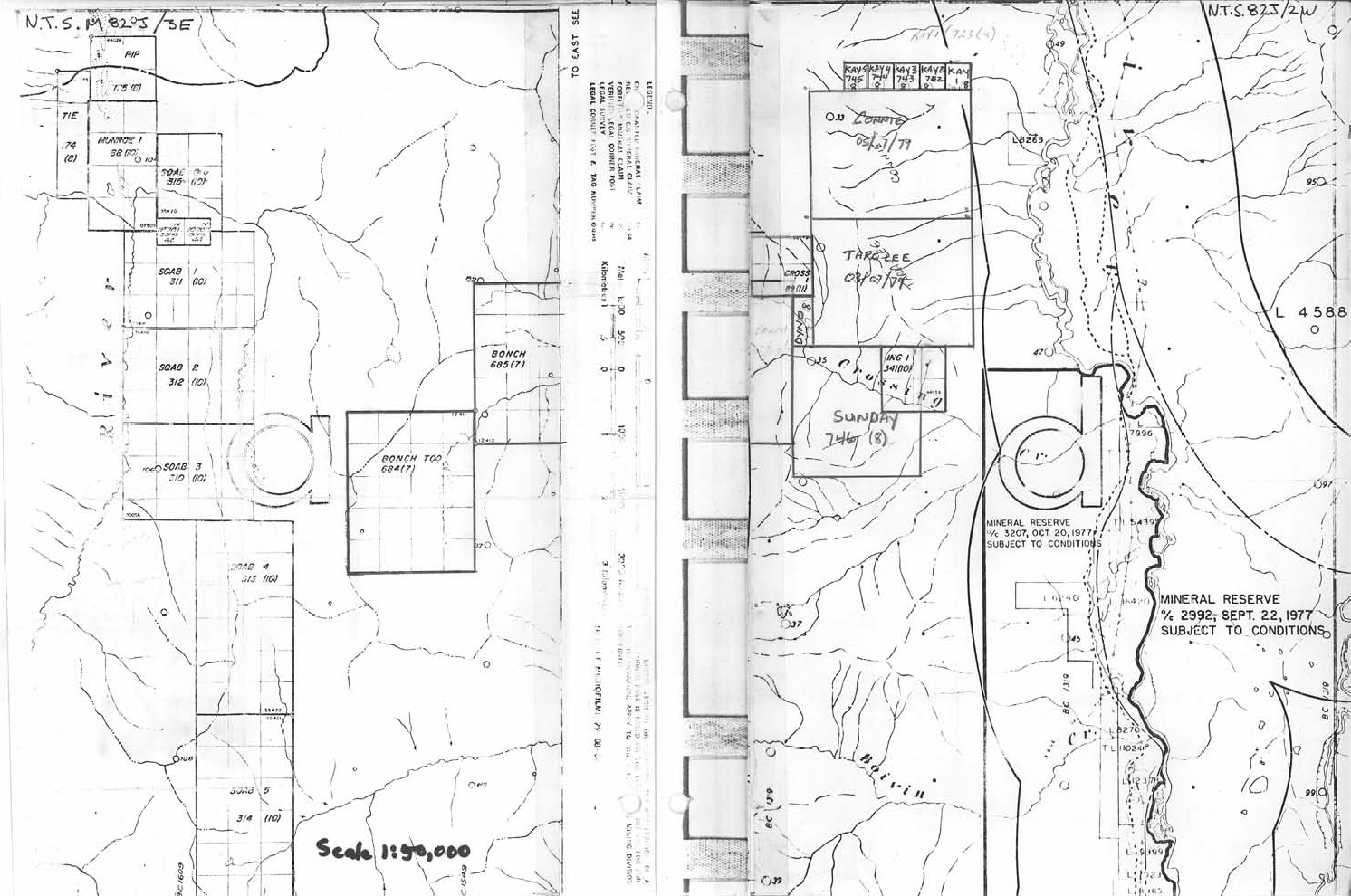
Figure 1 Location Map

Figure 2 Electromagnetic Survey

Figure 3 Resistivity Survey

Figure 4 Magnetic Survey

Figure 5 Geochemical Survey



N.T.S. M 82°J/3E
RIP
175 (6)
TIE
74 (8)
MUNROE I
88 (10)
SOAB 315
SOAB 1
311 (10)
SOAB 2
312 (10)
SOAB 3
310 (10)
SOAB 4
313 (10)
SOAB 5
314 (10)
BONCH
685(7)
BONCH TOO
684(7)
River
Scale 1:50,000
TO EAST SEE
LEGEND
N.T.S. 82J/2W
KAY5 745
KAY4 744
KAY3 743
KAY2 742
KAY 1
CONNIE
TAROZEE
CROSS 1
DYNO 8
ING 1
341(10)
SUNDAY
746 (8)
Crossing
Boivin
L 4588
L 8269
L 7996
MINERAL RESERVE
% 3207, OCT 20, 1977
SUBJECT TO CONDITIONS
MINERAL RESERVE
% 2992, SEPT. 22, 1977
SUBJECT TO CONDITIONS
BC 1319

INTRODUCTION

C. Fipke assisted by E. Birkland located the claims and C. F. Mineral Research is presently operator of the claims group owned by Frank Moore of Kelowna.

A DIGHEM airborne electromagnetic/resistivity/magnetic survey totalling 264 line-km was flown over the claims group on June 6, 1980.

C. F. Mineral Research Ltd. collected 72 samples of soil, glacial & stream sediments and these were assayed by Bondar-Clegg & Co. Ltd. of North Vancouver, B.C.

LOCATION AND ACCESS

The eleven claims are located in the Rocky Mountains of Southeastern British Columbia in the East Kootenay District not far from the village of Elkford (see figure 1). The claims group lie near the head waters of Crossing Creek, approximetely 5.8 kilometres northwesterly of the confluence of Crossing Creek and the Elk River. Access is by 8.1 kilometres of four wheel drive road and by about 2.4 kilometres of easy walking. The N.T.S. reference is M82 J/2W.

RELIEF

The topography is rugged and typical of the Rocky Mountains. Relief reaches 1600 metres. Cliffs with scarps

more than 100 metres high are common. Cirques and hanging valleys are also common throughout the surrounding area, indicating a history that includes glacial activity. At lower elevations the slopes are covered with drift, talus, dead falls and coniferous vegetation.

GEOLOGY

The steep Rocky Mountain outcrops consist of tightly N.N.W. folded and thrust faulted Permian silty dolomites, cherts, phosphorites and sandstones of the Rocky Mountain Group. Kimberlitic diatremes are recently reported to intrude the sediments in the vicinity Cross and Ing claims.

SCOPE AND METHOD OF PRESENT INVESTIGATION

The object of the present study was to evaluate whether any copper, zinc sulphide mineralization in the area is a result of a talus or in place body or whether mineralization entered the claims through N.S. regional glaciation. Therefore geochemical samples were collected in talus on lines that were cut and blazed in the field at the base of the talus glacial drift contact. In addition geochemical samples were collected on selected N-S and E-W lines in glacial drift to establish whether mineralization entered the claims via glaciation.

A DIGHEM airborne survey was also carried out to test the region for magnetic, resistivity, or electromagnetic anomalies.

METHOD OF SURVEYS

1) AN AIRBORNE ELECTROMAGNETIC/RESISTIVITY/MAGNETIC SURVEY.

The Lama C-GDEM jet helicopter flew an average airspeed of 55 km/hr and EM bird height of 47 m. Ancillary equipment consisted of a Geometrics 803 magnetometer with its bird at an average height of 67 m., a Sperry radio altimeter, Geocam sequence camera, Barringer 8-channel hot pen analog recorder, and a Geometrics G-704 digital data acquisition system with a Cipher 70 7-track 200 bpi magnetic tape recorder. The analog equipment recorded four channels of EM data at approximately 900 H2, two ambient EM noise channels (for the standard and whitetail receivers), and one channel each of magnetics and radio altitude.

ELECTROMAGNETICS

The digital equipment recorded the EM data with a sensitivity of 0.2 ppm/bit, the magnetic field to one gamma/bit.

Strong conductors (ie grades 5 and 6) are characteristic of massive sulphides or graphite. Moderate conductors (grades 3 and 4) typically reflect sulfides of a less massive character or graphite, while weak bedrock conductors may not respond to ground EM equipment using frequencies less than 2000 HZ.

RESISTIVITY

The resistivity map often yields more useful information on conductivity distributions than the EM map. In comparing the EM and resistivity maps,

a) The resistivity map portrays the absolute value of the earth's resistivity.

b) The EM map portrays anomalies in the earth's resistivity. An anomaly is a charge from the norm and so the EM map displays anomalies,

   i) over narrow, conductive bodies

   ii) over the boundary zone between two wide formations of differing conductivity.

The resistivity map might be likened to a total field map and the EM map to a horizontal gradient in the direction of flight. Because gradient maps are usually more sensitive than total field maps, the EM map therefore is preferred in resistive areas. However, in conductive areas, the absolute character of the resistivity map usually causes it to be more useful than the EM map.

MAGNETICS

An EM anomaly with magnetic correlation has a greater likelihood of being produced by sulfides than one that is non-magnetic. However, sulfide are bodies maybe non-magnetic as well as magnetic.

The magnetometer data are recorded to an accuracy of one gamma and the digital tape is processed by computer to yield a standard field magnetic map contoured at 25 gamma intervals.

GEOCHEMICAL SURVEY

As we were concerned with the great quantities of glacial cover possibly diluting out any geochemical response attributible to underlying base metals, the samples we collected from holes dug about 4 feet deep. As a additional precaution against dilution 40 lbs of 6-mesh glacial drift and/or talus samples were collected at each site. If the conventional samples did not give indications, it was thought that it might in the future be necessary to eliminate the potential dilution problem by removal of the dilutants through a system of heavy mineral concentration of the bulk samples. Such heavy mineral concentrates after analysis could lead to the detection of a buried mineralized source.

Due to the great weight of the bulk samples as well as the steep terrain covered in fallen trees it was necessary to use a mule to assist in packing out the samples.

RESULTS OF THE SURVEYS

1) AIRBORNE ELECTRO MAGNETIC/RESISTIVITY/MAGNETIC SURVEY

The survey consists of a line grid flown in an east-west

direction along lines spaced at 200 metres. The resistivities in the survey area are generally in excess of 1000 ohm-m. A notable exception is a high conductivity zone with values as low as 100 ohm-m, at the east edge of the flying block.

The magnetic data is quiet with the majority of weak anomalies resulting from the severe aircraft manoeuvering which was necessary for the surveying of this particularly mountainous terrain. The magnetic map indicates that no significant anomalies are present in the survey area. However, there are a few weak anomalies which may reflect features near the surface.

The EM map does not contain any certain bedrock conductors.

2) GEOCHEMICAL SURVEY AND METHOD

0.5 grams of -80 mesh portions of soil talus samples collected from B-2 horizons were digested in a mixture of perchloric and nitric acids and sprayed on an AA; Cu and Pb were routinely determined by the Bondar-Clegg Company Labroatory in Vancouver, B.C.

The geochemical lab results from Bondar-Clegg indicate no samples which could be construed to be anomalous in copper or lead.

CONCLUSIONS

The results of the air borne electromagnetic survey showed no significant EM or magnetic anomalies in the claims group. There is an apparent low resistivity zone to the

east of the claim block; however, no geochemical anomalies substantiate that the anomaly is due to base metal sulfides.

The geochemical results plotted on an overlay sheet bore little correlation to the magnetic or EM survey and in fact none of the geochemical samples analyzed appeared anomalous.

RECOMMENDATIONS

The 35 lb samples collected as precautionary measure should be heavy mineral concentreated & geochemically analyzed, especially near the east part of the claims. In this way it could be established whether or not abundant glacial drift, talus, and soil components of the conventional samples analyzed are supressing the geochemical detection of small quantities of base metal sulfides.

APPENDIX A

STATEMENT OF EXPENDITURES

Geophysics

Total cost of short line EM-Resistivity		
i)	Magnetometer	$12,535.40
ii)	Mobilization of helicopter & Dighem II equipment to area	3,304.75

Geochemistry

i)	Mobilization of E. Birkeland from Vancouver to Elkford RT	125.00
ii)	Wages: E. Birkland May 29-June 21/80	1,550.00
	D. Chrona of Elkford June 1-21/80	1,000.00
	Albert Bothamanley (3½ days)	210.00
iii)	Room and board at Elkford	690.00
iv)	2 days supervision C. Fipke geologist	600.00
v)	Rental 1 mule	200.00
vi)	Bondar-Clegg geochem. cost	208.80
vii)	Report writing by geologist L. Johnson	225.00
viii)	Drafting of results & copies	70.00
ix)	Rental of 1-4 wheel drive May 29-June 21/80	700.00
x)	Sample bags	18.00
xi)	Typing, photcopying, compilation etc. of report	50.00
		$21,486.95

Amount requested for assessment $20,400.00

- Please apply any approved value inexcess of assessment to a PAC account.

Thank You

C. Fipke.

RE: STATEMENT OF QUALIFICATIONS

May 12, 1980

The Mining Recorder
The Golden Mining Division
Victoria, B. C.

This is to certify that the geochemical geophysical work claimed in this report was carried out by Eric Birkeland, a qualified magnetometer operator of the following experience:

1966 - 67	Prospecting and placer gold mining in Kimberly, B.C.
1968	Engineering and drafting assistant at Cominco Mine at Pine Point, N.W.T.
1969	I.P., magnetometer and gravity instrument operator for Mercury Exploration (subsiduary of Texas Gulf) in Kootaney area.
1970	Engineering, drafting and surveying assistant for Cominco at Kimberly, B. C.
1978	Magnetometer and geochem technican for McIntyre Mines in Yukon under Arnie Birkeland, formerly of McIntyre.
1979 - 80	Magnetometer and geochem technican for C.F. Mineral Research Ltd. of 263 Lake Avenue, Kelowna, B. C.

I, C. E. Fipke, am a BSc. Honors geology graduate of the University of British Columbia. I have been employed as a field geologist for 10 years and am currently president of C.F. Mineral Research Limited. The latter company has specialized over the past three years in heavy mineral research, laboratory and exploration work. C.F. Mineral Research Limited is known by Dr. P. Christopher of the British Columbia Department of Mines as well as by Falconbridge and other organizations.

Yours truly,

Charles E. Fipke

C. Fipke

APPENDIX B

RE: STATEMENT OF QUALIFICATIONS

The Mining Recorder
The Fort Steele Mining Division
Victoria, B.C.

October 2, 1980

Dear Sirs;

This is ceritify that this assessment report was prepared by Larry Johnson in conjunction with C.E. Fipke a BSc. Honors geology graduate of the University of B.C..

I Larry Johnson am also a BSc. geology graduate of the University of British Columbia. I was employed as a geologist for a summer on Vancouver Island with Pechiney Development Ltd. I am currently a chartered accoutant working in public practise and in this capacity have worked with C.F. Mineral Research Ltd. for the past two years. I have also assisted this company in the field in South eastern British Columbia this past summer in exploration work.

Yours truly;

Larry Johnson

L. Johnson.

APPENDIX C

Suspense Mining

PROVINCE OF BRITISH COLUMBIA

RECEIPT No. 808442 G

THE SUM OF One Thousand and twenty — 00/100 DOLLARS ($ 1,020.00)

ON ACCOUNT OF Geophysical/Geochem survey - Tarafee-Connie claims

RECEIVED FROM Charles Fipke June 27 1980

263 Lake Shore

Kelowna BC V1Y 5W6

Cranbrook
ISSUING OFFICE

J M Anderson
SIGNING OFFICER

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-352667

Geochemical Lab Report

Extraction

Method

Fraction Used

Report No. 20 - 1162 FIPKE

From C.F. Mineral Research

Date July 16, 19 80

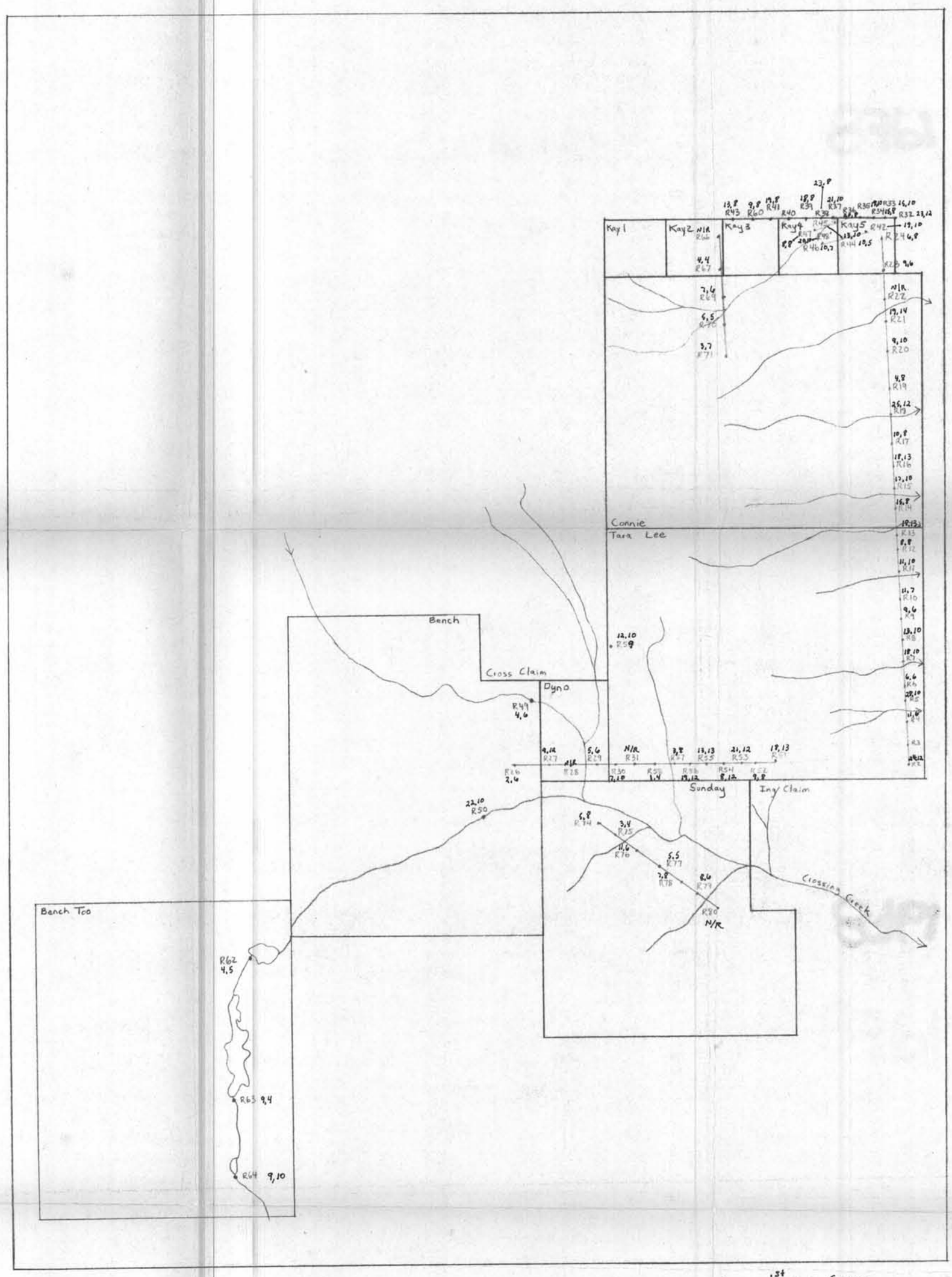
SAMPLE NO.	Cu ppm	Pb ppm			SAMPLE NO.	Cu ppm	Pb ppm		
R 2	24	12	✓		R 36	20	8	✓	
4	11	6	✓		37	21	10	✓	
5	28	10	✓		38	23	8	✓	
6	6	6	✓		39	18	8	✓	
7	18	10	✓		41	19	8	✓	
8	13	10	✓		42	19	10	✓	
9	9	6	✓		43	13	8	✓	
10	11	7	✓		44	10	5	✓	
11	11	10	✓		45	13	10	✓	
12	8	8	✓		46	10	7	✓	
13	18	13	✓		47	8	8	✓	
14	15	8	✓		48	20	10	✓	
15	17	10	✓		49	4	6	✓	
16	18	13	✓		50	22	10	✓	
17	10	8	✓		51	18	13	✓	
18	25	12	✓		52	9	8		
19	4	8	✓		53	21	12	✓	
20	9	10	✓		54	8	12	✓	
21	19	14	✓		55	13	13	✓	
23	9	6	✓		56	19	12	✓	
24	6	8	✓		57	3	8	✓	
25	18	8			58	1	4	✓	
26	2	6			59	12	10	✓	
27	9	12	✓		60	9	8	✓	
29	5	6			61	16	7		
30	7	10	✓		62	4	5	✓	
32	23	12	✓		63	9	4	✓	
33	15	10	✓		64	9	10	✓	
34	15	8	✓		65	5	5		
35	19	10	✓		67	4	4	✓	

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 20 - 1162

SAMPLE NO.	Cu ppm	Pb ppm			SAMPLE NO.			
R 68	18	10						
69	7	6	✓					
70	5	5	✓					
71	5	7	✓					
72	22	12						
73	3	8						
74	5	8	✓					
75	3	4	✓					
76	11	6	✓					
77	5	5	✓					
78	7	8						
79	8	6	✓					



1st no. - Cu ppm.
2nd no - Pb ppm.
N/R - no results

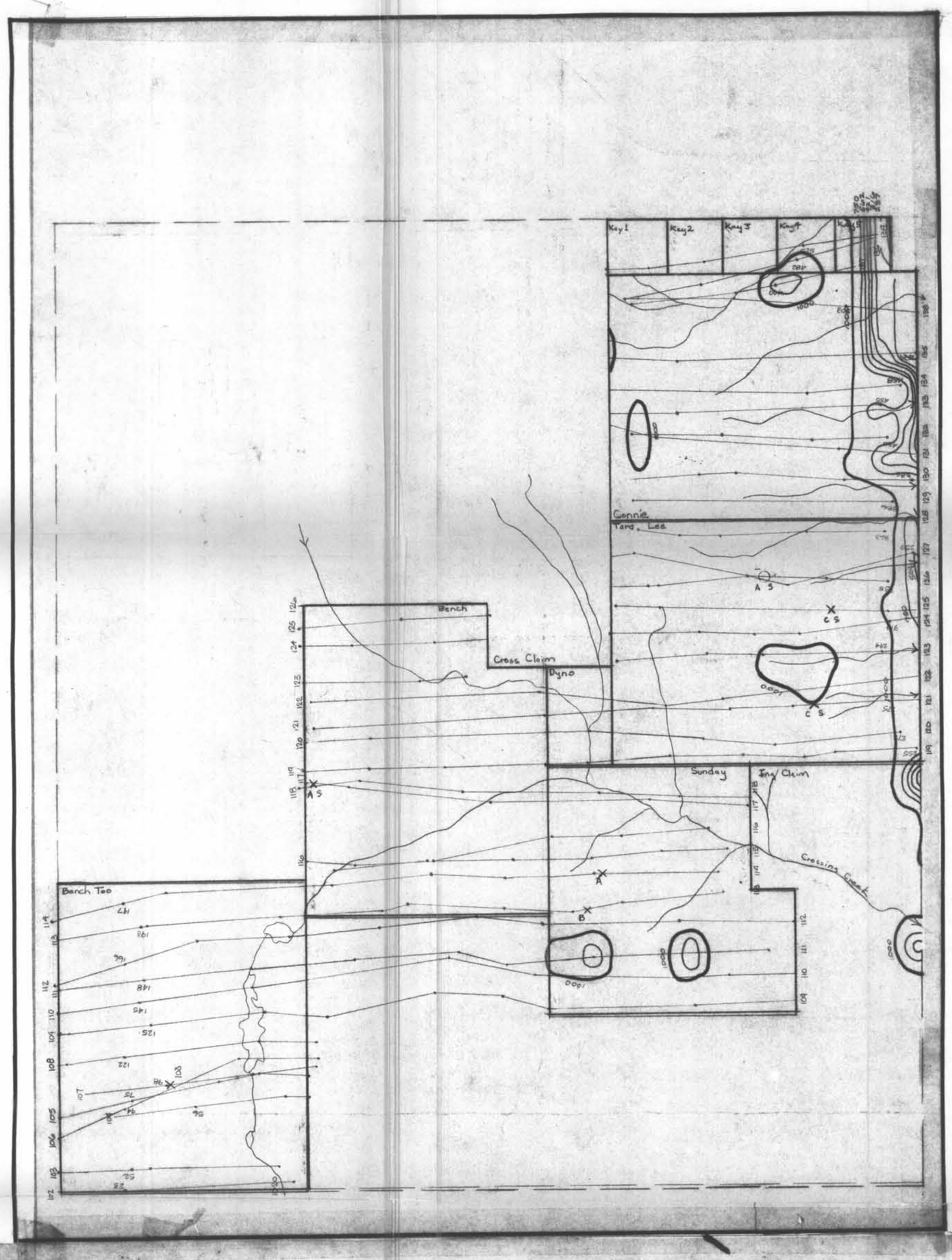
ELKFORD AREA, BRITISH COLUMBIA

GEOCHEMICAL SURVEY

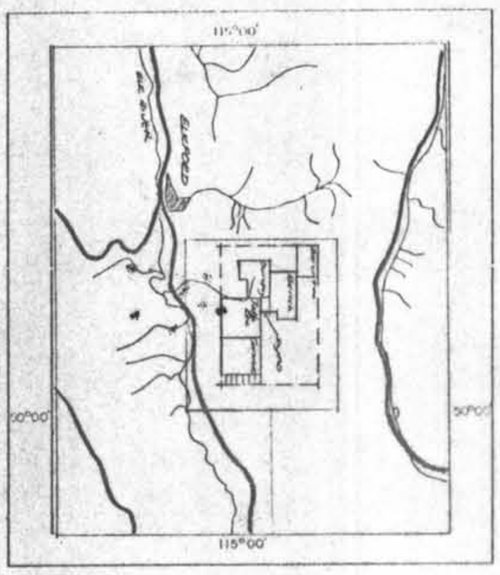
C. F. MINERAL RESEARCH LIMITED

SCALE 1:20,000

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8761
NO.



LOCATION MAP



Scale 1:250,000

DIGHEM II SURVEY

ELKFORD AREA, BRITISH COLUMBIA

RESISTIVITY

FOR

C. F. MINERAL RESEARCH LIMITED

REGISTERED PROFESSIONAL ENGINEER
D. C. FRASER
PROVINCE OF ONTARIO

SCALE 1 20,000

1/2 0 1/2 1 Miles

1 0 1 2 Kilometres

Flight line

Fiducials and numbers

LEGEND

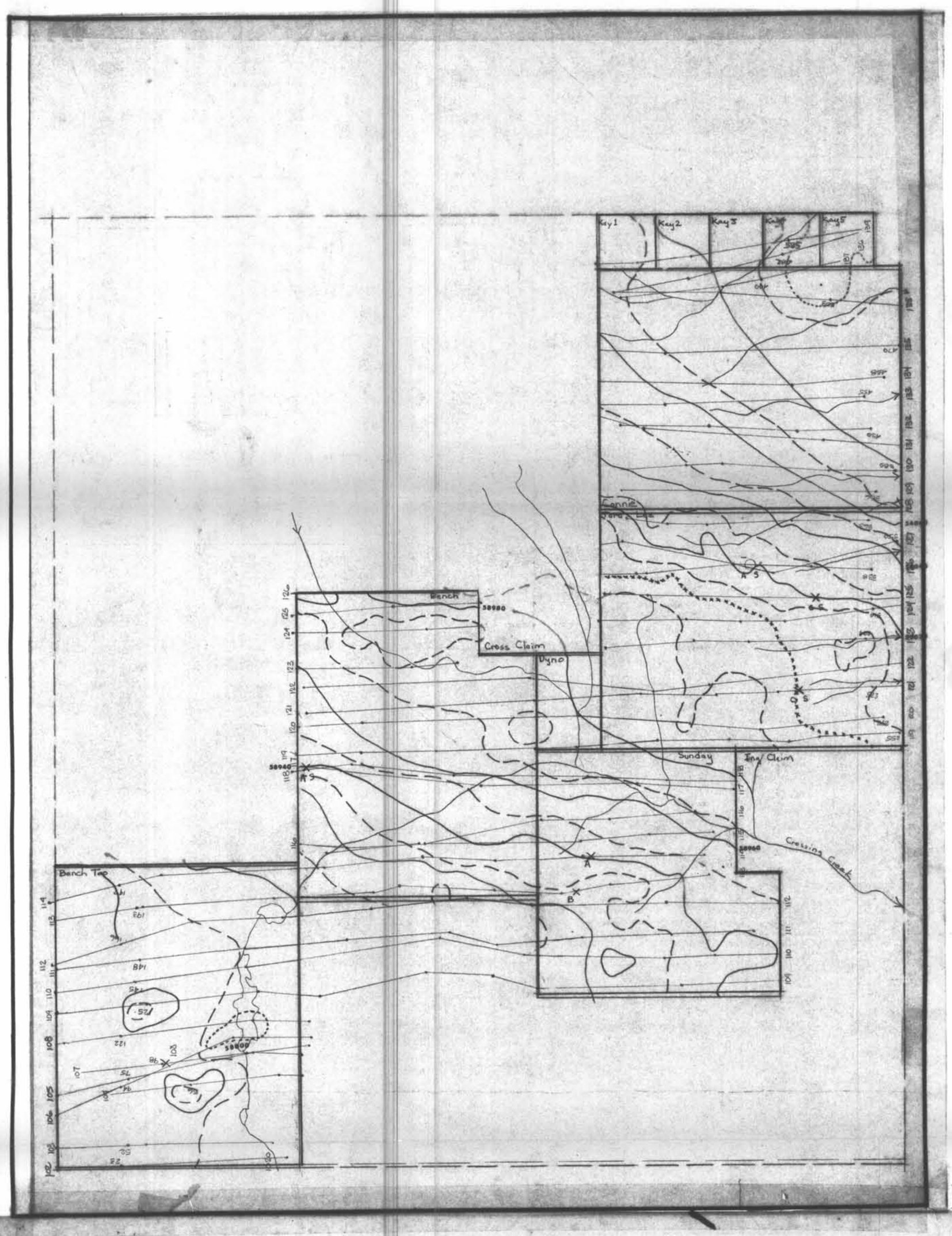
Contours in ohm - m at eight intervals per decade

100
75
56
42
31
23
17
13
10

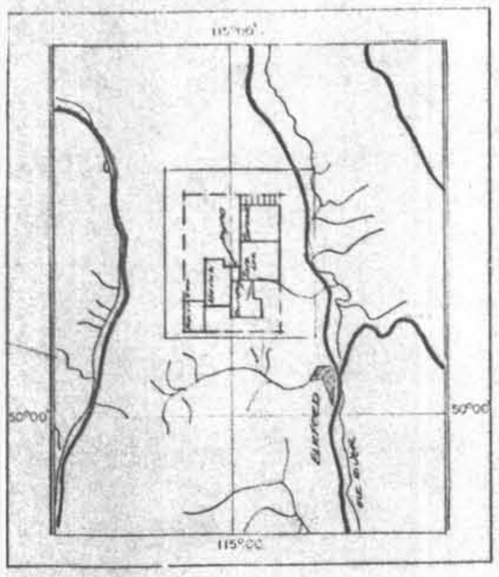
Note

The numbers face in the direction of increasing value

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8761



LOCATION MAP



Scale 1 : 250,000

DIGHEM[II] SURVEY

ELKFORD AREA, BRITISH COLUMBIA

MAGNETICS

FOR

C. F. MINERAL RESEARCH LIMITED

SCALE 1:20,000

1 0 1 2 Kilometres

1/2 0 1/2 1 Miles

Flight line

Fiducials and numbers

ISOMAGNETIC LINES

(total field)

1000 gammas

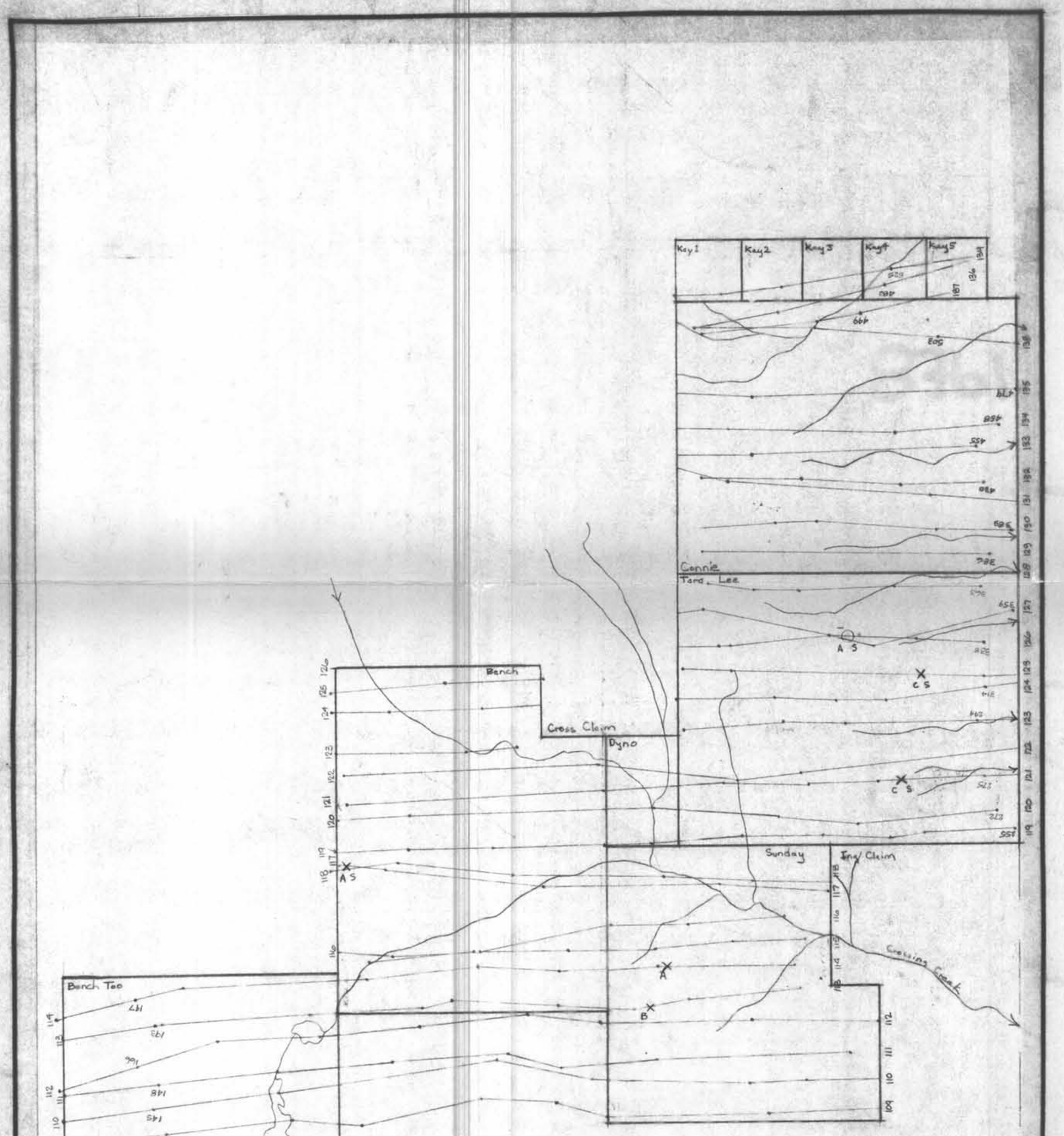
200 gammas

50 gammas

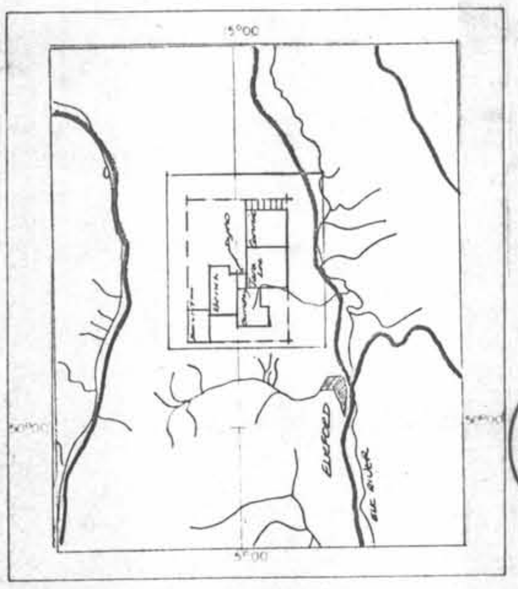
25 gammas

magnetic depression

Magnetic variation within the survey area 73°



LOCATION MAP



Scale 1 250,000

REGISTERED PROFESSIONAL ENGINEER
D. C. FRASER
PROVINCE OF ONTARIO

DIGHEM^{II} SURVEY

ELKFORD AREA, BRITISH COLUMBIA

ELECTROMAGNETICS

FOR

C. F. MINERAL RESEARCH LIMITED

Flight line

Fiducials and numbers

SCALE 1 20,000

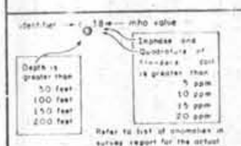
1 0 1 2 Kilometres

1/2 0 1/2 1 Miles

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8761

ANOMALY GRADE	EM GRADE SYMBOL	MHO RANGE
6	◉	≥ 100
5	●	50 — 99
4	●	20 — 49
3	●	10 — 19
2	○	5 — 9
1	○	≤ 4
	×	Possible conductor

DIGHEM anomalies are divided into six grades of conductivity - thickness product. This product in mhos is the reciprocal of resistance in ohms. The mho is a measure of conductance, and is a geologic parameter. Most swamps yield Grade 1 anomalies but highly conducting clays can give Grade 2 anomalies. The multi-coil anomaly shapes often allow surface conductors to be recognized, and these are indicated by the letter S on this map. The remaining Grade 1 and 2 anomalies could be weak bedrock conductors. The higher grades indicate increasingly higher conductances. Examples: The ice bodies of the Meguss River camp yield Grade 4 anomalies, while Mathias and Whistle give Grade 5. Graphite and sulphides can span all grades but, in this survey area, field work may show that the different grades indicate different types of conductors.



The actual mho value is plotted beside the EM grade symbol. The letter is the anomaly identifier. The horizontal rows of dots indicate anomaly amplitude on the flight record, and the vertical column gives the estimated depth. This depth may be unreliable because the stronger part of the conductor may be deeper or to one side of the flight line, or because of a shallow dip or conductive overburden effects.

	Conductor axis
S	Probable surface response
S?	Possible surface response
L	Probable line (power, telephone, pipe, or fence)
L?	Possible line
?	Questionable anomaly
○	Apparent thickness ≥ 10 m.
	Dip
1300γ	Direct magnetic correlation of 100 gammas

DIGHEM maps are designed to provide a correct impression of conductor quality by means of the conductance grade symbols. The symbols can stand alone with geology when planning a following program. The actual mho values are plotted for those who wish quantitative data. The anomaly ppm and depth are indicated by inconspicuous dots which should not distract from the conductor patterns, while being helpful to those who wish this information. The map provides an interpretation of all conductors in terms of length, strike direction, conductance and depth. The accuracy is comparable to an interpretation from a ground EM survey having the same line spacing.