GEOPHYSICAL REPORT ON E.M. AND MAGNETIC SURVEYS OF THE FETISH PROPERTY (KINK 1-8 MINERAL CLAIMS) WOLVERINE LAKE AREA, WATSON LAKE MINING DISTRICT YUKON TERRITORY

61°25'N; 130°07'W

N.T.S. 105-G-8E

OWNER: ARCHER, CATHRO & ASSOCIATES (1981) LTD.

OPERATOR: ESSO MINERALS CANADA

By: G. COOPER

Date: January 17, 1983

This report has been examined by
the Geological Survey Division
under Section 59 of the Quartz
Mining Act and is accepted as
representation work in the amount
of $ 500.00 .

P Watson

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

091480

Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

RECEIVED
28 AUG 1983
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

OFFICE DATE STAMP

I (Name) M.J. Mariacher Occupation Office Manager

(Postal Address) Box 4127, Whitehorse, Y.T. Y1A 3S9

MAKE OATH AND SAY, THAT:-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, wotk on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Kink 1 - 8 YA69007-014

situated at 1500 m SE of Wolverine Lake Claim Sheet No. 105G/8

in the Watson Lake Mining District, to the value of at least $5,500.00

dollars, since the 7th day of September 19 82,

to represent the following mineral claims under the authority of Grouping Certificate No. _____
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

Kink 3 YA69009

one claim x 5 years = 5 claim years

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

See attached report entitled "Geophysical Report on EM and Magnetic Surveys of Kink 1-8 claims, Wolverine Lakes Area, Y.T." by G. Cooper, Esso Minerals Ltd., January 17, 1983.

Sworn before me at Whitehorse, Y.T.

this 23 day of August 19 83

Notary Public

Applicant.

Archer, Cathro & Associates (1981) Limited

TABLE OF CONTENTS

FIGURES

MAPS

INTRODUCTION

From August 28 to September 9, 1982 12.85 km of HLEM and 12.85 km of magnetometer surveying were carried out on the Fetish property, located in the Yukon (figure 1). The survey target was a Besshi-type Cu-Zn massive sulphide deposit. The purpose of the HLEM survey was to locate EM conductors which might be caused by massive sulphides. The purpose of the magnetometer survey was to outline banded iron formations known to occur on the property. The property was revisited on September 25, 1982 for the purpose of a geological assessment of the geophysical data.

PROPERTY

Claims	Record Nos.	Date of Record
Kink 1-8	YA69007-YA69014	September 7, 1982

All of the Kink claims are located in the Watson Lake Mining District.

LOCATION AND ACCESS

The property is located at latitude 61°25'N, longitude 130°07'W, approximately 16 km south of Milepost 130 on the Robert Campbell Highway (see Figure 1 following Page 1). Access is by helicopter or by a 2.0 km trail from Fetish Lake, at the south end of Wolverine Lake. Both of these lakes are suitable for float-equipped aircraft.

HISTORY

The Fetish property was discovered in June, 1973 by Archer, Cathro & Associates Ltd. on behalf of Finlayson Joint Venture (FJV), comprised of Chevron Canada Limited, Union Oil Company of Canada Ltd., Marietta Resources International Ltd., and Messrs. L.T. Clay and Harris Clay. FJV explored the showing with mapping, hand pitting, and geochemical sampling and magnetic

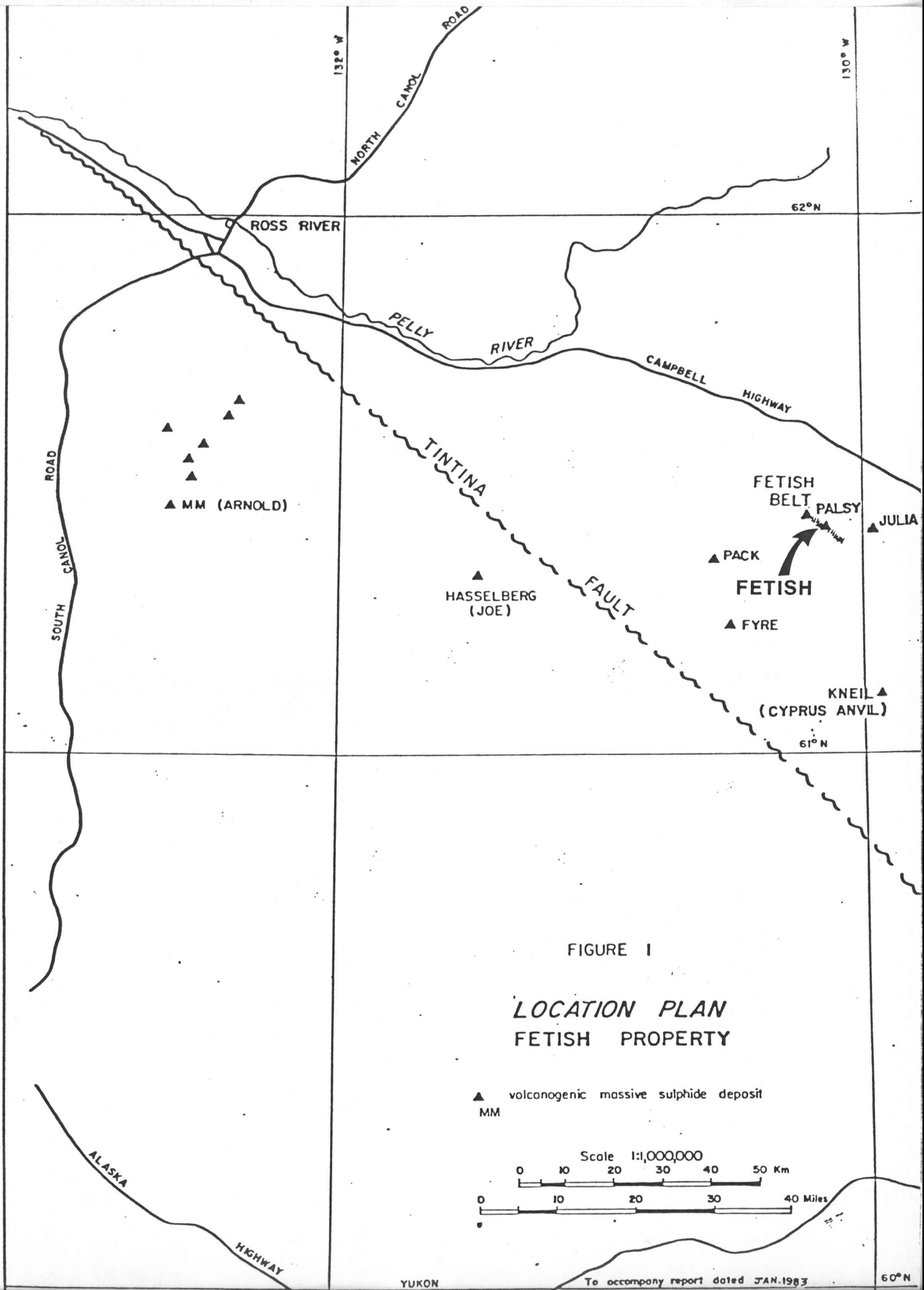


FIGURE 1

LOCATION PLAN
FETISH PROPERTY

▲ MM volconogenic massive sulphide deposit

Scale 1:1,000,000

0 10 20 30 40 50 Km

0 10 20 30 40 Miles

To accompany report dated JAN. 1983

surveys in 1973 and two drill holes (705 feet) in 1974. Drilling was necessary to determine the type of mineralization present since the host rocks have weathered deeply and recessively and all sulphides have been leached at surface. The 1974 drilling showed that banded copper-zinc-lead sulphides are conformable with foliation in a talcose schist and suggested that this occurrence might have a volcanogenic origin.

GEOPHYSICAL SURVEYS

The HLEM survey was carried out with a Scintrex SE88 Genie EM system, using a coil spacing of 100 metres and transmitting frequency ratios of 3037.5/112.5, 1012.5/112.5 and 337.5/112.5. The data is presented in profile form on maps 1 and 2.

The magnetometer survey was carried out with a Geonics G816 proton precession magnetometer. The data was corrected for diurnal variations, and is plotted in profile form on maps 3 and 4.

DISCUSSION OF RESULTS

The magnetometer survey has outlined 5 anomalies (labelled A to E on maps 3, 4 and 5). The source of these anomalies is banded iron formations.

The HLEM survey has outlined 6 conductive features (labelled 1 to 6 on maps 1, 2 and 5). The interpreted depth to these features is 12 metres. Features 1, 2 and 3 are multiple conductors which are probably caused by graphitic sediments. Features 4, 5 and 6 are single conductors. Conductor 4 has been drill tested by hole F1, which was one of two holes put down in 1974 to test geochem anomalies (see map 5, figure 2). This conductor occurs where the two shale units, encountered in hole F1, would outcrop.

No EM response is found where the sulphide mineralization would outcrop. There is also no EM response to mineralization encountered in hole F2 (see map 5, figure 3). From the description of the mineralization found in drill logs, no EM

LINE 0+00 (15m west of section)

1N

2N

IF

5

4

3

2

1

F

0.04, 1.03, 0.003 / 0.91

0.04, 1.25, 0.02 / 1.83

0.03, 1.25, 0.007 / 1.22

0.29, 0.87, 0.02 / 0.92

0.06, 0.36, 0.02
18.9 m

HOLE FI

5 QUARTZITE

4 SHALE

3 CHLORITE SCHIST

2 SERICITE, TALC, QUARTZ SCHIST

1 QUARTZ SERICITE SCHIST

IRON FORMATION

F FAULT

MINERALIZATION % Cu, % Zn, % Pb / metres

HLEM CONDUCTOR

MAG ANOMALY

0 10 20 metres

KINK (FETISH) CLAIMS

DRILL SECTION - HOLE FI

FIGURE 2

LINE 2+00 E (50m west of section)

0

IN

5

4

IF

5

F

8.0, 1.14/0.05

0.32, 0.22
4.77m

3

2

3

1

4

HOLE F2

5 QUARTZITE

4 SHALE

3 CHLORITE SCHIST

2 SERICITE, TALC, QUARTZ SCHIST

QUARTZ SERICITE SCHIST

IRON FORMATION

F FAULT

MINERALIZATION %Cu, %Zn / metres

HLEM CONDUCTOR

MAG ANOMALY

0 10 20 metres

KINK (FETISH) CLAIMS

DRILL SECTION - HOLE F2

FIGURE 3

response would be expected. The two conductors (4, 5) on line 2+00E (figure 3) which is 50 m west of the drill section, occur where the shale units encountered in hole F2 would outcrop. Therefore the shale unit is conductive and is the source of conductors 4, 5 and 6.

CONCLUSIONS

The magnetometer survey was successful in outlining banded iron formations. The EM conductors are probably caused by graphitic sediments, rather than massive sulphides.

W. G. Cooper

Gord Cooper

GC/dk

REFERENCES

Cathro, R.J. Summary Report on the Fetish Property, May 1982.

COST STATEMENT
Kink 1-8 Mineral Claims

For work done from September 7-September 9, 1982 and September 25, 1982.

LABOUR

Geophysicist	1 day at $146.00/day	146.00
Geophysical operator	4 days at $138.00/day	552.00
Geophysical assistant	3 days at $81.00/day	243.00
		941.00

TRANSPORTATION

Fixed Wing	- B.C. Yukon Air Services Ltd.	1489.44
Helicopters	- Frontier Helicopters Ltd.	1264.50
	- Highland Helicopters Ltd.	1050.00
Fuel	-	193.19
		3997.13

CAMP

Groceries - Campground Services Ltd. 166.98

REPORT

Geophysicist 3 days at $146.00/day 438.00

TOTAL 5543.11

STATEMENT OF QUALIFICATIONS

I attended the University of Waterloo, Waterloo, Ontario between 1975 - 1979 graduating with a B. Sc. (Honours) degree in Earth Sciences. From 1975 to 1979 I was employed during the summer months by Esso Minerals Canada to conduct Magnetic, Electromagnetic, Gravity and Induced Polarization surveys. Since graduating I have been employed by Esso Minerals as a geophysicist.

W. G. Cooper

W. Gordon Cooper

L9+00W
L8+00W
L6+00W
L4+00W
L2+00W
L0+00
8+00N
7+00N
6+00N
5+00N
4+00N
3+00N
2+00N
1+00N
Baseline 0+00
1+00S
2+00S
3+00S
4+00S
5+00S
6+00S
4
2
3
2
4

N

LEGEND

RATIO %
0
3037/112
337/112
1012/112

INSTRUMENT: SCINTREX SE-88 "GENIE" EM
RATIO · 3037 Hz / 112 Hz
× 1012 Hz / 112 Hz
○ 337 Hz / 112 Hz

SEPARATION
TX · 100 m Rx
PLOTTING POINT

DEFINITE ANOMALY
POSSIBLE ANOMALY
MAP Nº 1

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

ESSO MINERALS CANADA
DIV'N. OF ESSO RESOURCES CANADA LIMITED

PROSPECT: KINK (FETISH) CLAIMS
West Grid
HORIZONTAL LOOP EM SURVEY
091490

ACCOUNT Nº | FILE Nº | TORONTO

SCALE 1:2500 0 50 100m. | DATE

AUTHOR | NTS 105G | DWG. Nº

L2+00E
L4+00E
L6+00E
L7+00E
L8+00E
L9+00E
N
3+00N
2+00N
1+00N
Baseline 0+00
1+00S
2+00S
3+00S
4+00S
5+00S
6+00S
7+00S
8+00S
9+00S
10+00S
11+00S
12+00S
1
2
4
5
6

LEGEND

RATIO %
3037/112
0
337/112
1012/112

INSTRUMENT: SCINTREX SE-88 "GENIE" EM
RATIO - 3037 Hz / 112Hz
× 1012 Hz / 112Hz
○ 337 Hz / 112Hz

SEPARATION
100 m
Tx Rx
PLOTTING POINT

DEFINITE ANOMALY
POSSIBLE ANOMALY

MAP Nº 2

ESSO MINERALS CANADA
DIV'N. OF ESSO RESOURCES CANADA LIMITED

PROSPECT: KINK (FETISH) CLAIMS
East Grid
HORIZONTAL LOOP EM SURVEY
091480

ACCOUNT Nº | FILE Nº | TORONTO

SCALE 1:2500 0 50 100m. | DATE

AUTHOR | NTS | DWG. Nº

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

L9+00W
L8+00W
L6+00W
L4+00W
L2+00W
L0+00
A
B
B
C
D
8+00N
7+00N
6+00N
5+00N
4+00N
3+00N
2+00N
1+00N
Baseline 0+00
1+00S
2+00S
3+00S
4+00S
5+00S
6+00S

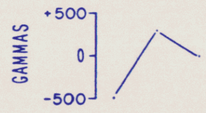
N

INSTRUMENT: GEOMETRICS MODEL G816 PROTON PRECESSION MAGNETOMETER

ACCURACY: ± 10 GAMMAS

ASSUMED MEAN GEOMAGNETIC FIELD STRENGTH IS .... 58700 GAMMAS

SCALE



MAP Nº 3

ESSO MINERALS CANADA
DIV'N. OF ESSO RESOURCES CANADA LIMITED

PROSPECT: KINK (FETISH) CLAIMS

West Grid

MAGNETOMETER SURVEY

091480

ACCOUNT Nº | FILE Nº | TORONTO

SCALE 1:2500 0 50 100 m. | DATE

AUTHOR | NTS 105G | DWG. Nº

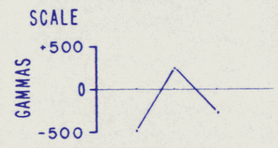
PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

INSTRUMENT: GEOMETRICS MODEL G816 PROTON PRECESSION MAGNETOMETER

ACCURACY: ± 10 GAMMAS

ASSUMED MEAN GEOMAGNETIC FIELD STRENGTH IS .... 58700 GAMMAS

SCALE



MAP Nº 4

ESSO MINERALS CANADA
DIV'N. OF ESSO RESOURCES CANADA LIMITED

PROSPECT: KINK (FETISH) CLAIMS

East Grid

MAGNETOMETER SURVEY

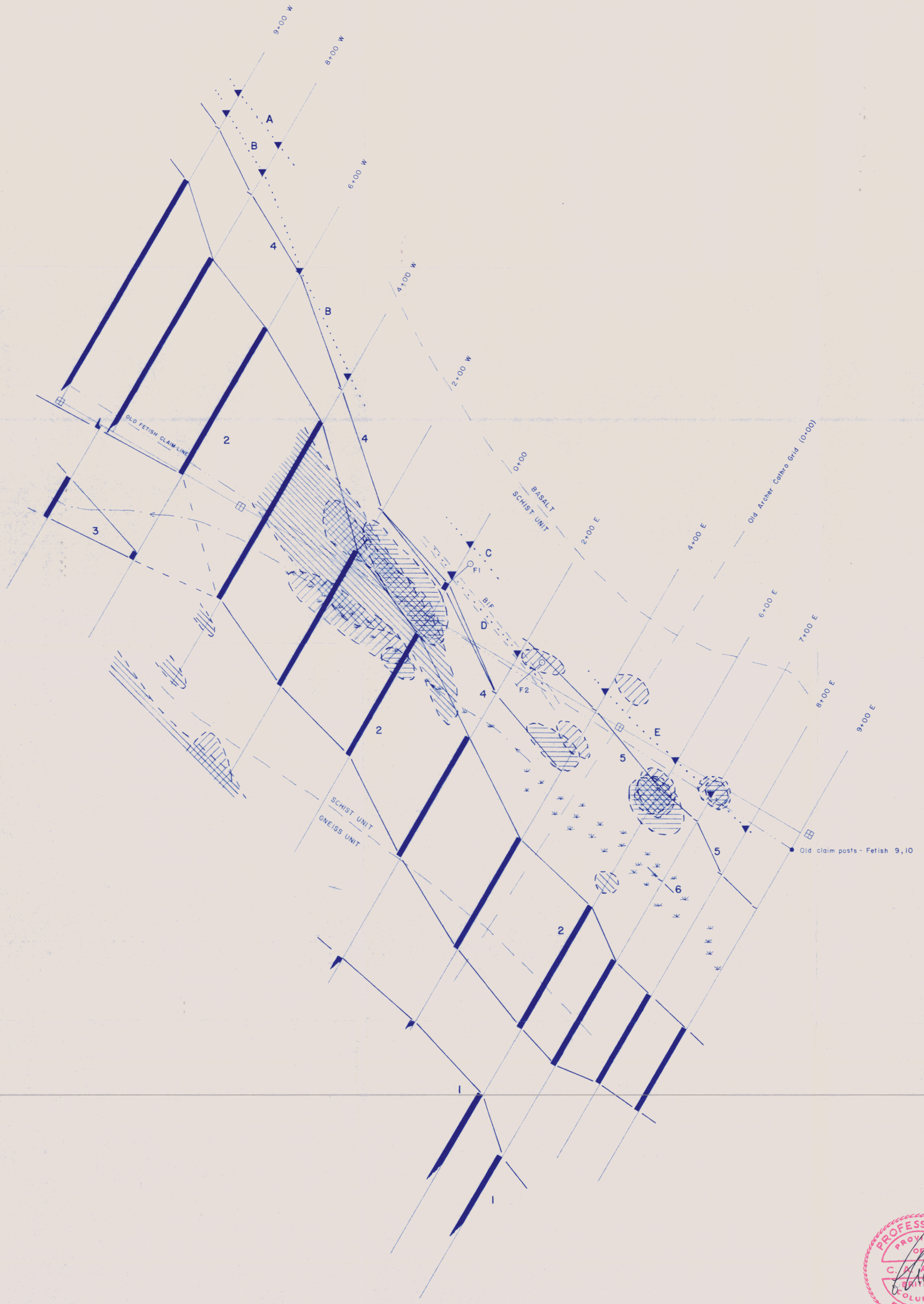
091480

ACCOUNT Nº | FILE Nº | TORONTO

SCALE 1:2500 0 50 100m. | DATE

AUTHOR | NTS 105G | DWG. Nº

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA



N

H.L.E.M. CONDUCTOR

MAG. ANOMALY

CLAIM POSTS

Geology from 1982 Archer Cathro report Fig. 4.

Geochem (1982 Archer Cathro report)

COPPER (fig. 12)

ZINC (fig. 15)

LEAD (fig. 14)

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

ESSO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

PROSPECT: KINK (FETISH) CLAIMS

091480

COMPILATION

091,150

ACCOUNT Nº MA70	FILE Nº 2170	TORONTO
DRAWN BY: G. COOPER	DATE JAN. 1983	REV.
DWG. Nº 10,645	MAP Nº 5	

SCALE
0 100 200 metres
1:5000

To Accompany A Report By: G. COOPER
Dated: JAN. 1983