EM AND MAGNETIC SURVEY REPORT
on the BOB CLAIM GROUP

Watson Lake Mining District, Y. T.
NTS:105-G-15,Lat61°57'N Long 130°31'W

Work Period: July 6 - July 31, 1977
Aug.25 - Aug. 31, 1977

For: Ogilvie Joint Venture

By: Cordilleran Engineering Limited

November, 1977

WLMD 061655

Cordilleran Engineering Limited

MINERAL EXPLORATION MANAGEMENT AND
ENGINEERING CONSULTANTS

1418-355 BURRARD STREET
VANCOUVER, B.C. V6C 2G8

TELEPHONE
(604) 681-8381

ELECTROMAGNETIC AND MAGNETIC SURVEY REPORT

ON THE

BOB CLAIM GROUP

RECEIVED
22 DEC 1977
MINING RECORDER
LAND AGENT
WATSON LAKE, Y.T.
I.A. & N.D.

CLAIMS: Bob 1 - 56 inclusive

Watson Lake Mining District, Yukon Territory
Fortin Lake Area, N.T.S. 105-G-15
Lat. 61°57'N Long. 130°30'W

WORK PERIOD: July 6 - July 31, 1977
Aug.25 - Aug. 31, 1977

Office Of The Supervising Mining Recorder
DEC 15 1977
WHITEHORSE
Yukon Territory

FOR

OGILVIE JOINT VENTURE

CLAIMS HELD IN TRUST BY

BRITISH NEWFOUNDLAND EXPLORATION LIMITED
704 - 602 West Hastings Street
Vancouver, B. C.

DEC 16 1977
MINING
INSPECTORS OFFICE
WHITEHORSE, Y.T.

BY

John E. Betz - John Betz Limited
Toronto, Ontario

Supervised by: O. S. Hairsine, P.Eng.

CORDILLERAN ENGINEERING LIMITED
1418 - 355 Burrard Street
Vancouver, B.C. V6C 2G8

NOVEMBER, 1977

~~090352~~ 061655

This report [illegible] by the Geologic[illegible] [illegible] recommended to [illegible] be credited as [illegible] of

$21,400.00

D. B. Craig

or

Considered as [illegible] work under Section 59 [illegible] Mining Act

Also [illegible] COPY GEO. & GEO CHEM REPORT

S. R. BAXTER
Supervising Mining Recorder

[illegible] Commissioner of Mines

TABLE OF CONTENTS

	Page
SUMMARY	1
INTRODUCTION	3
PRESENTATION OF RESULTS	4
INTERPRETATION OF RESULTS	4
CONCLUDING REMARKS AND RECOMMENDATIONS ...	6
WRITER'S CERTIFICATE	8

FIGURES

Figure 1:	Location Map 1" = 80 miles	2

APPENDICES

Appendix "A" - EM Profile Index and Legend
- EM Profile Sheets with Interpreted Conductive Zones
- Plan #1 - Conductivity Map 1" = 500 feet
- Plan #2 - Magnetic Map 1" = 500 feet

Appendix "B" References

* Appendix "C" Personnel

Appendix "D" Claim Record Summary

* Appendix "E" Affidavit of Expenditures

* Appendix "F" Supervisor's Certificate

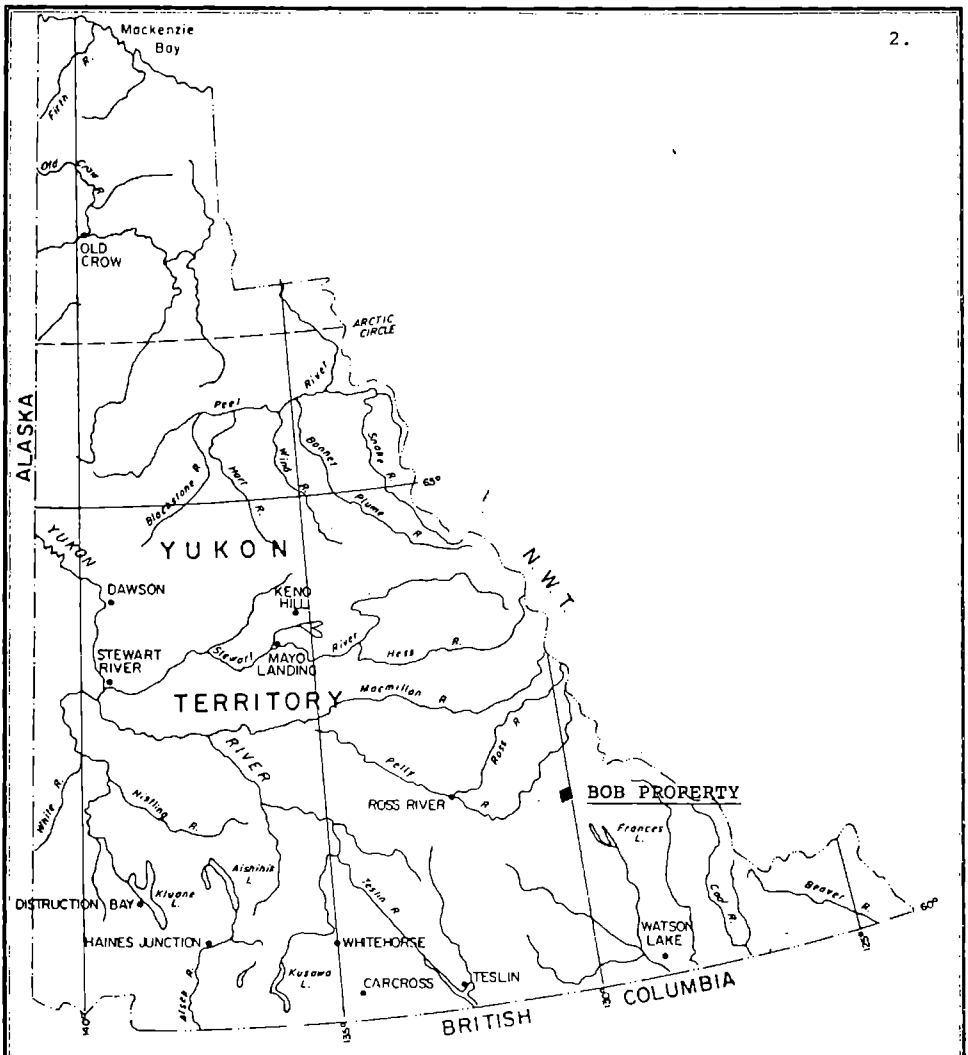
*For Government Assessment Reports only

SUMMARY

Electromagnetic and magnetic surveys were conducted on the Bob Property by Cordilleran Engineering Limited, under the direction of J. E. Betz and supervision of O. S. Hairsine, P.Eng. The work was performed during the periods July 6 to July 31 and August 25 to August 31, 1977 for the Ogilvie Joint Venture whose claims are held in trust by British Newfoundland Exploration Limited.

A grid system was established on the property to facilitate the surveys. A base line was cut at a bearing of 90 degrees for 9,000 feet. Cross lines were cut at 1,000 foot spacings, extending 5,000 feet north and 4,800 feet south of the base line. These lines were secant chained and picketted at 100 foot intervals and tie lines were cut at the north and south extensions. Approximately 23 miles of line were cut and chained.

These surveys were conducted in an attempt to determine if the exposed lead and zinc sulphide mineralization could be traced under the thick glacial cover.



LOCATION MAP

BOB PROPERTY

SCALE 0 20 40 60 80 100 MILES

BY

CORDILLERAN ENGINEERING LTD.

1418 - 355 BURRARD STREET
VANCOUVER 1, B.C.

FIGURE 1

INTRODUCTION

The main objective of this survey was to detect conductive and/or magnetic zones on the property, which are due to massive sulphides, or at least are indirectly related to massive sulphides. One area of known interest on the grid is in the trench at 145+00N on L-130E, where massive sphalerite has been exposed.

The ground EM system used on this project was the MaxMin II made by Apex Parametrics Ltd of Markham, Ontario. The ground magnetic systems were the MV-1 fluxgate magnetometer made by Phoenix Geophysics Ltd of Toronto and the M700 fluxgate magnetometer made by McPhar Instrument Corp of Toronto. The specifications for, and methods of operating, these systems are amply described in the operating manuals and other literature provided by these companies. They will not be repeated here.

The MaxMin II was used in the coplanar mode with the turns of the transmitting and receiving coils held parallel to the mean slope of the terrain (along the traverse line) between the coils. Knowing the mean slope of the terrain, and the coil spacing, at all reading points was insured by secant chaining the grids prior to the MaxMin II coverage.

The secant method of chaining and the use of the subsequent data are amply described in the MaxMin II manual. They will not be repeated here. However, it is worthy of mention here that the end result of secant chaining the lines is to have "noise-free" EM results. Two bonus features of secant chaining are: a) equal station spacings on the horizontal plane, and b) accurate topographic profiles along the line. In fact, the topographic profiles shown on the profiles sheets in this report are computed from the secant chaining notes.

A reconnaissance coil spacing of 400 ft (122 meters) and frequencies of 222 and 1777 Hz were used throughout the survey. The reasons for this choice are briefly:

a) a coil spacing of 400 ft gives a good combination of conductor resolution and search-depth capability,

b) two widely spaced frequencies lead to a fairly accurate conductivity-thickness estimate for the conductive zones detected,

as well as helping to interpret the shape and attitude on non-simplistic conductive zones,

c) the results at one frequency serve to monitor the inevitable reading and/or recording errors at the other frequency.

One magnetometer was used to put in base stations along the base line and along the north and south tie lines, and then to "tie" together the three lines. Both magnetometers were used along the traverse lines. With the large number of previously established base stations, there was less than an hour of elapsed time between check points during the course of the survey. In the absence of magnetic storms and micropulsations, the noise envelope of these models of magnetometer, used in the above-described technique, is 40 to 50 gammas; so, anomalous readings would have to be above this value in order to be detected with certainty.

Chief MaxMin II operator B. Goodacre was trained by the writer, on another grid. Goodacre conducted the work on the Bob grid in conjunction with another employee from Cordilleran Engineering. The magnetometer work was done by other Cordilleran Engineering employees following hand-written instructions by the writer. However, the final product has not been edited by the writer.

PRESENTATION OF RESULTS

The MaxMin II profiles, topographic profiles, and the interpreted conductor picture for each line were plotted on special profile sheets. Reduced-scale copies of these sheets are bound with an index and legend sheet in Appendix "A" of this report. Contrary to the writer's convention, B. Goodacre faced east while plotting the MaxMin II profiles.

Two plans are enclosed in the pocket at the end of this report. Plan #1 shows the grid lines, topographic contours, interpreted conductive zones, and prominent landmarks. Plan #2 shows the grid lines, reduced magnetic values, magnetic contours, and prominent landmarks.

INTERPRETATION OF RESULTS

There is no electrical conductivity associated with the massive sphalerite in the trench at 145+00N on L-130E. The conductive phenomena detected by the MaxMin II system are:

a) a deep, highly conductive zone of unknown strike-length under station 159+00N on L-150E,

b) a shallow, poorly conductive zone running from under 112+50N on L-130E to west of 114+50N on L-120E,
c) a shallow, poorly conductive zone running from under 171+50N on L-90E to west of 168+50N on L-80E,
d) an old shoreline of Fortin Lake, running from the south end of L-110E to the north end of L-120E, and
e) many small bedrock and surficial ridges and troughs.
Of the above-listed conductive phenomena, a) through d) are shown in section and in plan. Phenomenon e) is not shown.

Phenomena a), b), and c) are the only three with a potential for economical sulphides.
Phenomenon c, has very little potential because it has the characteristic signature of a zone of very limited depth-extent. With its very poor σ.t (<1.0 mho) and apparent limited depth-extent, phenomenon c) is quite likely a clay-filled bedrock gouge.
Phenomenon b) has a σ.t of <1.5 mhos, which is typical of many shear zones. The anomaly shape is indicative of a shallow target (circa 25 ft) with appreciable depth-extent--especially under L-120E. There could be economical sulphides related to this conductive phenomenon. But, due to its small σ.t, the sulphides would have to occur in disseminated or near-disseminated form, unless of course they are pure sphalerite.
Phenomenon a) has a σ.t of >750 mhos, which is typical of massive coarse-grained sulphides (pyrrhotite, and/or pyrite, and/or chalco pyrite), or of a very highly developed graphite. The anomaly shape and amplitude are indicative of a deep source, but the depth is uncertain, because the strike-length is uncertain. For example, if the strike-length is only 350 ft, then the depth would be a little more than 200 ft; if the strike-length is 1500 ft, then the depth would be a little less than 300 ft. With the large line spacing on this grid, the strike-length of this zone could be as large as 1500 ft without its being "seen" from L's 140E or 160E.

There is no obvious magnetic expression from the massive sphalerite in the trench at 145+00N on L-130E. Nor is there any obvious magnetic expression from the conductive phenomena listed in the preceding two paragraphs. In fact, all of the magnetic changes on this grid are on the scale of large lithological units with nothing on the scale of "confined" mineralized zones, except

at the north end of L-170E. There is some short-wave-length magnetic activity in the latter area, but there is no anomalous conductivity associated with it.

CONCLUDING REMARKS AND RECOMMENDATIONS

In retrospect, a line spacing of 1000 ft is too coarse for the Bob property. The geological setting here appears to be quite different than on the Pete, Gary, or Jason properties, where long graphitic units stretch across the grids. Where much shorter strike-lengths can be of potential economical interest, a smaller line spacing is warranted, even on a reconnaissance level.

Again in retrospect, a 600 ft coil spacing would have been more satisfactory than a 400 ft coil spacing for the reconnaissance coverage of the Bob property. The larger coil spacing insures greater search-depth, except in cases of grids containing many "good", near-surface conductors--such as the West Jason, Gary, and Pete. In the latter cases, the response of the "good", near-surface conductors swamps that of the deep conductors; so, the best course of action is to go for the greater resolution afforded by a shorter coil spacing. Because the Bob property contains very few near-surface conductors, the larger coil spacing would have been more effective in the reconnaissance phase. Certainly, a 600 ft coil spacing would have resulted in a bigger "bite" into the deep conductor at 159+00N on L-150E.

From the MaxMin II results to date, it can be said that more detailing is required on the "good, deep" conductor at 159+00N on L-150E, and the "shallow, poor" conductor at 114+50N on L-120E. Initially, a coil spacing of 600 ft and frequencies of 222, 444, and 1777 Hz should be used on lines 250 ft apart over these two conductive zones. Specifically, this would mean on L's 145E, 147.5E, 150E, 152.5E, and 155E from 149+00N to 169+00N for the good conductor, and L's 115E, 117.5E, 120E, 122.5E, 125E, 127.5E, and 130E from 95+00N to 125+00N for the poor conductor. The reason for extending the lines as far south as 95+00N in the latter case is to get full coverage of another poorly conductive parallel phenomenon around 105+00N on L-120E, which was not fully covered in the reconnaissance pass.

The recommendation for large-coil-spacing coverage of the good conductor relates to the large interpreted depth for this

zone. The recommendation for large-coil-coverage of the "shallow, poor" conductor relates primarily to the detection of "deep, good" conductors within this poorly conductive zone. This would be done in the manner of unravelling "deep, good" conductors from "noisy" overburden features, as described on poster #4*. A decision for short-coil-spacing coverage and/or the running of additional lines would depend upon the ititial results.

The IP method is recommended for the area around the trenches, perchance there is sufficient disseminated metallic sulphides associated with the massive sphalerite to respond to this method.

The IP method is also recommended for the shallow poorly conductive zone at 114+50N on L-120E, becuase the $\sigma.t$ is small enough to place it in the pure-shear-zone category. The IP method would reveal the presence of disseminated sulphides within the conductive zone.

In the absence of evidence of disseminated sulphides, from the IP coverage or of "deep, good" conductors from the large-coil-spacing coverage, it is felt that the poorly conductive zone on L-120E could be dropped without further testing.

In the case of the "deep, good" conductor at 159+00N on L-150E, it is felt that the IP method would not throw any more light onto the subject. A zone of such large $\sigma.t$ can only be metallic in nature (graphite, or massive sulphides) and the next most logical step would be to drill it.

Should the induced polarization method outline the zinc-rich zone seen in the trenches by virtue of associated disseminated sulphides, then IP coverage of the entire grid would be predicated.

*Poster #4 is one of a set of message posters authored by the writer for the MaxMin II system. The Ogilvie Joint Venture group holds a copy of these posters.

WRITER'S DECLARATION

Neither I, nor John Betz Limited, have any financial interest in any of the properties of the Ogilvie Joint Venture Group.

I hold a BA (1952) and MA (1953) degrees in geophysics from the University of Toronto. I have worked full time in mining exploration geophysics since 1953, and two summer seasons prior to 1953.

All statements made in this report are correct to the best of my knowledge.

November, 1977
Toronto, Ontario

REGISTERED PROFESSIONAL ENGINEER
J. E. BETZ
PROVINCE OF ONTARIO

John E. Betz, M.A.,P.Eng. Ont.
John Betz Limited

APPENDIX "A"

- EM Profile Index and Legend Sheet
- EM Profile Sheets
  with interpreted Conductive Zones
- Plan #1 - Conductivity Map
  1" = 500'
- Plan #2 - Magnetic Map
  1" = 500'

APPENDIX "A"

PROFILE INDEX

Listed in order bound:

L-170E & 160E

L-150E & 140E

L-130E & 120E

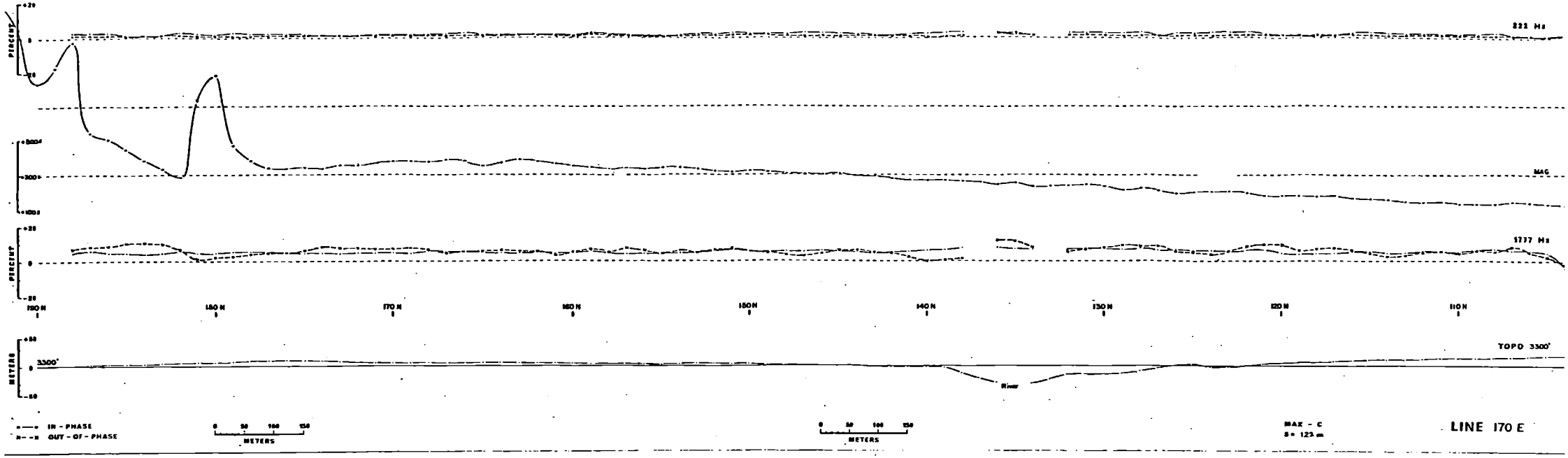
L-110E & 100E

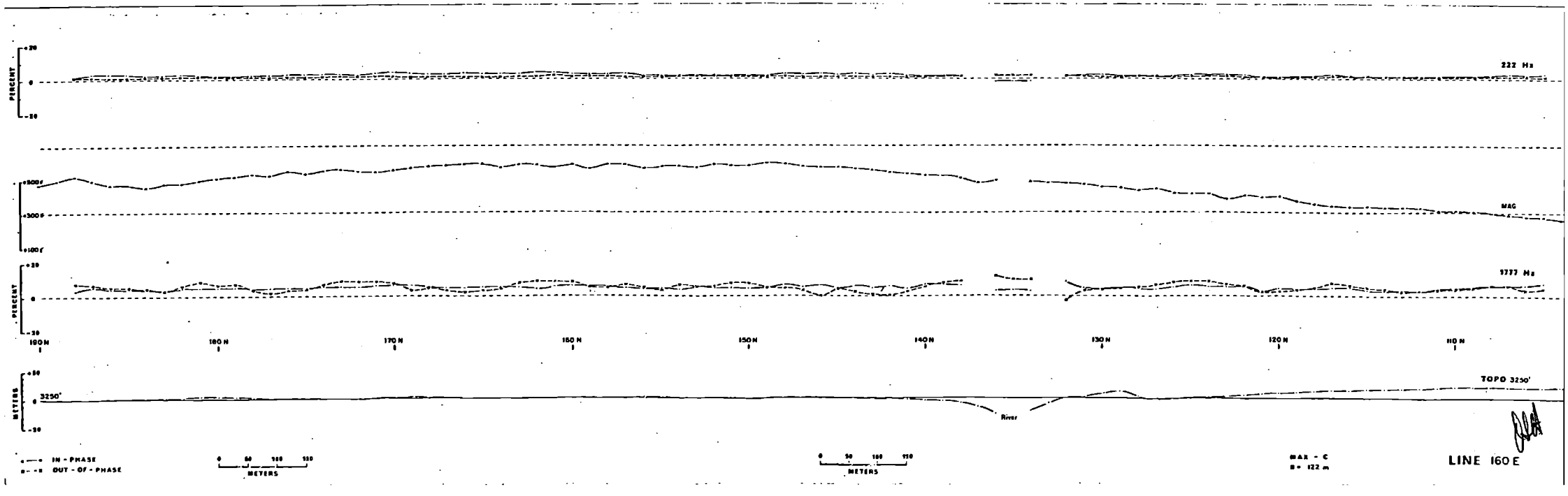
L- 90E & 80E

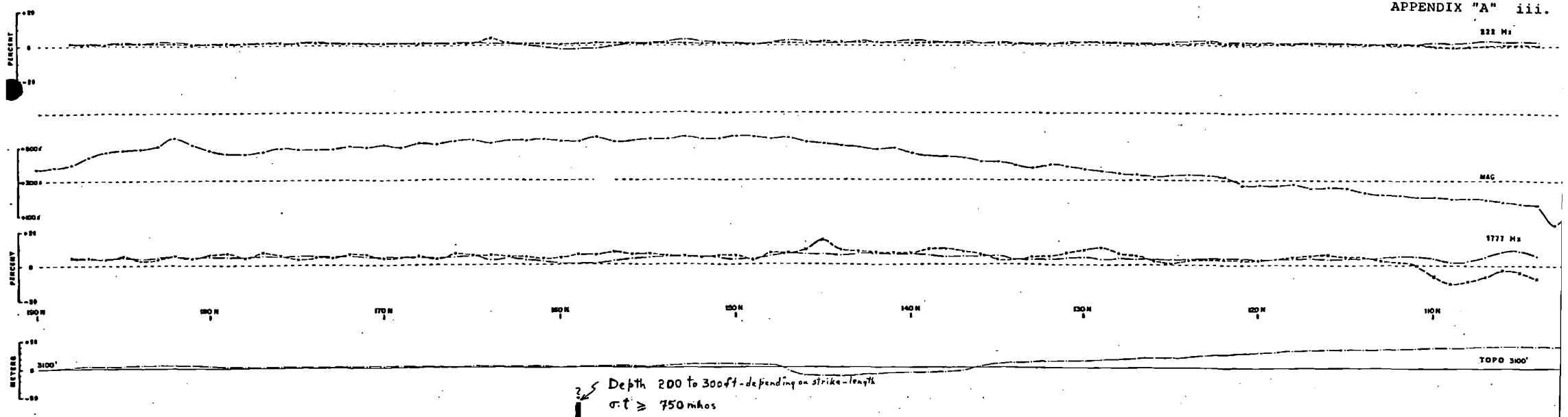
PROFILE LEGEND

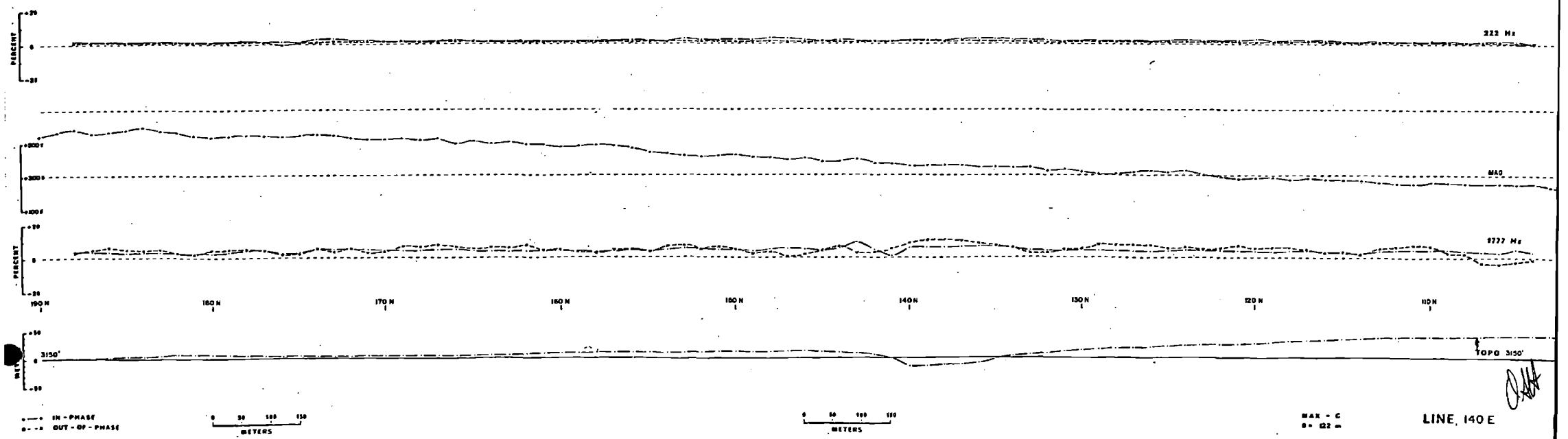
The background in-phase and out-of-phase values are +1, +2 at 222Hz and -2, +2 at 1777 Hz for L-80E and the south half of L's 90E & 100E. For the rest of the grid the values are +2, 0 at 222 Hz and +1, 0 at 1777 Hz.

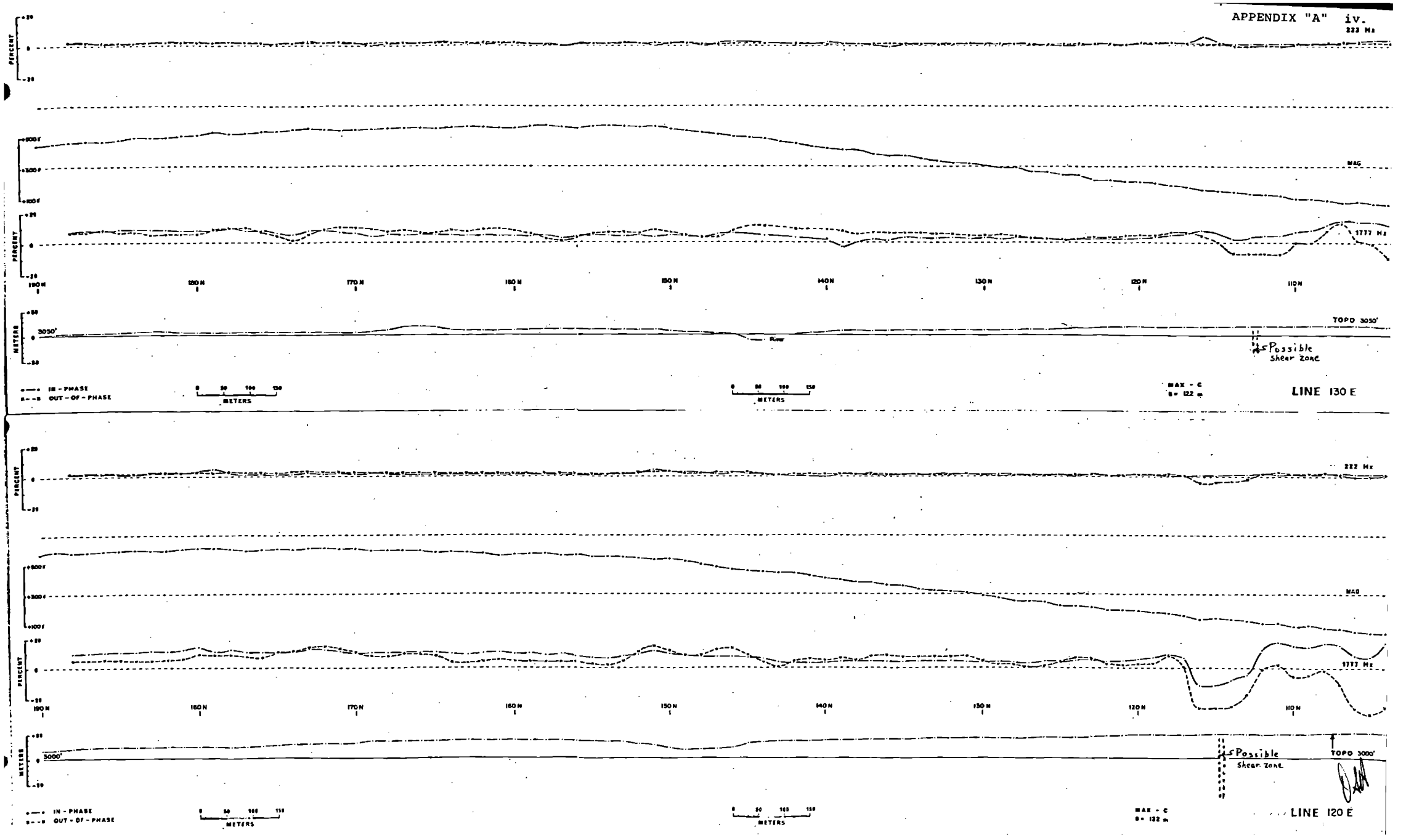
"S" on the profile sheet is the abbreviation for the coil spacing, which was 122 meters or 400 feet throughout the survey.

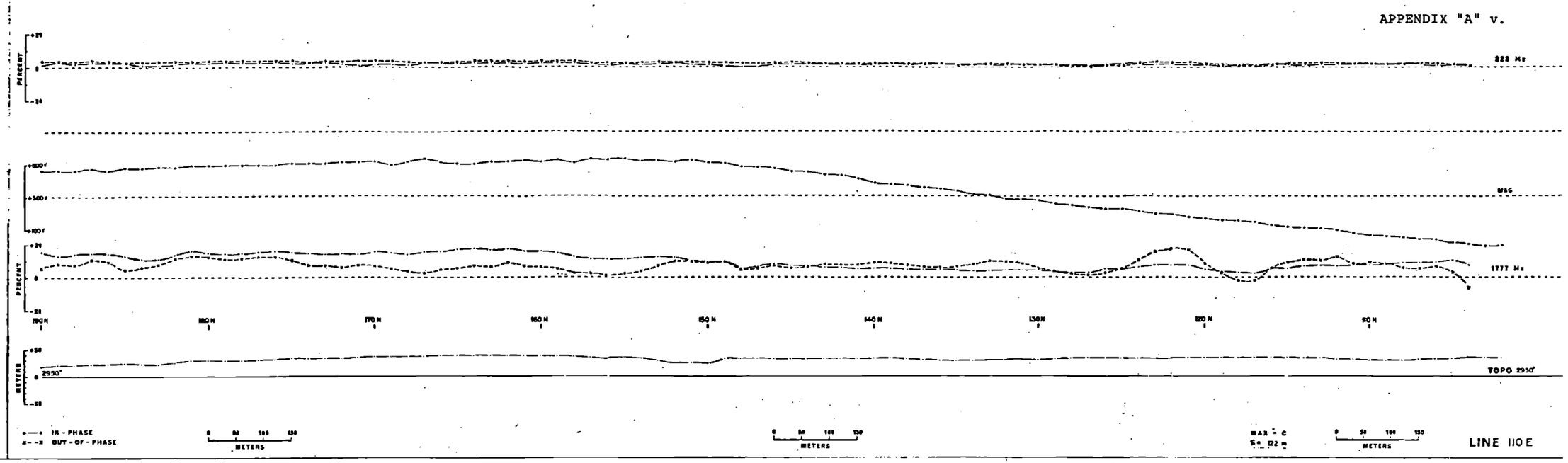

PERCENT
222 Hz
MAG
1777 Hz
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
METERS
TOPO 3300'
River
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
LINE 170 E

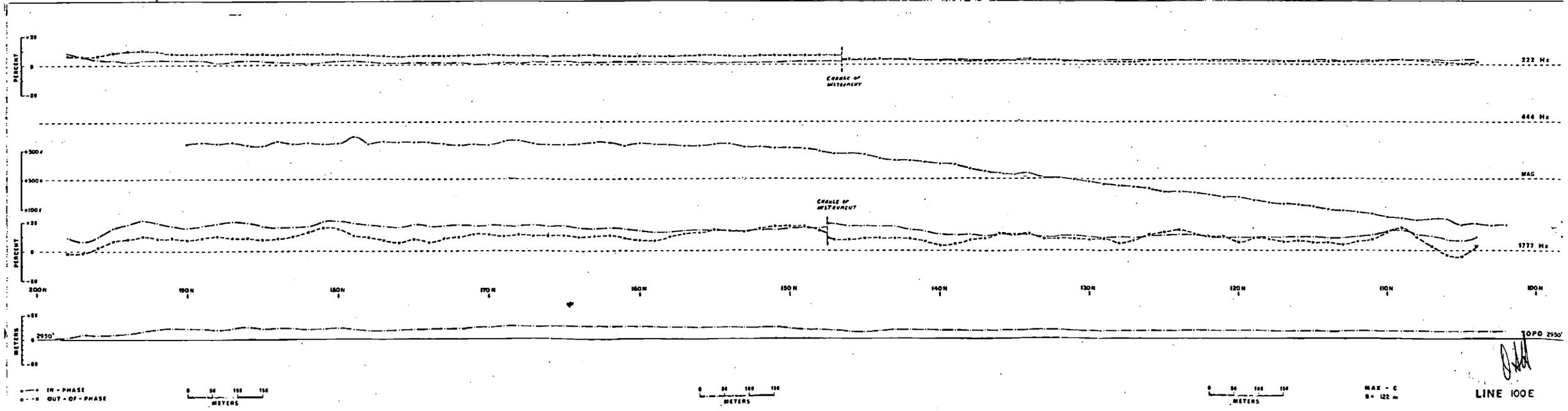

PERCENT
222 Hz
MAG
1777 Hz
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
METERS
TOPO 3250'
River
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
LINE 160 E

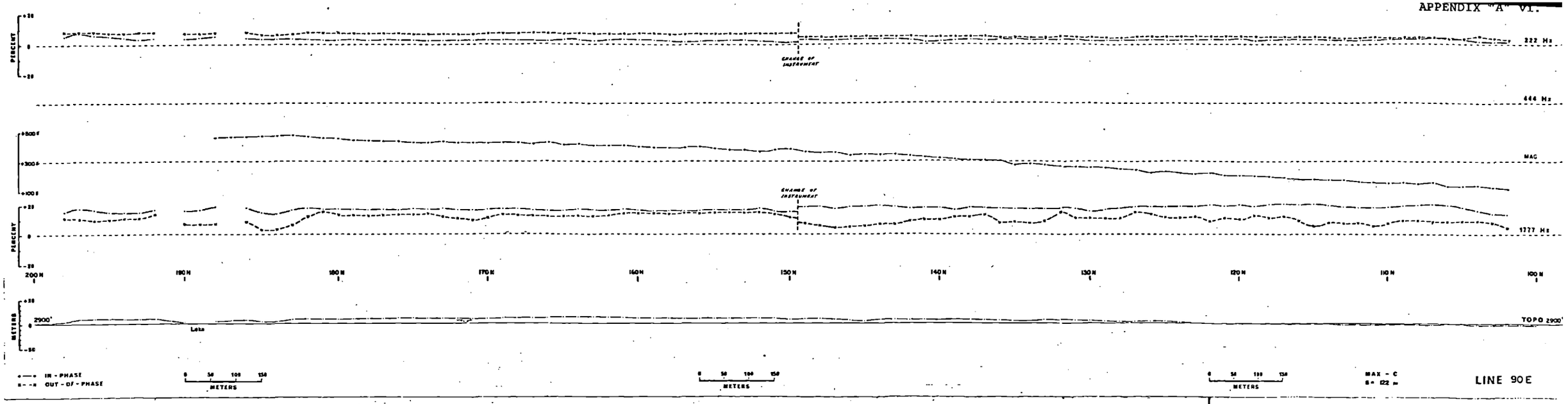

222 Hz
MAG
1777 Hz
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
TOPO 3100'
Depth 200 to 300 ft - depending on strike-length
σ·t ≥ 750 mhos
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
S = 122 m
LINE 150 E


222 Hz
MAG
1777 Hz
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
TOPO 3150'
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
S = 122 m
LINE, 140 E

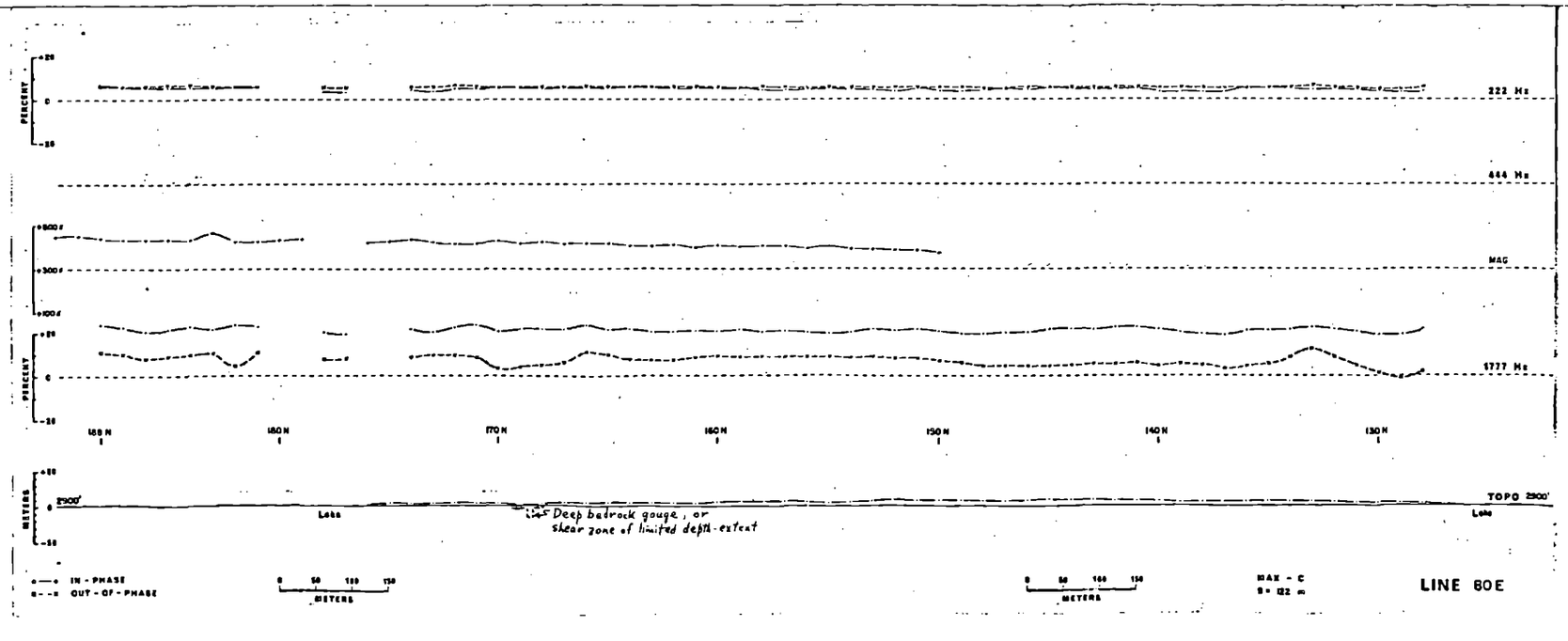

222 Hz
PERCENT
MAG
1777 Hz
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
METERS
3050'
TOPO 3050'
River
Possible
Shear zone
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
LINE 130 E
222 Hz
MAG
1777 Hz
3000'
TOPO 3000'
LINE 120 E


PERCENT
222 Hz
MAG
1777 Hz
190N
180N
170N
160N
150N
140N
130N
120N
110N
METERS
2950'
TOPO 2950'
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
S= 122 m
LINE 110E


PERCENT
222 Hz
CHANGE OF INSTRUMENT
444 Hz
MAG
1777 Hz
200N
190N
180N
170N
160N
150N
140N
130N
120N
110N
100N
METERS
2950'
TOPO 2950'
IN - PHASE
OUT - OF - PHASE
METERS
MAX - C
S= 122 m
LINE 100E



LINE 90E



LINE 80E

APPENDIX "B"

R E F E R E N C E S

APPENDIX "B"

REFERENCES

- Maxmin II Manual; J. E. Betz
- Fluxgate Magnetometer Manual

APPENDIX "C"

P E R S O N N E L

APPENDIX "C"

PERSONNEL

G. L. Wesa	Crew Chief	Box 306 Lipton, Saskatchewan
J. D. Rowe	Geologist Line Cutter	R.R.#1 Okanagan Falls, B.C.
S. S. Jones	Line Cutter Magnetometer Operator	1566 Wilmont Place Victoria, B.C.
R. H. Hoffmann	Line Cutter	19 Queen Wawa, Ontario
W. F. McKenzie	Line Cutter	2585 Bellview West Vancouver, B.C.
P. R. Pitcher	EM Assistant	2325 West 8th Ave. Vancouver, B.C.
B. W. Goodacre	EM Operator	1895 San Juan Ave. Victoria, B.C.
K. B. Williams	Magnetometer Assistant	1855 Arbutus #102 Vancouver, B.C.
B. Coulter	Cook	3095 Marine Drive West Vancouver, B.C.

APPENDIX "D"

C L A I M R E C O R D S U M M A R Y

APPENDIX "D"

CLAIM RECORD SUMMARY

Claim Name	Grant Number	Renewal Date
BOB 1 - 16	Y 83258 - Y 83273	November 23
BOB 17 - 56	YA 12782 - YA 12821	November 23

APPENDIX "E"

A F F I D A V I T O F E X P E N D I T U R E S

APPENDIX "E"

CANADA)
)
TO WIT:)

In the matter of a geophysical report on behalf of the Ogilvie Joint Venture

I, Owen S. Hairsine, agent for Cordilleran Engineering Limited

of city of Vancouver, Province of British Columbia

do solemnly declare, - Line cutting, Magnetometer and Maxmin II EM Surveys were conducted on the Bob Claim Group (Box 1 - 56 inclusive claims), Watson Lake Mining District, Y.T., during the periods July 6 - July 31 and August 25 to August 31, 1977.

The costs of this work were as follows

Consulting Fees	$ 6,857.65
Salaries	9,354.06
Fixed Wing Aircraft	4,350.26
Helicopter	865.92
Magnetometer Rental	603.00
Truck Rental	398.75
Travel	1,000.00
Freight, Radio Rental	1,090.63
Camp supplies and Food	5,048.59
	$29,568.86

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of The Canada Evidence Act.

Declared before me at Vancouver province of British Columbia this 29 day of November 1977

O. S. Hairsine

Anthony J. Jasich

~~A Commissioner for Oaths for Yukon Territory~~ OR Notary Public for

A Notary Public in and for the Province of British Columbia

APPENDIX "F"

S U P E R V I S O R ' S C E R T I F I C A T E

CORDILLERAN ENGINEERING LIMITED

MINERAL EXPLORATION
MANAGEMENT AND
ENGINEERING CONSULTANTS

1418 - 355 BURRARD STREET
VANCOUVER, B. C.
V 6 C 2 G 8
TELEPHONE (604) 681 - 8381

SUPERVISOR'S CERTIFICATE

I, Owen S. Hairsine of Port Moody, British Columbia hereby certify that:

1. I am a geological engineer residing at 1069 Cecile Drive, Port Moody, B.C.

2. I am employed by Cordilleran Engineering Limited of 1418 - 355 Burrard Street, Vancouver, B.C.

3. I received a Bachelor of Science degree from Michigan Technological University, Houghton, Michigan in 1969 and have practiced my profession since that time.

4. I am a member of the Association of Professional Engineers of the Province of British Columbia.

5. I supervised the writing of this report and the field work upon which it is based.

6. I have no beneficial interest in the Ogilvie Joint Venture or the mineral claims described in this report, nor do I expect to receive any.

CORDILLERAN ENGINEERING LIMITED

O. S. Hairsine

O. S. Hairsine, P.Eng.
Geologist

November, 1977
Vancouver, B.C.

061655

CORDILLERAN ENGINEERING LIMITED

FOR OGILVIE JOINT VENTURE

BOB CLAIM GROUP

1977 YEAR-TO-DATE STATEMENT OF EXPENDITURES
(January 1 - November 16, 1977)

ADMINISTRATIVE EXPENDITURES:		
102	Management Fees	$ 6,535.19
302	Car Rental	-
305	Office Rental	155.82
401	Office Supp,Printing	398.78
402	Entertainment	17.63
403	Tel,Postage	393.88
404	Delivery	-
406	Legal	31.77
407	Maps,Publications	1.00
408	Bank Charges	1.71
409	Bookkeeping,Steno	30.45
410	Travel	32.19
	TOTAL PROP: Admin	7,598.42
EXPLORATION & DEVELOPMENT EXPENDITURES:		
101	Prof.Serv.(Smith)	2,340.00
101	Prof.Serv.(Cord)	2,512.50
103	Salaries	10,473.05
104	CPP	136.77
105	UIC	166.17
106	WCB	212.48
107	Vacation Pay	418.92
201	Fixed Wing	5,305.20
202	Helicopter	1,056.00
204	Geochem Analysis	2,694.00
205	Assays	-
206	Geophysical Surveys (Consulting)	3,195.00
211	Drafting	-
213A	Drilling-Lgyr(Diamond)	-
213B	DrillingBecker(rotary)	-
213C	Drilling-Simmons (")	-
215	Expediting	972.48
219	Topo& Ortho Map.	1,520.00
221	Claim Staking	3,608.00
301	Truck Rent	825.66
303	Equipment Rental	-
304	Radio Rent & Supp.	183.70
307	Geophys Eq.Rent	603.00
310	Cat Rental	-
404	Freight,Express	387.31
405	Recording Fees,Permits	1,490.00
406	Insurane (Liab & Smith)	49.75
410	Travel	2,250.27
413	Casual Labour	-
501	Camp Supp(non-durable)	1,820.87
502	Food	2,379.65
503	Propane	365.91
504	Diesel,Stove Oil	-
505	Reg Gas	-
506	Aviation Fuel	106.00
507	Vehicles	55.94
508	Equip.Repairs	-
509	Camp Const (lumber)	378.57
510	Equipment(durable)	1,049.88
511	Drums	-
	TOTAL PROP: E & D	46,557.08
	TOTAL 1977 EXPENDITURES TO THE BOB PROPERTY	$ 54,155.50

NOTE: A complete set of invoices covering these expenditures is attached.

061655

CORDILLERAN ENGINEERING LIMITED FOR OGILVIE JOINT VENTURE

1977 YEAR-TO-DATE STATEMENT OF EXPENDTIURES

SCHEDULE I

(January 1 - July 31, 1977)

		EAST JASON $	WEST JASON $	SUB TOTAL JASONS $	BOB $	PETE $	GARY $	TANG $	SUB TOTAL OUTSIDE PROPERTIES $	1977 TOTAL EXPENDITURE $
		R E S E A R C H								
101	Consult Fee (Lu)	1,650.00	5,850.00	7,500.00						7,500.00
102	Management Fees (Lu)	660.00	2,714.40	3,374.40						3,374.40
103	Salaries	-	600.00	600.00						600.00
104	CPP	-	10.13	10.13						10.13
105	UIC	-	10.02	10.02						10.02
106	W.C.B.	-	7.80	7.80						7.80
107	Vacation Pay	-	24.00	24.00						24.00
203	Geochem Consult(Culbert)	125.00	1,066.72	1,191.72						1,191.72
204	Geochem Analysis	2,439.68	2,840.85	5,280.53						5,280.53
205	Assays	159.25	477.75	637.00						637.00
210	Thin Sect.Computer	146.38	728.16	874.54						874.54
211	Drafting	-	280.00	280.00						280.00
302	Car Rental	22.89	91.54	114.43						114.43
303	Eq.Rent(Microscope)	341.88	1,025.58	1,367.46						1,367.46
401	Off.Supp,Printing	151.98	446.14	598.12						598.12
402	Entertainment	-	162.50	162.50						162.50
403	Tel,Postage	10.13	26.67	36.80						36.80
410	Travel	310.89	979.53	1,290.42						1,290.42
413	Casual Labour	32.40	129.60	162.00						162.00
501	Field Supplies	7.42	24.49	31.91						31.91
305	Office Rent (Lu)	123.99	371.97	495.96						495.96
	TOTAL TO RESEARCH	6,181.89	17,867.85	24,049.74						24,049.74
				P R O P E R T I E S	- ADMINISTRATIVE COSTS					
102	Management Fee (Cord)	2,992.60	7,220.20	10,212.80	4,882.80	-	4,248.40	483.60	9,614.80	19,827.60
302	Car Rental	17.67	17.68	35.35	-	-	-	-	-	35.35
305	Office Rent	185.98	185.99	371.97	35.96	37.20	42.65	8.18	123.99	495.96
401	Off.Supp,Print	1,052.28	1,245.86	2,298.14	263.41	287.61	324.18	49.35	924.55	3,222.69
402	Entertainment	91.21	91.21	182.42	17.63	45.74	48.42	4.01	115.80	298.22
403	Telephone,Postage	865.26	871.16	1,736.42	162.38	156.29	184.47	32.77	535.91	2,272.33
406	Legal	(102.00)	(102.00)	(204.00)	-	-	204.00	-	204.00	-
407	Maps, Publications	107.83	107.83	215.66	1.00	5.25	4.75	-	11.00	226.66
408	Bank Charges	15.29	15.79	31.08	1.71	1.77	2.04	.39	5.91	36.99
409	Bookkeeping,Steno.	157.50	157.50	315.00	30.45	63.50	68.12	6.93	169.00	484.00
410	Travel	167.31	221.68	388.99	32.19	33.30	38.18	7.32	110.99	499.98
	PROPERTIES: to Admin	5,550.93	10,032.90	15,583.83	5,427.53	630.66	5,165.21	592.55	11,815.95	27,399.78

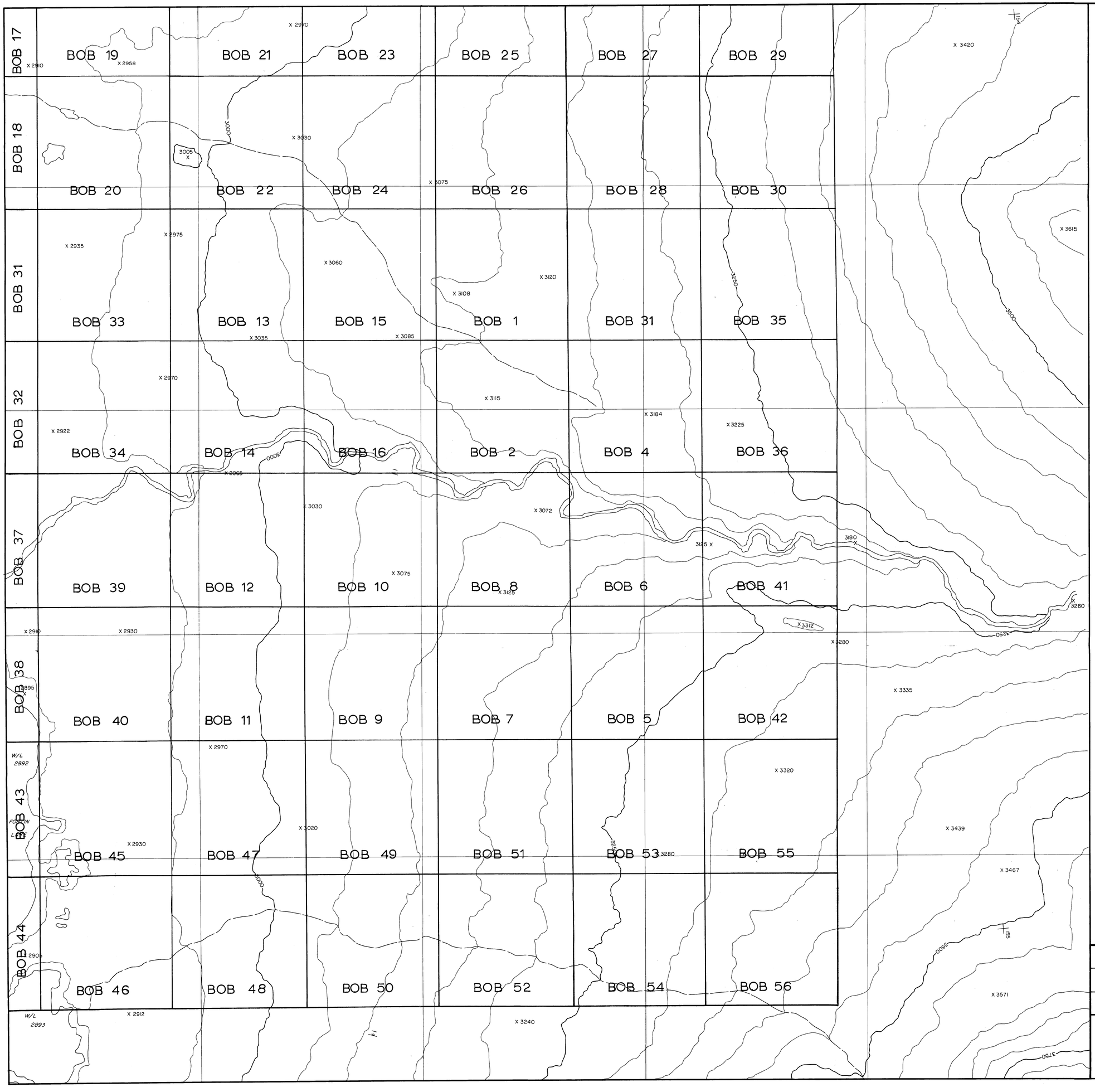
Balances forward to Page 2.

CORDILLERAN ENGINEERING LIMITED FOR OGILVIE JOINT VENTURE

1977 YEAR-TO-DATE STATEMENT OF EXPENDITURES (January 1 - July 31/77) cont'd)

		EAST JASON	WEST JASON	SUB TOTAL JASONS	BOB	PETE	GARY	TANG	SUB TOTAL OUTSIDE PROPERTIES	1977 TOTAL EXPENDITURE
Balances Forward:										
to Research		$ 6,181.89	$ 17,867.85	$ 24,049.74	$	$	$	$	$	$ 24,049.74
Properties: to Admin		5,550.93	10,032.90	15,583.83	5,427.53	630.66	5,165.21	592.55	11,815.95	27,399.78
	PROPERTIES - EXPLORATION & DEVELOPMENT COSTS									
101	Prof.Serv.(Smith)	6,255.00	9,765.00	16,020.00	1,620.00	2,385.00	2,565.00	-	6,570.00	22,590.00
101	Prof.Serv.(Cord)	12,300.00	14,925.00	27,225.00	1,762.50	862.50	1,575.00	862.50	5,062.50	32,287.50
103	Gross Salaries	4,795.83	11,570.83	16,366.66	7,825.00	-	6,808.34	775.00	15,408.34	31,775.00
104	CPP	76.61	192.08	268.69	118.42	-	113.68	12.95	245.05	513.74
105	UIC	77.86	163.03	240.89	148.68	-	126.35	14.22	289.25	530.14
106	WCB	99.88	221.61	321.49	159.90	-	141.61	16.12	317.63	639.12
107	Vacation Pay	191.84	462.83	654.67	313.00	-	272.33	31.00	616.33	1,271.00
201	Fixed-Wing Aircraft	1,606.41	2,863.41	4,469.82	2,902.20	638.00	918.18	-	4,458.38	8,928.20
202	Helicopter	339.90	5,482.40	5,822.30	1,056.00	2,128.50	418.00	2,079.00	5,681.50	11,503.80
204	Geochem Analysis	-	537.00	537.00	921.00	-	1,824.00	-	2,745.00	3,282.00
205	Assays	-	45.00	45.00	-	-	518.50	-	518.50	563.50
211	Drafting	15.00	15.00	30.00	-	-	-	-	-	30.00
213A	Drilling-Lgyr (Diamond)	1,513.17	1,513.18	3,026.35	-	-	-	-	-	3,026.35
213B	Drilling-Becker(rotary)	702.00	20.898.76	21,600.76	-	-	-	-	-	21,600.76
213C	" -Simmons (")	1,565.12	146.00	1,711.12	-	-	-	-	-	1,711.12
215	Expediting,Trucking	2,710.44	2,954.18	5,664.62	885.48	473.85	774.05	79.00	2,212.38	7,877.00
219	Topo &_Orthphoto Map.	-	-	-	1,520.00	1,665.00	3,245.00	-	6,430.00	6,430.00
221	Claim Staking	-	-	-	3,608.00	-	9,894.15	-	13,502.15	13,502.15
301	Truck Rent	750.00	750.00	1,500.00	607.50	607.50	607.50	142.50	1,965.00	3,465.00
303	Equipment Rental	558.68	972.52	1,531.20	-	-	-	-	-	1,531.20
304	Radio Rent & Supp.	1,037.28	1,037.30	2,074.58	183.70	183.70	183.70	183.70	734.80	2,809.38
310	Cat Rental	-	10,670.47	10,670.47	-	-	-	-	-	10,670.47
404	Freight,Express	401.91	870.00	1,271.91	153.76	12.55	154.37	23.92	344.60	1,616.51
405	Permits, Rec.Fees	1,389.14	2,888.11	4,277.25	420.00	70.00	907.00	245.00	1,642.00	5,919.25
406	Ins. (Liab)	246.40	246.40	492.80	38.15	38.39	43.60	10.80	130.94	623.74
410	Travel	3,434.48	4,149.21	7,583.69	1,541.24	1,329.05	867.60	580.49	4,318.38	11,902.07
501	Camp Supp(non-durable)	4,638.68	5,468.32	10,107.00	1,820.87	1,412.83	1,260.79	444.25	4,938.74	15,045.74
502	Food	4,118.94	6,979.88	11,098.82	2,379.65	-	2,656.37	401.09	5,437.11	16,535.93
503	Propane	(.13)	462.09	461.96	365.91	-	160.65	-	526.56	988.52
504	Diesel,Stove Oil	3,609.57	1,188.00	4,797.57	-	-	-	-	-	4,797.57
505	Reg. Gas	-	-	-	-	268.65	268.65	-	537.30	537.30
506	Aviation Fuel	36.80	558.01	594.81	106.00	199.00	20.00	208.00	533.00	1,127.81
507	Vehicles	121.25	134.40	255.65	55.94	-	20.80	-	76.74	332.39
509	Camp Const (lumber)	1,447.48	1,447.49	2,894.97	378.57	378.57	378.57	-	1,135.71	4,030.68
*510	Equipment(Durable)	3,655.69	3,655.69	7,311.38	1,049.88	962.78	962.78	99.96	3,075.40	10,386.78
511	Drums	-	960.00	960.00	-	150.00	150.00	-	300.00	1,260.00
	PROPERTIES: to E&D	57,695.23	114,193.20	171,888.43	31,941.35	13,765.87	37,836.57	6,209.50	89,753.29	261,641.72
	GRAND TOTAL EXPENDITURES	$ 69,428.05	142,093.95	211,522.00	37,368.88	14,396.53	43,001.78	6,802.05	101,569.24	313,091.24

*A list is attached itemizing all durable equipment purchased to July 31/77 (Purchased in '77)



inches

0 1 2

0 1 2 3 4 5

centimetres

YUKON GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

OGILVIE JOINT VENTURE

BOB PROPERTY

Fortin Lake Area 105-G-15

Watson Lake Mining District

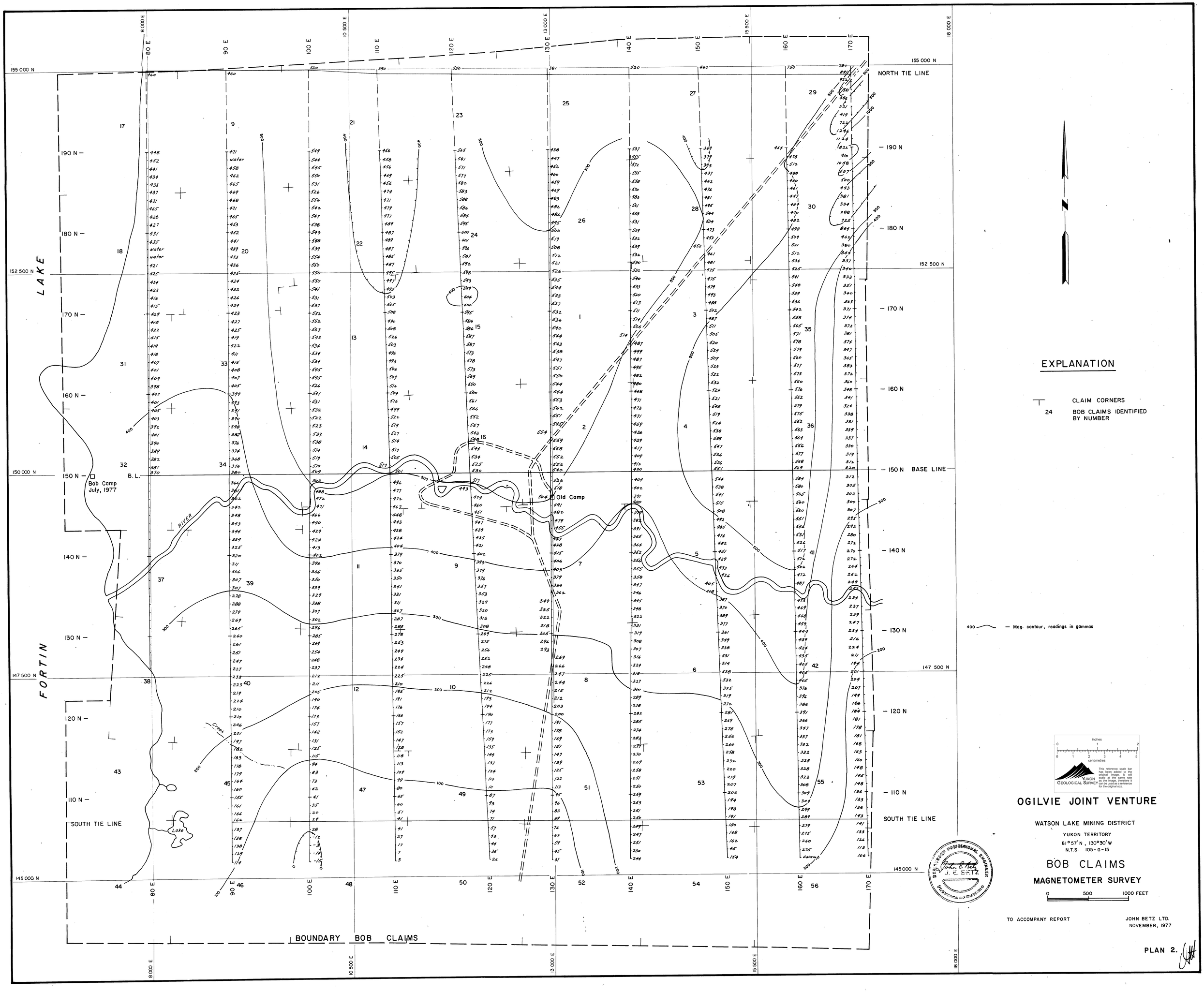
PRELIMINARY RECONNAISSANCE TYPE MAPPING

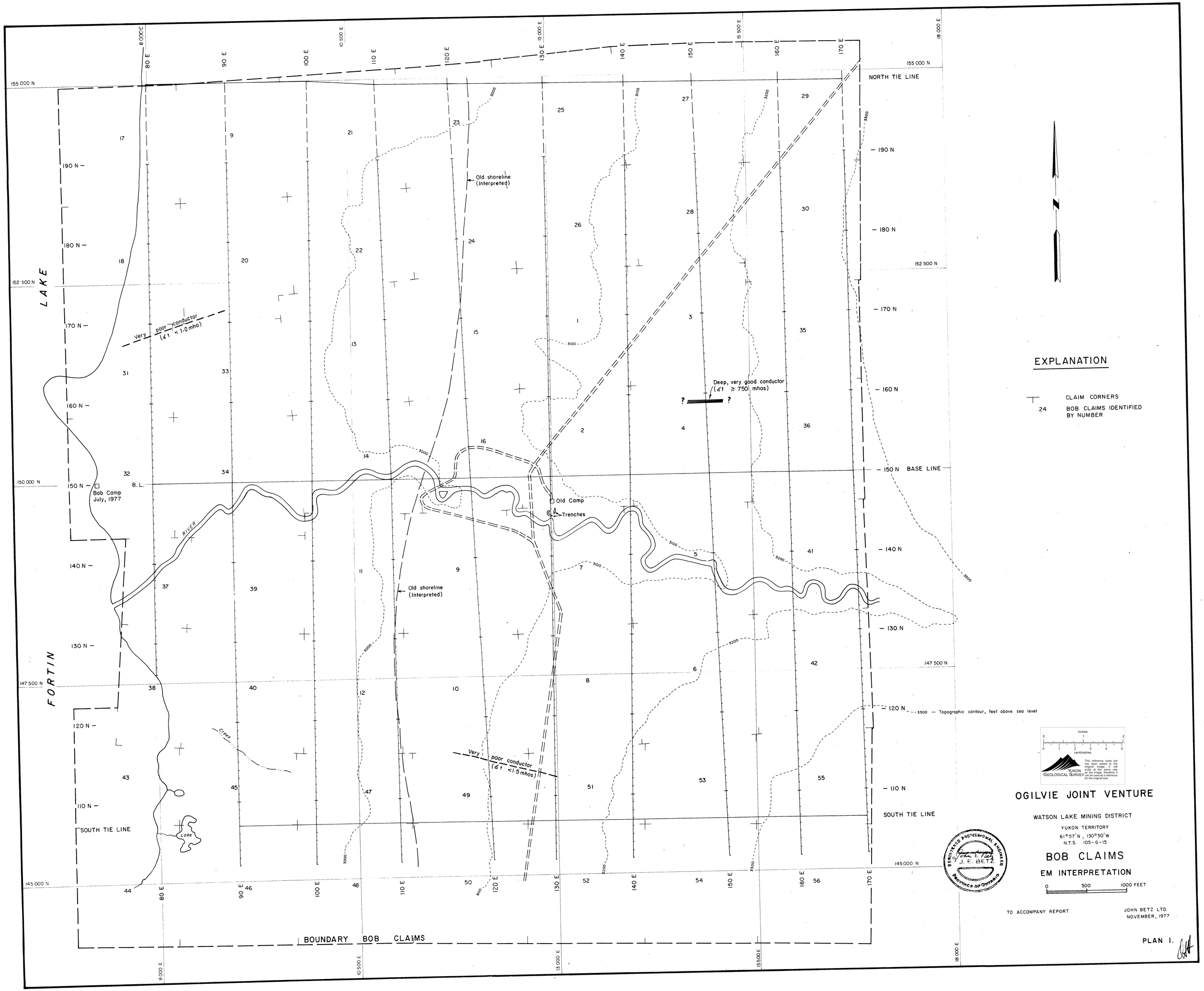
McElhanney Surveying & Engineering Ltd.

1200 West Pender Street, Vancouver B.C. Canada

Scale	1" = 500'
Contour Interval	50'
Date	APRIL 1977
Job No.	06358-0
Sheet No.	

06/055


NORTH TIE LINE
SOUTH TIE LINE
BASE LINE
155 000 N
152 500 N
150 000 N
147 500 N
145 000 N
8 000 E
10 500 E
13 000 E
15 500 E
18 000 E
80 E
90 E
100 E
110 E
120 E
130 E
140 E
150 E
160 E
170 E
190 N
180 N
170 N
160 N
150 N
140 N
130 N
120 N
110 N
LAKE
FORTIN
RIVER
Creek
Lake
Bob Camp
July, 1977
B.L.
Old Camp
SWAMP
BOUNDARY BOB CLAIMS
EXPLANATION
CLAIM CORNERS
24 BOB CLAIMS IDENTIFIED BY NUMBER
400 — Mag. contour, readings in gammas
inches
centimetres
YUKON GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
OGILVIE JOINT VENTURE
WATSON LAKE MINING DISTRICT
YUKON TERRITORY
61°57'N, 130°30'W
N.T.S. 105-G-15
BOB CLAIMS
MAGNETOMETER SURVEY
0 500 1000 FEET
TO ACCOMPANY REPORT
JOHN BETZ LTD.
NOVEMBER, 1977
PLAN 2.


NORTH TIE LINE
SOUTH TIE LINE
BASE LINE
B.L.
FORTIN LAKE
RIVER
Creek
Lake
Old shoreline (Interpreted)
Old Camp
Trenches
Bob Camp July, 1977
Very poor conductor (σt < 1.0 mho)
Very poor conductor (σt < 1.5 mhos)
Deep, very good conductor (σt ≥ 750 mhos)
3000 — Topographic contour, feet above sea level
BOUNDARY BOB CLAIMS
EXPLANATION
CLAIM CORNERS
24 BOB CLAIMS IDENTIFIED BY NUMBER
YUKON GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
REGISTERED PROFESSIONAL ENGINEER J. E. BETZ PROVINCE OF ONTARIO
OGILVIE JOINT VENTURE
WATSON LAKE MINING DISTRICT
YUKON TERRITORY
61°57'N, 130°30'W
N.T.S. 105-G-15
BOB CLAIMS
EM INTERPRETATION
0 500 1000 FEET
TO ACCOMPANY REPORT
JOHN BETZ LTD.
NOVEMBER, 1977
PLAN I.