

LOG NO:	0118	SP
ACTION:		
FILE NO:		

REPORT ON
 COMBINED GEOCHEMICAL, GEOPHYSICAL AND PROSPECTING SURVEYS

ON THE ULTRAMAFIC GROUP CLAIMS
 SIMILKAMEEN MINING DIVISION
 TULAMEEN AREA, BRITISH COLUMBIA

92H.046, 92H.047, 92H.056 and 92H.057

LAT. 49 deg., 30 min. N., LONG. 120 deg., 48 min. W.

Owned by Edwin Ross Rockel, B.Sc., P.G.E.

Operator and Consultant
 INTERPRETEX RESOURCES LTD.

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

19,574

SUB-RECORDER
 RECEIVED
 JAN 15 1990
 M.R. # _____ \$ _____
 VANCOUVER, B.C.

Surrey, B.C.
 January, 1990

E.R. Rockel
 T.R. Matich

TABLE OF CONTENTS

	page
List of Figures	i
1.0 SUMMARY	1
2.0 INTRODUCTION	2
2.1 General	2
2.2 Objectives	2
2.3 Method	2
2.4 Claim Status	3
2.5 Location and Access	4
2.6 Operations and Communications	4
2.7 Physiography	4
2.8 Previous Work	4
3.0 GEOLOGY	4
4.0 GEOCHEMISTRY AND PROSPECTING	5
5.0 GEOPHYSICS	5
5.1 SURVEY SPECIFICATIONS	5
5.1.1 Survey Parameters	5
5.1.2 Equipment Parameters	5
5.1.3 Equipment Specifications	Appendix IV 10
5.2 DATA	6
5.2.1 Calculations	6
5.2.2 Presentation	6
5.3 INTERPRETATION	6
5.3.1 Discussion of Results	6
5.3.2 Conclusions	8
6.0 RECOMMENDATIONS	9
CERTIFICATE ✓	
REFERENCES ✓	
APPENDIX I - Statement of Expenditures ✓	
APPENDIX II - Geochemical Analysis Sheets ✓	
APPENDIX III - Equipment Specifications ✓	
APPENDIX IV - VLF-EM and Magnetic Data List ✓	

LIST OF FIGURES

FIGURE #	MAP	LOCATION IN REPORT
1	Location Map	Page ii /
2	Claim Map	Page iii /
3	VLF-EM Profiles NLK (24.8 kHz) Seattle, Wash.	Map Pocket /
4	VLF-EM Profiles NAA (24.0 kHz) Cutler, Maine	Map Pocket /
5	Total Field Magnetic Profiles	Map Pocket /
6	Total Field Magnetic Contours	Map Pocket /
7	Geophysical Interpretation Map	Map Pocket /
8	Prospecting Route Map	Page 10 /
9	Grid Location Map	Page 11 /

GENERAL AREA

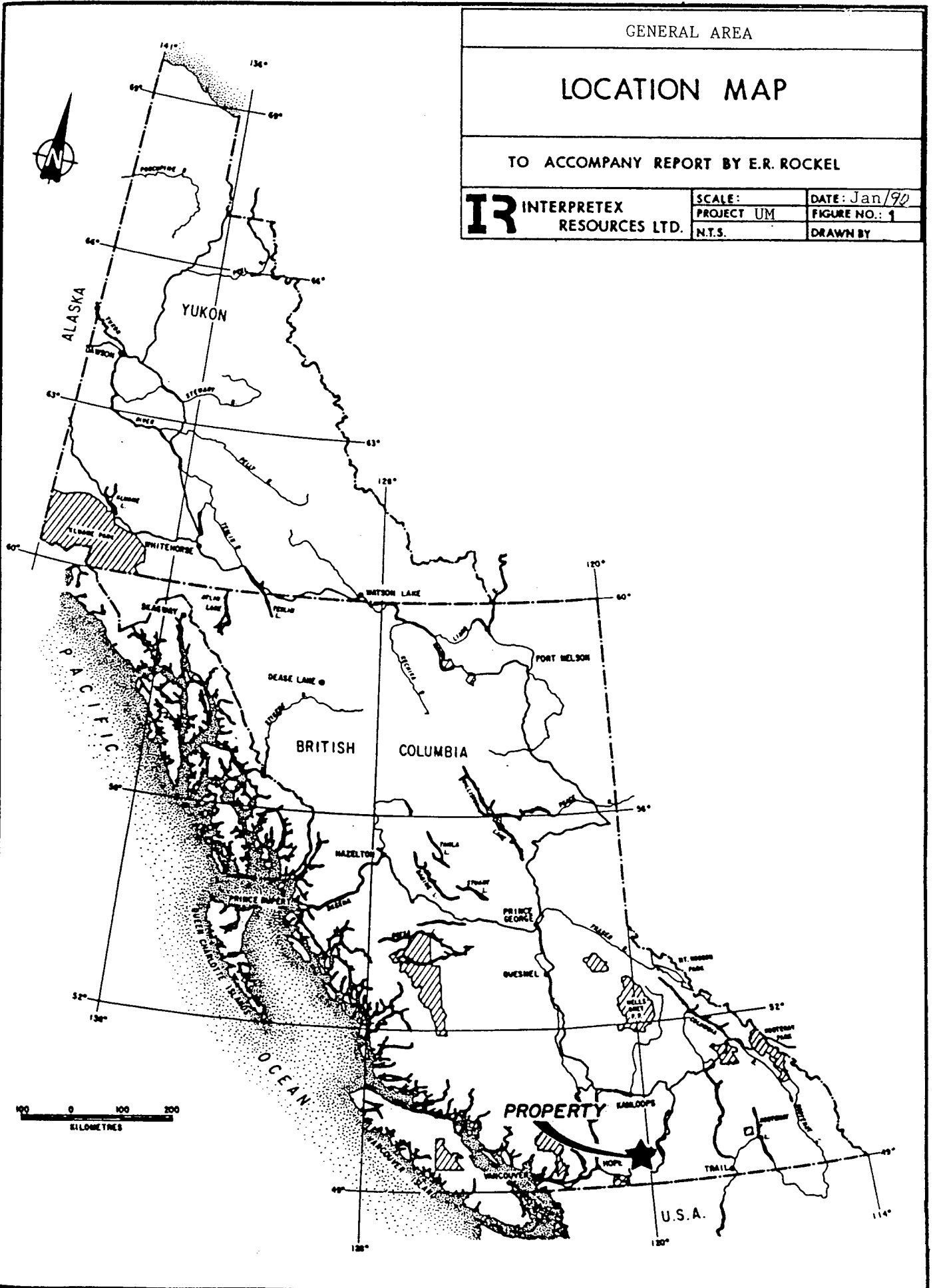
LOCATION MAP

TO ACCOMPANY REPORT BY E.R. ROCKEL

IR INTERPRETEX
RESOURCES LTD.

SCALE:
PROJECT UM
N.T.S.

DATE: Jan/90
FIGURE NO.: 1
DRAWN BY



LATE #2
+
2295

DEN #1
18 2883

18 3212 18 3212

MT.
+
JACKSON

page iii

JAM 6 18 3062 543020M	JAM 4 18 3060 543018M	543016M 18 3058
JAM 5 18 3061	JAM 3 18 3059	JAM 1 18 3057

ULTRA 1 A 1

ULTRA 2

EXPO 7
18 2577

ULTRAMAFIC CLAIM GROUP

CLAIM MAP

TO ACCOMPANY REPORT BY E.R. ROCKEL

IR INTERPRETEX
RESOURCES LTD.

SCALE: 20000
PROJECT UM

DATE: Jan/90
FIGURE NO.: 2
DRAWN BY

4 18 3291

SNOW 1

18 3269

18 3052

18 3053

BZ-9
18 3020

HAMILTON

ULTRA 3
18 3245

EXPO 8 EXPO 5

SNOW 2 TANGLEWOOD HILL
18 3270

PLAT

18 2584

MAFIC 1
18 3054

MAFIC 3
18 3246

MAFIC 4
18 3247

MAFIC 5
18 3248

MAFIC 6
18 3249

MAFIC 7
18 3250

MAFIC 2

18 3077

LODESTONE 3

18 458

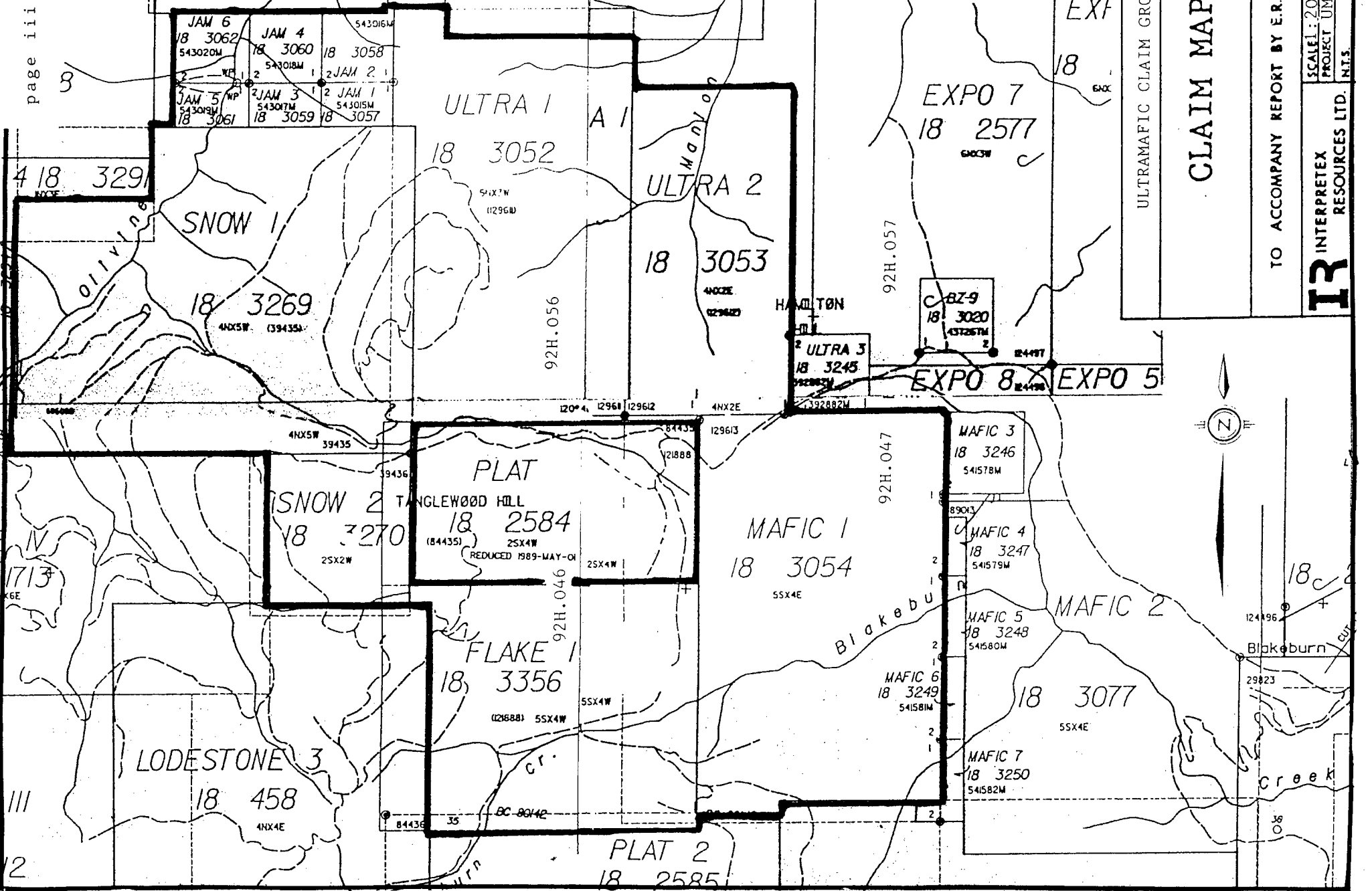
FLAKE 1
18 3356

PLAT 2
18 2585



Blakeburn

Creek



1.0 SUMMARY

An electromagnetic (VLF-EM) and magnetic survey program was carried out on the Ultramafic claim group in order to determine the effectiveness of these methods in following mineralized trends.

The VLF-EM method proved responsive to area geology. VLF-EM conductors are primarily interpreted to represent structures or contacts which may be mineralized. Magnetic results show a very active magnetic unit, believed to represent the Tulameen Ultramafic Complex, adjacent to a quiet magnetic unit, believed to represent Nicola Group metavolcanics and metasediments. The boundary between the two magnetic units may represent either a geologic contact or a fault between the Tulameen Ultramafic Complex and Nicola Group metavolcanics. The magnetic boundary is parallel to and nearby conductor "C1" indicating that the inferred contact may be mineralized.

Additional geological investigations and rock sampling of the targets found by the present survey should be carried out. Additional geophysical and geochemical surveys should be performed on a controlled grid system in order to understand the petrology and mineralogy of the area in greater detail and to more adequately define the present mineralized trends as well as to find additional targets which may contain gold mineralization.

Subsurface targets obtained from the additional surveys should be trenched or drilled to determine their economic potential.

2.0 INTRODUCTION

2.1 General

A combined prospecting, soil geochemistry and geophysical program was carried out on the Ultramafic claim group in the Similkameen Mining Division near Tulameen, B.C. The geophysical program consisted of electromagnetic (VLF-EM) and magnetic surveys on a grid located within the Ultramafic claim group. The program was carried out from May to October, 1989.

2.2 Objectives

- to test for the presence of economic mineralization
- to test the effectiveness of VLF-EM in following possible mineralized trends and to establish new unrecognized conductive trends,
- to establish a correlation between magnetic minerals and mineralized trends,
- to establish geophysical areas of interest for future exploration.

2.3 Method

Initially, the 1988 baseline 1000N was extended to the west from 7600E to 6400E to cover the newly staked Snow claims. The baseline was surveyed using VLF-EM and magnetic methods. The extended baseline was also soil sampled with a grub hoe into the "B" horizon to a depth of approximately 15 centimeters. Paper sample bags supplied by Min En Labs were filled half full, dried and then specific samples were sent for assaying.

Survey lines were turned off perpendicular to the baseline. All survey lines except line 7800E were surveyed using VLF-EM and magnetic methods. Lines 7200E to 7500E were soil sampled from 1000N to 1050N. Tie line 9900N was surveyed along a road from 6375E to 6750E.

2.4 Claim Status

- Similkameen Mining Division
- Ultramafic Group Claims
- NTS 92 H/10W
- Latitude: 49 deg. 30 min. N
- Longitude: 120 deg. 48 min. W
- Claim Owner: E.R. Rockel

Claim Name	Units	Record #	Record Date	Expiry Date
Ultra #1	15	3052	10/16/88	10/16/90
Ultra #2	8	3053	10/16/88	10/16/90
Mafic #1	20	3054	10/16/88	10/16/90
Jam #1	1	3057	10/16/88	10/16/90
Jam #2	1	3058	10/16/88	10/16/90
Jam #3	1	3059	10/16/88	10/16/90
Jam #4	1	3060	10/16/88	10/16/90
Jam #5	1	3061	10/16/88	10/16/90
Jam #6	1	3062	10/16/88	10/16/90
Snow #1	20	3269	12/17/89	12/17/90
Snow #2	4	3270	12/17/89	12/17/90
Flake #1	20	3356	05/08/90	05/08/91

2.5 Location and Access

The property is located 5 km. southwest of Tulameen, B.C. Access to the Ultramafic claim group is from Coalmont via logging roads for 10 km. west to the eastern edge of the property.

2.6 Operations and Communications

- personnel and equipment were mobilized from Vancouver, B.C. by truck.
- accommodation for all personnel was at the Villager Motel in Princeton, B.C.
- food was obtained in Princeton, B.C.
- communications were by land line telephone from Princeton. Field communications were by Motorola HT-600 transceivers.
- a four wheel drive truck was used to carry personnel and equipment into the grid area and for transportation within the survey grid.

2.7 Physiography

The topography of the survey area was moderate with numerous steep slopes. Vegetation consisted primarily of fir and pine. Extensive logging has taken place on the grid.

2.8 Previous Work

In 1988, Interpretex Resources carried out a reconnaissance geophysical, geochemistry and geological program over the Ultramafic claim group. Geochemistry results indicated possible platinum occurrences within the claim group and geophysical results suggested that coincident VLF-EM and magnetic anomalies may be indicators of mineralization.

3.0 GEOLOGY

The Ultramafic claim group is situated near and perhaps partly within the late Triassic Tulameen Ultramafic Complex. Much of the claim group is underlain by Upper Triassic Nicola Group metasediments and metavolcanics. The eastern portion of the claim group is believed to be underlain by Tertiary Princeton Group sediments and volcanic flows.

4.0 GEOCHEMISTRY AND PROSPECTING

Although a significant number of soil samples were taken over the current survey grid, only specific samples were assayed over regions believed to be have potential for anomalous platinum and gold. Little encouragement was gained from these samples. Two rock samples were assayed. One rock sample from 10125N, 7625E showed slightly anomalous platinum and represents a point of interest for additional work at a later date.

General prospecting of the Flake #1 claim was carried out to increase the basic geological knowledge of the southern portion of the claim. Results were inconclusive due to extensive cover and disturbance by logging. It appears that the ultrabasic/volcanic contact may be in the vicinity of Blakeburn Creek, possibly with minor ultrabasic occurrences within the volcanic rocks to the south.

5.0 GEOPHYSICS

5.1 SURVEY SPECIFICATIONS

5.1.1 Survey Parameters

- survey line separation - 100 m.
- survey station spacing - 12.5 m.
- horizontal control - lines were surveyed by compass and hip chain with estimated slope corrections
 - stations were located using felt pen markings and flagging tied to vegetation
- VLF-EM survey total 7.7 km at 12.5 m. spacing
- magnetic survey total 7.7 km at 12.5 m. spacing

5.1.2 Equipment Parameters

- VLF-EM and Magnetic Surveys
 - Scintrex Omni Plus combined VLF-EM and magnetometer
 - In-phase (dip angle) and Quadrature (out-of-phase) measured in percent at each station
 - field strength measured at each station
 - transmitting stations used - NLK (24.8 kHz) - Seattle, Wash.
 - NAA (24.0 kHz) - Cutler, Maine
 - earth's total magnetic field measured in gammas (nanoteslas)
 - magnetic variations controlled by automatic magnetic base station recording every 30 seconds
 - instrument accuracy +/- 0.1 gamma
 - station repeatability better than +/- 3 gammas in low gradients

5.1.3 Equipment Specifications - see Appendix III

....6

5.2 DATA

5.2.1 Calculations

Total field magnetic readings were individually corrected for variations in the earth's magnetic field using magnetic base station values.

The formula used for magnetic corrections was;
$$CTFR = TFR + (DBL - BSR) (\text{gammas})$$

where: CTFR = Corrected Total Field Reading
TFR = Total Field Reading
DBL = Datum Base Level
BSR = Base Station Reading

5.2.2 Presentation

- Seattle VLF-EM in-phase, out-of-phase and field strength readings are presented in profile form on Figure # 3 at a scale of 1:5000,
- Cutler VLF-EM in-phase, out-of-phase and field strength readings are presented in profile form on Figure # 4 at a scale of 1:5000,
- Magnetic data were profiled and are presented on Figure # 5 at a scale of 1:5000,
- Magnetic data were contoured and are presented on Figure # 6 at a scale of 1:5000,
- The geophysical interpretation is presented on Figure # 7 at a scale of 1:2500,
- Field readings and calculated values are listed in Appendix IV.

5.3 INTERPRETATION

5.3.1 Discussion of Results

Total field magnetic data over the Ultramafic survey area were noise free with no cultural sources observed. Magnetic readings range from 49300 nT. to 63900 nT. The magnetic datum value for the total field magnetic profile map was determined by statistical analysis to be 56000 nT. This datum value graphically shows if a magnetic reading is above or below the mean value for the grid.

The magnetic environment over the survey area appears to be divided into two separate units, "M1" and "M2". The northern two thirds of the grid, labeled "M1", exhibits little magnetic activity with values ranging from 56000 nT. to 56400 nT. Magnetic results within "M1" show a gradual trend from lower values, approximately 56000 nT., in the south to higher values, approximately 56400 T. to the north.

The southern third of the grid, labeled magnetic unit "M2", is characterized by a very active magnetic environment which generally displays higher magnetic intensity than the northern third of the grid. Magnetic unit "M2" corresponds with a strong magnetic high seen in aeromagnetic results.

One short magnetic high feature has been delineated based on line to line continuation of magnetic profile character. This magnetic lineaments is labeled "L1" on Figure # 6. "L1" is a short wavelength, monopolar magnetic high located within magnetic unit "M1" at the western edge of the grid. "L1" exhibits values approximately 1000 nT. above background and is coincident with weak conductor "C3".

VLF-EM data were noise free, and no cultural sources were observed. Field strength readings are dependent on transmitter power output and weather conditions therefore these results are time dependent. For this reason level changes in field strength values (e.g. baseline 10000N at 6700E) result from data acquired on different days. Seattle and Cutler results exhibit similar character and both frequencies were used in the present interpretation. Cutler data were observed to give better results on northwest trending conductors and Seattle data gave better results on northeast trending conductors.

VLF-EM data display a response to topography within the survey area. The topographic signature characteristically exhibits long wavelength and large amplitude in-phase and quadrature responses as well as a broad field strength anomaly. Topographic effects are seen as strong positive in-phase results on the western portion of baseline 10000N.

Three VLF-EM conductors, labeled "C1", "C2" and "C3" on Figure # 3 and Figure # 4, were delineated over the Ultramafic grid. Conductor system "C1" is located in the southern portion of the grid on lines 7300E, 7400E and 7500E. "C1" continues off the grid in both directions. "C1" generally exhibits strong in-phase and field strength response, however, the quadrature response is weak. "C1" exhibits moderate response on line 7500E and stronger responses on lines 7400E and 7300E. On line 7300E, "C1" splits into a double conductor. "C1" is parallel to, and lies approximately 100 m. north of the boundary between magnetic units "M1" and "M2"

Conductor "C2", located in the northern portion of the grid, exhibits moderate response and appears to continue off the grid to the northeast. "C2" trends to the northeast and appears to be offset at line 7500E.

Conductor "C3" was interpreted primarily due to its coincidence with magnetic high feature "L2". Cutler VLF-EM results show a moderately strong, short wavelength conductor at 6500E on baseline 10000E, however the response on tie line 9900N is significantly weaker and is interpreted, as stated above, based on its coincidence with magnetic lineament "L2".

5.3.2 Conclusions

Magnetic results were successful in defining magnetic units, which may represent area lithology, and in delineating a magnetic lineament, believed to represent a mafic dyke.

Magnetic units outlined on Figure # 6 define areas of varying magnetic susceptibilities which represent areas of different magnetic mineral content, thereby suggesting different rock types. Generally, the more magnetically active areas represent higher mafic mineral content. For this reason, the extremely magnetically active unit "M2" is interpreted to define gabbros, probably containing areas of massive magnetite, of the Tulameen Ultramafic Complex.

The inactive magnetic unit "M1" is believed to represent Nicola Group metasediments and metavolcanics or possibly rocks of the Princeton Group.

The boundary between magnetic units "M1" and "M2" may represent either a geologic contact or a fault. Since contact-metasomatic deposits are the target of the survey, the boundary between intrusives and country rock is important, especially when conductors, which may indicate massive sulphides, are discovered nearby. Therefore, the discovery of the contact between "M1" and "M2" constitutes a success.

The magnetic high feature "L1" is interpreted to represent a mafic dyke which, due to its coincidence with conductor "C3", may be mineralized.

The VLF-EM method successfully defined a number of conductors which are believed to represent structural features or possibly massive sulphide mineralization. Conductor "C1" is the strongest and most important conductor discovered in the present survey. "C1" is interpreted to have moderate to strong conductance. Conductors of this strength often are observed to represent structural features, in this case probably a fault, or more rarely massive sulphide mineralization. As discussed above, the discovery of strong conductor "C1" flanking the boundary between magnetic units "M1" and "M2" is a possible indication that contact metasomatic mineralization may be present.

Conductor "C2" is a moderate conductor which is believed to represent a structural feature, probably a fault.

7.0 RECOMMENDATIONS

An extended geochemical and geophysical survey is recommended over the claimed area in the third stage of exploration. The extended survey should concentrate in the region of the boundary between magnetic units "M1" and "M2" and conductor "C1" in order to outline the lateral extent of these anomalous zones.

Additional geological investigations and rock sampling are recommended in the vicinity of the platinum rock anomalies in an attempt to confirm the presence of anomalous values in bedrock, to investigate the type of occurrence and to determine if there is an association with other mineralization.

On the basis of additional geological and geochemical results, areas which show anomalous economic mineral potential should be considered for survey using the induced polarization method during phase 3 exploration.

Subsurface targets obtained from the additional surveys should be trenched or drilled to determine their economic potential.

LATE #2
2295
45X4E (88172)

DEN #1
18 2883
25X3W (89146)

18 3272 18 3272
55X4E (89750)

MT.
JACKSON

page 10

JAM 6
18 3062
543020M

JAM 4
18 3060
543018M

JAM 5
18 3061
543019M

JAM 3
18 3059
543017M

JAM 2
18 3058
543016M

JAM 1
18 3057
543015M

ULTRA 1
A 1

ULTRA 2

EXPO 7
18 2577
600W

SNOW 1

18 3269
4NX5W (39435A)

18 3052

18 3053
4NX2E (29622)

92H.057

HAMILTON

CBZ-9
18 3020
45T267M

2 ULTRA 3
18 3245
422967M

EXPO 8 EXPO 5

4 18 3291
45X4E

1713
NX6E

SNOW 2 TANGLEWOOD HILL

18 3270
25X2W

PLAT

18 2584
25X4W (84435)
REDUCED 1989-MAY-01

MAFIC 1
18 3054
55X4E

MAFIC 3
18 3246
541578M

MAFIC 4
18 3247
541579M

MAFIC 5
18 3248
541580M

MAFIC 6
18 3249
541581M

MAFIC 7
18 3250
541582M

MAFIC 2

18 3077
55X4E

LODESTONE 3

18 458
4NX4E

FLAKE 1

18 3356
55X4W (22688)

PLAT 2

18 2585
5X5E

ULTRAMAFIC CLAIM GROUP

PROSPECTING ROUTE MAP

TO ACCOMPANY REPORT BY E.R. ROCKEL

IR	INTERPRETER	SCALE: 20000	DATE: Jan/92
	RESOURCES LTD.	PROJECT UM	VOLUME NO: 8
			DRAWN BY



18c 25

Blakeburn CUT LINE

Creek

08

LATE #2
2295
4SX3E (88172)

DEN #1
18 2883
2SX3W (89146)

18 3272 18 3272

5SX4E (89738)

MT. JACKSON

page 11

JAM 6
18 3062
543020M

JAM 4
18 3060
543018M

18 3058

JAM 5
18 3061
543019M

2 JAM 3
18 3059
543017M

2 JAM 1
18 3057
543015M

ULTRA 1 A 1

ULTRA 2

EXPO 7
18 2577
6003W

4 18 3291
NOSE

SNOW 1

18 3052

18 3053

18 3269
4NX5W (39435)

92H.056

HAMILTON

18 3020
43225M

EXPO 8 EXPO 5

18 3294
OLIVE

SNOW 2

PLAT

MAFIC 1

MAFIC 3
18 3246
541578M

1713
NX6E

18 3270
2SX2W

TANGLEWOOD HILL
18 2584
(84435) 2SX4W
REDUCED 1989-MAY-01

18 3054
5SX4E

MAFIC 4
18 3247
541579M

MAFIC 5
18 3248
541580M

MAFIC 6
18 3249
541581M

MAFIC 7
18 3250
541582M

MAFIC 2

18 3077
5SX4E

LODESTONE 3

18 458
4NX4E

FLAKE 1

18 3356
(21688) 5SX4W

PLAT 2

18 2585
5SX5E

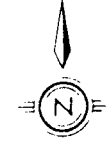
ULTRAMAFIC CLAIM GROUP

GRID LOCATION MAP

TO ACCOMPANY REPORT BY E.R. ROCKEL

SCALE: 20000 DATE: Jan 1992
PROJECT UN FIGURE NO: 9
DRAWN BY N.T.S.

IR INTERPRETEX
RESOURCES LTD.

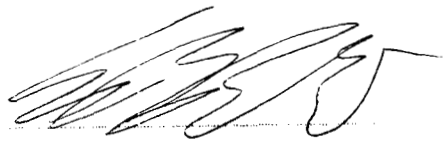


18 25
Blakeburn CUT LAKE
Blakeburn
Creek
29823
36

Respectfully Submitted

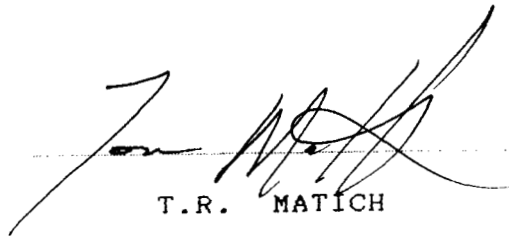
INTERPRETEX RESOURCES LTD.

Vancouver, British Columbia



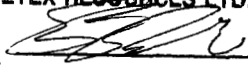
E.R. ROCKEL

Consulting Geophysicist



T.R. MATICH

Geophysicist

PERMIT TO PRACTICE INTERPRETEX RESOURCES LTD.
Signature 
Date <u>Jan 19, 1990</u>
PERMIT NUMBER: P 3100
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

CERTIFICATE

I, Edwin Ross Rockel, Geophysicist of Surrey, British Columbia, Canada, hereby certify that:

1. I received a B.Sc. degree in Geophysics from the University of British Columbia in 1966.
2. I am a Consulting Geophysicist and owner of Interpretex Resources Ltd. of 13000 54A Avenue, in the Municipality of Surrey, in the Province of British Columbia.
3. I currently reside at 13000 54A Ave, in the Municipality of Surrey, in the Province of British Columbia.
4. I have been practising my profession since graduation.
5. I am a Professional Geophysicist registered in the Province of Alberta.
6. I am a Professional Engineer registered in the Province of Saskatchewan.
7. I am a Certified Professional Geological Scientist registered in the United States of America.
8. Geophysical work described in this report and the interpretation of data therefrom were carried out by employees of Interpretex Resources Ltd., under my supervision.
9. This report may be used for the development of the property, provided that no portion will be used out of context in such a manner as to convey meanings different from that set out in the whole.
10. Consent is hereby given to the company for which this report was prepared to reproduce the report or any part of it for the purposes of development of the property, or facts relating to the raising of funds by way of a prospectus and/or statement of material facts.

Date: Jan 14, 1990

Signed: _____

Surrey,
British Columbia


Edwin Ross Rockel
B.Sc., P.Geoph., P. Eng.

CERTIFICATE

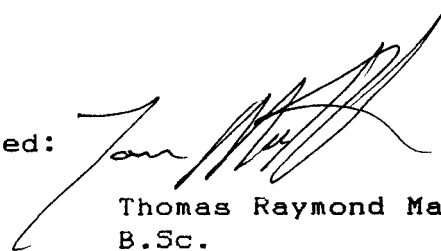
I, Thomas Raymond Matich, Geophysicist of Surrey, British Columbia, Canada, hereby certify that:

1. I received a B.Sc. degree in Geophysics from the University of British Columbia in 1982.
2. I currently reside at 13914 116 Ave, in the Municipality of Surrey, in the Province of British Columbia.
3. I have been practising my profession since graduation.
4. This report may be used for the development of the property, provided that no portion will be used out of context in such a manner as to convey meanings different from that set out in the whole.
5. Consent is hereby given to the company for which this report was prepared to reproduce the report or any part of it for the purposes of development of the property, or facts relating to the raising of funds by way of a prospectus and/or statement of material facts.

Date: Jan 14, 1990

Surrey,
British Columbia

Signed:



Thomas Raymond Matich
B.Sc.

REFERENCES

1. Rockel, E. R., 1989. Report on Combined Geophysical, Geochemical, Geological/Prospecting Program Carried Out on the Ultramafic Claim Group, Tulameen Area, Assessment Report, Vancouver, B. C.
2. Bateman A. M., 1964. Economic Mineral Deposits, Second Edition, John Wiley & Sons, Inc., New York.

APPENDIX I

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES

1. Geochemical Survey

- Field Labour Costs (including equipment, supplies, vehicle rental, fuel and room and board)	\$1,183.93
- Other Costs	
Assay Cost - Min En Laboratories Ltd.	\$ 332.00
Computer posting and plotting	\$ 75.00
Interpretation and report writing	\$ 193.00

- Geochemical Survey Cost	\$1,783.93

2. Geophysical Survey

- Field Labour Costs (including equipment, supplies, vehicle rental, fuel, room and board)	\$1,889.23
- Other Costs	
Computer profiling and plotting	\$ 225.00
Reproduction costs	\$ 25.00
Interpretation and report writing	\$ 550.00

- Geophysical Survey Cost	\$2,689.23

3. Prospecting

- Field Labour Costs (including supplies, vehicle rental, fuel, room and board)	\$1,310.08
- Other Costs	
Reproduction costs	\$ 4.00
Interpretation and report writing	\$ 75.00

- Prospecting Cost	\$1,389.08

4. Line Cutting

- Field Labour Costs (including supplies, vehicle rental, fuel, room and board for 5 trips to site)	\$3,757.24

5. TOTAL COST

\$9,619.48

Dates

Field Work - May 2, 3, 8, June 10, 11, July 1, 2, 3, 22, 23,
 Aug. 5, 6, 7, Sept. 2, 3, 4, 30, Oct. 1, 1989

Office Work - Oct. 3, 4, 1989, Jan. 12, 13, 14, 15, 1990.

APPENDIX II

GEOCHEMICAL ANALYSIS SHEETS

APPENDIX III

EQUIPMENT SPECIFICATIONS

OMNI PLUS VLF/Magnetometer System



Specifications*

Frequency Tuning Range	15 to 30 kHz, with bandwidth of 150 Hz; tuning range accommodates new Puerto Rico station at 28.5 kHz
Transmitting Stations Measured	Up to 3 stations can be automatically measured at any given grid location within frequency tuning range
Recorded VLF Magnetic Parameters	Total field strength, total dip, vertical quadrature (or alternately, horizontal amplitude)
Standard Memory Capacity	800 combined VLF magnetic and VLF electric measurements as well as gradiometer and magnetometer readings
Display	Custom designed, ruggedized liquid crystal display with built-in heater and an operating temperature range from -40°C to +55°C. The display contains six numeric digits, decimal point, battery status monitor, signal strength status monitor and function descriptors.
RS232C Serial I/O Interface	2400 baud rate, 8 data bits, 2 stop bits, no parity
Test Mode	A. Diagnostic Testing (data and programmable memory) B. Self Test (hardware)
Sensor Head	Contains 3 orthogonally mounted coils with automatic tilt compensation
Operating Environmental Range	-40°C to +55°C; 0 - 100% relative humidity; Weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid 18V DC battery cartridge or belt; 18V DC disposable battery belt; 12V DC external power source for base station operation only.
Weights and Dimensions	
Instrument Console	2.8 kg, 128 x 150 x 250 mm
Sensor Head	2.1 kg, 130 dia. x 130 mm
VLF Electronics Module	1.1 kg, 40 x 150 x 250 mm
Lead Acid Battery Cartridge	1.8 kg, 235 x 105 x 90 mm
Lead Acid Battery Belt	1.8 kg, 540 x 100 x 40 mm
Disposable Battery Belt	1.2 kg, 540 x 100 x 40 mm

*Preliminary

EDA Instruments Inc.,
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Tel: 06 23222 EDA TOR,
Cables: Instruments Toronto
(416) 425-7800

In USA,
EDA Instruments Inc.,
5151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422-9112

Printed in Canada

OMNIV 'Tie-Line' Magnetometer



Specifications

Dynamic Range	18,000 to 110,000 gammas. Roll-over display feature suppresses first significant digit upon exceeding 100,000 gammas.
Tuning Method	Tuning value is calculated accurately utilizing a specially developed tuning algorithm
Automatic Fine Tuning	$\pm 15\%$ relative to ambient field strength of last stored value
Display Resolution	0.1 gamma
Processing Sensitivity	± 0.02 gamma
Statistical Error Resolution	0.01 gamma
Absolute Accuracy	± 1 gamma at 50,000 gammas at 23°C ± 2 gamma over total temperature range
Standard Memory Capacity	
Total Field or Gradient	1,200 data blocks or sets of readings
Tie-Line Points	100 data blocks or sets of readings
Base Station	5,000 data blocks or sets of readings
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from -40°C to $+55^{\circ}\text{C}$. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.
RS 232 Serial I/O Interface	2400 baud, 8 data bits, 2 stop bits, no parity
Gradient Tolerance	6,000 gammas per meter (field proven)
Test Mode	A. Diagnostic testing (data and programmable memory) B. Self Test (hardware)
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy.
Gradient Sensors	0.5 meter sensor separation (standard), normalized to gammas/meter. Optional 1.0 meter sensor separation available. Horizontal sensors optional.
Sensor Cable	Remains flexible in temperature range specified, includes strain-relief connector
Cycling Time (Base Station Mode)	Programmable from 5 seconds up to 60 minutes in 1 second increments
Operating Environmental Range	-40°C to $+55^{\circ}\text{C}$; 0-100% relative humidity; weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid battery cartridge or belt; rechargeable NiCad or Disposable battery cartridge or belt; or 12V DC power source option for base station operation.
Battery Cartridge/Belt Life	2,000 to 5,000 readings, for sealed lead acid power supply, depending upon ambient temperature and rate of readings
Weights and Dimensions	
Instrument Console Only	2.8 kg, 238 x 150 x 250mm
NiCad or Alkaline Battery Cartridge	1.2 kg, 235 x 105 x 90mm
NiCad or Alkaline Battery Belt	1.2 kg, 540 x 100 x 40mm
Lead-Acid Battery Cartridge	1.8 kg, 235 x 105 x 90mm
Lead-Acid Battery Belt	1.8 kg, 540 x 100 x 40mm
Sensor	1.2 kg, 56mm diameter x 200mm
Gradient Sensor	
(0.5m separation - standard)	2.1 kg, 56mm diameter x 790mm
Gradient Sensor	
(1.0m separation - optional)	2.2 kg, 56mm diameter x 1300mm
Standard System Complement	Instrument console; sensor; 3-meter cable, aluminum sectional sensor staff, power supply, harness assembly, operations manual.
Base Station Option	Standard system plus 30 meter cable
Gradiometer Option	Standard system plus 0.5 meter sensor

EDA Instruments Inc.
4 Thorncliffe Park Drive
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR
Cable: Instruments Toronto
(416) 425 7800

In U.S.A.
EDA Instruments Inc.
5151 Ward Road
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422 9112

Printed in Canada

APPENDIX IV

VLF-EM AND MAGNETIC DATA LIST

INTERPRETEX RESOURCES LTD. Data listing

(Line & Station + = Northings and Eastings,

Current File Name:SNOWDAT.WR1

Area: TULAMEEN, B.C.

- = Southings and Westings)

From File:SNOW.XYZ

Grid: ULTRAMAFIC

Date: December, 1989

DATA TYPE(S):

INSTRUMENT TYPE:

DATA DETAILS:

- # 1. Total Field Magnetic Values
- # 2. VLF-EM In-Phase Values
- # 3. VLF-EM Quadrature (Out-of-Phase)
- # 4. VLF-EM Field Strength
- # 5. VLF-EM In-Phase Values
- # 6. VLF-EM Quadrature (Out-of-Phase)
- # 7. VLF-EM Field Strength

EDA VLF-EM/Magnetic System
 EDA VLF-EM/Magnetic System
 " " " "
 " " " "
 EDA VLF-EM/Magnetic System
 " " " "
 " " " "

Corrected total magnetic field
 Facing southerly using Seattle Transmitter
 Facing southerly using Seattle Transmitter
 Seattle total field strength
 Facing northerly using Cutler Transmitter
 Facing northerly using Cutler Transmitter
 Cutler total field strength

E/W	N/S								
STATION	LINE #	# 1.	# 2.	# 3.	# 4	# 5.	# 6.	# 7.	
tieline 9900									
6375	9900	6375.0	56117.0	2.7	-3.2	334.6	4.6	0.6	7.1
6387.5	9900	6387.5	56094.6	3.4	-3.8	334.3	5.3	0.2	7.0
6400	9900	6400.0	56226.6	6.2	-1.8	331.9	5.3	1.1	7.0
6412.5	9900	6412.5	56373.8	6.8	-0.8	329.9	6.4	0.3	7.0
6425	9900	6425.0	56297.1	9.1	-0.2	333.3	4.4	0.8	7.2
6437.5	9900	6437.5	56236.5	8.8	0.0	327.2	4.6	0.6	7.3
6450	9900	6450.0	56039.4	9.3	-0.1	333.1	4.7	-0.5	7.4
6462.5	9900	6462.5	56175.8	7.6	-1.9	332.1	3.7	-1.4	7.6
6475	9900	6475.0	56288.4	6.1	-3.3	331.5	2.6	-2.6	7.8
6487.5	9900	6487.5	56346.2	6.2	-3.4	328.3	2.5	-2.3	7.8
6500	9900	6500.0	56201.8	5.8	-4.4	327.0	-0.2	-4.1	7.8
6512.5	9900	6512.5	56177.8	6.1	-5.4	325.1	-0.6	-4.3	7.6
6525	9900	6525.0	56309.6	7.8	-3.9	326.4	-0.1	-2.9	7.4
6537.5	9900	6537.5	56598.6	10.0	-2.8	334.4	0.9	-2.5	7.7
6550	9900	6550.0	57066.7	9.9	-4.2	350.1	5.3	-1.8	7.9
6562.5	9900	6562.5	56625.3	9.7	-5.4	370.9	4.7	-2.1	8.1
6575	9900	6575.0	55735.2	7.4	-6.9	383.4	3.7	-2.1	8.4
6587.5	9900	6587.5	55259.0	7.5	-8.0	383.7	3.5	-2.4	8.7
6600	9900	6600.0	55358.1	10.2	-7.5	372.4	6.3	-2.1	8.7
6612.5	9900	6612.5	55493.5	12.2	-6.6	380.4	8.1	-0.7	8.6
6625	9900	6625.0	55631.6	12.5	-6.7	387.9	8.0	-0.1	8.3
6637.5	9900	6637.5	55719.0	9.6	-6.8	383.8	7.9	0.8	8.1
6650	9900	6650.0	55775.9	7.2	-6.3	384.6	8.5	1.3	8.0
6662.5	9900	6662.5	55840.8	6.2	-5.1	381.1	10.3	4.2	7.9
6675	9900	6675.0	55950.3	7.2	-2.7	386.5	11.5	4.6	7.9
6687.5	9900	6687.5	55978.5	3.9	-2.5	384.9	12.1	4.9	7.8
6700	9900	6700.0	55999.2	2.3	-2.7	380.5	10.5	5.3	7.7
6712.5	9900	6712.5	56010.4	2.3	-2.1	371.4	10.1	4.3	7.5
6725	9900	6725.0	55999.9	2.5	-0.9	369.4	11.4	4.8	7.6
6737.5	9900	6737.5	56028.9	3.5	1.4	377.5	11.8	4.9	7.6
6750	9900	6750.0	56063.8	0.1	-0.7	376.7	8.3	2.3	7.5
6762.5	9900	6762.5	56022.9	-2.3	-0.8	365.1	6.0	2.6	7.1
baseline 10000									
6375	10000	6375.0	56190.5	16.3	-0.9	327.7	14.9	2.8	7.0
6387.5	10000	6387.5	56229.5	17.0	-1.0	332.6	14.4	2.5	7.1
6400	10000	6400.0	56221.0	16.7	0.2	333.4	13.1	3.1	7.2
6412.5	10000	6412.5	56360.0	15.9	-0.1	332.0	12.9	1.5	6.9
6425	10000	6425.0	56334.3	17.4	0.6	324.5	13.6	1.5	7.0
6437.5	10000	6437.5	56244.5	16.3	0.0	332.8	10.7	0.9	7.1

6450	10000	6450.0	56177.9	15.8	-0.2	326.0	12.3	-0.3	7.2
6462.5	10000	6462.5	56081.3	14.9	-0.1	329.2	12.2	-1.8	7.4
6462.5	10000	6462.5	56162.4	14.8	-0.3	329.1	11.4	-1.6	7.4
6475	10000	6475.0	56117.2	13.8	-0.9	330.7	13.6	-3.1	7.6
6487.5	10000	6487.5	56452.8	11.6	-1.8	338.6	13.7	-2.7	7.8
6500	10000	6500.0	56956.0	9.9	-4.0	334.4	18.3	-2.9	8.0
6512.5	10000	6512.5	57265.4	8.2	-5.2	336.2	31.8	1.9	7.7
6525	10000	6525.0	57276.1	8.7	-5.2	339.3	32.2	1.4	7.7
6537.5	10000	6537.5	55950.9	1.5	-10.6	336.4	34.8	1.5	7.1
6550	10000	6550.0	55928.8	4.6	-9.6	322.2	32.4	1.5	6.6
6562.5	10000	6562.5	55992.1	7.8	-8.8	305.4	30.1	-0.1	6.4
6575	10000	6575.0	56039.7	13.5	-6.0	292.6	31.1	0.8	6.3
6587.5	10000	6587.5	56044.8	15.8	-5.4	292.6	30.2	0.0	6.2
6600	10000	6600.0	56049.2	18.4	-6.0	289.2	31.2	0.0	6.1
6612.5	10000	6612.5	56067.6	21.2	-5.4	284.9	29.5	0.3	6.0
6625	10000	6625.0	56097.0	23.6	-4.6	279.7	30.1	0.6	6.0
6637.5	10000	6637.5	56069.6	29.6	-2.8	274.2	33.1	1.7	5.9
6650	10000	6650.0	56079.8	35.0	-2.1	270.2	34.7	3.1	5.9
6662.5	10000	6662.5	56087.7	40.2	-0.6	278.9	39.1	6.0	6.0
6675	10000	6675.0	56085.4	49.4	2.9	292.4	43.3	8.4	6.1
6687.5	10000	6687.5	56090.2	49.3	-1.7	324.4	45.6	5.3	6.4
6700	10000	6700.0	56101.0	44.2	-6.8	352.5	44.0	3.1	6.8
6700	10000	6700.0	56101.4	44.3	-6.3	385.6	44.0	2.5	6.8
6712.5	10000	6712.5	56104.0	39.0	-9.4	410.5	43.2	-0.9	6.9
6725	10000	6725.0	56111.9	34.3	-11.2	426.7	40.8	-3.5	7.2
6737.5	10000	6737.5	56104.4	30.4	-13.5	416.6	40.6	-4.2	7.2
6750	10000	6750.0	56124.1	32.8	-9.8	432.7	40.7	-3.7	7.3
6762.5	10000	6762.5	56142.2	26.8	-10.0	440.9	36.4	-5.0	7.4
6775	10000	6775.0	56128.0	24.2	-9.8	435.4	36.7	-4.0	7.2
6787.5	10000	6787.5	56120.0	25.8	-5.9	432.5	38.2	-1.8	7.3
6800	10000	6800.0	56140.7	22.8	-4.0	441.2	33.8	-1.4	7.3
6812.5	10000	6812.5	56163.7	19.1	-4.0	436.7	31.4	-1.6	7.2
6825	10000	6825.0	56153.1	17.6	-2.1	428.5	29.2	-1.1	7.1
6837.5	10000	6837.5	56164.4	15.4	-0.7	418.6	26.8	-1.5	7.0
6850	10000	6850.0	56160.8	14.1	-0.2	413.2	25.2	-0.3	6.8
6862.5	10000	6862.5	56155.1	12.8	0.0	410.2	24.6	-0.5	6.8
6875	10000	6875.0	56143.6	13.8	2.3	412.9	25.5	0.3	6.6
6887.5	10000	6887.5	56153.1	11.2	1.8	412.5	24.1	0.3	6.6
6900	10000	6900.0	56160.7	9.0	1.4	417.5	22.8	0.9	6.5
6912.5	10000	6912.5	56145.2	6.3	0.9	414.1	21.3	1.1	6.5
6925	10000	6925.0	56144.5	5.9	1.1	406.6	21.5	1.6	6.3
6937.5	10000	6937.5	56128.4	5.2	1.2	407.9	20.3	2.1	6.3
6950	10000	6950.0	56130.0	4.3	1.9	399.8	20.0	2.5	6.1
6962.5	10000	6962.5	56134.8	2.8	1.5	400.9	17.7	2.7	6.1
6975	10000	6975.0	56114.5	1.6	0.8	387.8	17.1	2.7	6.0
6987.5	10000	6987.5	56114.3	2.8	1.0	385.5	15.9	1.7	6.1
7000	10000	7000.0	56111.4	2.8	0.3	388.9	13.5	2.5	6.1
7012.5	10000	7012.5	56119.1	3.8	-0.1	381.9	11.1	1.1	6.0
7025	10000	7025.0	56136.5	2.4	-1.2	386.1	9.2	1.9	5.9
7037.5	10000	7037.5	56140.7	2.0	-1.9	377.1	8.7	1.8	5.8
7050	10000	7050.0	56136.5	4.4	-1.6	359.5	8.1	2.4	5.6
7062.5	10000	7062.5	56215.3	7.0	-0.7	359.0	6.7	2.8	5.5
7075	10000	7075.0	56294.7	9.5	0.5	355.9	8.1	3.6	5.3
7087.5	10000	7087.5	56327.3	10.3	1.6	360.8	5.5	4.0	5.1
7100	10000	7100.0	56306.9	11.4	2.4	365.4	6.4	5.0	5.1
7112.5	10000	7112.5	56181.6	8.5	2.2	370.1	3.6	3.2	5.0

7125	10000	7125.0	56129.8	5.0	2.1	373.4	3.3	1.7	5.0
7137.5	10000	7137.5	56122.4	1.9	1.5	370.4	1.6	-1.0	5.0
7150	10000	7150.0	55996.1	2.9	2.0	367.8	1.3	-1.3	5.0
7162.5	10000	7162.5	56027.8	2.5	2.3	371.9	-1.5	-1.9	5.1
7175	10000	7175.0	56035.6	2.2	2.5	374.8	-2.0	-2.5	5.3
7187.5	10000	7187.5	56055.3	2.0	2.8	378.8	-2.5	-2.0	5.5
7200	10000	7200.0	56082.6	3.0	3.4	378.6	-4.6	-2.1	5.5
7212.5	10000	7212.5	56083.0	3.1	2.8	375.6	-6.3	-2.4	5.4
7225	10000	7225.0	56118.5	2.9	2.3	378.2	-7.2	-2.2	5.4
7237.5	10000	7237.5	56103.5	2.1	1.3	375.4	-9.3	-2.0	5.4
7250	10000	7250.0	56093.5	2.1	0.8	366.1	-9.8	-3.8	5.2
7262.5	10000	7262.5	56085.7	4.0	1.3	361.3	-9.4	-2.7	5.2
7275	10000	7275.0	56081.9	4.1	0.9	360.5	-10.2	-2.3	5.2
7287.5	10000	7287.5	56068.2	4.5	0.6	357.5	-11.0	-2.7	5.1
7300	10000	7300.0	56053.6	6.3	0.5	352.0	-9.6	-1.4	5.0
7312.5	10000	7312.5	56060.4	7.4	0.3	352.0	-9.0	-0.3	5.0
7325	10000	7325.0	56149.7	9.7	0.9	356.5	-7.6	-0.1	5.0
7337.5	10000	7337.5	56219.2	10.8	1.4	354.9	-6.8	0.5	5.0
7350	10000	7350.0	56152.3	11.7	1.9	352.8	-4.5	2.3	5.0
7362.5	10000	7362.5	56102.9	12.6	3.0	360.1	-1.9	3.3	5.0
7375	10000	7375.0	56077.0	12.9	2.4	374.4	-1.0	2.3	5.2
7387.5	10000	7387.5	56064.9	10.8	1.0	382.2	-1.4	2.3	5.4
7400	10000	7400.0	56054.6	7.8	-0.7	389.1	-2.2	0.3	5.4
7412.5	10000	7412.5	56059.5	5.1	-1.7	388.2	-4.0	-0.6	5.4
7425	10000	7425.0	56063.6	1.1	-4.7	369.3	-7.3	-4.1	5.2
7437.5	10000	7437.5	56058.1	1.1	-4.7	362.1	-8.5	-3.7	5.1
7450	10000	7450.0	56012.7	0.2	-6.4	356.0	-9.1	-6.5	5.1
7462.5	10000	7462.5	56017.3	1.4	-7.0	351.2	-9.3	-5.8	5.1
7475	10000	7475.0	55966.0	1.9	-7.2	347.4	-9.2	-5.9	5.1
7487.5	10000	7487.5	55957.4	3.5	-8.0	334.5	-10.4	-7.9	5.0
7500	10000	7500.0	55911.7	8.1	-6.2	332.1	-8.9	-7.8	4.9
7512.5	10000	7512.5	55834.2	11.2	-4.4	340.9	-5.6	-5.0	4.9
7525	10000	7525.0	55759.2	11.0	-3.7	360.1	-2.5	-2.9	5.0
7537.5	10000	7537.5	55835.2	10.7	-2.1	347.4	-3.0	-2.1	4.9
7550	10000	7550.0	55999.1	12.2	0.3	353.7	-1.5	1.7	5.0
7562.5	10000	7562.5	56054.0	11.4	0.7	362.0	-1.4	1.3	5.0
7575	10000	7575.0	56003.5	11.2	1.2	360.7	-1.2	2.2	4.9
7587.5	10000	7587.5	56157.4	9.2	0.0	367.3	-2.3	2.0	5.0
7600	10000	7600.0	56135.7	9.0	-1.5	369.8	-4.2	-2.0	4.9
7625	10000	7625.0	56261.1	16.2	3.5	390.1	-3.3	0.5	5.0
7650	10000	7650.0	55777.4	-1.4	-3.2	398.9	-5.2	-2.5	5.2
line 6775									
6775	9837.5	9837.5	56044.4	5.7	-1.7	377.4	-12.9	-6.5	7.5
6775	9850	9850.0	56032.0	5.8	-2.0	382.5	-14.9	-4.9	7.3
6775	9862.5	9862.5	56034.5	4.5	-2.2	383.6	-15.6	-5.1	7.3
6775	9875	9875.0	56096.1	6.7	-1.5	390.6	-17.2	-4.1	7.2
6775	9887.5	9887.5	56086.5	11.3	0.4	400.0	-20.3	-3.4	7.3
6775	9900	9900.0	56085.2	12.8	0.8	387.7	-21.4	-4.5	7.1
6775	9912.5	9912.5	56088.8	11.0	-4.3	370.5	-21.3	-2.6	7.1
6775	9925	9925.0	56113.9	10.1	-5.2	374.9	-20.7	-1.1	7.1
6775	9937.5	9937.5	56129.7	10.9	-2.9	404.4	-20.6	0.5	7.3
6775	9950	9950.0	56134.9	13.7	-3.7	413.6	-25.1	1.4	7.5
6775	9962.5	9962.5	56125.4	17.3	-7.4	405.7	-30.4	1.3	7.6
6775	9975	9975.0	56136.0	21.1	-2.3	422.3	-34.4	0.4	7.5
6775	9987.5	9987.5	56112.0	24.3	-5.6	416.9	-41.3	0.3	7.2
6775	10012.5	10012.5	56106.6	26.8	-6.4	412.6	-44.6	1.8	7.0

6775	10025	10025.0	56104.6	29.2	-5.5	411.1	-47.8	2.6	6.8
6775	10037.5	10037.5	56111.3	31.9	-5.9	420.2	-51.4	0.7	6.6
6775	10050	10050.0	56112.2	36.7	-4.5	422.2	-54.4	-1.7	6.1
6775	10062.5	10062.5	56108.0	38.1	-4.1	414.9	-54.1	-3.5	5.7
6775	10075	10075.0	56114.1	35.8	-5.6	404.0	-44.8	-3.9	5.2
6775	10087.5	10087.5	56107.9	32.6	-6.8	389.8	-33.8	1.7	5.0
6775	10100	10100.0	56133.6	29.8	-6.1	377.9	-27.3	3.0	5.3
6775	10112.5	10112.5	56146.8	25.6	-3.8	369.5	-24.6	2.3	5.6

line 7200

7200	10000	10000.0	56087.5	2.0	4.6	405.1	2.0	2.6	5.1
7200	10012.5	10012.5	56298.3	4.9	4.3	404.8	0.0	1.2	5.3
7200	10025	10025.0	56137.0	7.0	4.4	399.9	0.3	1.4	5.3
7200	10037.5	10037.5	56087.8	8.9	4.1	394.6	-0.7	0.2	5.2
7200	10050	10050.0	56135.6	8.6	2.7	387.6	0.0	2.2	5.2
7200	10062.5	10062.5	56161.8	9.6	2.0	389.1	-0.4	1.8	5.2
7200	10075	10075.0	56202.7	8.7	1.1	382.9	1.3	4.1	5.2
7200	10087.5	10087.5	56174.4	7.8	-0.2	387.9	2.5	4.8	5.2
7200	10100	10100.0	56200.8	6.0	-1.9	389.1	5.3	7.8	5.4
7200	10112.5	10112.5	56234.6	3.6	-3.5	402.4	7.2	10.4	5.5
7200	10125	10125.0	56254.3	3.8	-3.3	407.9	8.4	10.8	5.8
7200	10137.5	10137.5	56253.8	5.3	-2.1	411.8	6.0	8.8	6.0
7200	10137.5	10137.5	56254.2	5.6	-2.1	411.9	6.7	7.7	6.3
7200	10150	10150.0	56267.7	8.7	0.0	414.8	1.6	4.8	6.1
7200	10162.5	10162.5	56266.5	11.4	0.9	408.0	0.1	2.8	6.0
7200	10175	10175.0	56268.4	12.0	1.4	401.7	0.6	3.7	5.9
7200	10187.5	10187.5	56332.9	11.2	0.9	405.1	1.1	3.3	6.0
7200	10187.5	10187.5	56285.6	9.7	-0.3	402.4	3.1	4.9	6.0
7200	10200	10200.0	56285.8	9.2	-0.3	399.7	3.6	5.3	6.0
7200	10212.5	10212.5	56294.8	9.8	0.2	403.0	2.0	3.9	6.2
7200	10225	10225.0	56314.8	11.4	0.8	403.9	0.4	2.5	6.2
7200	10237.5	10237.5	56308.0	12.3	1.5	395.8	-0.7	1.2	6.3
7200	10250	10250.0	56310.0	12.1	0.6	396.9	-1.9	2.6	6.2
7200	10262.5	10262.5	56322.3	12.9	1.2	396.9	-4.1	1.8	6.2
7200	10275	10275.0	56333.8	13.5	1.4	391.4	-3.4	1.3	6.0
7200	10287.5	10287.5	56354.3	9.5	-1.5	390.5	-0.8	4.2	6.0
7200	10300	10300.0	56357.3	7.0	-2.0	402.6	-0.7	4.6	6.1
7200	10312.5	10312.5	56361.5	8.1	-1.2	407.0	-0.1	3.6	6.2
7200	10325	10325.0	56371.0	8.5	-0.9	407.1	-1.3	3.2	6.3
7200	10337.5	10337.5	56383.0	9.9	0.3	419.6	-2.1	1.9	6.5
7200	10350	10350.0	56395.6	12.6	2.0	418.5	-5.8	-0.7	6.6
7200	10362.5	10362.5	56406.9	14.7	2.9	415.8	-8.4	-1.3	6.6
7200	10375	10375.0	56406.2	16.8	4.5	405.7	-9.9	-2.8	6.3
7200	10387.5	10387.5	56426.4	16.5	3.2	405.6	-9.2	-2.4	6.2
7200	10400	10400.0	56426.5	16.6	3.5	403.6	-8.6	-1.6	6.2
7200	10412.5	10412.5	56437.9	17.5	3.8	403.2	-8.5	-2.1	6.1
7200	10425	10425.0	56437.1	18.5	4.6	390.6	-7.7	-1.1	6.0
7200	10437.5	10437.5	56438.6	17.9	4.4	386.0	-6.7	-1.6	6.0
7200	10450	10450.0	56440.8	17.7	4.4	383.6	-6.9	-2.0	6.0
7200	10462.5	10462.5	56423.3	16.9	3.9	372.9	-5.6	-1.0	6.0
7200	10475	10475.0	56406.2	15.4	2.9	371.6	-5.8	-0.6	6.0
7200	10487.5	10487.5	56406.4	13.9	1.6	369.7	-5.1	-0.7	6.0
7200	10500	10500.0	56412.3	15.0	1.3	373.4	-4.3	0.8	6.1

line 7300

7300	9100	9100.0	62424.2	7.9	-0.7	402.4	8.6	2.1	8.0
7300	9112.857	9112.5	61856.1	8.2	3.1	412.2	1.1	-2.5	7.9
7300	9125.714	9125.0	61257.7	4.0	2.3	406.3	0.9	-2.7	8.0

7300 9138.571	9137.5	62680.3	1.1	2.2	410.3	4.0	-1.4	7.9
7300 9151.429	9150.0	58551.1	0.4	2.4	428.5	3.7	-0.5	8.3
7300 9164.286	9162.5	62010.9	11.1	6.2	413.1	-8.7	-3.8	8.4
7300 9177.143	9175.0	58553.0	11.3	5.0	419.2	-5.0	0.8	8.6
7300 9190	9187.5	54103.3	13.6	6.1	389.2	-7.9	-6.8	7.6
7300 9202.857	9200.0	58252.9	12.3	5.4	387.3	-8.6	-3.4	7.7
7300 9215.714	9212.5	59049.6	10.1	5.5	388.9	-6.6	-3.6	7.6
7300 9228.571	9225.0	58059.7	9.4	6.3	381.5	-9.3	-5.1	7.8
7300 9241.429	9237.5	56227.4	7.9	5.8	399.7	-7.2	-4.7	7.7
7300 9254.286	9250.0	55666.3	10.3	8.2	387.4	-9.7	-9.4	7.5
7300 9267.143	9262.5	55438.5	5.5	5.0	375.5	-8.1	-7.6	7.4
7300 9280	9275.0	57272.6	4.0	5.2	375.0	-7.3	-7.9	7.5
7300 9292.857	9287.5	56592.0	0.1	2.7	367.6	-1.0	-4.2	7.4
7300 9305.714	9300.0	57437.8	-2.4	-0.1	364.0	4.3	0.6	7.8
7300 9318.571	9312.5	53622.7	-0.6	-2.0	415.1	3.2	0.6	9.0
7300 9331.429	9325.0	52890.0	9.9	0.0	433.1	-10.0	-3.9	9.3
7300 9344.286	9337.5	54517.0	22.2	2.2	392.0	-21.9	-6.4	8.4
7300 9357.143	9350.0	54398.1	20.9	1.1	391.5	-19.2	-4.0	8.2
7300 9370	9362.5	54141.5	19.6	0.7	381.3	-17.3	-2.9	8.2
7300 9382.857	9375.0	54148.5	21.8	0.8	381.5	-23.8	-6.0	8.6
7300 9395.714	9387.5	53926.5	32.9	5.8	365.2	-42.6	-16.1	8.5
7300 9408.571	9400.0	53981.1	38.7	11.2	329.4	-50.1	-28.5	7.0
7300 9421.429	9412.5	53641.4	29.0	6.6	305.9	-34.3	-20.9	5.9
7300 9434.286	9425.0	54243.5	19.6	2.1	301.8	-20.7	-9.6	5.8
7300 9447.143	9437.5	54367.6	13.0	-0.3	312.5	-13.0	-4.5	5.9
7300 9460	9450.0	54557.3	8.0	-1.6	313.8	-7.5	-1.2	6.0
7300 9472.857	9462.5	54687.8	2.7	-3.1	326.8	-0.7	2.3	6.4
7300 9485.714	9475.0	55501.6	4.7	-0.7	418.2	-7.9	-6.1	8.2
7300 9498.571	9487.5	55577.1	9.9	-2.2	395.8	-13.4	-7.5	8.3
7300 9511.429	9500.0	55584.0	17.3	-1.9	404.4	-20.5	-8.4	8.4
7300 9524.286	9512.5	55544.3	20.6	-3.6	393.3	-25.7	-11.4	8.1
7300 9537.143	9525.0	55463.9	24.2	-4.2	391.7	-29.7	-11.7	7.9
7300 9550	9537.5	55643.3	27.4	-4.6	394.5	-33.2	-11.4	7.6
7300 9562.857	9550.0	55769.2	29.4	-4.9	392.1	-33.9	-12.2	7.3
7300 9575.714	9562.5	55545.0	30.8	-3.7	386.5	-36.4	-9.9	7.2
7300 9588.571	9575.0	55477.8	32.1	-1.7	372.3	-40.8	-9.2	7.0
7300 9601.429	9587.5	55508.2	29.0	-0.2	354.7	-43.9	-9.1	6.8
7300 9614.286	9600.0	55479.6	27.5	2.0	345.3	-46.7	-11.6	6.5
7300 9627.143	9612.5	55429.5	25.2	2.2	330.2	-43.1	-12.4	6.2
7300 9640	9625.0	55554.8	22.4	1.8	322.1	-40.4	-10.1	6.1
7300 9652.857	9637.5	55662.8	17.8	0.7	317.1	-38.9	-11.4	5.9
7300 9665.714	9650.0	55804.8	13.3	-0.4	313.1	-33.5	-8.3	5.6
7300 9678.571	9662.5	56028.2	13.4	-0.2	317.3	-25.1	-3.4	5.7
7300 9691.429	9675.0	56169.5	12.4	0.0	320.0	-24.1	-3.4	5.7
7300 9704.286	9687.5	56239.6	14.8	2.7	333.8	-23.5	-5.4	5.9
7300 9717.143	9700.0	56145.1	13.9	2.4	330.3	-22.0	-5.6	5.9
7300 9730	9712.5	55717.7	13.3	2.9	338.9	-24.4	-9.5	5.9
7300 9742.857	9725.0	55757.3	12.8	2.2	338.2	-23.1	-8.0	5.9
7300 9755.714	9737.5	55676.5	14.5	3.2	340.9	-22.8	-9.5	5.8
7300 9768.571	9750.0	55635.1	14.3	4.0	341.1	-18.9	-6.6	5.8
7300 9781.429	9762.5	55658.7	13.4	4.2	350.4	-18.6	-6.0	5.9
7300 9794.286	9775.0	55732.9	8.2	2.6	360.9	-21.6	-6.0	6.0
7300 9807.143	9787.5	55805.1	3.5	3.2	359.2	-26.2	-6.3	5.8
7300 9820	9800.0	55832.6	3.3	4.7	354.7	-25.6	-7.7	5.7
7300 9832.857	9812.5	55904.5	-0.1	3.2	355.9	-19.6	-1.6	5.6
7300 9845.714	9825.0	55956.8	0.0	4.0	355.5	-17.0	-0.4	5.7

7300	9858.571	9837.5	56015.5	-1.2	2.5	352.0	-13.4	1.4	5.8
7300	9871.429	9850.0	56118.4	-3.1	1.9	353.1	-12.8	1.8	6.1
7300	9884.286	9862.5	56140.0	-2.9	1.8	357.5	-16.3	-0.4	6.3
7300	9897.143	9875.0	56257.3	-0.8	3.3	365.3	-20.7	-4.4	6.4
7300	9910	9887.5	55849.8	1.8	3.8	366.0	-22.4	-8.0	6.1
7300	9922.857	9900.0	55978.3	7.2	6.1	366.5	-17.7	-5.6	6.0
7300	9935.714	9912.5	55948.9	8.5	7.1	345.2	-13.6	-6.5	5.7
7300	9948.571	9925.0	55996.9	7.2	6.0	350.1	-7.9	-2.1	5.6
7300	9961.429	9937.5	56024.4	3.8	3.4	352.5	-1.0	-0.2	5.6
7300	9974.286	9950.0	56062.2	2.2	2.6	353.5	2.6	0.3	6.0
7300	9987.143	9962.5	56078.8	1.6	2.1	360.5	4.2	0.6	6.2
7300	10000	9975.0	56093.5	1.6	1.6	362.1	7.2	0.3	6.2
7300	10000	10000.0	56060.9	2.1	0.4	373.5	12.8	2.4	3.7
7300	10012.5	10012.5	56057.4	1.5	0.0	373.5	13.8	2.9	3.7
7300	10025	10025.0	56055.8	0.9	0.0	376.8	16.1	3.3	3.8
7300	10037.5	10037.5	56050.6	0.9	0.0	378.9	16.9	4.0	3.6
7300	10050	10050.0	56028.6	-0.3	-0.3	378.2	16.7	3.5	3.9
7300	10062.5	10062.5	56029.5	-0.6	-1.0	380.7	18.6	4.0	3.8
7300	10075	10075.0	56036.9	-2.8	-2.6	394.1	23.6	7.2	2.9
7300	10087.5	10087.5	56118.3	-1.6	-1.9	413.7	20.8	5.4	2.6
7300	10100	10100.0	56186.2	-0.5	-1.9	409.4	36.4	4.2	0.6
7300	10112.5	10112.5	56194.4	0.3	-2.0	419.8	16.5	7.5	4.6
7300	10125	10125.0	56209.8	2.0	-1.9	420.6	11.0	4.7	4.6
7300	10137.5	10137.5	56228.5	2.0	-2.9	405.9	8.2	3.5	4.5
7300	10150	10150.0	56255.2	1.9	-2.8	409.6	10.9	4.9	4.6
7300	10162.5	10162.5	56223.5	2.2	-2.9	401.7	10.3	5.9	4.9
7300	10175	10175.0	56262.1	1.1	-4.3	411.2	11.6	7.2	5.0
7300	10187.5	10187.5	56280.2	1.5	-4.1	404.5	12.3	8.2	5.1
7300	10200	10200.0	56290.4	1.7	-4.9	409.6	13.0	9.7	5.2
7300	10212.5	10212.5	56314.8	1.8	-4.5	409.6	12.1	9.1	5.3
7300	10225	10225.0	56344.3	1.9	-4.5	403.0	11.0	6.9	5.4
7300	10237.5	10237.5	56330.8	1.8	-4.2	409.6	7.9	4.5	5.6
7300	10250	10250.0	56320.9	2.9	-3.6	403.2	4.2	2.0	5.6
7300	10262.5	10262.5	56324.0	4.3	-2.7	398.1	4.0	1.5	5.4
7300	10275	10275.0	56332.9	3.2	-3.9	396.2	7.5	4.9	5.3
7300	10287.5	10287.5	56349.4	3.0	-4.5	409.9	8.5	6.7	5.6
7300	10300	10300.0	56369.9	5.5	-2.7	409.6	3.8	2.8	5.7
7300	10312.5	10312.5	56371.9	6.9	-2.8	411.3	1.8	4.0	5.5
7300	10325	10325.0	56382.7	8.2	-3.3	411.3	3.6	4.4	5.5
7300	10337.5	10337.5	56375.8	8.5	-2.7	409.4	2.1	4.3	5.5
7300	10350	10350.0	56385.4	8.7	-3.6	398.8	3.1	4.9	5.5
7300	10362.5	10362.5	56412.3	6.8	-4.6	391.9	5.3	6.2	5.5
7300	10375	10375	56395.4	7.2	-4.3	393	5.1	5.3	5.7
7300	10387.5	10387.5	56412.2	7.4	-4.1	392.7	4.9	5.1	5.6
7300	10400	10400	56410.9	7.5	-4.1	389.6	7.3	6.8	5.7
7300	10412.5	10412.5	56424.7	6.7	-3.9	396.8	7.1	5.1	5.9
7300	10425	10425	56419.2	8.3	-2.6	389.9	5.3	3.6	5.8
7300	10437.5	10437.5	56426	7.4	-3	388.5	6.8	4.3	5.9
7300	10450	10450	56432.6	7.8	-2.2	393.4	5.4	3.7	6
7300	10462.5	10462.5	56444.6	8.1	-2.5	390.8	5.5	4	6.1
7300	10475	10475	56439.5	9.3	-1.3	394	5.5	2.3	6.2
7300	10487.5	10487.5	56445.9	10.1	0	399.5	2.9	1.9	6
7300	10500	10500	56449.7	10	-0.6	388.3	4.5	2.9	6.1

line 7400

7400	9100	9100	59595.7	-3.7	-3	419.7	12.6	7	6.9
7400	9112.5	9112.5	60178	-0.1	-1.9	434.4	6.3	6.1	7.3

7400	9125	9125	60031.1	9.2	1.5	421.4	-4.2	1	7.3
7400	9137.5	9137.5	61148.8	8.3	2.6	397.8	-2.6	1.1	6.6
7400	9150	9150	58413.2	3.8	0	402.4	1.5	4.3	6.7
7400	9162.5	9162.5	59447.5	4.9	0.5	394.5	0.9	5.8	6.5
7400	9175	9175	58667.8	4.1	-0.5	391	2.7	7	6.7
7400	9187.5	9187.5	58202	3.1	-0.4	396.6	1.8	5.7	6.8
7400	9200	9200	58924.8	0.2	-1.4	399.7	2.4	6.5	6.7
7400	9212.5	9212.5	58028.4	-1.4	-3.2	406.7	4.6	8	7
7400	9225	9225	59662.2	3.5	0	411.7	1.4	4.6	7.2
7400	9237.5	9237.5	63870.1	6.9	2.5	398.1	-3.5	1.7	7.1
7400	9250	9250	62391.5	6.5	3.9	398.5	-5.4	-2.9	7
7400	9262.5	9262.5	61811.9	6.2	4	389.1	-5	-3.2	6.8
7400	9275	9275	60353.4	4.1	5.5	382.8	-5.9	-5.1	6.7
7400	9287.5	9287.5	58906.5	4.9	8.4	383.8	-9.9	-9.2	6.8
7400	9300	9300	53996.1	2	9.3	385	-8.1	-12.6	6.4
7400	9312.5	9312.5	54973.2	0.1	9.2	379.7	-7.9	-13.5	6.2
7400	9325	9325	54994.2	-4.9	7.1	374.1	-0.3	-10.9	6
7400	9337.5	9337.5	52279.7	-8.7	6.9	371.7	7.6	-9.1	6.1
7400	9350	9350	49334.7	-17.7	4.1	385.3	18.8	-2.2	6.3
7400	9350	9350	49349.4	-17.4	4	380.9	18.9	-1.7	6.2
7400	9362.5	9362.5	50107.5	-21.4	1.4	413.5	21	2.7	7.2
7400	9375	9375	52250.3	-12.2	1.3	445.3	7.1	-1.9	8.1
7400	9387.5	9387.5	52690.2	-6.5	0.7	464.6	-0.6	-3	8.3
7400	9400	9400	53915.3	7.8	-3.2	457.6	-20.8	-5.4	7.9
7400	9412.5	9412.5	54520.7	18.2	-3.9	458.6	-31.4	-8.2	7.5
7400	9425	9425	54768	26.8	-2.4	441.2	-37.2	-10.7	6.7
7400	9437.5	9437.5	54959.8	30.7	-0.3	408.7	-30.1	-10.4	5.5
7400	9450	9450	55184.6	17.4	-4.3	396.7	-11.4	0.2	5.3
7400	9462.5	9462.5	55217.1	11.3	-5.8	386	-6.1	2.8	5.4
7400	9475	9475	55287.9	4.4	-6.2	374.4	0.1	2.3	5.7
7400	9487.5	9487.5	55276.1	0.5	-4.2	375.4	2.7	-0.4	6.2
7400	9500	9500	55229.9	0.7	-2	383.6	1.4	-2	6.5
7400	9512.5	9512.5	55177.2	1.6	-0.2	389.8	-0.4	-2.2	6.9
7400	9525	9525	55100.4	4.3	1.9	394	-4.8	-2.9	7.1
7400	9537.5	9537.5	55170.9	6.8	2.2	398.6	-9	-0.4	7.2
7400	9550	9550	55237.9	10.1	2.5	406.9	-13.3	-0.1	7.2
7400	9562.5	9562.5	55291.8	12.2	1.1	417.2	-17	1.4	7.2
7400	9575	9575	55310.3	13.4	-0.5	418.9	-20.2	1.6	7.1
7400	9587.5	9587.5	55299.6	16.4	-1	424.7	-23.9	1.5	7
7400	9612.5	9612.5	55244.9	23.8	0.6	407.3	-32.1	-1.6	6.4
7400	9625	9625	55377.2	26.8	0.6	386.6	-32.1	-2.4	5.9
7400	9637.5	9637.5	55724	25	0	371	-26	0.7	5.6
7400	9650	9650	56824.1	20.8	0	373.2	-22.2	1.8	5.6
7400	9662.5	9662.5	57180.4	19	-0.2	378.9	-20.4	4	5.8
7400	9675	9675	57218.2	18.9	4.7	378.8	-27.9	-1.1	5.9
7400	9687.5	9687.5	56698.2	18.2	5.8	371.5	-30.9	-2.2	5.6
7400	9700	9700	55873.7	13.9	5.1	368.8	-28.2	-2.5	5.4
7400	9712.5	9712.5	55521.9	15	6.9	362.2	-26.8	-5	5.3
7400	9725	9725	54638	14.6	6.4	366.6	-23.6	-3	5.2
7400	9737.5	9737.5	55310.3	12.6	6.7	365.4	-21.4	-3	5.1
7400	9750	9750	56439.3	10.6	5.3	368.2	-20.3	-1.8	5.2
7400	9762.5	9762.5	54541.5	8.6	6.4	348.4	-18.9	-8.2	4.9
7400	9775	9775	53743.1	6.6	5.4	358.4	-15.7	-5.9	5
7400	9787.5	9787.5	53699.6	6.2	3.2	372.9	-15.4	-5.1	4.9
7400	9800	9800	54200.2	9.2	2.1	371.6	-17.1	-3.1	5
7400	9812.5	9812.5	54963.4	11.6	1.6	366.1	-17.3	-3.1	4.9

7400	9825	9825	55416.3	15.3	2.9	360.9	-18.6	-2.6	4.7
7400	9837.5	9837.5	55661.1	12.7	0.4	347.6	-13	0.8	4.5
7400	9850	9850	55627.4	10.2	-1.5	347.2	-10.4	2.7	4.6
7400	9862.5	9862.5	55762.4	9	-2.8	355.6	-10.2	2.4	4.6
7400	9875	9875	55766.9	10.9	-3.2	363.3	-12.3	3	4.4
7400	9887.5	9887.5	55842.7	11.7	-3.9	354.3	-5.6	5.2	4.3
7400	9900	9900	55897	8.4	-5.4	349.6	1.1	9.9	4.2
7400	9912.5	9912.5	55934.5	4.5	-6.7	356.1	5.8	13.7	4.5
7400	9925	9925	55971.7	2.4	-7.5	366.8	9	13.9	4.6
7400	9937.5	9937.5	55982.2	1.2	-6.4	360.4	8.3	10.3	4.7
7400	9950	9950	56015.3	1.6	-5.8	376.7	10.1	11.4	4.8
7400	9962.5	9962.5	56015.4	2.7	-5	379.5	10.2	9.6	4.9
7400	9975	9975	56021.8	2.2	-4.3	382	11.3	8.8	5
7400	9987.5	9987.5	56047.2	1.4	-3.7	388.8	11.1	7.6	5.1
7400	10000	10000	56053.7	7.1	1	395.1	1	-3.7	5.2
7400	10000	10000	56054.6	7.3	0.9	408.5	0	-0.4	4
7400	10012.5	10012.5	56070.9	8.4	2.8	397.2	-1.2	-4.6	3.8
7400	10025	10025	56063.5	5.7	2.3	393.8	3.3	-2.7	3.7
7400	10037.5	10037.5	56086.9	1.7	1.6	388.2	6.6	-2.8	3.8
7400	10050	10050	56104.1	0.2	2.1	390.8	8.8	-2.1	3.8
7400	10062.5	10062.5	56104.5	-1.6	2	388.9	10.9	-2.3	3.9
7400	10075	10075	56099	-3.2	1.3	392.8	14.7	0.2	3.9
7400	10087.5	10087.5	56091.2	-3	0.3	398.1	15.5	1.4	4.1
7400	10100	10100	56635.1	-4.1	-1.4	407.6	14.6	3.5	4.3
7400	10112.5	10112.5	56767.9	-4.6	-3.4	413.8	16	6.1	4.5
7400	10125	10125	56495.3	-2.8	-3.4	421	13	5.1	4.6
7400	10137.5	10137.5	56261.1	-0.7	-2.3	422.6	8.1	3.3	4.6
7400	10150	10150	56148.1	-0.1	-2.8	425	7.3	4.4	4.5
7400	10162.5	10162.5	56179.6	-0.3	-2.5	416.9	7.5	3.6	4.5
7400	10175	10175	56258.3	0.2	-3.1	424.9	9.2	4.5	4.5
7400	10187.5	10187.5	56276.3	-2.4	-3.5	421.9	9.8	5	4.6
7400	10200	10200	56291.6	-4.9	-5.6	433.3	9.6	6.1	4.6
7400	10212.5	10212.5	56307.5	-4.7	-5.2	428.8	11.8	5.8	4.8
7400	10225	10225	56322.6	-4.5	-5.8	452.8	12.7	6.5	5
7400	10237.5	10237.5	56323	1.7	-3.4	469.8	6.9	4.1	5.3
7400	10250	10250	56340	9.3	-0.4	469.1	1.7	2.4	5.3
7400	10262.5	10262.5	56345.5	10.4	-1.1	460.1	1	3.6	5.2
7400	10275	10275	56355.1	11.4	-2.4	448.2	1.8	5.1	5.2
7400	10287.5	10287.5	56363	12.5	-2.6	450.5	1.4	6.3	5.3
7400	10300	10300	56369.6	15.1	-1	446.8	-0.9	4.3	5.3
7400	10312.5	10312.5	56385.5	16.4	-0.6	442.9	-4.1	1.6	5.2
7400	10325	10325	56408.3	16.8	0.3	438.4	-3.2	2.2	5
7400	10337.5	10337.5	56416.2	16.6	-0.6	425.3	-3	4.2	4.9
7400	10350	10350	56424.4	14.1	-2.4	413.1	-2.7	3	4.9
7400	10362.5	10362.5	56418.8	13.3	-3.5	412.8	-1.8	5	4.9
7400	10375	10375	56428.1	10.6	-6	412.4	1.9	8.9	4.9
7400	10387.5	10387.5	56445.8	9.9	-7.1	423.2	3.5	10.7	5.1
7400	10400	10400	56466	9.7	-6.7	428.7	3.1	10.1	5.3
7400	10412.5	10412.5	56466.5	11.4	-5.5	436.7	0.7	7.9	5.4
7400	10425	10425	56471.5	12.5	-4.6	438.4	-1.1	5.7	5.6
7400	10437.5	10437.5	56489.3	15.1	-3	441.5	-4.2	3.6	5.6
7400	10450	10450	56476.1	18.3	-0.2	431.2	-8	0.2	5.4
7400	10462.5	10462.5	56465.1	18.2	-1	418.7	-8.5	1.5	5.3
7400	10475	10475	56478.9	16.5	-2.4	411.7	-7.6	2.3	5.3
7400	10487.5	10487.5	56483.8	16.3	-2.6	412.4	-7.6	2.8	5.3
7400	10500	10500	56492.1	16.9	-0.3	413.1	-8.9	0.9	5.3

line 7500

7500	9100	9100	60321.8	-14.4	-5.6	374.5	17.2	9.9	7
7500	9112.5	9112.5	60828.8	-4.9	-4.1	393.1	6	4.2	7.3
7500	9125	9125	60028.7	-4.7	-4.5	383	6.4	3.3	7.2
7500	9137.5	9137.5	59632.1	-4.1	-5.3	388.1	4	3.3	7.1
7500	9150	9150	60917.9	-2.6	-5.6	384.4	4.1	5.6	7.1
7500	9162.5	9162.5	63010.6	-2.4	-4.8	369.8	5.6	5.5	7
7500	9175	9175	57380.9	-2.9	-5.7	366.1	7.2	6.5	7.2
7500	9187.5	9187.5	57492.7	-2.1	-2.3	369.8	3.6	-0.9	7.4
7500	9200	9200	59224.9	-5	-2.8	361.6	3.6	2.2	7.2
7500	9212.5	9212.5	54512.9	-5.9	-7.7	418.7	3.8	4.8	7.7
7500	9225	9225	59140.7	2.1	-5.2	415.8	-4.5	2.7	7.7
7500	9237.5	9237.5	59718.6	2.5	-2.1	397.5	-2.9	-1.9	7.4
7500	9250	9250	57851.8	5	-1.1	409.1	-5.8	-2.5	7.4
7500	9262.5	9262.5	60015.8	6.7	-0.2	395.8	-8.8	-4.7	7.4
7500	9275	9275	56511.5	7.7	1	395	-8.8	-6.6	7.2
7500	9287.5	9287.5	53701.6	8	2.3	401.4	-9.4	-8	7.1
7500	9300	9300	50802.2	8	2	403.3	-10.2	-9.6	7
7500	9312.5	9312.5	51390.8	10.5	2.5	397.5	-11.8	-11.4	6.9
7500	9325	9325	49942.5	9.5	3.5	384.7	-7.8	-12	6.6
7500	9337.5	9337.5	51308.9	10.8	3.8	374.8	-3.9	-7.2	6.3
7500	9350	9350	53198.6	6	2.3	372	-0.6	-3.8	6.5
7500	9362.5	9362.5	54340.1	4.6	2.3	370.2	-3.8	-6.1	6.7
7500	9375	9375	54755.8	2.9	1.8	370.9	-0.9	-4.4	6.8
7500	9387.5	9387.5	54903.3	4	1.2	386.3	-1.4	-4.2	7.3
7500	9400	9400	55038.2	11.1	2.4	402.4	-7.6	-4.8	7.4
7500	9412.5	9412.5	55245.2	16.2	3.3	386.8	-9.8	-5.5	6.9
7500	9425	9425	55562.2	14	1.4	387.4	-4.9	-0.4	6.9
7500	9437.5	9437.5	55952.1	12.6	0.1	381.1	-4.5	0.7	7
7500	9450	9450	56639.3	13.3	0.5	374.3	-9.7	0.6	7.1
7500	9462.5	9462.5	58359.2	11.6	0.8	365.6	-15.1	-1	6.8
7500	9475	9475	58523.9	7.8	-0.2	362	-12.3	0.7	6.3
7500	9487.5	9487.5	57834.8	6.2	-0.6	366.2	-6	2.4	6.2
7500	9500	9500	57614.4	8.2	-0.4	363.5	-0.7	2.2	6.6
7500	9500	9500	57618.6	7	0	414	-0.9	1	6.1
7500	9512.5	9512.5	57709.4	9.6	0.8	414.5	-1.8	-1.2	6.5
7500	9525	9525	57666.2	10.6	1.5	408.2	-4.7	-1.2	6.6
7500	9537.5	9537.5	57303.6	11.3	2.3	413.3	-9.8	-2.5	6.5
7500	9550	9550	56990.9	11.1	4	411.7	-13.3	-2.1	6.4
7500	9562.5	9562.5	57782	9.6	4.9	410.2	-16.3	-1.9	6.2
7500	9575	9575	58540.3	8.3	5.3	414.9	-15.8	-1.2	6.1
7500	9587.5	9587.5	58436.1	8	5.9	419.8	-16.7	-1.6	6.1
7500	9600	9600	58528	9.6	5.6	420.6	-17.3	-2.7	6.2
7500	9612.5	9612.5	59029.8	11.4	5.8	417.3	-19.2	-2.8	6.2
7500	9625	9625	59162.3	14.2	6.3	417.8	-21.5	-2	6.2
7500	9637.5	9637.5	58226.8	12.7	5.6	411.3	-21.4	-2.7	6
7500	9650	9650	58951.9	15.8	6.1	415.4	-24.6	-3.7	6.1
7500	9662.5	9662.5	59197.9	16.7	5.9	414.9	-26.6	-5.7	5.8
7500	9675	9675	58814.4	15.5	4.7	413.3	-23.2	-3.3	5.7
7500	9687.5	9687.5	56037.4	17.6	4.7	419.1	-24.4	-6	5.8
7500	9700	9700	55135.5	18.6	5.6	417.8	-27.1	-8.3	5.7
7500	9712.5	9712.5	52882.9	17.7	5.6	401.1	-26.8	-11.3	5.3
7500	9725	9725	54282.2	20.8	4.1	398.9	-25.6	-5.7	5.3
7500	9737.5	9737.5	56283.8	21.8	3	390.5	-24.2	-4.4	5.2
7500	9750	9750	57173.1	22.4	2.8	385.5	-24	-4.6	5
7500	9762.5	9762.5	55778.5	16.5	2.7	376.2	-18.2	-8.9	4.9

7500	9775	9775	54686.8	14.1	0.3	377.4	-16.2	-5.9	4.8
7500	9787.5	9787.5	54863.6	15.4	0.4	383.3	-14.1	-5.5	4.8
7500	9800	9800	53376.2	14.1	1.5	375.3	-9.9	-6.1	4.7
7500	9812.5	9812.5	53499	13.4	0.2	381.9	-9.5	-2.4	4.9
7500	9825	9825	54362.4	13.4	1.5	384.3	-9.1	-3.6	4.9
7500	9837.5	9837.5	54947.8	12.3	0.7	394	-6.2	-1.7	5
7500	9850	9850	55162.1	12.9	1.6	391.9	-6.2	0	5
7500	9862.5	9862.5	55336.6	12.4	0.6	395.3	-7.8	0	5
7500	9875	9875	55490	8.3	-1.4	400.4	-7.3	1.7	4.8
7500	9887.5	9887.5	55481.3	7.1	-1	404.1	-7.5	0.1	4.7
7500	9900	9900	55558.2	4.4	-3.2	401.7	-2.5	2.9	4.7
7500	9912.5	9912.5	55570.2	4.8	-2.5	422.1	0	4.6	5
7500	9925	9925	55604.9	8.6	0	418.6	-2.8	0.8	4.9
7500	9937.5	9937.5	55578.2	10.3	0.8	410.9	-3.3	-1.2	4.8
7500	9950	9950	55459.1	12.1	0.3	409.7	-3.2	-0.3	4.7
7500	9962.5	9962.5	55548.8	12.5	-0.1	393.1	-1.3	0.4	4.6
7500	9975	9975	55700.8	11.3	-1.6	381.3	3.3	5.1	4.5
7500	9987.5	9987.5	55802	7.8	-3.3	377.1	8.9	6.9	4.5
7500	10000	10000	55913.1	3.4	-5.8	388.1	12.9	11.1	4.8
7500	10000	10000	55913	4	-5.6	325.8	12.5	8.9	3.9
7500	10012.5	10012.5	55983	1.6	-6.8	332.8	13.5	7.5	4
7500	10025	10025	56025	0.9	-6.2	340.7	11.9	5.5	4.1
7500	10037.5	10037.5	56064.7	2.4	-5.3	344.6	10.3	4	4.2
7500	10050	10050	56098.7	2.6	-4.1	337.3	8.9	2.1	4.1
7500	10062.5	10062.5	56083.4	0.9	-2.7	335.2	11.4	0.6	4
7500	10075	10075	56081.4	0.5	-2.2	335.2	13	1.5	3.9
7500	10087.5	10087.5	56114.1	0.5	-1.1	335.8	15.2	1.8	3.9
7500	10100	10100	56160	-1.4	-0.5	344.6	19.2	3.6	3.9
7500	10112.5	10112.5	56218	-4.5	0	358.4	23.7	6.3	4.2
7500	10125	10125	56215.9	-4.5	0.3	366	24.9	5.9	4.2
7500	10137.5	10137.5	56250.9	-7.2	-0.8	377	24.4	7.2	4.5
7500	10150	10150	56269.4	-7.5	-1.1	383.9	21.8	5.9	4.7
7500	10162.5	10162.5	56254.9	-4.6	-0.5	390.7	16.3	3.4	4.8
7500	10175	10175	56289	-1.4	1.5	396.7	13.7	0.5	4.7
7500	10187.5	10187.5	56300.8	-0.2	2.8	388.4	13.7	0	4.5
7500	10200	10200	56311	-0.3	3.8	386.9	16.2	-0.6	4.4
7500	10212.5	10212.5	56325.4	-2.6	3.1	388.1	20.2	0.4	4.4
7500	10225	10225	56332	-6.7	1.2	384.1	26.4	4.3	4.3
7500	10237.5	10237.5	56339.4	-9.7	-0.4	394.7	31.1	6.4	4.5
7500	10250	10250	56352.9	-12.2	-0.8	410.4	33	6.9	4.7
7500	10262.5	10262.5	56389.8	-11	-0.4	421.5	32.3	5.7	5.1
7500	10275	10275	56385.1	-11.2	-0.8	433.6	31.6	7.1	5.2
7500	10287.5	10287.5	56393	-11	-1.5	439.7	29.1	7.3	5.5
7500	10300	10300	56402.7	-6.6	-1.9	451.8	23	6	5.8
7500	10312.5	10312.5	56398.7	-3.7	-2.5	456.3	19.5	7	5.9
7500	10325	10325	56406.9	0.4	-2.5	456.8	14.6	6.9	5.9
7500	10337.5	10337.5	56418.7	5.2	-1.7	464.9	9.6	5.9	5.7
7500	10350	10350	56417.8	6.5	-1.9	455.3	9.6	7.6	5.7
7500	10362.5	10362.5	56434.2	4.3	-4	471.2	10.8	8.7	5.8
7500	10375	10375	56440.6	6.6	-4.1	483.7	8.7	7.3	6
7500	10387.5	10387.5	56470.9	14.9	-1.5	479.5	2	5.2	5.9
7500	10400	10400	56465.3	18.1	-0.5	463.7	0.9	3.9	5.5
7500	10412.5	10412.5	56482.5	17.5	-1.9	445.9	1.8	5.7	5.4
7500	10425	10425	56468.2	16.6	-2.6	446.2	3.3	7.7	5.4
7500	10437.5	10437.5	56479.6	13.6	-3.8	443.4	5.1	8.1	5.4
7500	10450	10450	56485	12.8	-4.1	450.6	5.1	8	5.4

7500	10462.5	10462.5	56490	10.7	-4.7	457.8	6.4	8.1	5.5
7500	10475	10475	56493.5	11.5	-4.1	464.9	5.4	6.2	5.5
7500	10487.5	10487.5	56497	13.9	-2.7	474.1	3.7	4.2	5.6
7500	10500	10500	56503.9	13.4	-2.7	488.5	3.2	4.2	5.7

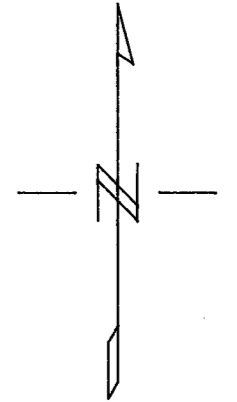
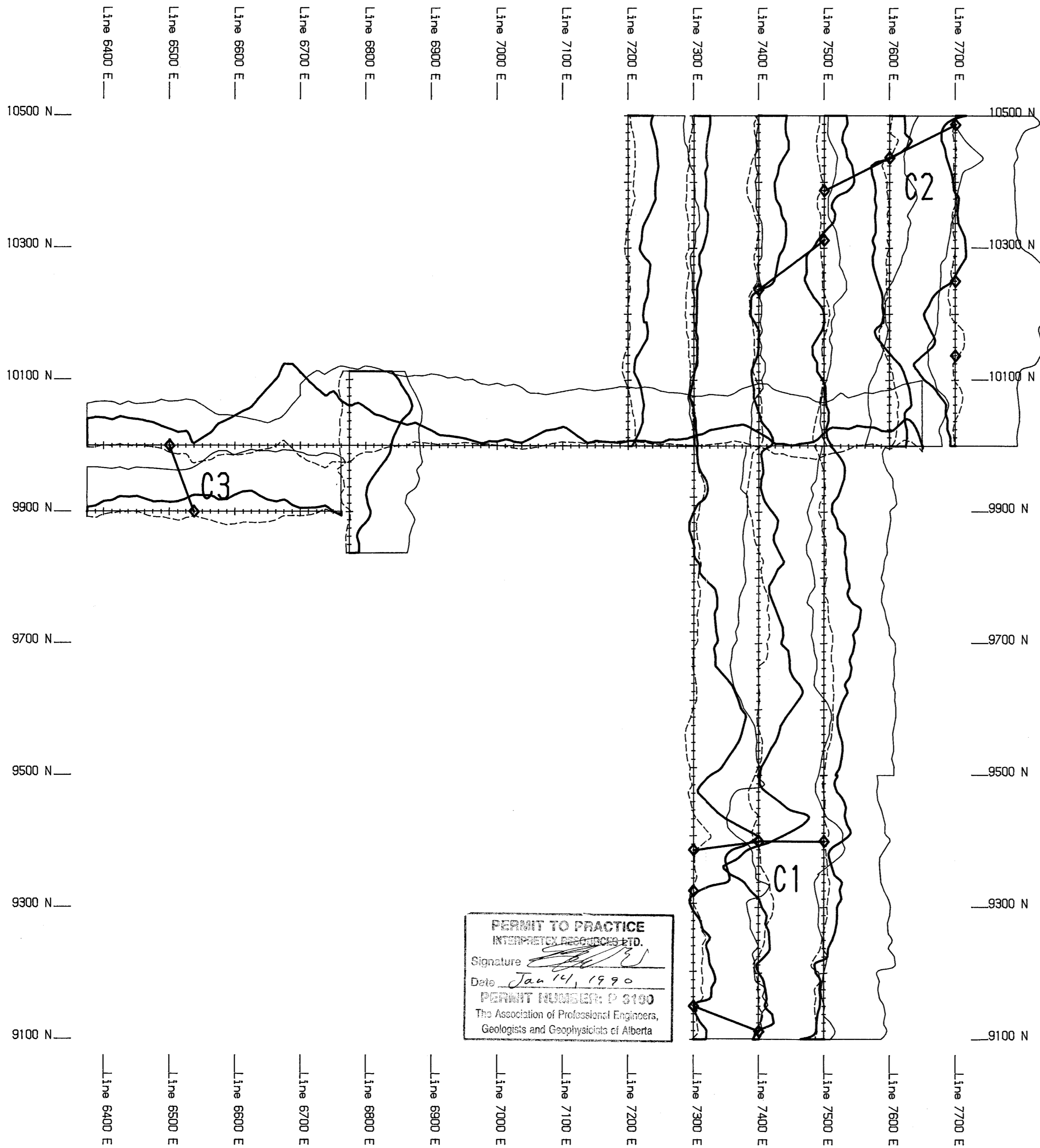
line 7600

7600	10000	10000	56318.4	9.8	1.4	360.8	0	-1.9	4
7600	10012.5	10012.5	55948.4	10.5	4	358	0.8	-3.5	4.2
7600	10025	10025	55809.1	10.4	4.6	350.8	2.9	-1.1	4.2
7600	10037.5	10037.5	55874.7	9.2	5.5	363.5	-0.3	-2.3	4.3
7600	10050	10050	55938.4	9.2	4.7	373.3	0	-1.7	4.3
7600	10062.5	10062.5	56000.5	13.2	5.7	380.3	-3.8	-1.5	4.5
7600	10075	10075	56054.4	12.7	4.8	369.8	-7.4	-2.5	4.4
7600	10087.5	10087.5	56094.6	11.9	3.4	344.6	-10.1	-2.6	4.1
7600	10100	10100	56110.1	10.1	2.5	338.5	-9.8	-2.8	4
7600	10112.5	10112.5	56136.7	8.5	1.8	326.3	-6.6	-2.1	3.9
7600	10125	10125	56160.1	5.7	-0.1	318.4	-2.3	0.3	3.7
7600	10137.5	10137.5	56191.6	1.1	-2.1	319.7	7	5.9	3.7
7600	10150	10150	56201.7	-3.1	-4.5	316	11.8	7.9	3.9
7600	10162.5	10162.5	56240.1	-7.2	-6.1	333	18.9	11.5	4.2
7600	10175	10175	56256.4	-9.1	-6.2	342.7	19.9	12.5	4.5
7600	10187.5	10187.5	56269	-4.5	-3.2	347.4	14.8	6.3	4.8
7600	10200	10200	56288.5	-3.8	-2.9	346.4	13	4.2	4.6
7600	10212.5	10212.5	56309.7	-4.6	-3.5	349.8	13.8	4.4	4.6
7600	10225	10225	56327.6	-4.3	-1.1	349.7	15.1	2.7	4.7
7600	10237.5	10237.5	56329.3	-5.4	-1.5	353.4	16.2	2.9	4.6
7600	10250	10250	56341.2	-7.2	-1.8	356.3	19.8	5.6	4.7
7600	10262.5	10262.5	56356.3	-8.9	-1.3	357.1	22.8	6	4.9
7600	10275	10275	56366.7	-10.2	-1.9	356.4	24.4	7.4	5
7600	10287.5	10287.5	56383.6	-10.4	-1.4	373.4	24.9	6.1	5.3
7600	10300	10300	56396.9	-9.1	0.1	376.5	21.7	4.2	5.6
7600	10312.5	10312.5	56402.4	-10.4	-1.2	381.3	20.2	6	5.6
7600	10325	10325	56421.3	-8.5	0.4	386.1	17.2	3.7	5.6
7600	10337.5	10337.5	56426.2	-8.6	-0.6	388.8	19	3.7	5.7
7600	10350	10350	56444.6	-9	-1.1	398.2	19.3	6.9	5.8
7600	10362.5	10362.5	56478.1	-8.2	0	405.1	18.4	5.8	6.1
7600	10375	10375	56456.2	-9.3	-0.5	405.6	15.6	5.1	6
7600	10387.5	10387.5	56453.9	-8.5	-1.6	409	16.1	5.8	6.1
7600	10400	10400	56463.2	-9.2	-1.1	415.5	12.5	3.8	6.3
7600	10412.5	10412.5	56467.5	-10.8	-2.6	421.5	16.6	6.6	6.2
7600	10425	10425	56474.8	-11.1	-4.5	459.6	17.5	8.8	6.6
7600	10437.5	10437.5	56498.7	1	0.6	485	3.8	2.1	7.2
7600	10450	10450	56500.1	9.1	3.2	457.4	-3.2	-0.8	6.9
7600	10462.5	10462.5	56491.3	13.3	5.5	431.9	-6.1	-1.9	6.4
7600	10475	10475	56521.5	9.3	0.5	414.2	-1.7	3.7	6.2
7600	10487.5	10487.5	56512.4	9.4	0.9	398.6	-1.7	2.7	5.9
7600	10500	10500	56524.3	9	1.9	406.2	0.8	3.3	6

line 7700

7700	10000	10000	56048.6	-3.3	-0.4	389.4	9.1	4.2	4.7
7700	10012.5	10012.5	55398.8	-3.3	-0.6	388	10.7	8.9	4.6
7700	10025	10025	55717.2	-5	-1.2	390.9	13.8	10.9	4.9
7700	10037.5	10037.5	55830.7	-4.9	-0.3	396	11.6	9	5
7700	10050	10050	55922.5	-6.1	2.5	395.9	5.7	5	4.9
7700	10062.5	10062.5	55945.8	-5.8	4	394	4.6	2.7	4.8
7700	10075	10075	55995.2	-9.6	4.8	391.4	7.4	2	4.5
7700	10087.5	10087.5	56048.3	-13.2	3.2	388.9	10.7	2.6	4.4
7700	10100	10100	56086.3	-19.1	-0.3	393.5	17.5	5.2	4.4

7700	10112.5	10112.5	56118.8	-22.7	-1.2	397.5	20.9	5	4.4
7700	10125	10125	56163.6	-25.2	-1.2	446.5	28.7	8	4.8
7700	10137.5	10137.5	56206.3	-19.7	2.1	460.6	28.3	-0.8	5.1
7700	10150	10150	56228.2	-14	5.5	469.5	25.2	-0.9	5
7700	10162.5	10162.5	56239.2	-12.7	5.9	461.7	25.5	-3.7	5.1
7700	10175	10175	56255.6	-15.2	5.1	453.9	30	0.2	4.9
7700	10187.5	10187.5	56275.8	-17.6	0.1	468	33.5	3.7	5.3
7700	10200	10200	56293.3	-19.2	-3.2	480.9	35.7	5.6	5.7
7700	10212.5	10212.5	56327.9	-16.2	-2.8	490	30.6	8.9	5.7
7700	10225	10225	56329.4	-13.8	-4.3	504.3	27.5	5.1	5.9
7700	10237.5	10237.5	56339.5	-8.9	-3.8	537.5	25.8	7.4	6.1
7700	10250	10250	56344.3	-1.9	-1.5	547.2	19.9	9.8	6.2
7700	10262.5	10262.5	56405.5	0.8	-2.5	497.7	20.4	7.7	6.5
7700	10275	10275	56396.7	3.8	-1.5	463.9	15.3	6.1	6.4
7700	10287.5	10287.5	56401.4	6.4	-0.4	439	10.5	5.2	6.3
7700	10300	10300	56419.4	6.1	0.2	403.7	11.3	5.1	5.8
7700	10312.5	10312.5	56430.3	5.9	0.1	392	13.3	6.6	5.6
7700	10325	10325	56439.5	3.8	-1.2	385.2	18.7	9.4	5.7
7700	10337.5	10337.5	56447.4	1.5	-1.2	387	18.6	9.7	5.9
7700	10350	10350	56455.2	1	-1.7	385	20.6	10.8	6.1
7700	10375	10375	56476.2	1.9	0.8	380.9	12.7	3.2	6.3
7700	10387.5	10387.5	56492.9	-1.4	0	382.2	14.1	3.4	5.9
7700	10400	10400	56497.6	-1.8	-0.7	378.3	16.4	5	6
7700	10412.5	10412.5	56499.5	-2.7	-0.5	380.3	15.8	3.8	6
7700	10425	10425	56509	-4.3	-0.9	378.5	15.8	2.9	6
7700	10437.5	10437.5	56517.9	-6	0.3	389.9	15.4	2.1	6.1
7700	10450	10450	56519.4	-6.7	0.8	384.9	16.6	1	6
7700	10462.5	10462.5	56525.9	-8.7	-0.5	394.8	18.5	3.2	6.2
7700	10475	10475	56529	-8.7	-1.6	408.5	19.1	4.7	6.5
7700	10487.5	10487.5	56528.9	-6	-1	456.5	14.1	5	7.4
7700	10500	10500	56550.4	6.4	2.1	438.7	1.1	0.8	6.9



Scale 1:5000
 50 0 50 100 150 200 250
 (metres)

LEGEND
 NLK, Seattle, Washington

19,574

ASSESSMENT REPORT

19,574

- Anomalous Inflection (in Phase)
- In-Phase } 1 cm = 20.7
- Quadrature
- Field Strength 1 cm = 100 unit
- VLF-EM Conductor

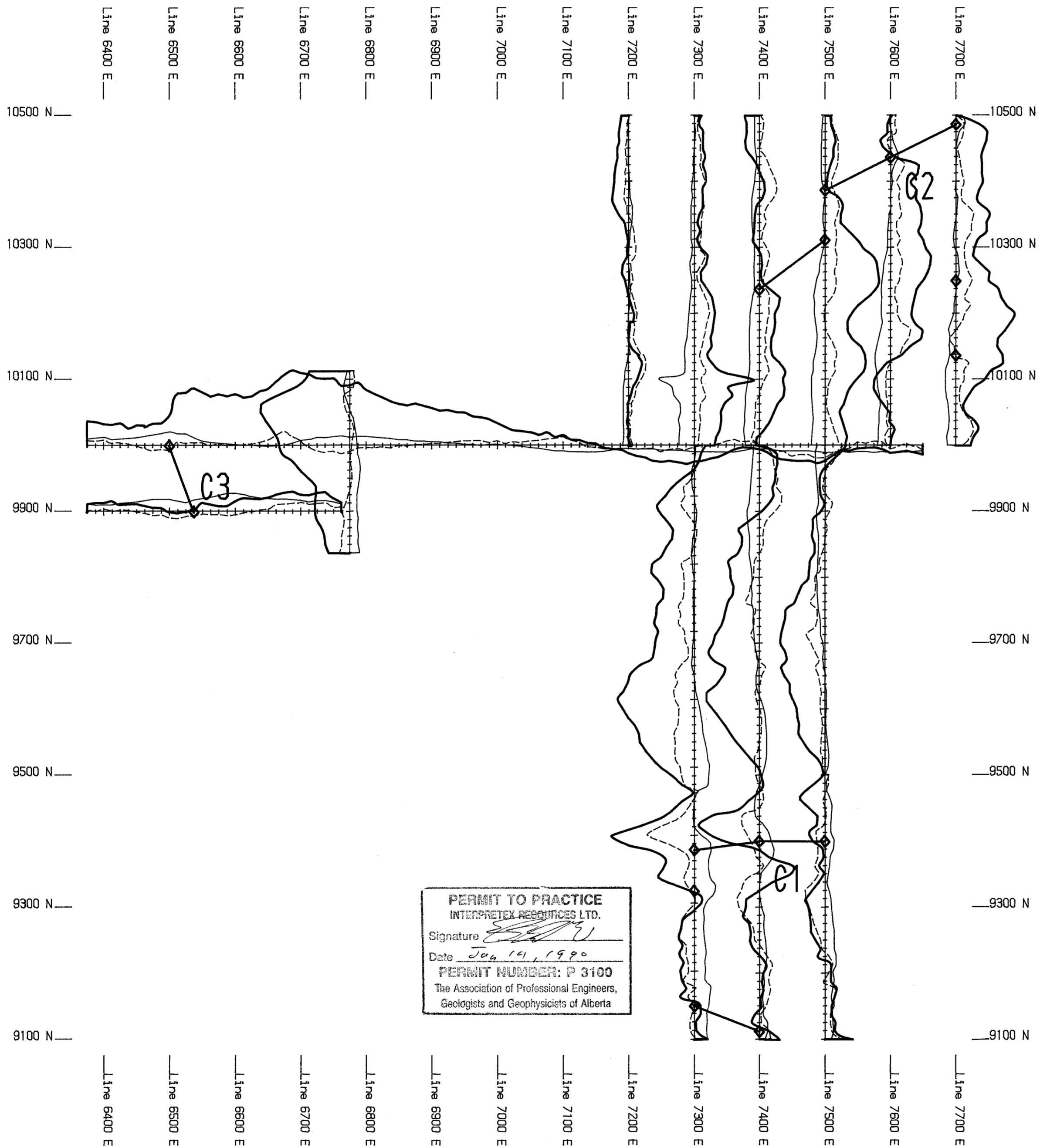
PERMIT TO PRACTICE
 INTERPRETEX RESOURCES LTD.
 Signature
 Date Jan 14, 1990
 PERMIT NUMBER: P 3100
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta

E. R. ROCKEL

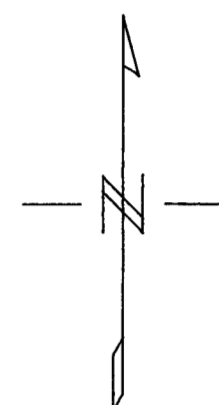
VLF-EM Profiles

SNOW GRID
 Ultramafic Claim Group
 NTS: 92 H/10 Similkameen M.D., B.C.
 Figure # 3

Interpretex Resources Ltd.



PERMIT TO PRACTICE
 INTERPRETEX RESOURCES LTD.
 Signature *[Signature]*
 Date July 14, 1990
PERMIT NUMBER: P 3100
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta



Scale 1:5000
 0 50 100 150 200 250
 (metres)

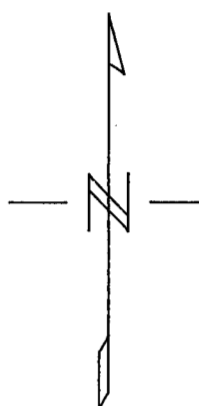
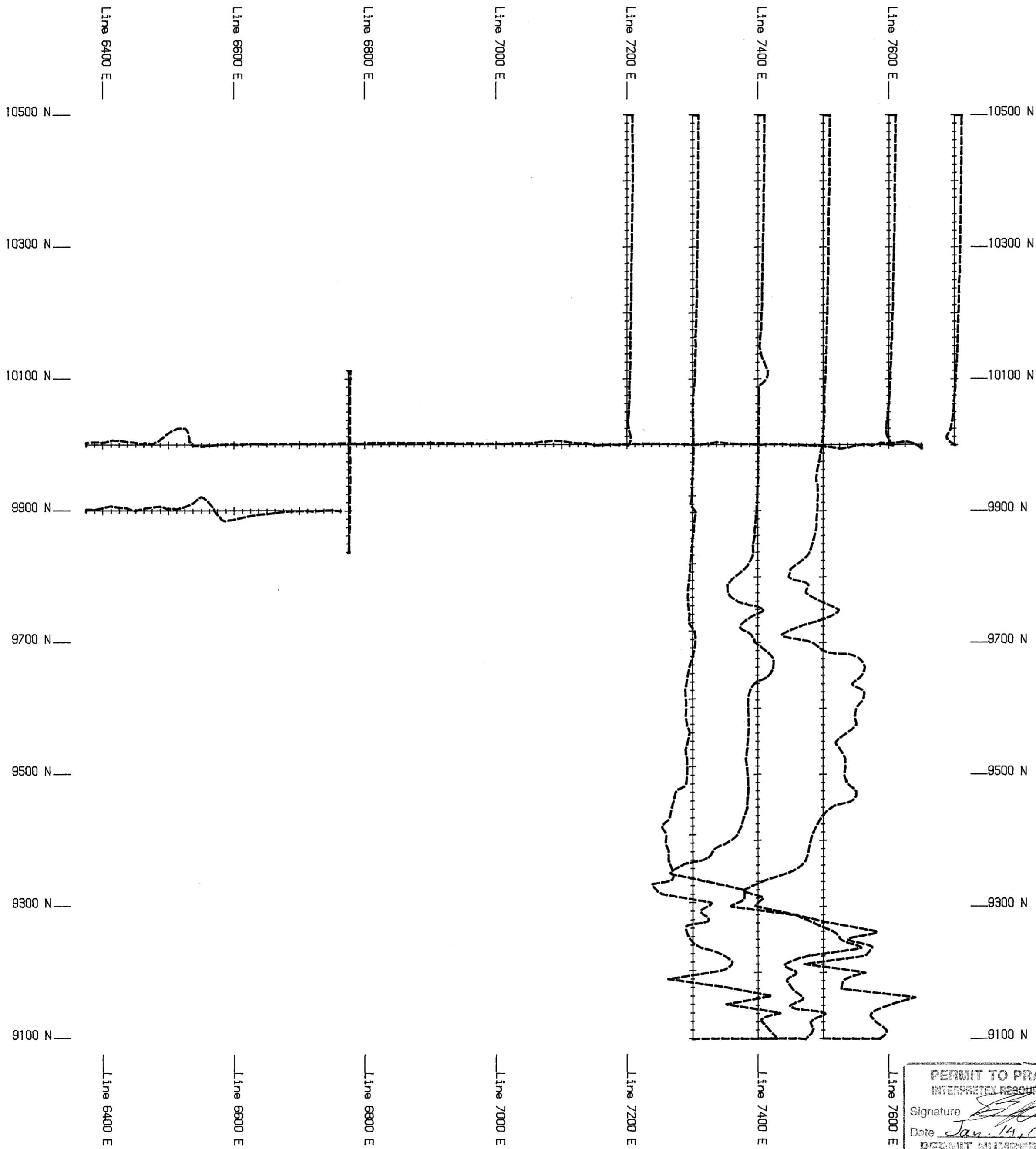
LEGEND
 NAA, Cutler, Maine

- Anomalous Inflection (In-Phase)
- In-Phase
- Quadrature
- Field Strength 1 cm = 5 units
- VLF-EM Conductor

19,574

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

E. R. ROCKEL
VLF-EM Profiles
SNOW GRID Ultramafic Claim Group NTS: 92 H/10 Similkameen M.D., B.C. Figure # 4
<i>Interpretex Resources Ltd.</i>



Scale 1:5000
 50 0 50 100 150 200 250
 (metres)

LEGEND

----- Magnetic Field Strength
 1 cm = 2500 nT
 Magnetic Field Datum Level = 56000 nT

19,574

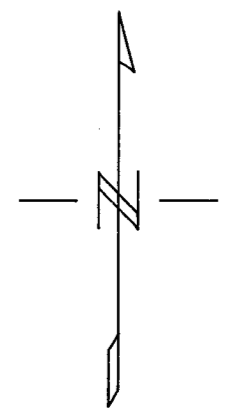
GEOLOGICAL BRANCH
ASSESSMENT REPORT

E. R. ROCKEL	
Total Field Magnetic Profiles	
SNOW GRID	
Ultramafic Claim Group	
NTS: 92 H/10	Similkameen M.D., B.C.
Figure # 5	
Interpretex Resources Ltd.	

PERMIT TO PRACTICE
 INTERPRETEX RESOURCES LTD.
 Signature *[Signature]*
 Date Jan. 14, 1990
 PERMIT NUMBER: P 3100
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta



19,574



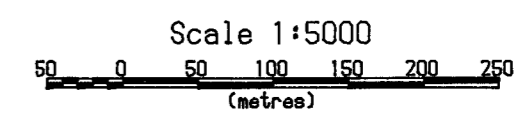
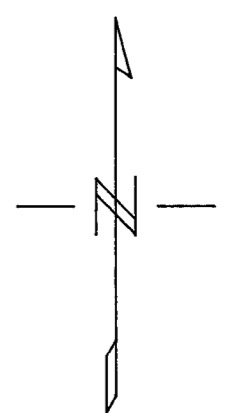
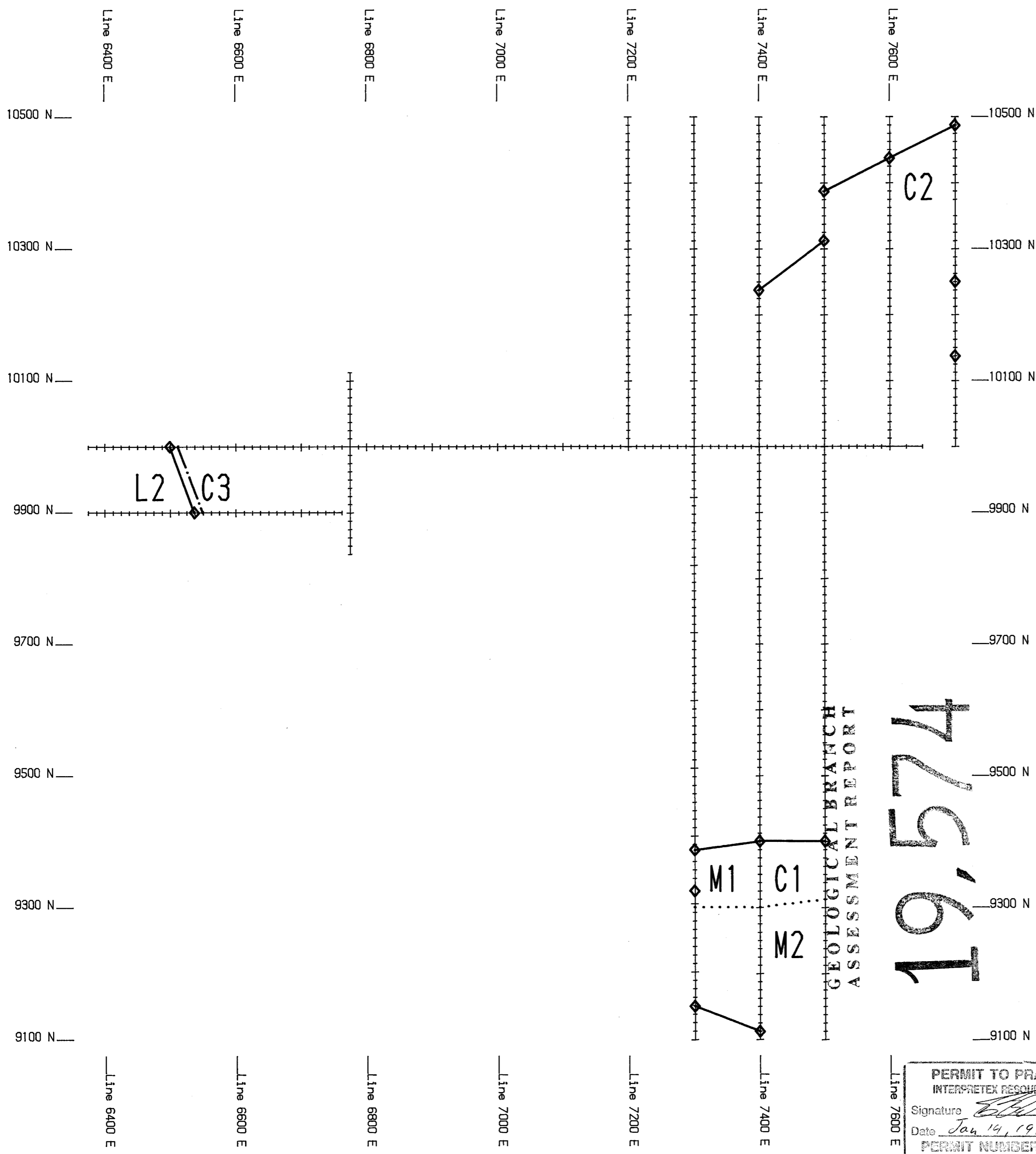
Scale 1:5000
60 0 50 100 150 200 250
(metres)

LEGEND

Contour Interval
 < 56000 nT > 56000 nT
 - - - - - 500 nT
 - - - - - 1000 nT
 - - - - - Magnetic Lineament

PERMIT TO PRACTICE
 INTERPRETEX RESOURCES LTD.
 Signature *[Signature]*
 Date Jan 14, 1990
 PERMIT NUMBER: P 0100
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta

E. R. ROCKEL	
Total Field Magnetic Contours	
SNOW GRID	
Ultramafic Claim Group	
NTS: 92 H/10	Similkameen M.D., B.C.
Figure # 6	
<i>Interpretex Resources Ltd.</i>	



LEGEND.

- C2 VLF-EM Conductor
- L3, D1 Magnetic Lineament
- M1 Magnetic Unit Boundary
- M2

19,574

GEOLOGICAL BRANCH
ASSESSMENT REPORT

E. R. ROCKEL
Geophysical Interpretation Map
SNOW GRID Ultramafic Claim Group NTS: 92 H/10 Similkameen M.D., B.C. Figure # 7
<i>Interpretex Resources Ltd.</i>

PERMIT TO PRACTICE
 INTERPRETEX RESOURCES LTD.
 Signature
 Date Jan 14, 1990
 PERMIT NUMBER: P 3100
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta