REPORT ON 1991 FIELD PROGRAM

GIM PROPERTY

GIM R3723

Liard Mining Division

N.T.S. 104 B/10

56° 40' N., 130° 56' W.

Owner

GULF INTERNATIONAL MINERALS LTD.

200-675 West Hastings Street
Vancouver, British Columbia
V6B 4Z1

For

CONSOLIDATED KYLE RESOURCES INC.

2347-129 A Street
White Rock, British Columbia
V4A 1H9

By

John Kowalchuk

PLACER DOME EXPLORATION LTD.

February 19, 1992

SUMMARY

Consolidated Kyle Resources Inc. has an option on the Gim Property which consists of one 20 unit mineral claim, located in the Liard Mining Division, northwestern British Columbia (NTS 104B/10). In 1991, as part of an extended property exam, Placer Dome had geological and geophysical surveys performed on the property.

The Gim property is underlain by a sequence of mafic volcanic flows intruded by rhyolite plugs. Mineralization consists of fracture filled and disseminated pyrite-pyrrhotite-chalcopyrite- and magnetite in a pyroxene altered rock. Samples taken from this altered rock give gold assays ranging from 0.192 opt to 1.486 opt. Coincident magnetic lows and chargeability highs map the mineralization while resistivity highs map the pervasive pyroxene alteration. The geophysical surveys suggest a north-south area of mineralization which is continuous along strike for 500 metres. Copper and gold give spotty geochemical anomalies within the geophysically anomalous area.

No geological model has yet been applied to the mineralization, however the coincidence of geophysics and soil geochemistry with the sampled mineralization gives the property good potential for developing a mineable reserve.

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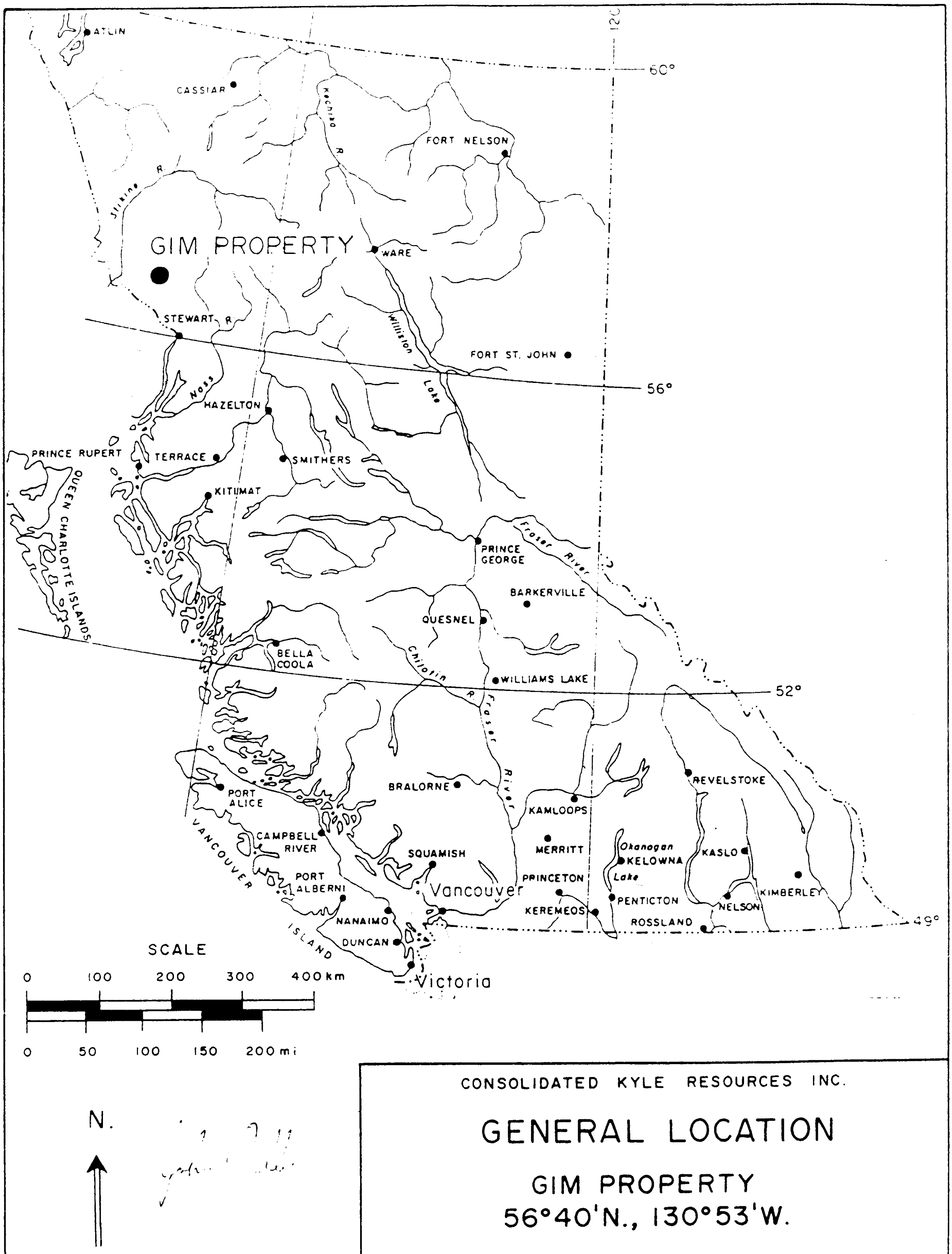


Figure 1

CASSIAR EAST YUKON EXP. LTD.

CONSOLIDATED KYLE RESOURCES INC.

GENERAL LOCATION

GIM PROPERTY
56°40'N., 130°53'W.

LIARD M.D., BRITISH COLUMBIA, N.T.S.104B/10

JOHN OSTLER; M.Sc., P.Geol. OCTOBER, 1990

1.0 INTRODUCTION

1.1 LOCATION, ACCESS AND TOPOGRAPHY

The Gim Property is located in northwestern British Columbia approximately 100 km northwest of the city of Stewart, centred on 56° 40' north latitude, 130° 56' west longitude, near the junction of Snippaker Creek and the Iskut River(Figure 1). It is accessible by helicopter from either Bronson airstrip, 6.0 km to the west or from Bobquinn Lake on the Stewart Cassiar Highway, 50 km to the northeast. The property location is plotted on NTS map sheet 104 B 11 and lies within the Liard Mining Division.

The property is located in the Boundary Ranges of the Coast Mountains of northwestern British Columbia. This area is typified by extremely rugged terrain partially covered by extensive snowfields and glaciers. The property itself occupies part of the lower eastward-facing slope of Snippaker Mountain and the lower half of the Zappa Creek valley. The northeastern part of the property is above treeline, at about 1100 metres elevation. The main AJ and Cave Zones lie within a gentle rolling parklike zone at about 900 metres elevation. The property descends to about 700 metres elevation where it is covered by coastal rainforest.

1.2 MINERAL CLAIMS (Figure 2)

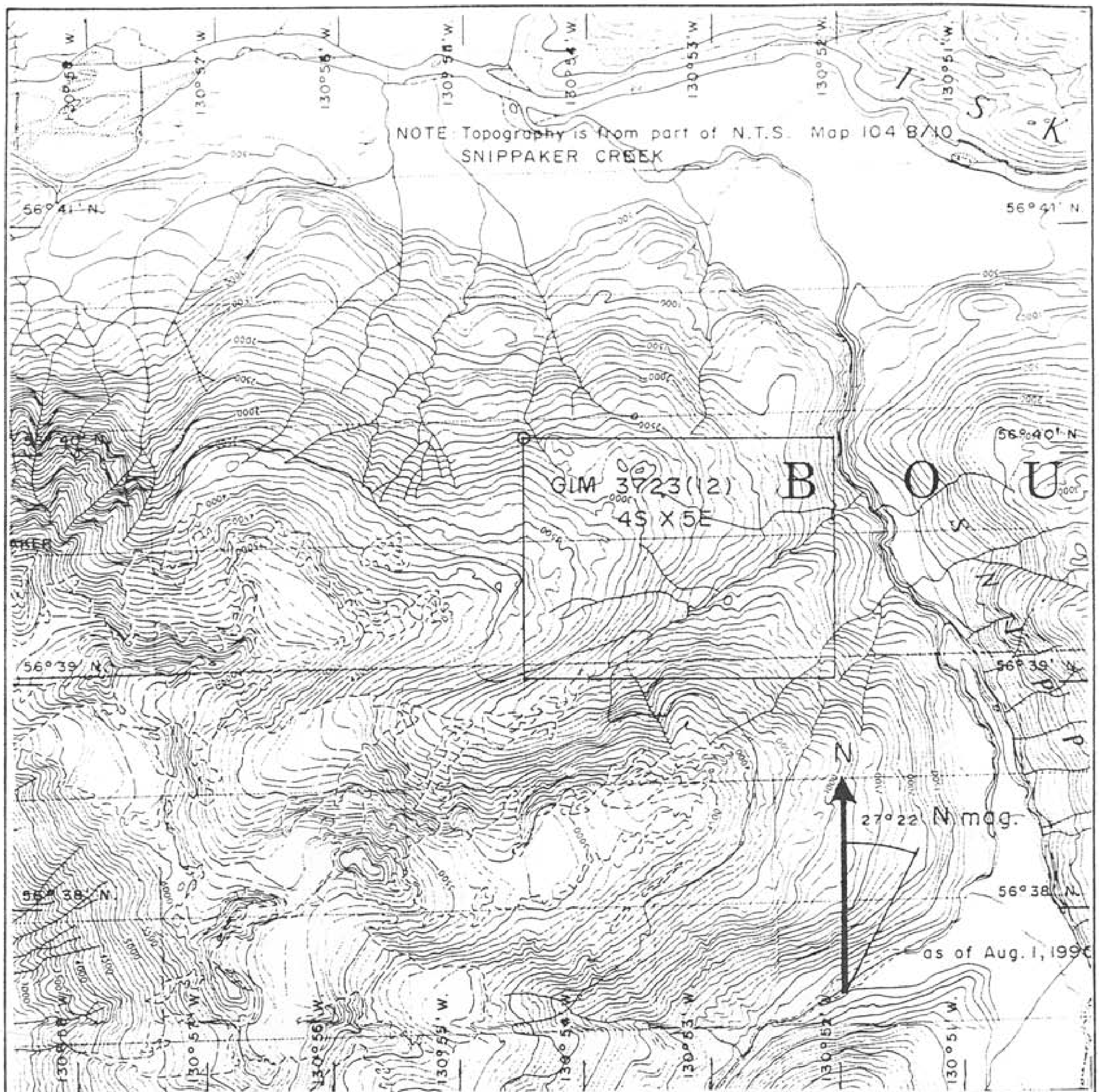
The Gim Property consists of one modified grid claim containing 20 units. The claims are registered in the Liard Mining Division.

Claim Name	Record No.	Expiry Date
Gim 1 -26	3723(12)	Dec. 05

The claims are owned fully by Gulf International Minerals Ltd. and are optioned to Consolidated Kyle Resources Inc.

1.3 HISTORY

The earliest recorded work on the property occurred in 1980 when DuPont of Canada Exploration Ltd. did a regional heavy mineral sampling program and staked the Zappa Claim to cover the area drained by Zappa Creek on which a heavy mineral sample carried 7,000 ppb of gold. Subsequent soil sampling in 1981, located an area of anomalous gold in soils, called the Cave Zone. DuPont lost interest in the Iskut area and subsequently dropped the property.

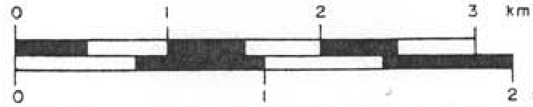


LOCATION

Figure 2

CASSIAR EAST YUKON EXP. LTD.

SCALE



CONSOLIDATED KYLE RESOURCES INC.

LOCATION and TERRAIN

GIM PROPERTY
56°40'N., 130°53'W.

LIARD M.D., BRITISH COLUMBIA, N.T.S. 104B/10

JOHN OSTLER; M.Sc., P.Geol. OCTOBER, 1990

In 1986, as a result of a general staking rush in the Iskut area, staked the Gim Property. It was sold to Gulf International Minerals Ltd who optioned it to Consolidated Kyle Resources Inc.

Consolidated Kyle contracted with Pamicon Developments to do reconnaissance mapping and soil sampling on the property from 1987 to 1989. They identified an northeasterly trending gold in soils anomaly. Further contour sampling in various areas defined an area of anomalous gold geochemistry in the area of the Cave Zone. During 1987 and 1988, Consolidated Kyle also participated in a regional airborne magnetic and electromagnetic survey conducted by Aerodat Limited.

In 1990, Consolidated Kyle contracted consulting geologist John Ostler to detailed trenching, soil geochemistry and geological mapping over the various anomalous areas located by previous programs. This program located the high grade gold mineralization on the AJ Zone.

1.4 1991 Field Program

In 1991, as part of an extended property exam, Placer Dome resurveyed and cut 4.8 km of line on which they contracted Scott Geophysics to perform ground magnetic and VLF-EM surveys on the property. Over the three lines that covered the AJ zone Time Domain IP was run using an "a" spacing of 40 metres and "n" separations of 1, 2, 3, 4 and 5. The report for the geophysical surveys is included in Appendix A. Sampling by the author of the AJ mineralization confirmed the grades reported by Ostler in 1990.

2.0 ECONOMIC ASSESSMENT

The Gim Property contains a north - south trending structure which has been thermally metamorphosed and contains significant values in gold. The geophysics suggest that the structure has a strike length of at least 600 metres and may be as much as 50 metres wide. The exact genetic model for this mineralization is not understood, however petrographic work suggests that it may be related to skarnification. Thin section work by Lloyd Clark a consulting geologist in Vancouver, describes the mineralized rock as a pyroxenite. He suggests that the extensive clinopyroxene mineralization may be as a result of calcium metasomatism within the volcanic rocks. The proximity of the mineralization with a narrow marble bed supports this hypothesis.

Although soil geochemical signatures over the geophysical anomalies are spotty suggesting discontinuities in the gold grades over the zone, this mineralization has the potential to develop into a significant tonnage of ore grade material.

NTS 104B/6E, 104B/7W, 104B/10W, 104B/11E

GEOLOGY BY
D.J. ALLDRICK, J.M. BRITTON, M.E. MACLEAN, K.D. HANCOCK, B.A. FLETCHER AND S.N. HIEBERT

SCALE 1:50 000

CONTOUR INTERVAL 100 FEET

MAGNETIC DECLINATION (1982) 27° EAST

LEGEND

GOSSANOUS ALTERATION ZONES

Pyrite ± quartz ± sericite ± carbonate ± clay; locally foliated to schistose

INTRUSIVE ROCKS

TERTIARY

10 *POST-TECTONIC DYKES (Narrow, not shown)*

- 10a *Lamprophyre, andesite, diabase*
- 10b *Leucogranite: holofelsic, quartz-rich, fine to coarse-grained*
- 10c *Hoodoo dykes: basaltic dykes related to Quaternary extrusives*

9 *COAST PLUTONIC COMPLEX: Medium to coarse-grained biotite granite; biotite ± hornblende granodiorite; minor quartz diorite; locally foliated along margins*

JURASSIC

8 *TEXAS CREEK PLUTONIC SUITE: Fine to coarse-grained, quartz diorite, monzodiorite, quartz monzonite; syn to postvolcanic intrusions. Porphyritic to phanerotic textured, possibly hypabyssal equivalents of extrusive rocks*

- 8a *Lehto Batholith: coarse K-feldspar ± hornblende porphyritic monzodiorite; equigranular monzonite and quartz diorite*
- 8b *Bronson Stock: coarse K-feldspar porphyry hornblende monzodiorite to monzonite*
- 8c *Red Bluff Stock: coarse K-feldspar porphyry hornblende monzodiorite to monzonite*
- 8d *Iskut Stock: coarse K-feldspar porphyry hornblende monzodiorite to monzonite*
- 8e *Gregor Stock: coarse K-feldspar porphyry hornblende monzodiorite to monzonite*
- 8f *Isolated K-feldspar-porphyry dykes and sills (Narrow, not shown)*
- 8g *Felsite: (Age unknown) hypabyssal sills, stocks and related dyke swarms; leucocratic to holofelsic; fine-grained feldspar ± quartz phenocrysts set in an aphanitic groundmass*

TRIASSIC

7 *STIKINE PLUTONIC SUITE: Foliated to massive, fine to medium-grained hornblende-biotite quartz diorite*

- 7a *Mount Verrett Stock: medium to dark grey-green, fine-grained, plagioclase phyric diorite; extensively recrystallized*
- 7b *Jekill River Stocks: fine to medium-grained hornblende diorite; variably recrystallized*
- 7c *Synvolcanic sills and dykes; melanocratic, fine-grained; recrystallized*

VOLCANIC AND SEDIMENTARY ROCKS

(Note: No stratigraphic order is implied within sequences.)

QUATERNARY

RECENT

6 *UNCONSOLIDATED SEDIMENTS: Alluvium, glaciofluvial deposits, landslide debris, moraine*

PLEISTOCENE TO RECENT

5 *BASALT FLOWS AND TEPHRA: Dark grey to black, olivine and plagioclase phyric basalt flows and tephra*

VOLCANIC AND SEDIMENTARY ROCKS (continued)

JURASSIC

HAZELTON GROUP

MIDDLE JURASSIC

4 *SILTSTONE SEQUENCE (Salmon River Formation): Dark grey, well-bedded siltstone; minor sandstone*

LOWER JURASSIC

3 *UPPER VOLCANOSEDIMENTARY SEQUENCE: Heterogeneous, grey, green, rarely purple or maroon massive to bedded pyroclastic and sedimentary rocks. Green and grey, intermediate to mafic volcaniclastics and flows intercalated with fine-grained immature sedimentary rocks [illegible] conglomerates. Limestone rare or absent.*

Includes equivalents of Unuk River, Betty Creek and Mount Dilworth formations. In the Snippaker-Johnny Mountain area an upper package of felsic volcanics (consisting of units 3d, 3b, 3g and 3dh) is probably correlative with the combined Betty Creek and Mount Dilworth formations of the Sulphurets map area (see Hancock, 1990, and MacLean, 1990).

- 3v *Undifferentiated, mainly volcanic rocks*
- 3a *Green and grey, massive to poorly bedded andesite; ash tuff to tuff breccia, feldspar ± hornblende phyric*
- 3b *Dark green, basaltic-andesite tuffs and flows*
- 3d *Grey, green and purple dacitic tuff, lapilli tuff, crystal and lithic tuff; massive to well bedded feldspar phyric; locally welded*
- 3g *Light grey and green dacite crystal and lapilli tuffs with minor hematitic [illegible] (Snippaker-Inel Ridge)*
- *3k *K-feldspar-plagioclase ± hornblende porphyritic andesitic to dacitic tuffs and flows ("Premier Porphyry")*
- 3s *Undifferentiated, mainly sedimentary rocks*
- 3t *Black, thinly bedded siltstone (turbidite), shale, argillite, mudstone*
- 3h *Maroon, hematitic mudstone with calcareous concretions*
- 3w *Grey, brown and green tuffaceous wacke; variably bedded*
- 3c *Conglomerate and volcanic conglomerate; polymictic, locally orange-weathering*

TRIASSIC

STUHINI GROUP

UPPER TRIASSIC

2 *LOWER VOLCANOSEDIMENTARY SEQUENCE: Medium to dark green, mafic to intermediate volcanic and volcaniclastic rocks and thick sequences of brown, black and grey, immature sedimentary rocks, minor limestone as beds, lenses and clasts*

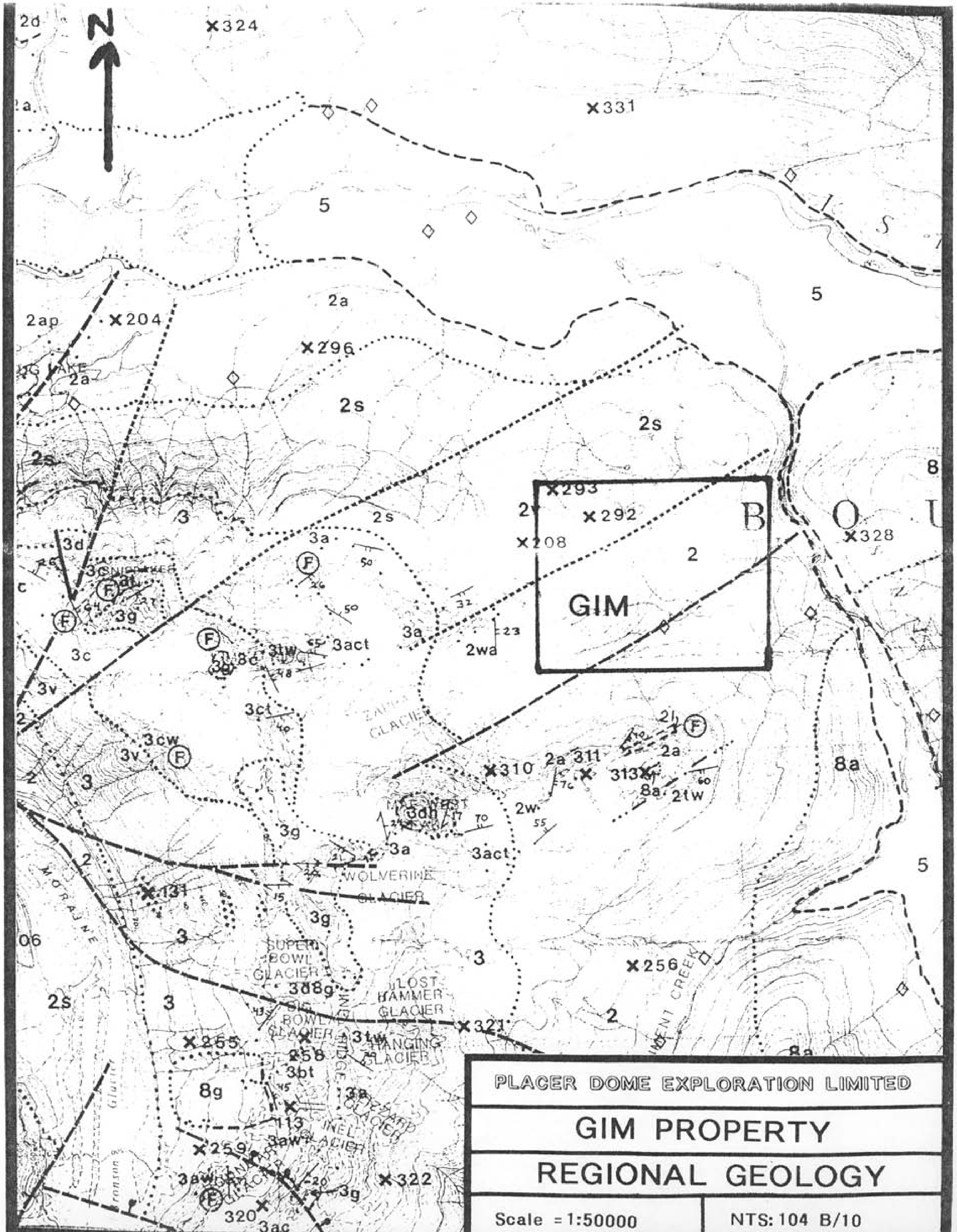
- 2v *Undifferentiated, mainly volcanic rocks*
- 2a *Grey and green, plagioclase ± hornblende ± pyroxene phyric andesite*
- 2p *Grey and green, pyroxene ± feldspar porphyritic andesite; rare pillow breccia*
- 2m *Melanocratic, pyroxene-rich basalt and andesite; tuff, tuff-breccia, debris flows, with intercalated pyroxene-bearing wacke and conglomerate*
- 2y *Light grey-green, waxy, dacitic pyroxene-plagioclase crystal and lapilli tuffs (Winslow Ridge)*
- 2i *Aphyric andesitic tuffs and lapilli tuffs (Winslow Ridge)*
- 2f *Light weathering, felsic tuffs and breccias*
- 2s *Undifferentiated, mainly sedimentary rocks*
- 2t *Black, thinly bedded siltstone and fine sandstone (turbidite); shale, argillite*
- 2w *Grey, brown and green tuffaceous wacke; variably bedded; locally calcareous*
- 2c *Conglomerate and volcanic conglomerate; polymictic*
- 2l *Grey, variably bedded limestone (mostly recrystallized); locally silty or sandy*

PALEOZOIC

STIKINE ASSEMBLAGE

1 *DEFORMED METAMORPHIC ROCKS (May include some Triassic strata). Phyllite, fine-grained schist and gneiss. Metamorphosed tuffaceous siltstone and sandstone with interbeds of marble and quartzite. Metamorphosed volcanic rocks are distinguished by relict volcaniclastic textures*

- 1s *Mica-rich schist and phyllite; probable sedimentary protolith*
- 1l *Marble (recrystallized limestone); massive to thinly layered*
- 1q *White, fine-grained quartzite*
- 1g *Grey, fine-grained, biotite-rich quartzofeldspathic gneiss*
- 1m *Fine-grained, migmatitic amphibolite and quartzofeldspathic gneiss (xenolith in Coast Plutonic Complex)*
- 1v *Medium to dark grey and green, fine-grained gneiss with relict volcaniclastic textures*



PLACER DOME EXPLORATION LIMITED

GIM PROPERTY

REGIONAL GEOLOGY

Scale = 1:50000

NTS: 104 B/10

3.0 GEOLOGY AND MINERALIZATION

3.1 REGIONAL GEOLOGY (Figure 3)

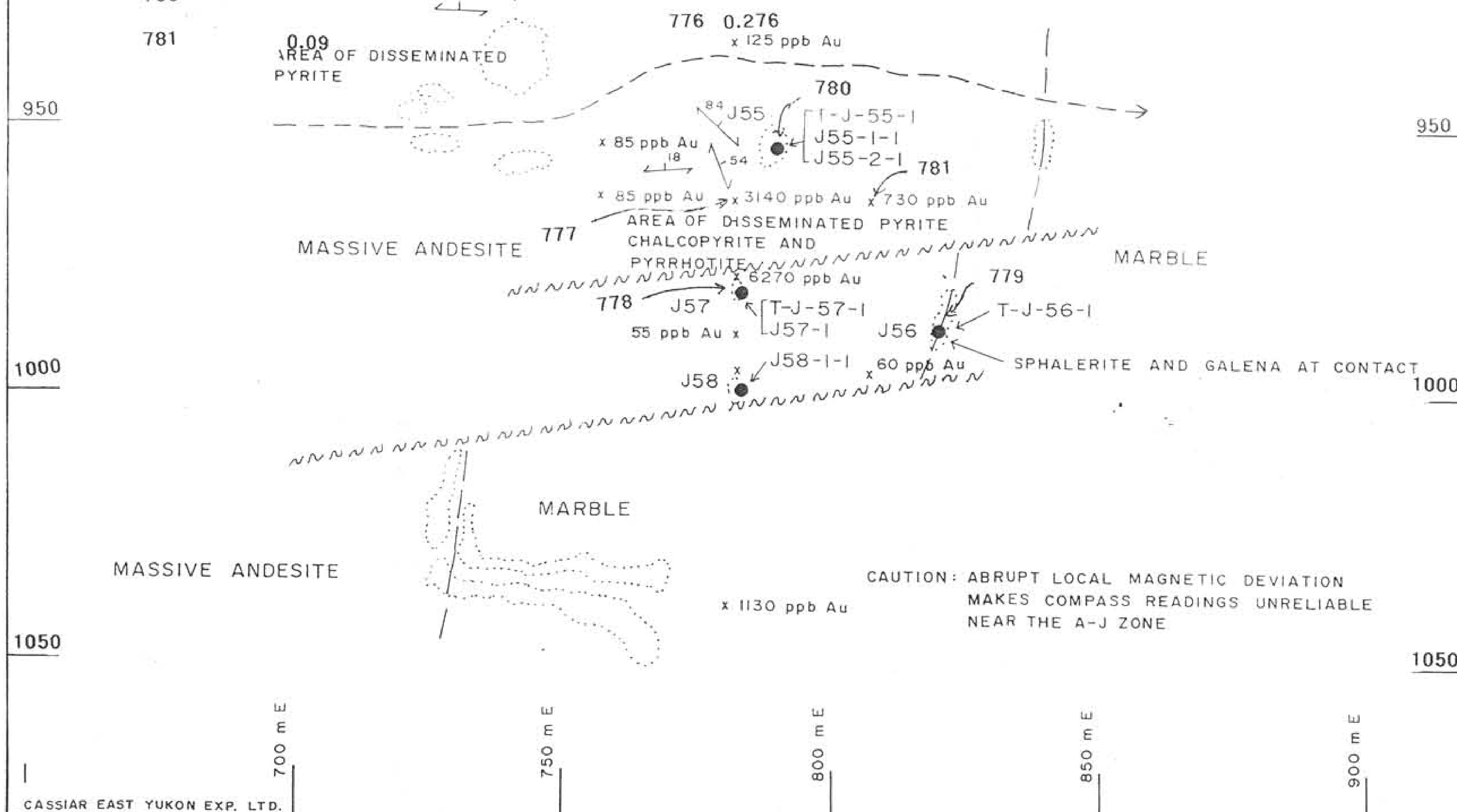
The Iskut River area is underlain by a Mesozoic sequence of volcanic and sedimentary rocks, intruded by Jurassic granodiorite. In the immediate location of the Gim Property, the country rocks consist of Upper Triassic Stuhini sediments, volcanoclastics and mafic volcanic flows. A generally younging sequence from Triassic Stuhini to Jurassic Hazelton volcanics and sediments trends from southeast to northwest. Regional structures and lineaments trend northeast - southwest.

3.2 PROPERTY GEOLOGY

The Gim Property is underlain by a massive sequence of pillowed andesite basalt flows. Textures range from a fine grained, equigranular, pyroxene, feldspar rock to porphyritic phases near the centres of thick flows and agglomeratic phases along the tops of pillows. Except for these internal textural differences there is not much change in the appearance of the volcanic rocks on the property. This volcanic package has been intruded by small rhyolite plugs in the southern half of the property. The Camp Zone mineralization may be related to this later intrusive activity. The only sedimentary rocks noted on the property are narrow (50m - 100m) beds of coarsely crystalline marble. These beds tend to strike north south, however their outcrop distribution is quite erratic as the beds have been chopped up by several northeast-southwest faults.

A petrographic study by consultant Lloyd Clark (Appendix B), of two thin sections taken from the AJ Zone and the Camp Zone. The rocks are similar in that they are both primarily pyroxene. The Camp Zone sample consists of 80 % orthopyroxene and appears to be an ultramafic intrusive; the AJ Zone sample consists of 70% clinopyroxene and appears to be a pyroxene skarn. It appears as if the rock in the AJ Zone may have had the same igneous origin, however it has been altered to clinopyroxene and amphibole. The AJ zone is also the area of the most intense mineralization. Textural features suggest that the rock is probably a mafic volcanic flow which has been metamorphosed by calcium metasomatism to a form of skarn. This is not a typical pyroxene, garnet skarn that one normally observes when a limestone bed has been altered. The proximity of the pyroxenite to the marble unit suggests that the marble was probably the source of the calcium rich fluids. This form of alteration in a mineralized rock is not typical of the normal alteration seen in the Iskut region and so may have significant effect on the form and size of the mineralization.

Sample No.	Cu %	Pb %	Zn %	Ag oz/t	Au oz/t	As %	Cd %
T-J-55-1	1605 ppm	26 ppm	196 ppm	3.2 ppm	1.180	10 ppm	<0.5 ppm
T-J-56-1	75 ppm	0.83	6.49	0.15	0.006	<5 ppm	0.079
T-J-57-1	576 ppm	216 ppm	1765 ppm	1.6 ppm	0.148	15 ppm	19.5 ppm
J55-1-1	0.07	<0.01	0.02	0.14	1.486	<0.01	
J55-2-1	0.01	<0.01	0.01	0.07	0.022	<0.01	
J57-1	0.11	0.01	0.03	0.05	0.192	<0.01	
J58-1-1	0.05	<0.01	0.01	0.03	0.082	<0.01	
776					0.192		
777	0.13				0.386		
778	0.16				0.609		
779		0.20	4.29		0.537		
780					0.276		
781	0.09						



PROFESSIONAL GEOLOGIST ALBERTA — JOHN OSTLER — LICENSED TO PRACTISE

LEGEND

Topography: limit of outcrop, cut, fill, creek, intermittant creek

Structure: vein attitude, bedding tops unknown, fracture cleavage, fault

Sampling: Soil X, outcrop ●

NOTES: Samples reported in ppm are from 32 element ICP analysis. For results, see Appendix B.

For location on property, see Figure 3

SCALE

0 10 20 30 40 50 m

0 50 100 150 ft

N.

27° 22' N. mag. as of August 1, 1990

John Kowalchuk

Figure 4

CONSOLIDATED KYLE RESOURCES INC.

SKETCH MAP of the A-J ZONE

GIM PROPERTY

56°40'N., 130°53'W.

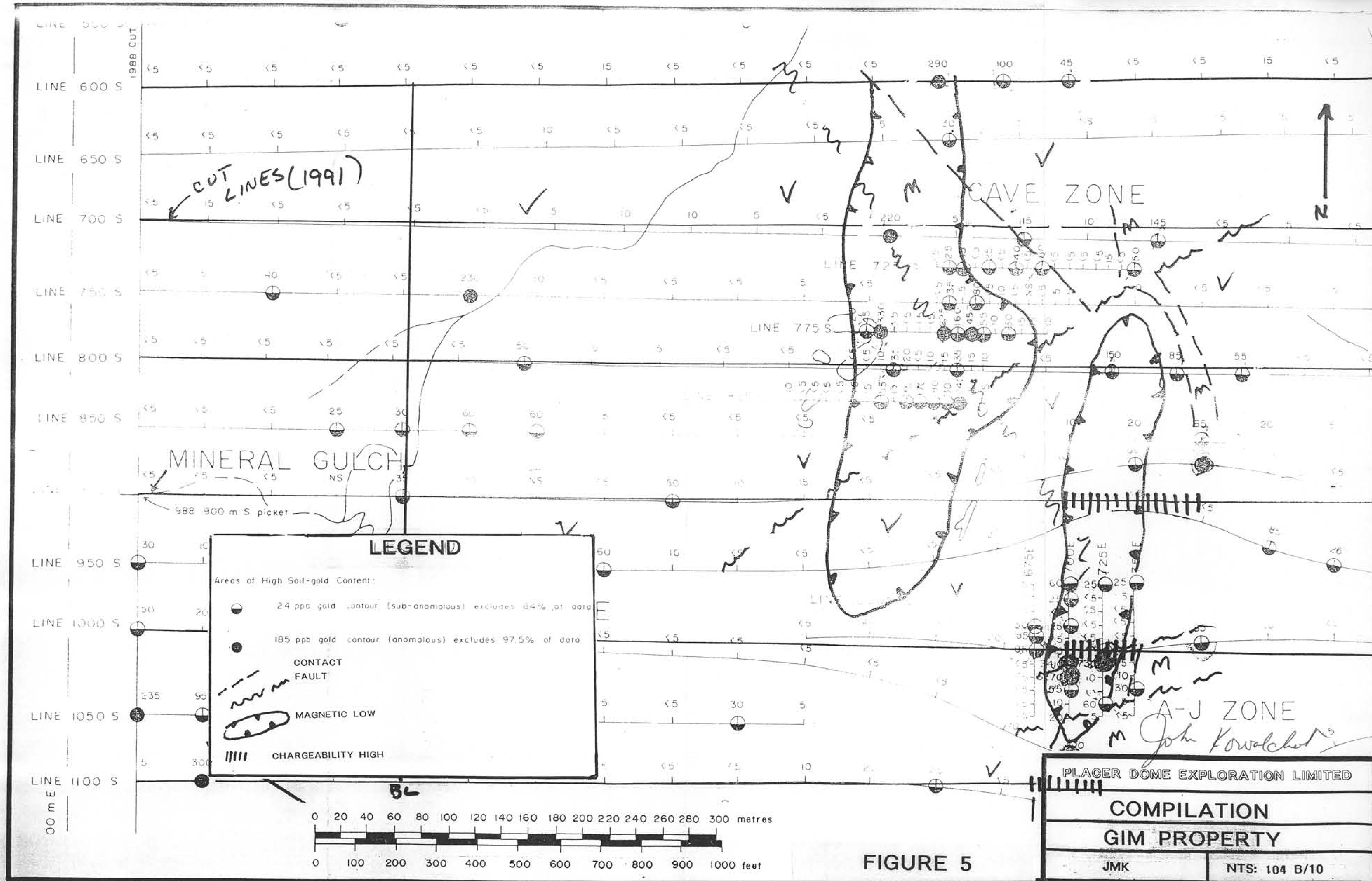
LIARD M.D., BRITISH COLUMBIA, N.T.S.104B/10

JOHN OSTLER; M.Sc., P.Geol. OCTOBER, 1990

3.3 MINERALIZATION

Thin sections from two of the mineralized zones previously mapped by John Ostler in 1990, were studied in the program. These samples came from the AJ Zone and the Camp Zone. The AJ Zone rocks appear to be an alterated version of Camp Zone ultramafic flows. This alteration is related to the hydrothermal event that caused the AJ Zone mineralization. The AJ Zone and the Cave Zone show remarkably similar styles of mineralization. Mineralization consists of low temperature sulphides, pyrrhotite, chalcopyrite, sphalerite and pyrite. Although these rocks contained greater than one ounce of gold per tonne, no gold was observed in the thin sections studied. The low temperature sulphides appear to be retrograde altered pyrrhotite. The pyrrhotite appears to be pervasive occurring in large patches, possibly suggesting an original skarn type mineralization and then being reduced as hydrothermal fluids continued to flow through the system. The chalcopyrite occurs both as patches within the pyrrhotite patches and as fillings in microfractures. No quartz was observed in the thin sections or in the outcrop and so the mineralization is related to the metasomatic event not a quartz veining event. The possible source of heat for the skarnification was the rhyolite plugs which crop out in the Camp zone.

Six grab samples were taken from the AJ Zone in order to confirm the high gold values reported by Ostler in his 1990 report. The locations of the samples are plotted on Figure 4 and the analyses are documented in Appendix C. Five of the samples were taken from the dark green, chloritic country rock described in thin section as a pyroxene skarn; one sample was taken of the sphalerite mineralization at the marble, skarn contact. Although it was difficult to determine which samples would carry high gold values, the grab samples all contained significant values of gold. Skarn samples confirmed the gold values with assays ranging from 0.192 opt to 0.609 opt. These samples also contained up to 0.15% copper. The sphalerite rich sample only contained 127 ppb gold, however it contained 4.29% zinc.



LINE 600 S
LINE 650 S
LINE 700 S
LINE 750 S
LINE 800 S
LINE 850 S
LINE 950 S
LINE 1000 S
LINE 1050 S
LINE 1100 S
1988 CUT
CUT LINES (1991)
CAVE ZONE
MINERAL GULCH
1988 900 m S picket
LINE 775 S
A-J ZONE
N
BL
LEGEND
Areas of High Soil-gold Content:
24 ppb gold contour (sub-anomalous) excludes 84% of data
185 ppb gold contour (anomalous) excludes 97.5% of data
CONTACT
FAULT
MAGNETIC LOW
CHARGEABILITY HIGH
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 metres
0 100 200 300 400 500 600 700 800 900 1000 feet
PLACER DOME EXPLORATION LIMITED
COMPILATION
GIM PROPERTY
JMK
NTS: 104 B/10
John Kowalchuk

FIGURE 5

4.0 GEOPHYSICAL SURVEYS

Ground magnetic surveys and VLF-EM surveys were run on lines cut over the previous grid. Lines surveyed were 600S, 700S, 800S, 900S, 1000S and 1100S. Induced Polarization surveys were run over the AJ Zone on lines 900S, 1000S and 1100S. The description of the survey and the results are documented in Appendix A, written by Al Scott, the geophysical contractor who did the survey.

The magnetic survey describes a north trending magnetic low which appears to relate to the outcrop of the AJ Zone and Cave Zone mineralization.

The VLF-EM survey used Annapolis as a transmitter which is probably the wrong direction for a north-south structural feature. The VLF-EM did not locate any significant structures.

The Induced Polarization survey was done over the AJ Zone with the purpose of detemining whether the gold mineralization would give a chargeability or resistivity response which could be used to provide a target for future drilling. The resistivity response was extremely high over the three lines studied, suggesting that the pyroxene altered rock is very resistant. Resistivity measurements ranged from 3,000 to 7,000 ohm-metres, with the lower resistivities located in the area of the AJ Zone mineralization. A linear chargeability high ranging from 15 milliseconds to 25 milliseconds directly overlay the AJ Zone. The coincident resistivity and chargeability anomaly represents the increased sulphide content of the AJ Zone mineralization. The IP chargeability high and the magnetic low generally overlap.

5.0 **CONCLUSIONS**

The AJ and Cave Zones on the Gim Property contain significant amounts of gold enclosed in pyrrhotite and chalcopyrite mineralization. These two zones can be located by various geophysical techniques and soil geochemistry. A compilation map (Figure 5) shows the relationship of soil geochemistry with ground geophysics. The geophysical signature for the mineralization appears to be a magnetic low coupled with a IP chargeability high. These geophysical patterns give a greater level of continuity than is indicated by the soil geochemistry. The property has a good potential to produce economic gold mineralization.

6.0 STATEMENT OF EXPENSES

Geology and Report	$ 2,500
Linecutting (invoiced)	9,900
Geophysics (invoiced)	8,800
Helicopter and Camp for geophysical and linecutting crews	4,800
TOTAL	26,000

7.0 LIST OF REFERENCES

Allcrick, D.J. et al; 1990; Geology and Mineral Deposits - Snippaker Area; B.C. Min. Energy, Mines and Petroleum Resources, OF 1990-10

Ostler, J; 1990; Report of Geological and Geochemical Exploration on the Northeastern Part of the Gim Property etc.; Technical Report; October 31, 1990

8.0 STATEMENT OF QUALIFICATIONS

I, J. Kowalchuk state that:

1. I graduated from McMaster University, Hamilton, Ontario with a Bachelor of Science degree in Geology in 1970.

2. Since 1970 I have been involved with mineral exploration throughout Canada. I have worked in the Yukon and British Columbia for most of that time.

3. I was personally involved in planning the program and interpreting the data.

4. My business address:

   Placer Dome Exploration Limited
   103 Platinum Road
   Whitehorse, Yukon
   Y1A 5M3

5. My home address:

   35 Cedar Crescent
   Whitehorse, Yukon
   Y1A 4P2

APPENDIX A

LOGISTICAL REPORT

INDUCED POLARIZATION, MAGNETOMETER, AND VLF SURVEYS

GIM PROPERTY, BRONSON AREA, BRITISH COLUMBIA

on behalf of

PLACER DOME EXPLORATION LIMITED
1500 - 1055 Dunsmuir Street
Vancouver, B.C. V7X 1P1

Field work completed: September 18 to 20, 1991

by

Alan Scott, Geophysicist
SCOTT GEOPHYSICS LTD.
4013 West 14th Avenue
Vancouver, B.C. V6R 2X3

October 1, 1991

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Appendix

Contents of Map Pockets

Accompanying maps (1:5000 scale)

(originals, 4 copies)

1. INTRODUCTION

Induced polarization, magnetometer, and VLF surveys were conducted over portions of the Gim Property, Bronson Area, B.C., within the period September 18 to 20, 1991. The work was conducted by Scott Geophysics Ltd. on behalf of Placer Dome Exploration Limited.

The pole dipole electrode array was used on the induced polarization survey, with an "a" spacing of 40 meters and "n" separations of 1, 2, 3, 4, and 5. The current electrode location was to the west of the potential electrodes on all lines surveyed.

Magnetometer and VLF readings were taken at 10 meter intervals. Station NAA (Cutler at 24.0 kHz) was used as the transmitter station for the VLF survey.

This report describes the instrumentation and procedures, and presents the results of the surveys.

2. SURVEY GRID AND SURVEY COVERAGE

A total of 2.4 line kilometers of induced polarization survey, and 4.8 line kilometers of magnetometer and VLF survey, were completed on the Gim Property.

3. PERSONNEL

Mark Kachaluba, geophysical technician, was the party chief on the survey. Glen Shevchenko, geologist, was the Placer Dome representative on site for the survey.

4. INSTRUMENTATION

A Scintrex IPR11 time domain receiver, and a Scintrex TSQ4 (10 kw) transmitter were used for the induced polarization survey. Readings were taken using a 2 second alternating square wave. The chargeability for the eighth slice is the value that has been plotted on the accompanying plans and pseudosections (M7; 690 to 1050 milliseconds after shutoff; midpoint at 870 milliseconds).

A Scintrex IGS combined total field magnetometer/VLF receiver was used for the magnetometer and VLF survey. A Scintrex MP4 magnetometer was used as the fixed base station magnetometer. All readings were corrected for diurnal drift with reference to the base station, which cycled at 15 second intervals.

The survey data was archived, processed, and plotted using a Toshiba 3200 microcomputer running Scintrex Soft II, IGS, and proprietary software. All chargeability responses were analyzed for their spectral characteristics (cole-cole intrinsic chargeability, time constant, and frequency dependence) using Johnson's curve matching procedure (Scintrex Soft II). In areas of low amplitude chargeability response, the spectral parameters are often relatively poorly defined.

6. RECOMMENDATIONS

A preliminary examination of the results of the induced polarization survey on the Gim Property indicates the presence of moderate to strong chargeability highs that merit further investigation.

A detailed interpretation of these results, and correlation to geological and geochemical information, is required before any specific recommendations could be made.

Respectfully Submitted,

Alan Scott, Geophysicist

IPR-11 DATA SUMMARY

SURVEY : GIM - GRID

INDEX FILE : a:900s.IND
DATA FILE : a:900s.DAT

LINE NO. : 9

Station	Receive Mode	Dipole :	M0	M1	M2	M3	M4	M5 mV/V	M6	M7	M8	M9	Vp mV	SP mV	Apparent Resist.
250	2	1	54.6	45.6	40.3	36.9	29.0	21.7	17.6	13.8	10.7	8.7	2762.0	-16.	2470.
		2	65.1	54.5	48.2	43.9	34.7	26.0	21.0	16.6	13.0	10.5	1034.0	-22.	2700.
		3	54.3	45.1	39.8	36.2	28.4	21.2	17.2	13.4	10.5	8.5	479.4	23.	2580.
		4	56.8	47.7	42.4	38.7	30.7	23.0	18.6	14.7	11.3	9.1	243.4	23.	2180.
		5	57.9	48.3	42.7	38.9	30.7	22.9	18.6	14.6	11.2	9.2	123.2	-2.	1650.
300	2	1	46.4	38.9	34.5	31.3	24.9	18.7	15.2	12.0	9.3	7.6	1726.0	-31.	6370.
		2	39.5	32.9	28.8	26.2	20.8	15.6	12.6	9.9	7.7	6.3	413.3	17.	4570.
		3	44.6	36.8	32.3	29.7	23.1	[illegible]	15.4	12.5	9.9	8.2	[illegible]	-12.	[illegible]
		4	47.1	39.2	34.6	32.0	26.0	18.6	12.7	9.3	6.7	5.4	82.3	31.	3042.
		5	50.2	40.8	35.1	32.3	25.6	19.2	15.7	12.2	9.5	7.7	55.3	14.	3064.
350	2	1	32.7	27.2	24.1	21.9	17.3	13.1	10.7	8.5	6.6	5.2	902.4	23.	3333.
		2	39.5	32.9	29.3	26.6	21.1	15.9	12.8	10.1	7.8	6.3	364.1	17.	4020.
		3	40.1	32.8	29.4	26.2	20.7	15.4	12.3	9.6	7.3	6.1	153.0	-13.	3390.
		4	44.8	36.7	32.9	29.2	23.2	17.4	13.8	11.1	8.6	6.9	89.0	26.	3288.
		5	41.6	33.8	30.8	27.0	21.5	16.1	12.3	9.6	7.4	6.0	71.5	-39.	3960.
400	2	1	28.5	23.8	20.9	19.0	15.0	11.2	9.1	7.2	5.6	4.5	2216.0	4.	5560.
		2	35.1	29.2	25.5	23.1	18.2	13.5	10.9	8.5	6.6	5.3	500.4	9.	3760.
		3	39.7	32.8	28.6	25.8	20.3	15.0	12.1	9.5	7.3	5.8	307.6	-2.	4630.
		4	34.3	29.2	25.7	23.4	18.6	14.0	11.4	9.1	7.1	5.8	136.4	-29.	3420.
		5	37.1	31.6	27.8	25.3	20.2	15.2	12.3	9.7	7.6	6.1	124.3	5.	4680.
450	2	1	34.7	28.8	25.2	22.6	17.9	13.3	10.7	8.4	6.5	5.3	804.5	-6.	2526.
		2	38.9	32.4	28.2	25.2	20.0	14.8	12.0	9.4	7.2	5.9	334.4	-12.	3140.
		3	35.1	29.7	25.8	23.2	18.5	13.7	11.2	8.7	6.7	5.6	161.3	-3.	3040.
		4	37.3	31.7	27.4	24.6	19.9	14.8	12.1	9.4	7.3	6.0	102.0	-5.	3200.
		5	36.9	31.2	26.9	24.3	19.6	14.5	11.9	9.2	7.1	6.0	67.1	5.	3161.
500	2	1	34.8	28.6	25.0	22.4	17.5	12.9	10.3	8.1	6.1	5.0	2661.0	-16.	6680.

		2	33.5	28.2	25.0	22.4	17.7	13.3	10.6	8.4	6.5	5.3	654.7	10.	4920.
		3	37.6	31.5	28.0	25.3	19.9	15.0	12.1	9.6	7.3	6.0	309.9	-28.	4670.
		4	35.1	29.7	26.5	24.0	19.0	14.4	11.4	9.2	7.0	5.7	163.7	10.	4110.
		5	39.5	33.3	29.9	27.2	21.5	16.4	13.2	10.6	8.2	6.9	128.0	-9.	4820.
550	2	1	29.3	24.4	21.4	19.3	15.0	11.2	8.9	7.0	5.4	4.4	1351.0	1.	3850.
		2	36.6	30.4	26.8	24.1	18.9	14.1	11.4	8.9	6.9	5.6	459.3	-42.	3920.
		3	35.4	29.5	25.9	23.2	18.3	13.7	11.0	8.6	6.7	5.4	235.6	17.	4030.
		4	37.9	32.0	28.4	25.6	20.4	15.4	12.4	9.8	7.5	6.1	143.7	-9.	4100.
		5	47.7	40.5	35.9	32.3	26.0	19.8	16.0	12.7	9.9	8.1	77.1	-31.	3300.
600	2	1	29.6	24.4	21.3	19.4	15.2	11.2	9.1	7.1	5.5	4.5	2787.0	-44.	9210.
		2	31.3	25.8	22.8	20.8	16.4	12.1	9.8	7.6	5.7	4.8	594.8	13.	5880.
		3	35.8	29.1	25.6	23.3	18.4	13.7	11.1	8.7	6.7	5.5	315.2	9.	6250.
		4	42.2	35.2	31.5	28.8	22.9	17.4	14.3	11.3	8.9	7.4	128.5	-46.	4240.
		5	73.1	61.8	55.8	51.4	41.3	31.7	26.3	21.0	16.5	13.7	70.2	-77.	3481.
650	2	1	27.4	22.1	19.7	17.8	13.9	10.3	8.3	6.5	5.0	4.0	1810.0	29.	4940.
		2	31.3	25.8	23.1	20.9	16.4	12.2	9.9	7.8	6.0	4.9	566.5	-35.	4630.
		3	41.5	34.4	30.8	28.1	22.4	17.0	13.9	11.1	8.7	7.1	286.4	-27.	4720.
		4	69.9	59.7	53.8	49.3	39.9	30.7	25.3	20.3	16.0	13.2	125.9	-74.	3430.
		5	79.7	68.5	61.7	56.8	46.1	35.5	29.4	23.6	18.7	15.5	69.5	64.	2844.
700	2	1	25.1	20.6	18.4	16.6	13.1	9.7	7.9	6.2	4.8	3.9	4061.0	-49.	10200.
		2	38.2	31.4	28.3	25.7	20.6	15.3	12.6	10.0	7.8	6.4	651.5	-27.	4890.
		3	62.5	53.0	47.8	43.7	35.4	27.2	22.4	18.0	14.2	11.7	332.7	-79.	5010.
		4	77.4	66.3	59.7	54.8	44.5	34.1	28.3	22.7	18.1	15.0	137.9	66.	3460.
		5	59.3	50.1	44.9	40.8	32.8	24.8	20.2	16.1	12.6	10.3	195.5	40.	7360.
750	2	1	35.4	29.8	26.5	24.1	19.3	14.6	11.9	9.5	7.4	6.1	1120.0	-76.	4130.
		2	59.9	51.1	45.9	42.0	34.0	26.0	21.5	17.2	13.6	11.2	301.0	-67.	3320.
		3	71.2	60.9	54.7	50.1	40.6	31.1	25.6	20.5	16.2	13.3	155.2	111.	3440.
		4	56.1	47.4	42.4	38.6	30.8	23.4	19.2	15.2	11.8	9.7	156.8	38.	5790.
		5	44.3	37.3	33.5	30.3	24.1	18.0	14.6	11.5	8.9	7.2	112.2	-10.	6210.
800	2	1	52.8	44.7	40.1	36.7	29.6	22.7	18.6	14.9	11.8	9.7	637.1	-61.	3334.
		2	64.0	54.5	48.9	44.8	36.0	27.5	22.8	18.3	14.4	11.8	213.5	94.	3340.
		3	50.0	41.9	37.1	33.9	26.9	20.4	16.4	13.0	10.2	8.3	233.7	64.	7340.
		4	44.2	37.2	32.7	29.9	23.6	17.8	14.4	11.3	8.7	7.0	84.3	-26.	4411.
850	2	1	81.3	69.9	62.7	57.5	46.8	36.1	29.8	24.0	19.0	15.8	526.5	81.	3306.
		2	59.0	49.7	44.3	40.4	32.5	24.8	20.3	16.2	12.8	10.5	329.8	65.	6200.
		3	45.7	38.2	34.0	30.8	24.7	18.7	15.1	12.1	9.5	7.8	132.2	-24.	4984.
900	2	1	69.3	58.6	52.7	48.2	39.1	30.1	24.9	20.0	15.8	13.1	692.7	69.	7250.
		2	48.4	40.9	36.3	33.1	26.7	20.3	16.7	13.3	10.4	8.6	170.4	-28.	5339.
950	2	1	38.9	32.3	28.9	26.1	20.9	15.8	12.9	10.2	8.0	6.5	727.1	-28.	5074.

IPR-11 DATA SUMMARY

SURVEY : GIM - GRID

INDEX FILE : a:1000s.IND
DATA FILE : a:1000s.DAT

LINE NO. : 10

Station	Receive Mode	Dipole :	M0	M1	M2	M3	M4	M5 mV/V	M6	M7	M8	M9	Vp mV	SP mV	Apparent Resist.
250	2	1	41.2	34.1	30.4	27.7	22.1	16.5	13.5	10.6	8.3	6.7	1691.0	30.	10610.
		2	46.7	38.6	34.3	31.1	24.7	18.4	15.0	11.7	9.1	7.3	240.4	-12.	4510.
		3	58.2	47.9	42.6	38.7	30.7	22.7	18.9	14.4	11.2	[illegible]	108.8	-24.	4100.
		4	55.4	45.8	41.0	37.4	29.7	22.3	18.0	14.0	10.6	8.5	73.0	4.	4586.
		5	53.5	43.8	39.3	35.9	28.4	21.0	17.1	13.6	10.9	8.8	36.9	-14.	3475.
300	2	1	33.9	28.7	24.9	22.5	17.7	13.1	10.5	8.3	6.3	5.1	650.8	-13.	2724.
		2	47.3	39.7	34.7	31.4	24.8	18.4	14.8	11.5	9.0	7.4	285.9	-38.	3580.
		3	47.7	40.5	35.2	32.0	25.3	18.9	15.2	12.0	9.1	7.4	166.8	17.	4190.
		4	43.7	37.3	32.2	29.3	23.1	17.[illegible]	[illegible]	10.6	8.1	6.7	88.1	-15.	3689.
		~~5~~	~~45.2~~	~~38.8~~	~~33.5~~	~~30.7~~	~~24.2~~	~~18.0~~	~~14.5~~	~~11.3~~	~~8.7~~	~~7.2~~	~~237.5~~	~~30.~~	~~14910.~~
350	2	1	42.0	35.1	30.9	27.9	21.9	16.3	13.1	10.3	7.9	6.4	720.4	-19.	3231.
		2	41.9	35.7	31.5	28.6	22.7	17.1	13.9	11.0	8.5	7.0	247.9	-6.	3320.
		3	42.5	36.1	31.8	28.9	22.9	17.3	13.9	11.2	8.7	7.1	131.1	-112.	3530.
		4	41.4	36.3	31.9	29.1	23.1	17.5	14.1	11.2	8.6	7.1	93.7	140.	4201.
		~~5~~	~~49.0~~	~~43.5~~	~~37.9~~	~~34.7~~	~~27.3~~	~~20.5~~	~~16.4~~	~~13.2~~	~~10.1~~	~~8.2~~	~~250.4~~	~~4.~~	~~19530.~~
400	2	1	46.5	38.8	34.1	30.9	24.3	18.1	14.6	11.5	8.9	7.2	1551.0	-14.	6490.
		2	48.1	40.3	35.5	32.1	25.4	19.0	15.4	12.1	9.4	7.7	394.7	-9.	4940.
		3	48.8	41.0	36.3	33.1	26.3	19.7	16.0	12.7	9.9	8.1	277.6	22.	6970.
		4	52.7	44.3	39.0	35.5	27.9	20.8	16.8	13.3	10.2	8.4	88.2	-2.	3692.
		5	48.1	39.9	35.4	32.4	25.5	19.0	15.4	12.3	9.6	7.9	74.7	-3.	4692.
450	2	1	36.8	30.4	26.8	24.4	19.2	14.2	11.5	9.0	7.0	5.6	2032.0	-10.	9810.
		2	43.3	36.2	31.9	29.2	23.1	17.4	14.0	11.0	8.6	7.0	493.2	12.	7130.
		3	53.5	44.6	39.1	35.5	27.9	20.7	16.7	13.1	10.0	8.3	174.2	-8.	5050.
		4	48.2	40.5	35.7	32.4	25.7	19.2	15.5	12.3	9.5	7.7	122.7	1.	5920.
		~~5~~	~~41.3~~	~~34.7~~	~~30.3~~	~~27.4~~	~~21.6~~	~~16.1~~	~~13.0~~	~~10.1~~	~~7.8~~	~~6.4~~	~~1081.0~~	~~7.~~	~~78300.~~
500	2	1	29.9	24.8	22.0	19.7	15.6	11.7	9.4	7.4	5.7	4.6	3665.0	11.	15340.

		2	53.5	44.4	39.2	35.3	27.9	20.8	16.8	13.2	10.2	8.3	367.4	-14.	4600.
		3	46.5	38.7	34.3	30.8	24.3	18.1	14.7	11.6	9.0	7.4	259.7	5.	6520.
		4	38.0	31.6	28.2	25.2	19.9	14.8	11.9	9.3	7.1	5.8	134.7	7.	5630.
		~~5~~	~~34.7~~	~~28.8~~	~~25.7~~	~~23.0~~	~~18.2~~	~~13.6~~	~~10.9~~	~~8.5~~	~~6.4~~	~~5.2~~	~~1470.0~~	~~59.~~	~~92300.~~
550	2	1	40.6	33.5	29.7	27.1	21.3	15.9	12.9	10.1	7.8	6.4	601.4	-18.	4190.
		2	45.3	37.1	32.8	30.0	23.6	17.6	14.4	11.3	8.9	7.3	203.0	8.	4200.
		3	39.3	31.8	28.1	25.7	20.2	14.9	12.1	9.6	7.5	6.1	131.2	11.	5400.
		4	36.2	29.4	25.9	23.9	18.8	13.9	11.5	9.0	7.1	5.9	88.0	-71.	6130.
		5	40.9	33.3	29.4	27.3	21.7	18.9	13.5	10.7	8.5	7.2	41.3	42.	4320.
600	2	1	46.0	37.9	33.8	30.5	24.1	18.0	14.6	11.5	8.9	7.2	923.4	6.	5798.
		2	41.2	33.2	29.5	26.6	21.1	15.7	12.7	10.0	7.9	6.4	201.0	4.	3770.
		3	38.4	31.6	27.8	25.0	19.9	14.9	12.1	9.5	7.4	6.0	184.8	-45.	6960.
		4	40.2	33.5	29.5	26.5	21.3	15.9	12.9	10.0	7.8	6.4	79.9	4.	5020.
		5	69.3	58.8	51.9	47.1	38.7	29.4	24.2	19.6	15.5	12.6	29.8	0.	2805.
650	2	1	30.3	24.8	22.2	20.1	15.8	11.8	9.6	7.5	5.9	4.8	1665.0	-4.	7460.
		2	34.5	28.2	25.1	22.6	17.9	13.3	10.8	8.5	6.6	5.3	896.7	-71.	12040.
		3	37.4	[illegible]	27.4	24.7	19.6	14.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		4	66.2	56.2	50.4	45.7	37.0	28.2	23.2	18.5	14.6	11.9	79.8	3.	3577.
		~~5~~	~~72.6~~	~~61.7~~	~~55.3~~	~~50.1~~	~~40.7~~	~~31.2~~	~~25.6~~	~~20.4~~	~~16.1~~	~~13.1~~	~~1095.0~~	~~15.~~	~~73600.~~
700	2	1	25.3	20.9	18.3	16.2	12.8	9.5	7.6	5.9	4.5	3.7	1475.0	-40.	6170.
		2	31.7	26.6	23.3	20.9	16.6	12.4	10.1	7.8	6.1	5.0	386.5	1.	4840.
		3	61.9	52.5	46.7	42.6	34.3	26.1	21.4	17.2	13.5	11.2	129.9	-10.	3260.
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		5	57.5	49.4	43.3	40.0	32.0	24.4	20.0	15.9	12.6	10.4	80.8	-2.	5077.
750	2	1	23.7	19.4	17.1	15.3	12.1	8.9	7.2	5.6	4.3	3.5	1146.0	-27.	5140.
		2	57.4	48.4	43.3	39.5	31.7	24.2	19.8	15.8	12.4	10.2	190.7	-1.	2560.
		3	60.4	51.2	45.9	42.0	34.0	26.1	21.5	17.2	13.7	11.4	197.5	5.	5310.
		4	48.6	40.7	36.2	32.9	26.2	19.5	15.8	12.5	9.7	7.9	118.3	4.	5300.
		5	67.9	58.0	51.9	47.5	38.3	29.4	24.3	19.5	15.5	12.9	51.7	-8.	3480.
800	2	1	54.7	46.0	41.0	37.4	30.0	22.7	18.6	14.8	11.6	9.5	292.6	-34.	2620.
		2	51.3	43.3	38.7	35.4	28.5	21.6	17.7	14.1	11.0	9.1	133.0	10.	3500.
		3	46.8	39.4	34.9	31.9	25.6	19.3	15.8	12.4	9.7	7.9	90.5	6.	4870.
		4	68.5	58.1	51.7	47.4	38.4	29.1	23.9	19.0	14.9	12.2	35.8	-4.	3210.
850	2	1	48.7	41.0	36.4	33.3	26.6	20.1	16.5	13.1	10.2	8.4	582.0	-11.	5220.
		2	46.4	38.8	34.6	31.7	25.3	19.1	15.6	12.5	9.7	8.0	149.7	18.	4000.
		3	59.9	50.1	44.9	41.4	33.2	25.2	20.7	16.5	12.9	10.5	71.3	-12.	3830.
900	2	1	45.4	38.1	33.8	30.9	24.5	18.5	15.1	12.0	9.4	7.7	728.7	-6.	5080.
		2	64.1	54.4	48.6	44.4	35.7	27.2	22.4	17.8	13.9	11.4	157.7	0.	3200.
950	2	1	49.4	41.7	37.1	33.9	27.1	20.6	16.8	13.4	10.5	8.6	435.2	-4.	4550.

IPR-11 DATA SUMMARY

SURVEY : GIM - GRID

INDEX FILE : A:1100S.IND
DATA FILE : A:1100S.DAT

LINE NO. : 11

Station	Receive Mode	Dipole :	M0	M1	M2	M3	M4	M5 mV/V	M6	M7	M8	M9	Vp mV	SP mV	Apparent Resist.
250	2	1	47.2	39.6	35.3	32.1	25.6	19.2	15.6	12.4	9.6	7.9	1289.0	0.	5390.
		2	63.7	53.6	47.3	43.0	34.3	25.8	20.9	16.5	12.8	10.5	295.4	12.	3700.
		3	65.0	54.5	48.4	44.1	34.9	26.1	21.1	16.7	12.9	10.5	159.7	-58.	[illegible]
		4	60.5	50.8	44.5	40.7	32.7	24.3	19.6	15.6	12.1	9.9	80.2	32.	3358.
		5	48.6	40.8	35.7	32.8	26.2	19.8	16.0	12.8	10.0	8.0	39.0	-12.	2449.
300	2	1	52.0	43.7	38.7	35.1	27.8	20.9	16.9	13.3	10.3	8.4	1265.0	-11.	5670.
		2	58.0	48.5	42.9	38.9	30.7	23.0	18.6	14.6	11.3	9.1	305.3	-24.	4090.
		3	55.7	46.3	40.9	37.2	29.4	22.0	17.8	14.1	11.0	8.9	161.7	-15.	4350.
		4	42.3	35.5	31.5	28.8	23.0	17.4	14.2	11.0	9.0	7.3	70.8	8.	5176.
		5	48.5	40.1	35.8	32.8	26.2	19.8	16.3	13.0	10.3	8.4	69.6	6.	4683.
350	2	1	48.3	40.4	35.7	32.0	25.3	18.9	15.2	11.9	9.2	7.4	1695.0	-49.	7600.
		2	56.0	46.9	41.3	37.3	29.5	22.0	17.7	14.0	10.8	8.8	361.3	-4.	4850.
		3	43.9	37.1	32.8	29.8	23.7	17.9	14.5	11.5	8.9	7.3	173.2	-32.	4660.
		4	48.1	40.8	36.1	32.1	26.3	19.9	16.0	12.6	9.8	8.0	128.0	34.	5740.
		5	56.8	48.2	42.5	38.6	30.7	23.2	18.8	15.2	12.0	9.9	59.4	-13.	3996.
400	2	1	49.4	40.7	36.0	32.5	25.5	18.8	15.2	11.8	9.1	7.4	963.3	-20.	6049.
		2	44.1	36.4	32.6	29.6	23.4	17.5	14.2	11.2	8.6	7.0	257.2	-9.	4830.
		3	48.8	40.2	36.4	33.2	26.0	19.5	16.0	12.6	9.8	8.0	188.5	-3.	7100.
		4	56.4	46.3	42.3	38.7	30.5	22.9	18.8	14.7	11.5	9.5	82.2	0.	5160.
		5	46.1	37.2	35.0	32.0	24.6	18.9	15.6	12.3	9.4	7.6	34.3	22.	3229.
450	2	1	40.6	33.4	29.6	26.8	21.0	15.5	12.5	9.7	7.5	6.0	784.3	-21.	4477.
		2	46.8	38.8	34.4	31.3	24.6	18.4	14.8	11.7	9.0	7.3	328.3	-4.	5610.
		3	53.7	44.8	39.7	36.3	28.6	21.4	17.3	13.7	10.5	8.6	170.6	-15.	5840.
		4	43.2	35.9	31.9	29.4	22.9	17.2	13.9	11.1	8.5	6.9	66.6	21.	3799.
		5	47.5	39.4	35.1	32.7	25.4	19.0	15.1	11.8	9.0	7.2	52.6	15.	4507.
500	2	1	35.3	29.2	25.6	23.2	18.2	13.5	10.9	8.5	6.6	5.3	2551.0	-18.	7620.

		2	48.3	40.3	35.6	32.3	25.5	19.2	15.6	12.2	9.5	7.7	614.9	-11.	5500.
		3	42.1	35.3	31.2	28.4	22.6	16.7	13.5	10.6	8.2	6.7	288.7	5.	5180.
		4	44.3	37.4	32.9	30.1	23.9	17.9	14.7	11.6	9.0	7.4	152.6	31.	4560.
		5	36.6	30.7	26.6	24.3	19.0	13.8	11.4	8.8	6.8	5.5	109.1	8.	4890.
550	2	1	38.0	31.6	28.0	25.3	20.1	15.0	12.2	9.6	7.4	6.0	1124.0	-6.	6410.
		2	39.3	32.8	29.0	26.3	21.0	15.7	12.7	10.0	7.8	6.3	192.9	0.	3290.
		3	44.0	36.6	32.3	29.4	23.4	17.6	14.4	11.4	8.9	7.3	139.5	10.	4780.
		4	34.1	28.1	24.6	22.4	17.7	13.0	10.4	8.1	6.3	5.0	85.3	23.	4870.
		5	38.2	31.4	27.5	25.2	19.9	14.8	11.8	9.3	7.2	5.9	40.8	-7.	3491.
600	2	1	44.1	37.0	32.8	29.8	23.7	17.8	14.4	11.4	8.8	7.2	1430.0	-24.	5610.
		2	48.4	40.9	36.4	33.2	26.5	20.0	16.3	12.9	10.0	8.2	331.5	30.	3890.
		3	38.0	31.7	27.9	25.4	19.9	14.8	11.9	9.4	7.3	6.0	259.0	8.	6100.
		4	41.1	34.4	30.5	27.8	22.0	16.4	13.3	10.5	8.1	6.6	120.0	-13.	4710.
		5	59.7	50.7	45.4	41.5	33.3	25.2	20.6	16.4	12.7	10.5	72.7	15.	4277.
650	2	1	44.2	37.5	33.0	30.1	24.0	18.1	14.7	11.6	9.0	7.4	1041.0	-16.	5020.
		2	39.6	33.2	29.2	26.5	20.9	15.6	12.6	10.0	7.7	6.3	282.6	3.	4080.
		3	42.5	35.6	31.5	28.5	22.6	17.1	[illegible]	[illegible]	8.5	7.0	167.7	-26.	4860.
		4	59.2	50.6	45.3	41.2	33.1	25.4	20.6	16.4	12.9	10.7	100.9	23.	4870.
		5	68.6	58.7	52.6	47.6	38.4	29.5	24.0	19.5	15.5	12.8	60.0	-24.	4351.
700	2	1	32.4	27.1	24.1	21.6	17.1	12.8	10.4	8.2	6.3	5.1	1367.0	17.	5050.
		2	37.7	31.5	27.8	25.1	20.0	15.0	12.2	9.6	7.5	6.1	267.2	-34.	2955.
		3	55.1	47.1	42.2	38.4	30.9	23.6	19.3	15.4	12.1	9.9	220.5	14.	4890.
		4	66.9	57.2	[illegible]	[illegible]	[illegible]	28.5	[illegible]	19.0	15.3	[illegible]	129.3	-12.	4776.
		5	55.0	46.8	41.5	37.8	30.3	21.8	17.5	14.2	11.4	9.2	59.3	26.	3289.
750	2	1	33.4	27.7	24.3	22.0	17.3	12.9	10.4	8.1	6.3	5.1	1008.0	-43.	4869.
		2	52.9	44.8	39.9	36.4	29.2	22.2	18.1	14.3	11.0	8.9	279.6	11.	4043.
		3	66.2	56.3	50.3	46.1	37.4	28.6	23.6	18.9	15.2	12.7	192.0	-18.	5568.
		4	53.8	45.3	40.6	37.1	30.0	22.7	18.7	14.9	11.6	9.5	83.3	14.	4026.
		5	70.6	59.7	53.5	49.4	40.5	30.5	25.1	20.0	15.8	12.9	51.8	12.	3755.
800	2	1	41.9	35.0	31.5	28.5	22.9	17.3	14.2	11.2	8.8	7.2	1443.0	11.	6041.
		2	59.6	50.4	45.2	41.3	33.3	25.3	20.9	16.6	13.1	10.8	575.9	5.	7218.
		3	49.7	41.7	37.4	34.2	27.3	20.8	17.1	13.5	10.5	8.6	209.9	-19.	5275.
		4	66.4	56.3	50.9	46.8	37.6	28.8	23.8	19.0	15.0	12.3	108.3	8.	4534.
850	2	1	52.2	44.4	39.7	36.2	29.1	22.2	18.2	14.5	11.4	9.4	499.4	6.	5227.
		2	44.5	38.2	34.2	31.0	24.9	18.9	15.4	12.4	9.7	8.0	116.1	4.	3638.
		3	63.9	54.4	48.8	44.3	35.7	27.4	22.4	18.0	14.3	11.9	61.9	-24.	3887.
900	2	1	53.7	44.9	39.8	36.3	28.9	21.8	17.9	14.2	11.2	9.2	527.1	-23.	4729.
		2	65.8	55.8	49.9	45.7	37.1	28.5	23.5	18.8	14.9	12.3	147.0	-3.	3948.
950	2	1	65.1	55.6	49.6	45.5	36.7	28.2	23.2	18.6	14.7	12.1	692.9	-6.	5439.

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:vlf2.DAT)

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz Ser No:403228.
Line: 1100.S Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	12	6	5.40	14:50:03	
220.E	12	5	5.31	14:49:08	
240.E	11	6	5.11	14:47:46	
260.E	12	7	5.29	14:46:45	
280.E	13	6	4.92	14:45:53	
300.E	11	5	4.90	14:45:08	
320.E	10	5	4.74	14:44:06	
340.E	9	5	4.73	14:43:06	
360.E	8	5	4.83	14:42:13	
380.E	8	6	4.69	14:41:13	
400.E	6	4	4.60	14:40:09	
420.E	7	5	4.60	14:39:[illegible]	
440.E	4	4	4.64	14:38:04	
460.E	6	5	4.80	14:36:02	
480.E	7	6	4.61	14:35:04	
500.E	6	5	4.40	14:33:57	
520.E	5	5	4.45	14:32:28	
540.E	5	6	4.39	14:31:30	
560.E	6	4	4.43	14:30:[illegible]	
580.E	3	5	4.42	14:29:07	
600.E	4	5	4.49	14:27:30	
620.E	6	5	4.48	14:26:23	
640.E	8	7	4.42	14:25:23	
660.E	8	9	4.33	14:23:44	
680.E	9	8	4.32	14:22:43	
700.E	8	7	4.34	14:21:32	
720.E	10	7	4.29	14:20:08	
740.E	13	9	4.26	14:18:41	
760.E	16	11	4.06	14:17:22	
780.E	16	12	3.89	14:14:58	
800.E	17	13	3.76	14:13:50	
820.E	14	11	3.77	14:12:33	
840.E	16	11	3.60	14:11:07	
860.E	16	13	3.53	14:09:33	
880.E	14	11	3.55	14:07:58	
900.E	15	12	3.49	14:06:40	
920.E	14	11	3.50	14:05:08	
940.E	17	11	3.47	14:04:02	
960.E	16	13	3.37	14:02:16	
980.E	21	16	3.13	14:00:51	
1000.E	17	14	3.21	13:59:47	

SCINTREX V1.6 VLF,M-Field R1.4
VLF #2 24.0KHz Ser No:403228.
Line: 1000.S Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld	Information

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:vlf3.DAT)

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz
Ser No:403228.
Line: 1000.S Grid: 1. Job: 9140. Date: 91/09/20 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	4	0	5.75	09:32:53	
220.E	2	0	5.71	09:33:42	
240.E	6	1	5.58	09:34:11	
260.E	9	2	5.44	09:34:56	
280.E	10	6	5.45	09:35:25	
300.E	15	7	5.19	09:36:13	
320.E	15	7	5.14	09:36:46	
340.E	13	5	5.21	09:37:18	
360.E	15	4	4.84	09:37:46	
380.E	8	3	5.15	09:38:27	
400.E	11	4	4.98	09:38:54	
420.E	9	3	4.86	09:39:22	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
460.E	6	2	4.96	09:40:41	
480.E	5	2	4.75	09:41:16	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
520.E	10	2	4.75	09:43:24	
540.E	9	3	4.73	09:44:14	
560.E	12	[illegible]	[illegible]	[illegible]	
580.E	12	4	4.47	09:45:13	
600.E	12	3	4.75	09:45:42	
620.E	9	2	4.44	09:46:15	
640.E	7	4	4.67	09:46:53	
660.E	10	6	4.18	09:47:55	
680.E	14	8	4.27	09:48:28	
700.E	13	8	4.33	09:48:47	
720.E	17	9	4.27	09:49:47	
740.E	20	10	4.21	09:50:26	
760.E	21	12	4.08	09:50:53	
780.E	20	12	4.09	09:51:41	
800.E	17	11	4.47	09:52:23	
820.E	24	16	4.00	09:53:04	
840.E	21	15	4.11	09:54:04	
860.E	19	14	3.95	09:54:49	
880.E	23	13	3.73	09:55:44	
900.E	18	12	3.94	09:56:47	
920.E	18	11	3.82	09:57:34	
940.E	22	13	3.79	09:58:20	
960.E	23	11	3.70	09:59:06	
980.E	15	9	3.92	09:59:54	
~~1000.E~~	~~3~~	~~0~~	~~5.77~~	~~09:32:16~~	
1000.E	15	10	3.96	10:00:16	

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz
Ser No:403228.
Line: 0. Grid: 1. Job: 9140. Date: 91/09/20 Operator: 69.

Station Vert IP Vert Q Hor Fld Information

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:vlf1.DAT)

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz Ser No:403228.
Line: 900.S Grid: 1. Job: 9140. Date: 91/09/18 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	7	6	7.67	17:07:06	
220.E	3	2	7.46	17:06:34	
240.E	3	2	7.43	17:05:53	
260.E	2	1	7.35	17:05:07	
280.E	1	2	7.51	17:04:25	
300.E	0	4	7.59	17:03:42	
320.E	0	5	7.48	17:02:54	
340.E	14	6	6.28	17:02:06	
360.E	12	8	7.34	16:59:51	
380.E	8	7	6.91	16:59:03	
400.E	11	6	6.63	16:58:14	
420.E	[illegible]	4	[illegible]	[illegible]	
440.E	14	6	6.49	16:56:07	
460.E	16	5	6.06	16:55:29	
480.E	13	5	6.19	16:54:50	
500.E	8	5	6.17	16:54:11	
520.E	18	5	5.50	16:53:10	
540.E	15	5	5.53	16:52:35	
560.E	16	[illegible]	[illegible]	[illegible]	
580.E	9	5	5.67	16:51:10	
600.E	14	4	5.44	16:50:21	
620.E	19	6	5.03	16:49:42	
640.E	11	5	5.41	16:49:09	
660.E	14	7	5.14	16:48:27	
680.E	15	7	5.00	16:47:43	
700.E	17	7	4.61	16:47:03	
720.E	18	7	4.49	16:46:11	
740.E	18	8	4.43	16:45:27	
760.E	23	10	4.27	16:44:29	
780.E	18	11	4.36	16:43:27	
800.E	17	11	4.43	16:42:30	
820.E	10	11	4.53	16:41:50	
840.E	14	10	4.49	16:41:05	
860.E	16	11	4.33	16:40:06	
880.E	23	17	3.92	16:37:51	
900.E	28	17	3.52	16:36:38	
920.E	21	16	3.29	16:35:10	
940.E	25	12	3.67	16:34:17	
960.E	20	12	3.68	16:33:36	
980.E	22	12	3.63	16:32:30	
1000.E	8	11	3.04	16:27:44	
1000.E	14	10	3.80	16:31:11	

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:vlf1.DAT)

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz Ser No:403228.
Line: 900.S Grid: 1. Job: 9140. Date: 91/09/18 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	7	6	7.67	17:07:06	
220.E	3	2	7.46	17:06:34	
240.E	3	2	7.43	17:05:53	
260.E	2	1	7.35	17:05:07	
280.E	1	2	7.51	17:04:25	
300.E	0	4	7.59	17:03:42	
320.E	0	5	7.48	17:02:54	
340.E	14	6	6.28	17:02:06	
360.E	12	8	7.34	16:59:51	
380.E	8	7	6.91	16:59:03	
400.E	11	6	6.53	16:58:14	
420.E	20	6	6.16	16:57:10	
440.E	14	6	6.49	16:56:07	
460.E	16	5	6.06	16:55:29	
480.E	13	5	6.17	16:54:50	
500.E	8	5	6.17	16:54:11	
520.E	18	5	5.50	16:53:10	
540.E	15	5	5.77	16:52:35	
560.E	16	5	5.32	16:51:56	
580.E	9	5	5.67	16:51:10	
600.E	14	4	5.44	16:50:21	
620.E	19	6	5.03	16:49:42	
640.E	11	5	5.41	16:49:09	
660.E	14	7	5.14	16:48:27	
680.E	15	7	5.00	16:47:43	
700.E	17	7	4.61	16:47:03	
720.E	18	7	4.49	16:46:11	
740.E	18	8	4.43	16:45:27	
760.E	23	10	4.27	16:44:29	
780.E	18	11	4.36	16:43:27	
800.E	17	11	4.43	16:42:30	
820.E	10	11	4.53	16:41:50	
840.E	14	10	4.49	16:41:05	
860.E	16	11	4.33	16:40:06	
880.E	23	17	3.92	16:37:51	
900.E	28	17	3.52	16:36:38	
920.E	21	16	3.29	16:35:10	
940.E	25	12	3.67	16:34:17	
960.E	20	12	3.68	16:33:36	
980.E	22	12	3.63	16:32:30	
1000.E	8	11	3.04	16:27:44	
1000.E	14	10	3.80	16:31:11	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
240.E	0	3	3.67	11:32:28
260.E	0	0	0.00	11:31:11
280.E	0	0	0.00	11:30:02
300.E	0	0	0.00	11:29:11
320.E	0	0	0.00	11:28:35
340.E	0	0	0.00	11:27:51
360.E	0	0	0.00	11:26:57
~~380.E~~	~~0~~	~~0~~	~~0.00~~	~~11:15:33~~
380.E	0	0	0.00	11:26:20
400.E	7	2	6.03	11:09:03
~~400.E~~	~~19~~	~~8~~	~~3.94~~	~~11:21:35~~
420.E	7	2	5.97	11:08:04
440.E	4	1	5.83	11:06:47
460.E	4	2	5.83	11:05:50
480.E	5	2	5.82	11:04:36
500.E	5	1	5.77	11:02:05
520.E	9	3	5.69	11:00:31
540.E	7	2	5.70	10:59:26
560.E	7	2	5.88	10:58:22
580.E	6	3	5.61	10:57:29
600.E	6	2	5.50	10:56:39
620.E	6	2	5.80	10:55:30
640.E	5	3	5.68	10:54:17
660.E	7	4	5.75	10:53:25
680.E	7	5	5.71	10:52:03
700.E	9	7	5.63	10:50:56
720.E	10	7	5.75	10:49:27
740.E	[illegible]	8	[illegible]	10:48:1[illegible]
760.E	14	9	5.57	10:47:14
780.E	15	10	5.53	10:45:49
800.E	16	9	5.42	10:44:56
820.E	17	11	5.54	10:43:53
840.E	17	14	5.10	10:42:05
860.E	18	13	[illegible]	10:40:4[illegible]
880.E	15	12	4.92	10:38:48
900.E	17	11	4.93	10:37:00
920.E	16	11	4.81	10:35:50
940.E	17	11	4.91	10:34:34
960.E	18	10	4.87	10:33:36
980.E	16	10	4.81	10:32:32
1000.E	16	10	4.78	10:31:13

SCINTREX V1.6 VLF M-Field R1.4
VLF #2 24.0KHz Ser No:403228.
Line: 800.S Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	-4	6	6.85	15:06:40	
220.E	-0	6	6.61	15:07:11	
240.E	-0	5	6.39	15:07:40	
260.E	-0	4	6.18	15:08:10	
280.E	1	2	6.13	15:08:56	
300.E	-0	1	5.97	15:09:41	
320.E	-1	1	5.90	15:10:21	
340.E	-0	1	5.84	15:10:58	
360.E	-1	1	5.85	15:11:38	
380.E	-1	0	5.89	15:12:11	
400.E	-3	-1	6.05	15:13:17	
420.E	1	-0	6.57	15:14:19	
440.E	4	-0	5.98	15:14:56	
460.E	5	0	5.81	15:15:23	
480.E	6	0	6.03	15:15:55	
500.E	16	4	5.27	15:16:24	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
560.E	12	2	5.12	[illegible]
580.E	11	2	5.10	15:18:19
600.E	12	2	5.13	15:18:59
620.E	11	2	4.88	15:19:36
640.E	11	0	4.78	15:20:16
660.E	11	2	4.77	15:20:50
680.E	13	3	4.55	15:21:33
700.E	12	3	4.61	15:22:04
720.E	10	4	4.72	15:22:42
740.E	12	5	4.54	15:23:17
760.E	11	5	4.59	15:23:49
780.E	9	4	4.41	15:24:31
800.E	10	6	4.53	15:25:23
820.E	9	4	4.64	15:26:18
840.E	12	7	4.40	15:27:16
860.E	9	8	4.44	15:28:11
880.E	8	8	4.08	15:29:00
900.E	12	8	4.45	15:29:58
920.E	14	8	4.44	15:30:34
940.E	16	9	4.27	15:31:05
960.E	18	9	4.30	15:31:51
980.E	17	10	4.31	15:32:37
1000.E	17	9	4.22	15:33:36

SCINTREX V1.6 VLF M-Field R1.4

VLF #2 24.0KHz Ser No:403228.

Line: 700.S Grid: [illegible] Job: [illegible] Date: [illegible] Operator: [illegible]

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	-20	2	5.83	16:14:3.	
220.E	-18	3	5.68	16:13:59	
240.E	-18	3	5.84	16:13:06	
260.E	-20	3	5.80	[illegible]	
280.E	-23	4	5.54	16:11:01	
300.E	-16	3	6.14	16:09:38	
320.E	-14	1	6.06	16:07:53	
340.E	-10	2	6.36	16:06:41	
360.E	-8	3	5.79	16:05:10	
380.E	-7	2	6.21	16:04:27	
400.E	-6	2	6.27	16:03:47	
420.E	-4	2	6.17	16:03:11	
440.E	-3	2	6.10	16:02:40	
460.E	-4	0	6.01	16:02:08	
480.E	-2	0	5.86	16:01:12	
500.E	-4	-0	5.81	16:00:00	
520.E	-2	-1	5.78	15:58:54	
540.E	-1	-1	5.76	15:58:19	
560.E	0	1	5.87	15:57:40	
580.E	5	3	5.73	15:56:35	
600.E	4	1	5.54	15:55:46	
620.E	6	1	5.57	15:55:23	
640.E	5	0	5.50	15:54:15	
660.E	5	0	5.44	15:53:25	
680.E	6	1	5.30	15:52:45	
700.E	8	1	5.26	15:51:49	
720.E	7	-0	5.25	15:50:17	
740.E	7	1	5.32	15:49:06	
760.E	7	3	5.02	15:48:28	
780.E	10	5	4.98	15:47:28	
800.E	7	5	5.15	15:46:38	
820.E	12	7	4.64	15:45:39	
840.E	12	8	4.74	15:44:54	
860.E	10	7	4.71	15:44:13	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
900.E	[illegible]	4	[illegible]	[illegible]
920.E	12	6	4.26	[illegible]
940.E	14	8	4.30	15:40:33
960.E	13	6	4.31	15:39:55
980.E	9	4	4.38	15:39:05
1000.E	8	2	3.48	15:38:14

SCINTREX V1.6 VLF M-Field R1.4

VLF #2 24.0KHz Ser No:403228.

Line: 600.5 Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Vert IP	Vert Q	Hor Fld		Information
200.E	-24	1	5.28	16:18:34	
220.E	-23	2	5.30	16:19:11	
240.E	-24	2	5.50	16:20:13	
260.E	-24	3	5.45	16:20:49	
280.E	-24	2	5.44	16:21:22	
300.E	-21	2	5.49	16:22:03	
320.E	-23	1	5.52	16:23:19	
340.E	-22	4	5.52	16:24:00	
360.E	-21	2	5.28	16:24:49	
380.E	-23	2	5.47	16:25:27	
400.E	-24	1	5.50	16:26:25	
420.E	-22	1	5.56	16:27:00	
440.E	-26	-0	5.40	16:28:01	
460.E	-20	0	5.57	16:28:50	
480.E	-23	-0	5.67	16:29:41	
500.E	-20	0	5.65	16:30:0[illegible]	
520.E	-19	-1	6.01	16:30:38	
540.E	-18	-1	6.02	16:31:17	
560.E	-16	-1	6.14	16:31:44	
580.E	-10	-1	6.12	16:32:20	
600.E	-8	-1	6.10	16:33:05	
620.E	-2	0	6.05	16:33:50	
640.E	-2	0	5.99	16:34:37	
660.E	-2	0	5.64	16:35:31	
680.E	-4	0	5.55	16:35:53	
700.E	-7	-2	5.59	16:36:45	
720.E	-8	-2	5.37	16:37:29	
740.E	-7	-0	5.24	16:38:13	
760.E	-6	-1	5.07	16:38:50	
780.E	-5	-0	5.00	16:39:37	
800.E	-3	-0	4.75	16:40:17	
820.E	0	2	4.85	16:41:00	
840.E	0	3	4.79	16:41:35	
860.E	1	3	4.70	16:42:06	
880.E	5	5	4.71	16:42:48	
900.E	4	4	4.59	16:43:19	
920.E	4	5	4.57	16:44:00	
940.E	8	7	4.19	16:45:10	
960.E	5	5	4.57	16:45:56	
980.E	6	3	4.34	16:46:52	
1000.E	7	4	4.40	16:47:43	

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:mag2.DAT)

SCINTREX V1.6   Magnetometer R1.7
Base Field: 57400.   *=Uncorrected Data   Ser No:403228.
Line: 1100.S Grid: 1.   Job: 9140.   Date: 91/09/19 Operator: 69.

Station	Mag Fld	Change	Time	Information
200.E	58258.6		14:49:45	
220.E	58362.9	104.3	14:48:50	
240.E	57473.7	-889.2	14:47:30	
260.E	57670.8	197.1	14:46:28	
280.E	57675.7	4.9	14:45:38	
300.E	57719.7	44.0	14:44:55	
320.E	57482.6	-237.1	14:43:52	
340.E	57798.2	315.6	14:42:47	
360.E	58199.5	401.3	14:41:55	
380.E	57755.6	-443.9	14:40:55	
400.E	57313.5	-442.1	14:39:51	
420.E	57835.2	521.7	14:38:44	
440.E	57556.4	-278.8	14:37:45	
460.E	57140.9	-415.5	14:35:45	
480.E	57161.7	20.8	14:34:49	
500.E	57081.5	-80.2	14:33:44	
520.E	57189.5	108.0	14:32:11	
540.E	57464.4	274.9	14:31:16	
560.E	58270.2	805.8	14:30:18	
580.E	57663.3	-606.9	14:28:46	
600.E	57272.0	-391.3	14:27:07	
620.E	56872.0	-400.0	14:26:03	
640.E	56980.9	108.9	14:25:02	
660.E	57058.2	77.3	14:23:27	
680.E	57127.2	69.0	14:22:26	
700.E	57292.5	165.3	14:21:15	
720.E	57151.0	-141.5	14:19:44	
740.E	57331.5	180.5	14:18:21	
760.E	57114.3	-217.2	14:17:06	
780.E	57568.8	454.5	14:14:40	
800.E	57218.1	-350.7	14:13:34	
820.E	57219.3	1.2	14:12:18	
840.E	57249.1	29.8	14:10:51	
860.E	57272.4	23.3	14:09:16	
880.E	57309.4	37.0	14:07:38	
900.E	57371.6	62.2	14:06:22	
920.E	57244.4	-127.2	14:04:51	
940.E	57260.0	15.6	14:03:45	
960.E	57278.2	18.2	14:01:58	
980.E	57402.0	123.8	14:00:34	
1000.E	57258.3	-143.7	13:58:04	

SCINTREX V1.6   Magnetometer R1.7
Base Field: 57400.   *=Uncorrected Data   Ser No:403228.
Line: 1000.S Grid: 1.   Job: 9140.   Date: 91/09/19 Operator: 69.

Station Mag Fld Change Time   Information

**** IGS MEMORY DUMP ****

(DATA FILED ON DISK IN : a:mag1.DAT)

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57400. **Uncorrected Data Ser No:403228.
Line: 900.5 Grid: 1. Job: 9140. Date: 91/09/18 Operator: 69.

Station	Mag Fld	Change	Time	Information
200.E	57858.2		17:06:55	
220.E	57757.8	-100.4	17:06:22	
240.E	58302.6	544.8	17:05:40	
260.E	58468.4	165.8	17:04:53	
280.E	58195.4	-273.0	17:04:13	
300.E	58109.9	-85.5	17:03:27	
320.E	58139.6	29.7	17:02:41	
340.E	57559.4	-580.2	17:01:54	
360.E	57430.3	-129.1	16:59:39	
380.E	57885.1	454.8	16:58:51	
400.E	57840.9	-44.2	16:57:51	
420.E	57266.4	-574.5	16:56:[illegible]	
440.E	57175.1	-91.3	16:55:56	
460.E	57307.5	132.4	16:55:18	
480.E	57771.1	463.6	16:54:37	
500.E	57720.4	-50.7	16:53:43	
520.E	57438.2	-282.2	16:52:58	
540.E	57444.0	5.8	16:52:23	
560.E	57400.4	-43.6	16:51:42	
580.E	56754.4	-646.0	16:50:57	
600.E	56598.8	-155.6	16:50:09	
620.E	56655.5	56.7	16:49:29	
640.E	56908.8	253.3	16:48:57	
660.E	57446.2	537.4	16:48:15	
680.E	57698.5	252.3	16:47:31	
700.E	57780.7	82.2	16:46:50	
720.E	57142.7	-638.0	16:45:58	
740.E	57515.4	372.7	16:45:16	
760.E	56641.8	-873.6	16:44:05	
780.E	57115.5	473.7	16:43:13	
800.E	57206.7	91.2	16:42:18	
820.E	57317.8	111.1	16:41:38	
840.E	57467.8	150.0	16:40:52	
860.E	57311.3	-156.5	16:39:18	
880.E	57463.5	152.2	16:37:38	
900.E	57287.8	-175.7	16:36:21	
920.E	57359.9	72.1	16:34:53	
940.E	57466.5	106.6	16:34:04	
960.E	57488.8	22.3	16:33:23	
980.E	57181.7	-307.1	16:32:02	
1000.E	57306.9	125.2	16:30:30	

240.E	58500.8	483.1	[illegible]
260.E	57760.8	-740.0	11:31:03
280.E	57596.1	-164.7	11:29:54
300.E	57993.1	397.0	11:29:02
320.E	58207.4	214.3	11:28:25
340.E	58774.7	567.3	11:27:38
360.E	58725.2	-49.5	11:15:51
360.E	57782.6	-942.6	11:26:49
380.E	57902.5	119.9	11:09:38
380.E	57772.7	-129.8	11:23:26
400.E	57311.3	-461.4	11:08:46
420.E	57712.5	401.2	11:07:49
440.E	57404.5	-308.0	11:06:31
460.E	57104.9	-299.6	11:05:30
480.E	57585.0	480.1	11:04:12
500.E	56953.4	-631.6	11:01:54
520.E	57007.5	54.1	11:00:16
540.E	57227.7	220.2	10:59:09
560.E	57260.1	32.4	10:58:08
580.E	57177.5	-82.6	10:57:16
600.E	57365.2	187.7	10:56:10
620.E	57725.4	360.2	10:55:07
640.E	57522.5	-202.9	10:54:04
660.E	57436.0	-86.5	10:53:11
680.E	57307.2	-128.8	10:51:47
700.E	57650.5	343.3	10:50:40
720.E	56876.2	-774.3	10:49:07
740.E	[illegible]	[illegible]	[illegible]
760.E	57140.2	63.2	10:46:55
780.E	57188.4	48.2	10:45:33
800.E	57272.6	84.2	10:44:36
820.E	57405.6	133.0	10:43:34
840.E	57211.3	-194.3	10:41:47
860.E	57259.0	47.7	10:40:17
880.E	57394.1	135.1	10:38:25
900.E	57288.9	-105.2	10:36:42
920.E	57737.5	448.6	10:35:27
940.E	57455.5	-282.0	10:34:14
960.E	57259.5	-196.0	10:33:19
980.E	57251.4	-8.1	10:32:13
1000.E	57246.9	-4.5	10:30:36

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57400. *=Uncorrected Data Ser No:403228.
Line: 800.S Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Mag Fld	Change	Time	Information
200.E	57495.9		15:06:16	
220.E	57652.8	156.9	15:07:00	
240.E	57534.0	-118.8	15:07:30	
260.E	57416.4	-117.6	15:08:00	
280.E	57564.0	147.6	15:08:42	
300.E	58105.0	541.0	15:09:30	
320.E	58402.1	297.1	15:10:10	
340.E	57929.7	-472.4	15:10:44	
360.E	57992.9	63.2	15:11:28	
380.E	57796.2	-196.7	15:12:01	
400.E	57290.7	-505.5	15:13:08	
420.E	57628.8	338.1	15:14:08	
440.E	57288.0	-340.8	15:14:46	
460.E	57670.0	382.0	15:15:13	
480.E	56737.9	-932.1	15:15:42	
500.E	57196.8	458.9	15:16:12	

[illegible]	[illegible]	[illegible]	15:[illegible]
580.E	57333.8	-282.9	15:18:09
600.E	56820.5	-513.3	15:18:43
620.E	57715.9	895.4	15:19:28
640.E	56704.7	-1011.2	15:20:07
660.E	56760.7	56.0	15:20:39
680.E	57313.4	552.7	15:21:10
700.E	57296.6	-16.8	15:21:52
720.E	57133.6	-163.0	15:22:31
740.E	57235.6	102.0	15:23:07
760.E	57214.6	-21.0	15:23:38
780.E	57138.8	-75.8	15:24:20
800.E	57166.2	27.4	15:25:13
820.E	57207.1	40.9	15:26:08
840.E	57246.1	39.0	15:27:06
860.E	57355.9	109.8	15:28:00
880.E	57394.4	38.5	15:28:50
900.E	57323.0	-71.4	15:29:47
920.E	57579.3	256.3	15:30:24
940.E	57373.8	-205.5	15:30:54
960.E	57371.3	-2.5	15:31:42
980.E	57218.4	-152.9	15:32:27
1000.E	57229.8	11.4	15:33:26

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57400. *=Uncorrected Data Ser No:403228.
[illegible]

Station	Mag Fld	Change	Time	Information
[illegible]	57836.9		16:14:20	
220.E	57856.0	19.1	16:13:47	
240.E	58048.4	192.4	16:12:56	
260.E	58169.9	121.4	16:12:04	
280.E	57411.3	-758.5	16:10:51	
300.E	57561.4	150.1	16:09:27	
320.E	57595.1	33.7	16:07:43	
340.E	57220.5	-374.6	16:06:31	
360.E	57244.3	23.8	16:04:59	
380.E	57337.2	92.9	16:04:16	
400.E	57436.4	99.2	16:03:35	
420.E	57707.8	271.4	16:03:00	
440.E	57606.6	-101.2	16:02:29	
460.E	57887.9	281.3	16:01:57	
480.E	57524.8	-363.1	16:01:01	
500.E	57869.5	344.7	15:59:50	
520.E	57962.2	92.7	15:58:42	
540.E	57866.1	-96.1	15:58:08	
560.E	57285.2	-580.9	15:57:30	
580.E	56814.9	-470.3	15:56:23	
600.E	57007.0	192.1	15:55:36	
620.E	57019.1	12.1	15:55:13	
640.E	57111.4	92.3	15:54:05	
660.E	57258.2	146.8	15:53:14	
680.E	57249.6	-8.6	15:52:34	
700.E	57315.7	66.1	15:51:39	
720.E	57158.5	-157.2	15:50:07	
740.E	57341.3	182.8	15:48:55	
760.E	57205.9	-135.4	15:48:17	
780.E	57188.2	-17.7	15:47:17	
800.E	57198.7	10.5	15:46:25	
820.E	57275.5	76.8	15:45:28	
840.E	57293.2	17.7	15:44:45	
860.E	57486.4	193.2	15:44:03	

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
940.E	57195.8	19.3	15:40:23
960.E	57252.7	56.9	15:39:44
980.E	57248.0	-4.7	15:38:55
1000.E	57376.6	128.6	15:37:48

SCINTREX V1.6 Magnetometer R1.7

Base Field: 57400. *=Uncorrected Data Ser No:403228.

Line: 600.S Grid: 1. Job: 9140. Date: 91/09/19 Operator: 69.

Station	Mag Fld	Change	Time	Information
200.E	57886.5		16:18:24	
220.E	57384.5	-502.0	16:19:02	
240.E	57808.7	424.2	16:20:03	
260.E	58380.6	571.9	16:20:38	
280.E	57914.0	-466.6	16:21:13	
300.E	58062.8	148.8	16:21:54	
320.E	57715.8	-347.0	16:23:11	
340.E	58177.5	461.7	16:23:51	
360.E	57706.7	-470.8	16:24:38	
380.E	57602.1	-104.6	16:25:18	
400.E	57853.1	251.0	16:25:16	
420.E	58358.2	505.1	16:26:50	
440.E	57710.0	-648.2	16:27:49	
460.E	58172.8	462.8	16:28:39	
480.E	57684.6	-488.2	16:29:31	
500.E	57584.8	[illegible]	[illegible]	
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600.E	57124.2	-78.7	16:32:55	
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680.E	57297.8	37.5	16:35:43	
700.E	57261.0	-36.8	16:36:35	
720.E	57312.0	51.0	16:37:19	
740.E	57233.5	-78.5	16:38:04	
760.E	57225.8	-7.7	16:38:39	
780.E	57214.3	-11.5	16:39:26	
800.E	57268.9	54.6	16:40:07	
820.E	57264.6	-4.3	16:40:50	
840.E	57199.4	-65.2	16:41:24	
860.E	57211.7	12.3	16:41:56	
880.E	57188.0	-23.7	16:42:38	
900.E	57184.0	-4.0	16:43:10	
920.E	57279.8	95.8	16:43:49	
940.E	57494.1	214.3	16:44:59	
960.E	57216.5	-277.6	16:45:47	
980.E	57268.2	51.7	16:46:41	
1000.E	57316.2	48.0	16:47:32	

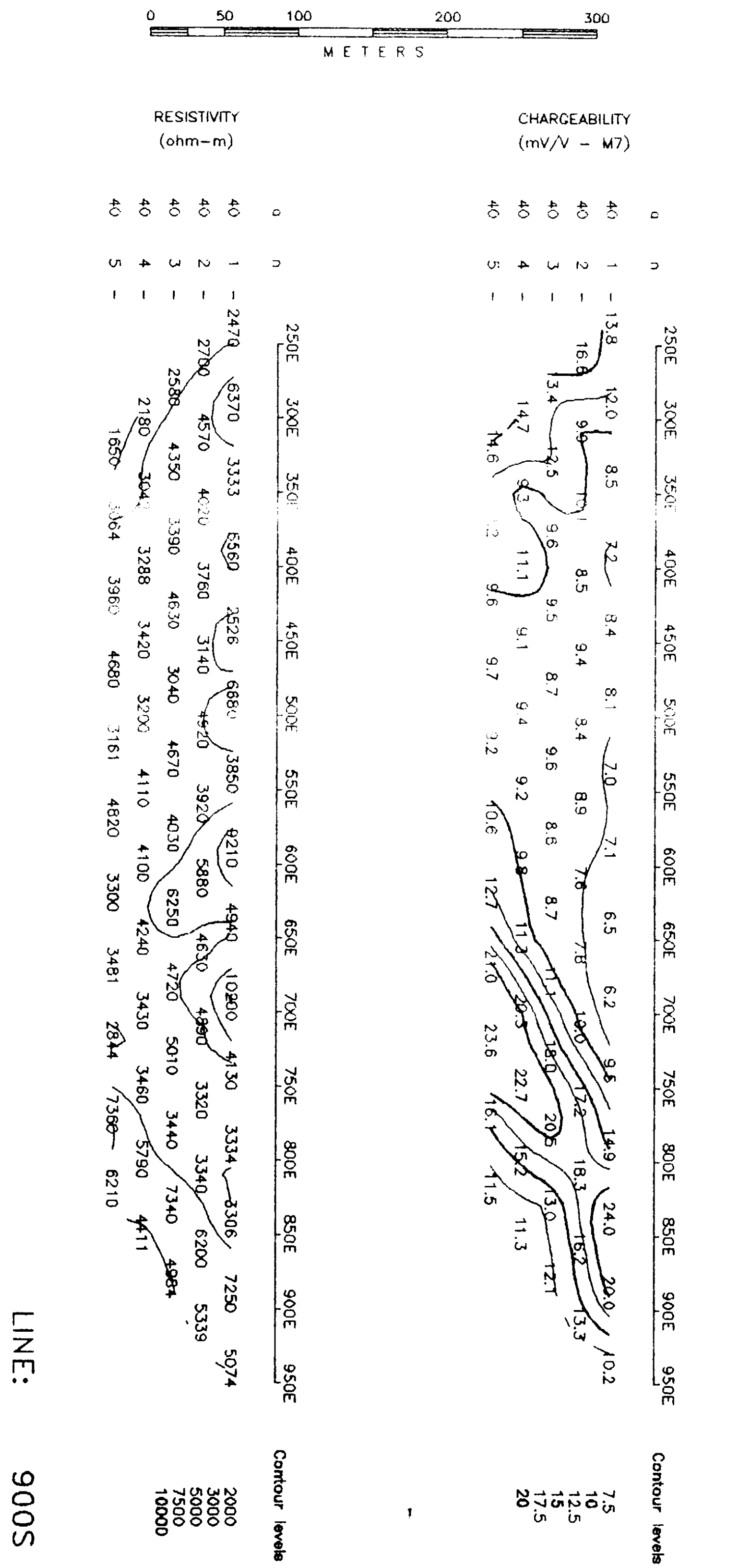
PLACER DOME EXPLORATION LIMITED

GIM GRID, BRONSON CREEK AREA, B.C.

LINE: 900S

INDUCED POLARIZATION SURVEY (Pole–Dipole Array)
SCOTT GEOPHYSICS LTD. Scintrex IPR-11
Sept/91 Pulse Rate: 2 sec

current electrode west of potential electrodes



PLACER DOME EXPLORATION LIMITED

GIM GRID, BRONSON CREEK AREA, B.C.

LINE: 1100S

INDUCED POLARIZATION SURVEY (Pole-Dipole Array)

SCOTT GEOPHYSICS LTD. Scintrex IPR-11

Sept/91 Pulse Rate: 2 sec

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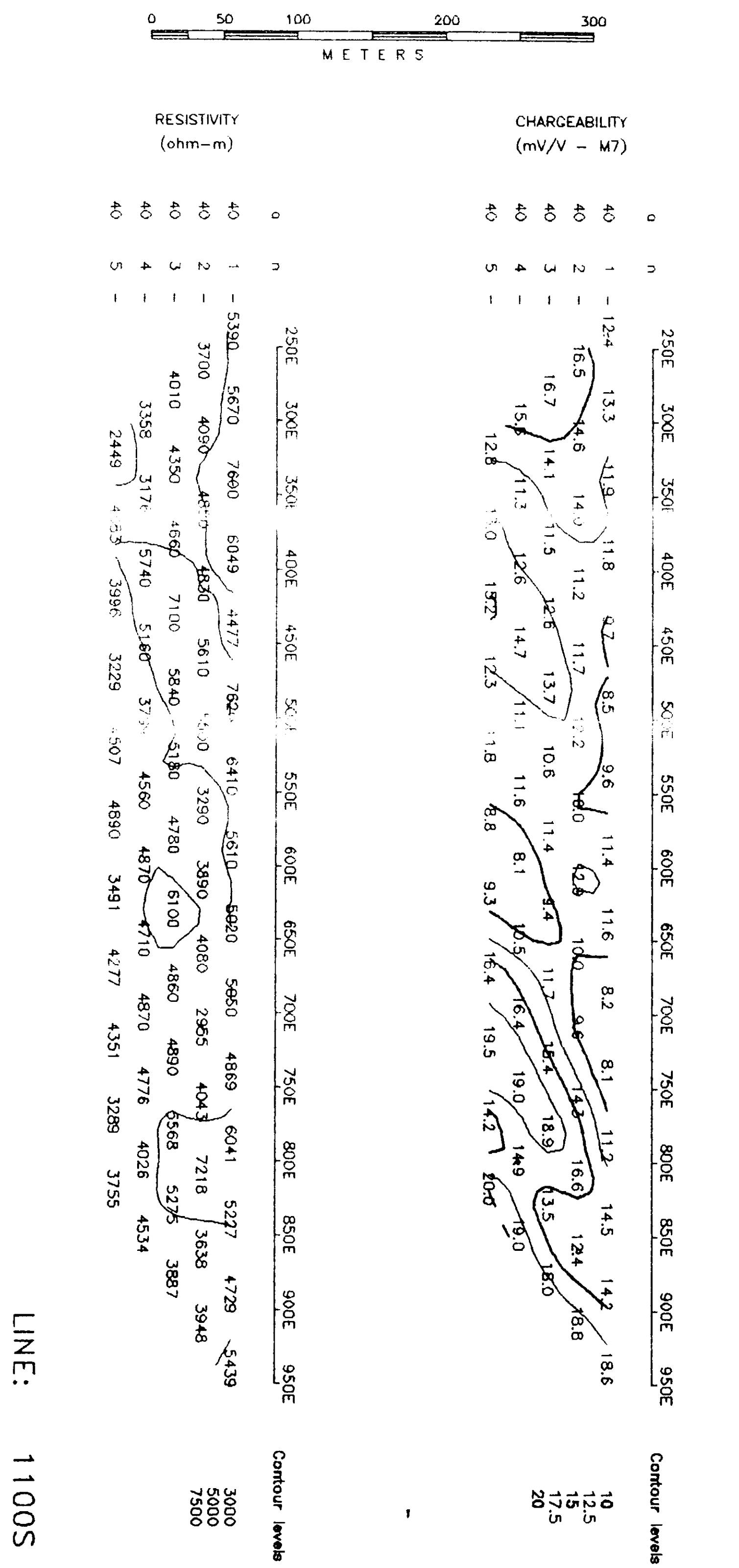


PLACER DOME EXPLORATION LIMITED

GIM GRID, BRONSON CREEK AREA, B.C.

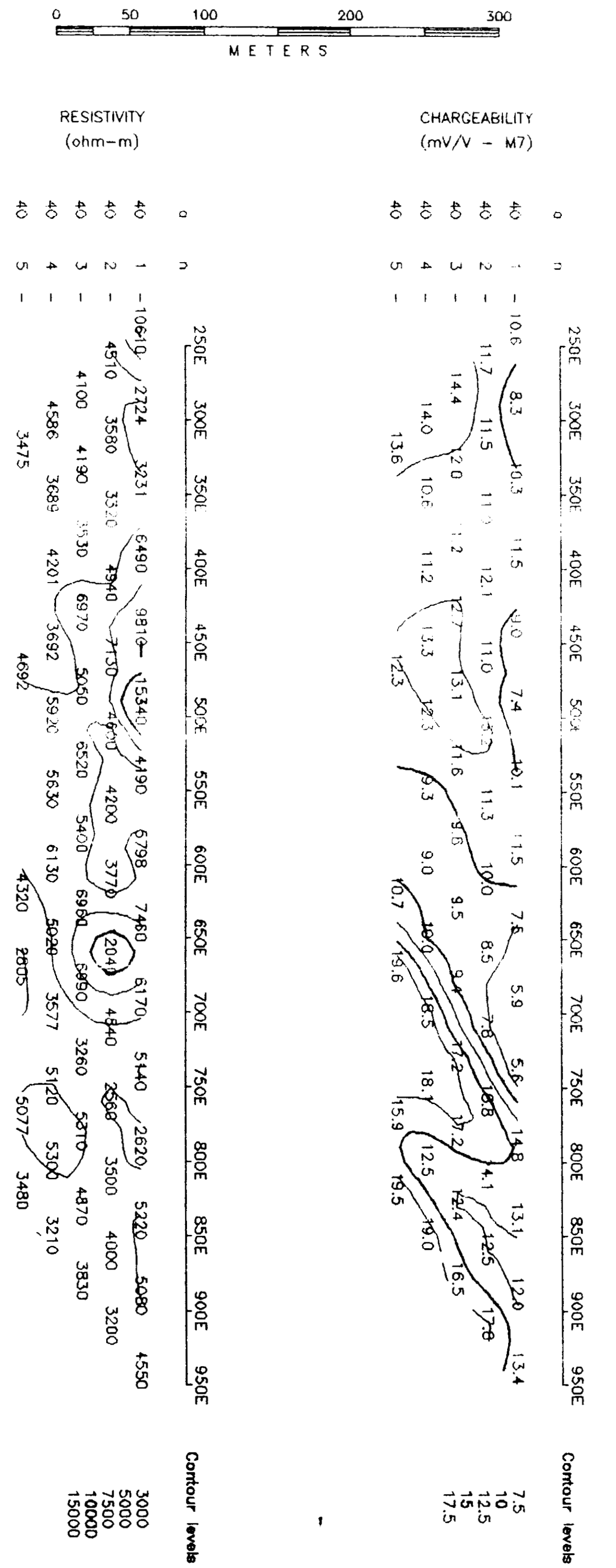
LINE: 1000S

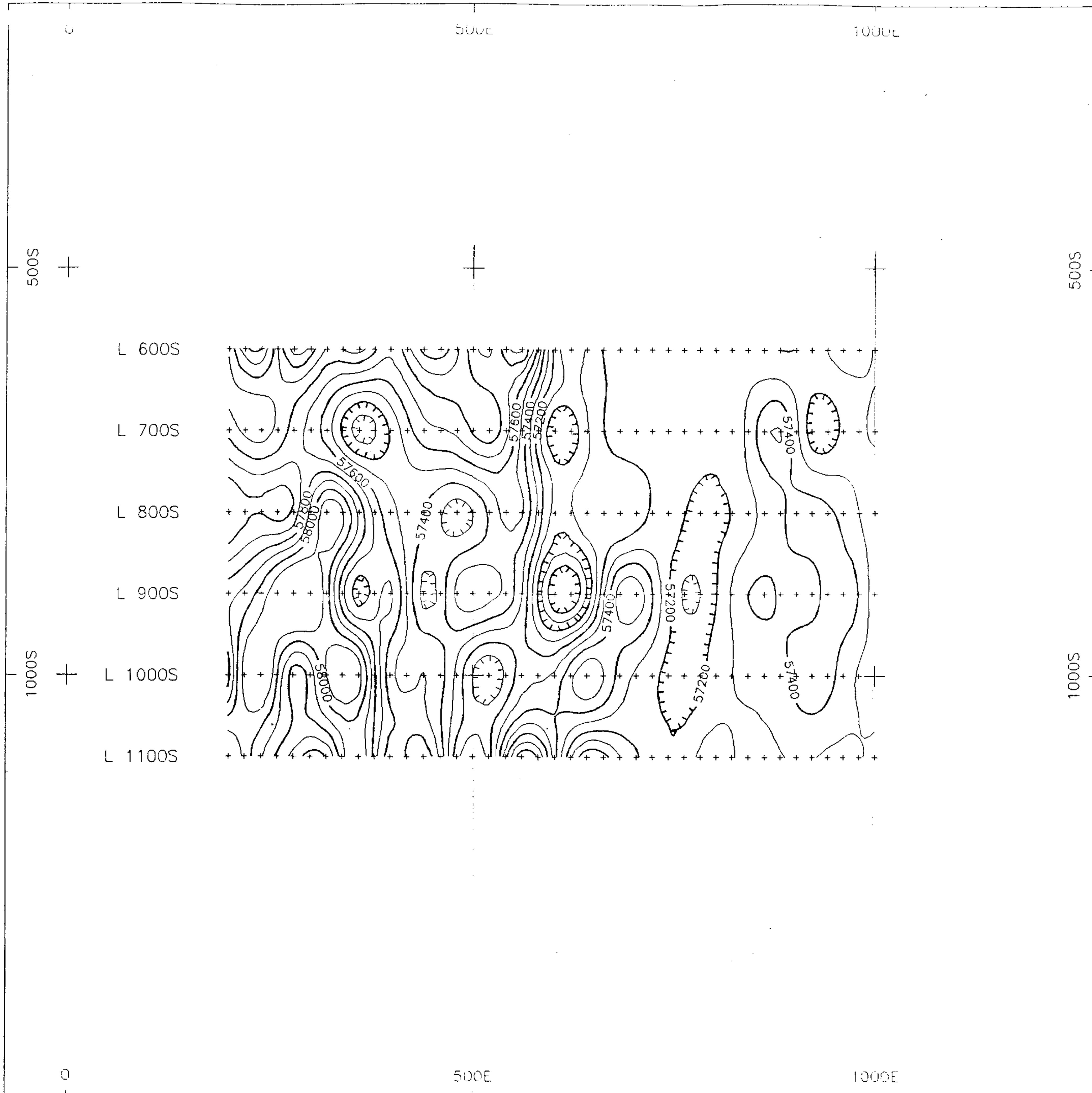
INDUCED POLARIZATION SURVEY (Pole-Dipole Array)

SCOTT GEOPHYSICS LTD. Scintrex IPR-11

Sept/91 Pulse Rate: 2 sec

current electrode west of potential electrodes

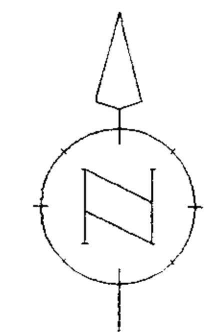


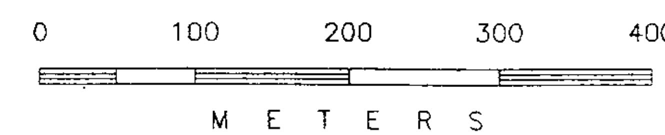


SURVEY SPECIFICATIONS

survey	magnetometer	Scintrex IGS
base	magnetometer	Scintrex MP4
base	cycle time	15 seconds
type		proton
posted value		total field
units		gammas

+ MAG (gammas)





PLACER DOME EXPLORATION LIMITED

GIM PROPERTY

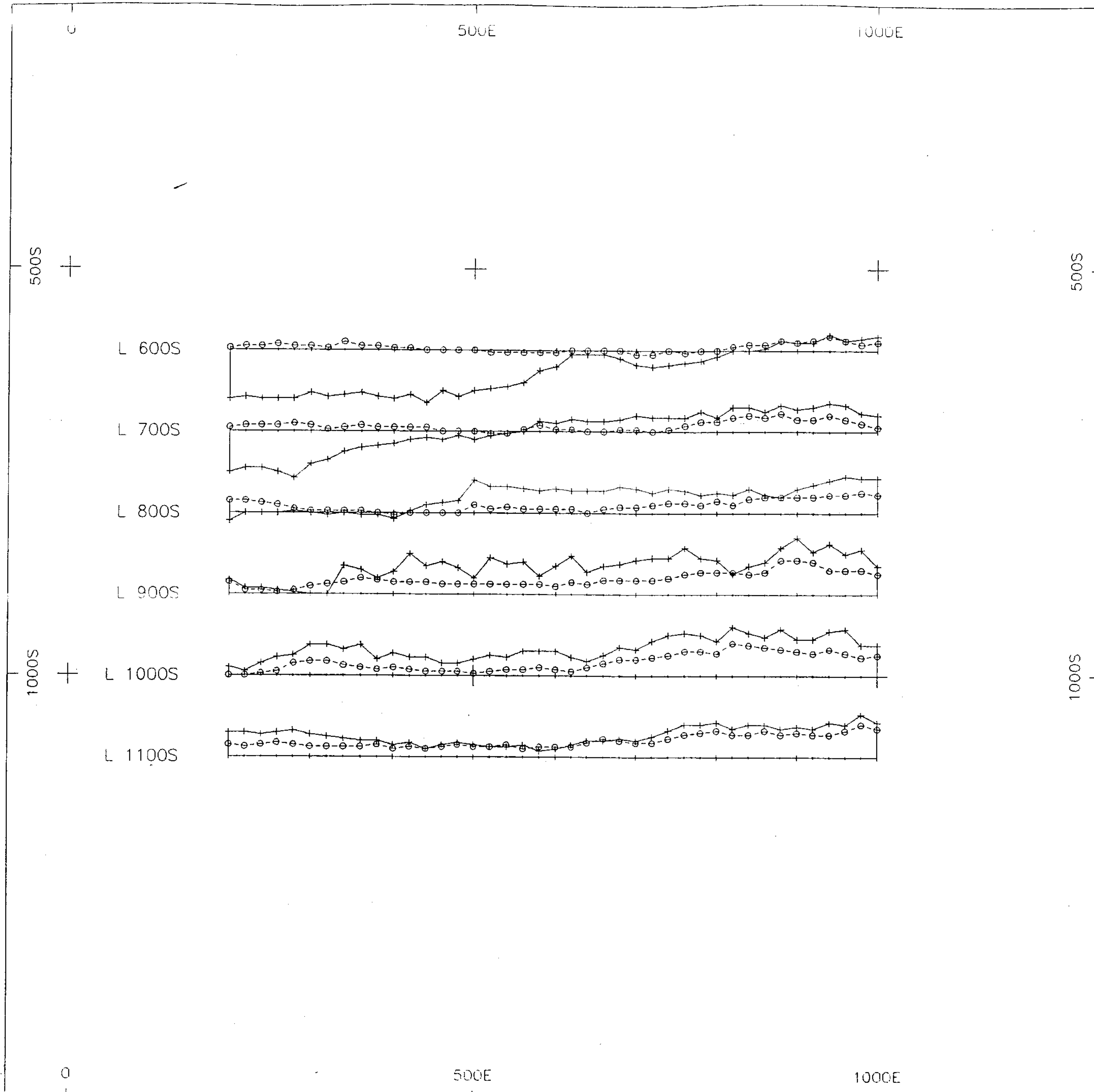
BRONSON CREEK AREA, B.C.

MAGNETOMETER CONTOUR PLAN

contour interval = 100 gammas

DRAWN BY: ars | DATE: Sept/91

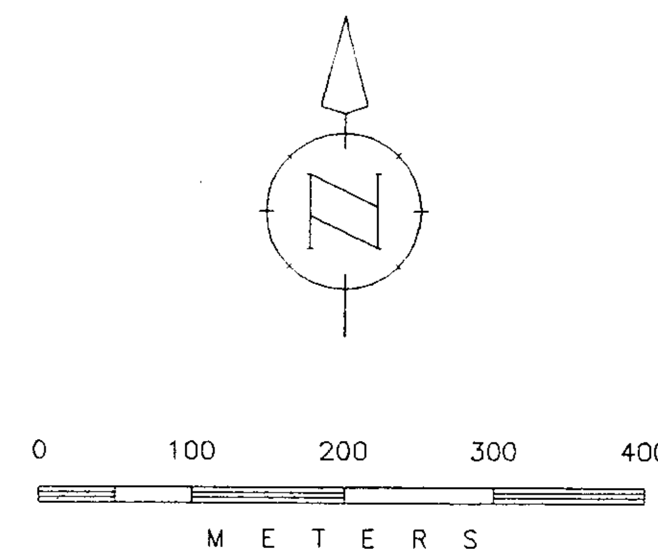
SCOTT GEOPHYSICS LTD.



SURVEY SPECIFICATIONS

VLF instrument	SCINTREX IGS
VLF station	Cutler (NAA)
frequency	24.0 kHz
direction faced	towards station
In Phase	percent

KEY	FIELD	BASE	UNITS/cm
IP	(percent)	0	20
QD	(percent)	0	20



PLACER DOME EXPLORATION LIMITED

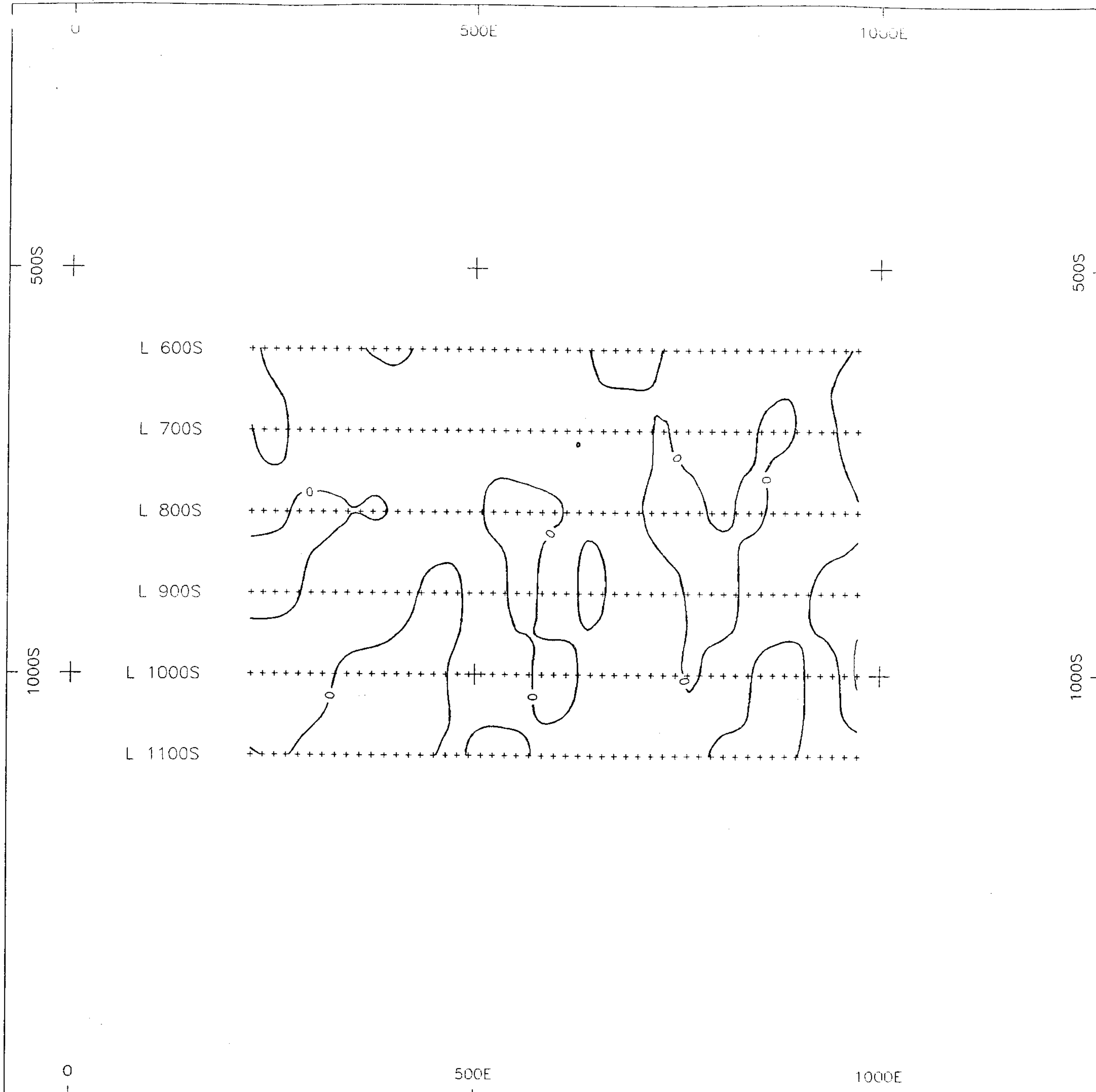
GIM PROPERTY

BRONSON CREEK AREA; B.C.

VLF PROFILES

DRAWN BY: ars	DATE: Sep:/91

SCOTT GEOPHYSICS LTD.



SURVEY SPECIFICATIONS

VLF instrument	SCINTREX IGS
VLF station	Cutler (NAA)
frequency	24.0 kHz
direction faced	towards station
In Phase	percent

+ FF (percent)

0 100 200 300 400

METERS

PLACER DOME EXPLORATION LIMITED

GIM PROPERTY

BRONSON CREEK AREA, B.C.

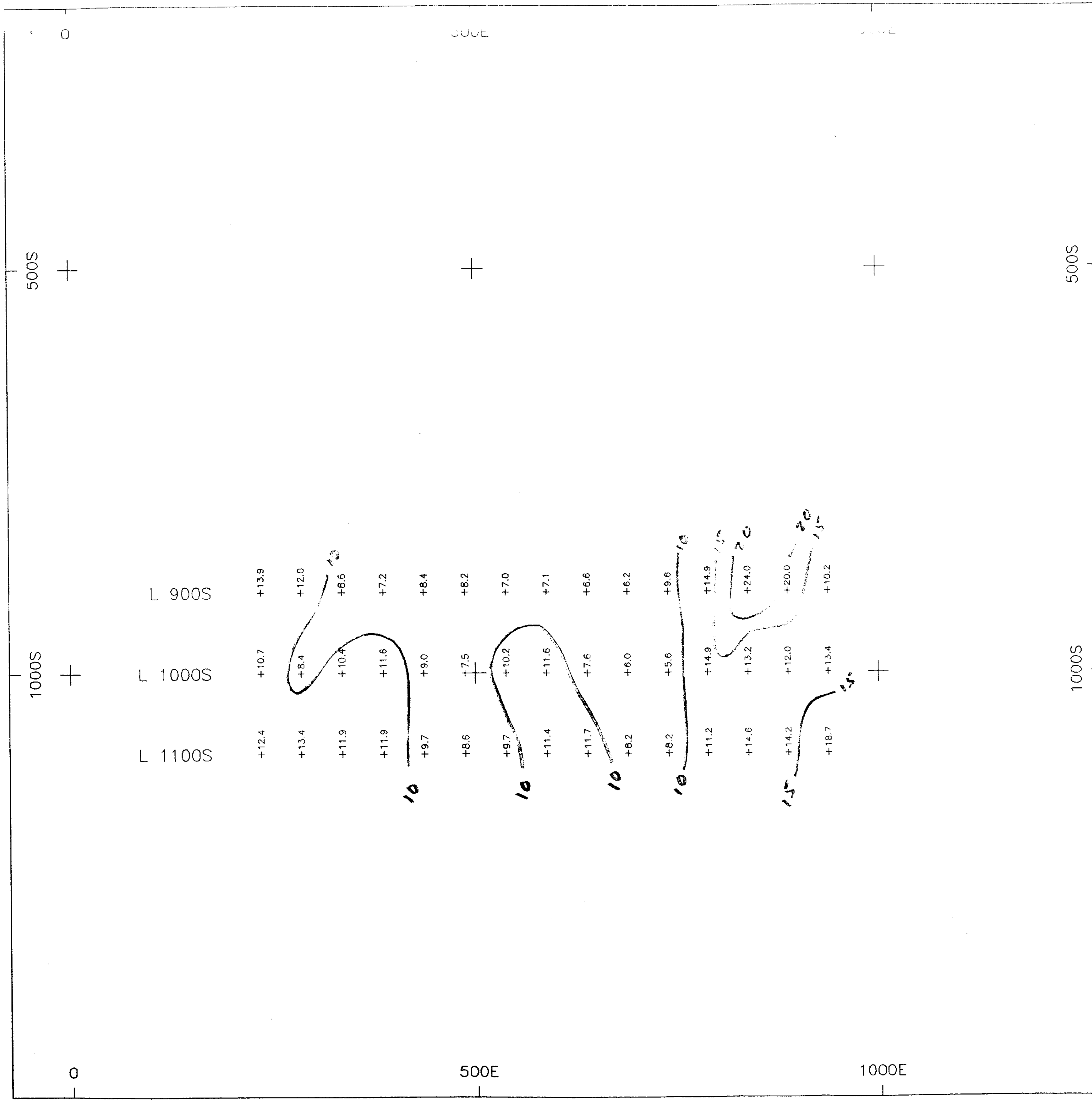
FRASER FILTER VLF

filter interval = 15 meters

contour interval = 10 percent

DRAWN BY: ars | DATE: Sept/91

SCOTT GEOPHYSICS LTD.



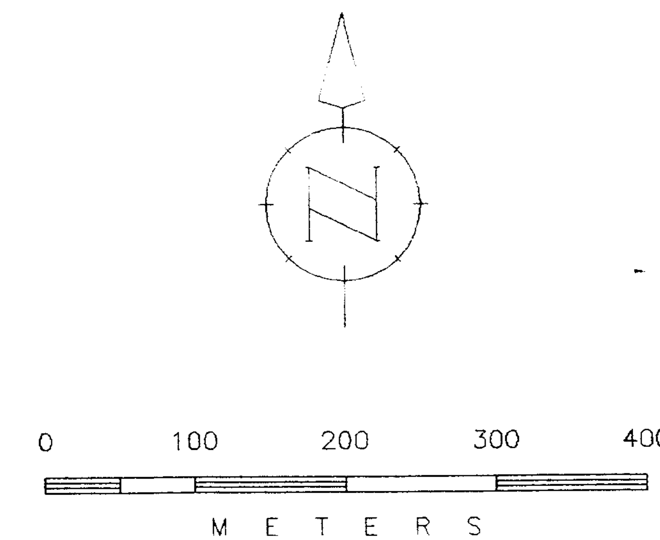
SURVEY SPECIFICATIONS

array	pole dipole
a spacing	40 meters
n separations	1, 2, 3, 4, 5

current electrode:
... west of potential electrodes

receiver	Scintrex IPR11
transmitter	Scintrex IPC7
pulse time	2 seconds
M7 receive window	690–1050 msecs
mid point	870 msecs

+ M7 (millivolts/volt)



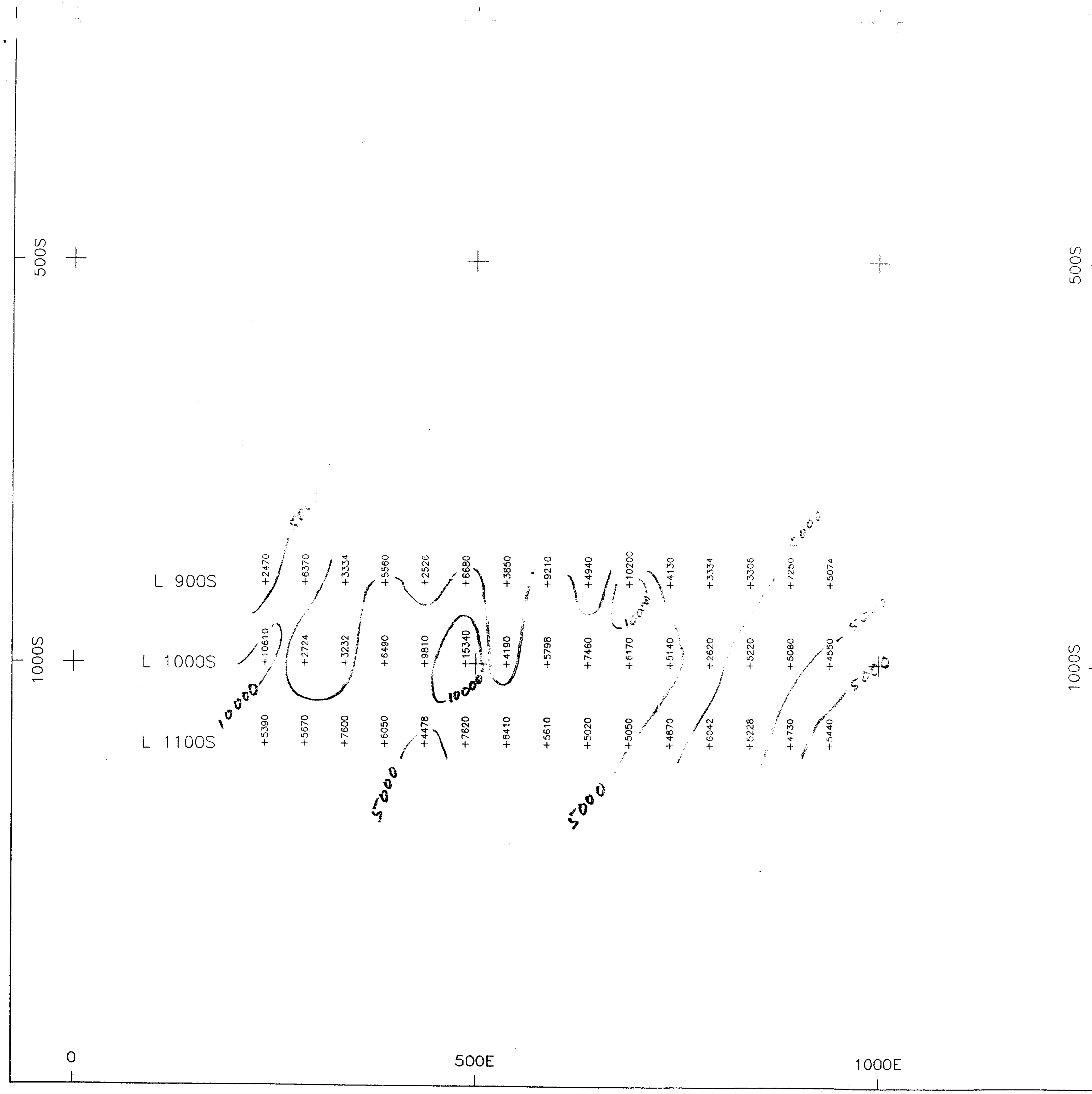
PLACER DOME EXPLORATION LIMITED

GIM PROPERTY

BRONSON CREEK AREA, B.C.
CHARGEABILITY PLAN
a=40 meters/n=1

DRAWN BY: ars	DATE: Sept/91

SCOTT GEOPHYSICS LTD.



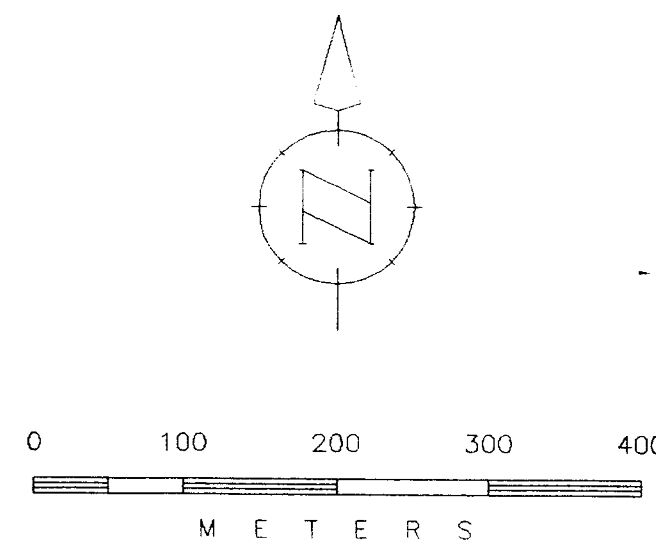
SURVEY SPECIFICATIONS

array	pole dipole
a spacing	40 meters
n separations	1, 2, 3, 4, 5

current electrode:
... west of potential electrodes

receiver	Scintrex IPR11
transmitter	Scintrex IPC7
pulse time	2 seconds
M7 receive window	690-1050 msecs
mid point	870 msecs

+ RHO (ohm meters)



PLACER DOME EXPLORATION LIMITED

GIM PROPERTY

BRONSON CREEK AREA, B.C.

RESISTIVITY PLAN

a=40 meters/n=1

DRAWN BY: ars	DATE: Sept/91
SCOTT GEOPHYSICS LTD.	

APPENDIX B

JMK/Glenn

Specimen No. **OIM91-CZ**

Location: **OIM Claims**, Shippaker Creek, Northern B. C.

Specimen Description: There are three relatively distinct color zones in the specimen. One side is medium to dark grey to greenish grey with specks of dark green mineral in an aphanitic to fine grained matrix. There is a relatively sharp irregular boundary, sometimes gradational, to light grey and tan colored, slightly porous rock that appears to be bleached by weathering. A smaller part of the specimen beyond the bleached zone is very porous, ochre-colored weathered rock. The two polished thin sections (PTS-A & B) each contain about 40 % of each of the grey and tan zones and 20 % of the weathered zone material. The grey and tan zones contain pyrite in irregular masses up to 4 x 8 mm, irregular veins and sharply defined <1 mm veinlets. Unfortunately, the two PTS contain less pyrite than is visible in parts of the specimen. Some pyrite areas in the grey rock are surrounded by 1-3 mm bleached selvages and some have none. No pyrite remains in the oxidized rock.

Petrography of polished thin section OIM91-CZ-A:

Microtexture: Nonfoliated, relatively equidimensional grains mostly in 0.15-0.8 mm size range, in a fine grained igneous texture. There are rare elongate phenocrysts 0.7 x 2.5 mm.

Mineralogy:

Pyroxene	80 %	Pleochroism is colorless to very pale yellow and green, biaxial -ve, 2V ~60 degrees strong interference colors, very pronounced zoning bands within the stubby to approx. equant crystals of mostly 0.15-0.8 mm sizes. While there may also be clinopyroxene, the parallel extinction on all elongated grains oriented to show parallel cleavage, means most is orthopyroxene, probably of bronzitic composition.
Serpentine	4	Probable relict olivine crystals that once comprised ~15 % of the rock, now occur as elongate patches of very fine grained mixtures of serpentine and chlorite with lesser epidote and possibly minor magnetite. These are the dark green to black patches in the hand specimen.
Chlorite	8	Occurs with serpentine in relict olivine grains and as irregular homogeneous patches of clear green secondary chlorite.
Epidote	1	Also occurs in relict olivine sites.
Amphibole	0.5	Rare primary elongate crystals, up to 0.1 x 0.6 mm in size, very pale blue to pale yellowish green pleochroism, very strong cleavage parallel to elongation, extinction angle 16 degrees. The color and extinction fit with tremolite.
Apatite	Tr	Equant to elongate 0.05-0.1 mm grains.
Quartz	1	Occurs as irregular intergranular replacements, which are clearly introduced. Some have pyrite centers with quartz rim.
Pyrite	5	Occurs as irregular and crudely rectangular grains up to 3 mm and as veinlets 10-20 micrometres (um) wide. There may be two generations as most has no associated quartz but some is rimmed by quartz.

(GIM-CZ-A, continued)

Chalcopyrite	0.5	Occurs as 1-15 um specks as partial replacement of some relict olivines (uncommonly pyrite can occur this way too). There is no pentlandite or major pyrrhotite as might be expected. Chalcopyrite occurs as occasional inclusions in pyrite.
Pyrrhotite	Tr	Occurs as sparse 1-3 um inclusions in pyrite.
Magnetite	Tr	Occurs as rare inclusions in pyrite and in altered olivine sites.
Gold	0	No gold was found in spite of diligent search in both the sulphide and oxide portions of the specimen. Polish on some of the pyrite in not good with a lot of pitting, and gold could have been plucked, but it is unlikely that all gold would be removed in any had been in the specimen.

[Note - the oxidized zone was not considered in estimating the above mineral percentages.]

Petrography of PTS GIM91-CZ-B (cut from same specimen at right angles to GIM91-CZ-A):

Microtexture: Same as GIM91-CZ-A

Mineralogy:

Pyroxene	80	As above
Serpentine	4	As above
Chlorite	6	As above
Epidote	Tr	As above
Amphibole	1	As above - extinction angles up to 19 degrees. Many of these elongate crystals are variably altered to serpentine and chlorite.
Apatite	0.5	Hexagonal grains more common than in PTS-A, grains up to 0.2 um.
Sphene	Tr	Rare 10 x 30 um wedge-shaped crystals.
Quartz	1	As above
Biotite	Tr	Green secondary biotite occasionally found with the secondary quartz.
Pyrite	7	Occurrence similar to above; grains often show a more porous rim of overgrowth pyrite.
Chalcopyrite	0.5	Occasional 15 um inclusions in pyrite but most occurs as 1-15 um specks in altered sites of relict olivines, as above.
Pyrrhotite	Tr	Inclusions in pyrite, as above.
Gold	0	Still no gold detected, as above, even though the pyrite polish is somewhat better than in PTS-A.

(GIM91-CZ-A & B, continued)

Conclusions:

This rock appears to be a pyroxene-rich harzburgitic peridotite in which all the olivine and part of the minor amount of amphibole are altered to chlorite and serpentine. There is no feldspar. Most of the small amount of chalcopyrite in the rock is also in these sites, but there is no pentlandite as might have been expected.

There are at least two stages of mineralization. A second lesser stage of pyrite introduction forms rims on the main stage. The only quartz in the rock is also introduced and accompanied one of the pyrite stages as pyrite often occurs at the centre of a quartz area. The chalcopyrite was probably the earliest stage of sulphidation and may have been part of a deuteric igneous alteration. As noted above, no gold was observed in either PTS. It seems to be unlikely that this specimen has any significant gold content.

One side of the specimen is oxidized and very porous. All sulphides are gone and two oxides, perhaps limonite and goethite, form thin collogorm films on all porous openings. Adjacent to the limonitic zone, the rock is bleached over a 1-2 cm width. This has caused little change in the silicate or sulphide mineralogy of the rock, and is manifest only by minor very fine dust-like material which may represent some incipient alteration to clays such as smectite.

Specimen No. **OIM91-AJ-1**

Location: **OIM Claims**, Shippaker Creek, Northern B. C.

Specimen Description: Fine grained, medium-dark greyish green color, no distinctive texture or fabric. Iron sulphide and lesser chalcopyrite are irregularly disseminated and form some agglomerated masses 1 cm across which are >50 % sulphide. Sulphides on the sawed surface are highly reactive and heavily tarnished after just a few days.

Petrography of polished thin section:

Microtexture: Fine grained, equigranular texture with most grains 0.1-0.2 mm and a few larger ones up to 0.4 x 0.8 mm. In the areas that are predominantly sulphide, the pyroxene grains are somewhat larger and better crystallized than throughout the rock.

Mineralogy:

Pyroxene	68 %	Pleochroism is colorless to pale yellowish green. The crystals rarely show the compositional zoning as is common in OIM91-CZ-A & B. Crystals are biaxial +ve, 2V ~75 degrees, maximum extinction angle 43 degrees, so it must be clinopyroxene. (It is optically difficult to distinguish augite series from diopside-hedenbergite series pyroxenes.) The stubby crystal habit predominates, but there are also a lot of elongate crystals in felted or radiating masses. This is more like a skarn texture than an igneous texture.
Chlorite	<1	Occurs as some clear, monomineralic masses up to 0.5 x 0.8 mm interstitial to pyroxene grains. It is pale yellowish green color and shows an unusual polysynthetic twinning in parts. Chlorite is only observed in areas adjacent to sulphide.
Quartz	<1	Osccurs as 0.05-0.1 mm clear triangular patches between pyroxene grains. Rarely it forms the core of a 0.25 mm micro cavity of unidentified silicate alteration (may be a chlorite variation ?) Most of the quartz occurs in or near sulphides but not all sulphide areas have associated quartz.
Pyrrhotite	7	Some areas 5 x 10 mm are almost all Fe-sulphide. These areas were originally all pyrrhotite but now 65-100 % of these areas are altered to low temperture Fe-sulphides.
Low Temperature Fe-Sulphides	20	There are at least 3 or 4 phases zoned concentrically around cores of pyrrhotite. This assemblage almost certainly includes greigite and smythite (approximately Fe_7S_8 and Fe_3S_4, respectively) and other phases such as melnikovite and probably even some unknown minerals. These minerals appear to have formed during a low temperature deuteric stage which didn't affect chalcopyrite or sphalerite in any way Sparse hairline veinlets of limonite also cut the Fe-sulphides and may be part of the alteration stage or are due to recent weathering.
Chalcopyrite	2	Forms irregular grains usually much less than 0.1 mm in size, and usually isolated in the silicate areas along indistinct possibly rehealed vein-like paths near and beyond the extent of pyrrhotite emplacement. Also occasional large patches 0.7 x 1.5 mm are included in pyrrhotite areas.
Sphalerite	? 1	Occurs mostly as irregular 0.1-0.2 mm grains appended to Fe-sulphide areas. It

(GIM91-AJ-1, continued)

contains exsolution specks of pyrrhotite <1 um in size and rarely chalcopyrite exsolution specks. This indicates relatively high temperature of formation (at least several hundred degrees C).

Pyrite	Tr	One irregular 0.4 mm grain was observed.
Gold	0	Diligent search at 400x magnification revealed no gold.

Conclusions: The rock is essentially pyroxenite (there is no feldspar), but some of the textures suggest possible origin as a skarn rather than igneous. This should be checked by field relations. It is unusual to conclude that the pyroxene-rich sample GIM91-CZ is a peridotite and this sample (AJ-1), also pyroxene-rich, is possibly a skarn. However, in CZ the pyroxene is mostly, or possibly entirely, orthopyroxene as might be expected in an igneous rock, whereas in AJ-1 it is all clinopyroxene. Clinopyroxene is less commonly igneous but the pyroxene in skarns is always clinopyroxene. Additionaly, there are no relict olivines and no apatite or sphene in AJ-1.

The mineralization in GIM91-AJ-1 is interpreted as originally skarn-type pyrrhotite, chalcopyrite and sphalerite. A retrograde alteration has converted much of the pyrrhotite to low temperature Fe-sulphide phases but the chalcopyrite and sphalerite are unaffected. This was probably the result of low temperature hydrothermal solutions, but might be related to weathering as there are some hairline limonitic seams.

No gold was observed in spite of careful search at high magnification.

Specimen No. **GIM-AJ-2A**

Location: **GIM Claims**, Shippaker Creek, northern B. C.

Specimen Description: Medium to dark greyish green, fine to medium grained, massive texture monomineralic rock with about 20 % disseminated sulphides, mostly pyrrhotite, lesser chalcopyrite. Covellite, probably supergene, and traces of limonite were not observed microscopically.

Petrography of polished thin section GIM91-AJ-2A

Microtexture: Nonfoliated, mostly stubby crystals in 0.05-0.6 mm size range, sparse elongate shapes 0.15 x 0.5 mm, also sparse are radiating bundles of pyroxene that is sometimes characteristic of hedenbergite. Pyroxenes are intermingled with the sulphides showing limited to no alteration.

Mineralogy:

Pyroxene	67 %	Inclined extinction angles up to ~46 degrees on elongated sections, pleochroism colorless to pale yellowish green to pale bluish green, biaxial +ve, 2V~65 degrees. This is clinopyroxene, but as noted on GIM-AJ-1, it is difficult to distinguish augite series pyroxenes from diopside-hedenbergite series. The limited amount of radiating crystal texture may reflect diopside bearing some hedenbergite component. In parts of the slide, minor alteration rims of biotite and diffuse areas of alteration, which are too fine grain to resolve, are interpreted as chlorite from the green color.
Amphibole	4	A few elongate crystals, usually approximately 0.08 x 0.3 mm, pleochroism pale greenish yellow to pale bluish green, well developed cleavage, almost fibrous - they are always partially replaced by sulphide and chlorite-like alteration. Maximum extinction angle is 15 degrees - probably tremolite series
Chlorite	5	Very fine polycrystalline alteration aggregates, mostly where pyroxenes are engulfed in a lot of sulphide, but some other areas too. Other than green color, it is too fine to positively identify.
Biotite	Tr	Sparse 10-20 um selvages of alteration on some pyroxene crystals or adjacent to sulphide areas.
Quartz	Tr	Very rare intergranular, cusp-shaped bits of secondary quartz.
Pyrrhotite	6	Irregular patches from tiny to 1.5 x 2 mm, some patches have straight edges where conforming with pyroxene crystals which are not altered by the sulphide, i.e. are in equilibrium. But sometimes pyrrhotite forms lamellae in altered amphibole as does chalcopyrite.
Low Temperature Fe-Sulphides	7	Forms rims around, and anastomosing veins through, pyrrhotite grains. Not as well developed as in PTS GIM91-AJ-1, but again includes several low temperature Fe-sulphide phases which may be a late hydrothermal alteration or due to recent weathering.
Pyrite	7	Forms irregular, feathery masses from 0.5 to 4 mm. These are reticulated, dendritic, skeletal growths unlike anything I've seen before. Ramdohr (1969, p.784) interprets this as evidence of low temperature of formation. It clearly post-dates the pyrrhotite as there are pyrrhotite depletion haloes around the larger pyrite grains.

(GIM-AJ-2A continued)

Chalcopyrite	4	Rarely forms 0.06 x 0.1 mm masses associated with pyrrhotite areas, but mostly occurs separate from other sulphides as grains 20 um down to 0.1 um size around altered edges of pyroxene grains and especially in areas and along cleavages of amphibole which are generally much more altered than pyroxene.
Limonite	<1	Veinlets due to weathering - occur along widely separated fractures.
Gold	0	No gold was observed, even with a second careful search after finding gold grains in section AJ-2B.

Petrography of PTS GIM91-AJ-2B (cut at right angles to AJ-2A)

Microtexture: Generally similar to GIM-AJ-2A but the sulphide is more finely disseminated with little agglomeration into larger patches. A 1-3 mm indistinct band of finer grained almost monomineralic pyroxene cuts across one end of the slide.

Mineralogy:

Pyroxene	70 %	Clinopyroxene as above (in GIM91-AJ-2A).
Amphibole	1	As above.
Chlorite	3	Some irregular areas of very fine grained alteration that must be rehealed veinlets.
Sericite	1	Fine grained alteration along an old fracture which also has limonite staining in adjacent rock. Also occurs as more discrete small muscovite flakes in areas of chlorite alteration.
Pyrrhotite	6	Mostly finely dissemingated but forms 50-75 % in some areas up to 3 mm across. Also replaces along some silicate cleavages as does chalcopyrite.
Low Temperature Fe-Sulphides	12	Multiple low temperature sulphides (as in AJ-1) form zoned replacements around edges and along fractures in pyrrhotite, so it is mostly replaced.
Chalcopyrite	5	As in AJ-2A, occurs as fine particles around altered edges of silicates and along cleavages.
Pyrite	<1	Occurs as only one 1 x 1.4 mm skeletal cluster in the entire slide.
Sphalerite	2	Occurs as early small grains intergrown with Fe-sulphides and also as late stage cross cutting veinlets.
Gold	Tr	One 3 x 6 um rounded gold grain in a complex area of low temperature Fe-sulphides near its contact with pyroxene and a second similar sized grain is included in minor Fe-sulphide within a larger grain of sphalerite. Eight similar grains occur at the edges of Fe-sulphide and in adjacent silicates, the largest is 5 um on a side.

Conclusions: Again the rock is interpreted as a clinopyroxene skarn with no feldspar, in which the pyrrhotite was forming about the same time as the silicates. However, if this is skarn it is unusual to not have other skarn silicates such as garnet and relicts of the precursor rock such as

(GIM-AJ-2 continued)

carbonate or feldspar. A further problem, as noted under Microtexture on AJ-2B above, an area of very fine grained pyroxene could possibly be a slightly later pulse of pyroxenite magma. If this is the case, then none of the above is skarn and the sulphides are magmatic, but the mineralogical change to clinopyroxene and other changes are puzzling. Surely field relations will clarify this problem.

The chalcopyrite is also high temperature but perhaps slightly later than the pyrrhotite as it is associated with a weak alteration stage that causes minor alteration of the pyroxene and major alteration of the amphiboles. Pyrite is still later and the low temperature Fe-sulphides are either very late stage hydrothermal alteration of the pyrrhotite or incipient weathering products. An electron microprobe mineralogical study of the low temperature Fe-sulphides would make a very good B. Sc. thesis. Specimen AJ-1 is the best suited for this.

The 10 gold grains range from about 1 x 3 micrometres to the largest almost 5 um square. They occur associated with the Fe-sulphide or in the silicates nearby. Recovery would require extremely fine grinding. Perhaps half the gold would report in an Fe-sulphide concentrate which might be recovered magnetically.

The problem discussed above as to whether these samples are magmatic pyroxenite or have developed by a skarn replacement process could have economic ramifications. If it is skarn-type mineralization, it could be of relatively small size and highly variable in grade. By contrast, if this is magmatic mineralization, and the gold appears to have been introduced with the main stage iron sulphide mineralization, then a deposit could be laterally extensive and have rather regular outlines amenable to bulk mining. I regret not being able to resolve the problem unequivocally.

Lloyd A. Clark
December 7, 1991

APPENDIX C

Northern Analytical Laboratories ltd.

July 19,1991

Work Order # 13250

Placer Dome Exploration Limited
103 Platinum Road
Whitehorse, Yukon
Y1A 5M3

File #

Assay Certificate for Samples Provided

Sample #	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
736	84	2.8	4	20	11
737	1337	2.8	4	42	10
738	233	1.4	7	16	5
739	200	1.0	10	17	5
740	57	1.8	69	22	59
776	5791	<0.1	243	11	21
777	>6000	1.6	1347	14	40
778	>6000	0.8	1578	27	87
779	127	6.4	47	1987	>10000
780	>6000	<0.1	638	71	253
781	>6000	0.9	917	20	78

Certified by CHyokki

Northern Analytical Laboratories ltd.

July 22, 1991

Work Order # 13250

File # 13250a

Placer Dome Exploration Limited
103 Platinum Road
Whitehorse, Yukon
Y1A 5M3

Assay Certificate for Samples Provided

Sample	Au oz/ton	Zn %
B737	0.043	---
B776	0.192	---
B777	0.386	---
B778	0.609	---
B779	-----	4.29
B780	0.537	---
B781	0.276	---

GIM

Certified by .... [signature] ....