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**GEOLOGICAL-GEOCHEMICAL-GEOPHYSICAL
 REPORT
 on the
 SUPERIOR PROEPRTY
 OMINECA MINING DIVISION**

SUB-REORDER
D. 230 1111
M.R. # _____ \$ _____
VANCOUVER, B.C.

for

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20 August 1991

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

22,010

SUMMARY

At the request of BGM Diversified Energy Inc, Reliance Geological Services carried out an exploration program consisting of geological mapping, soil sampling, and airborne magnetic-VLF surveys on the Superior property during July 1991.

The Superior property comprises eight contiguous mineral claims totalling 50 units. The property is situated 60 kilometers west of Mackenzie, B.C. in the Omineca Mining District.

Recent attention in the area has focused on the Mt Milligan deposit, 6 kilometers to the south. Diamond drilling has outlined two large, bulk tonnage, copper-gold porphyry deposits hosted by potassium metasomatized and propylitic altered volcanic strata enclosing porphyritic monzonite stocks. Published reserves to date are 440 million tons grading 0.20% copper and 0.014 oz/t gold. Other advanced stage porphyry copper-gold prospects in the area include the Chuchi, Klaw, Col, Tas, Swan, Indata, Takla-Rainbow, Lorraine, Cat-Bet, Tam, and Mitzi properties.

The Superior property appears to have less than 1% outcrop, all of which is a green porphyritic andesite belonging to the Upper Triassic Takla Group.

Three magnetic high anomalies were identified during the 1991 program. One test soil line coincident with the strongest magnetic anomaly yielded 9 anomalous results (over 50 ppm) along 600 meters.

This coincident magnetic and soil anomaly is considered a favorable exploration target. The Mt Milligan deposit is associated with high magnetics, anomalous though spotty soil geochemistry, and an IP chargeability high.

A followup program of linecutting, mapping, soil sampling, and induced polarization geophysics has been recommended in order to establish drill targets. Estimated cost is \$78,000.

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1. INTRODUCTION

This report was prepared at the request of BGM Diversified Energy Inc to describe and evaluate the results of a geological-geochemical-geophysical program carried out by Reliance Geological Services Inc on the Superior Property in the Mt Milligan area of the Omineca Mining District, British Columbia.

The field work was undertaken for the purpose of an evaluation of the potential of the Superior Property to host economic porphyry copper-gold mineralization similar to the nearby Mt Milligan deposit.

Field work was carried out from June 26 to June 29, 1991 by Nigel Luckman, geological engineer, Roger Kidlark, geologist, and Brian Chore and Brian Doubt, geotechnicians, under the supervision of Peter Leriche, B.Sc., F.G.A.C.

This report is based on published and unpublished information and on the maps, reports and field notes of the crew named above.

2.0

LOCATION, ACCESS AND PHYSIOGRAPHY

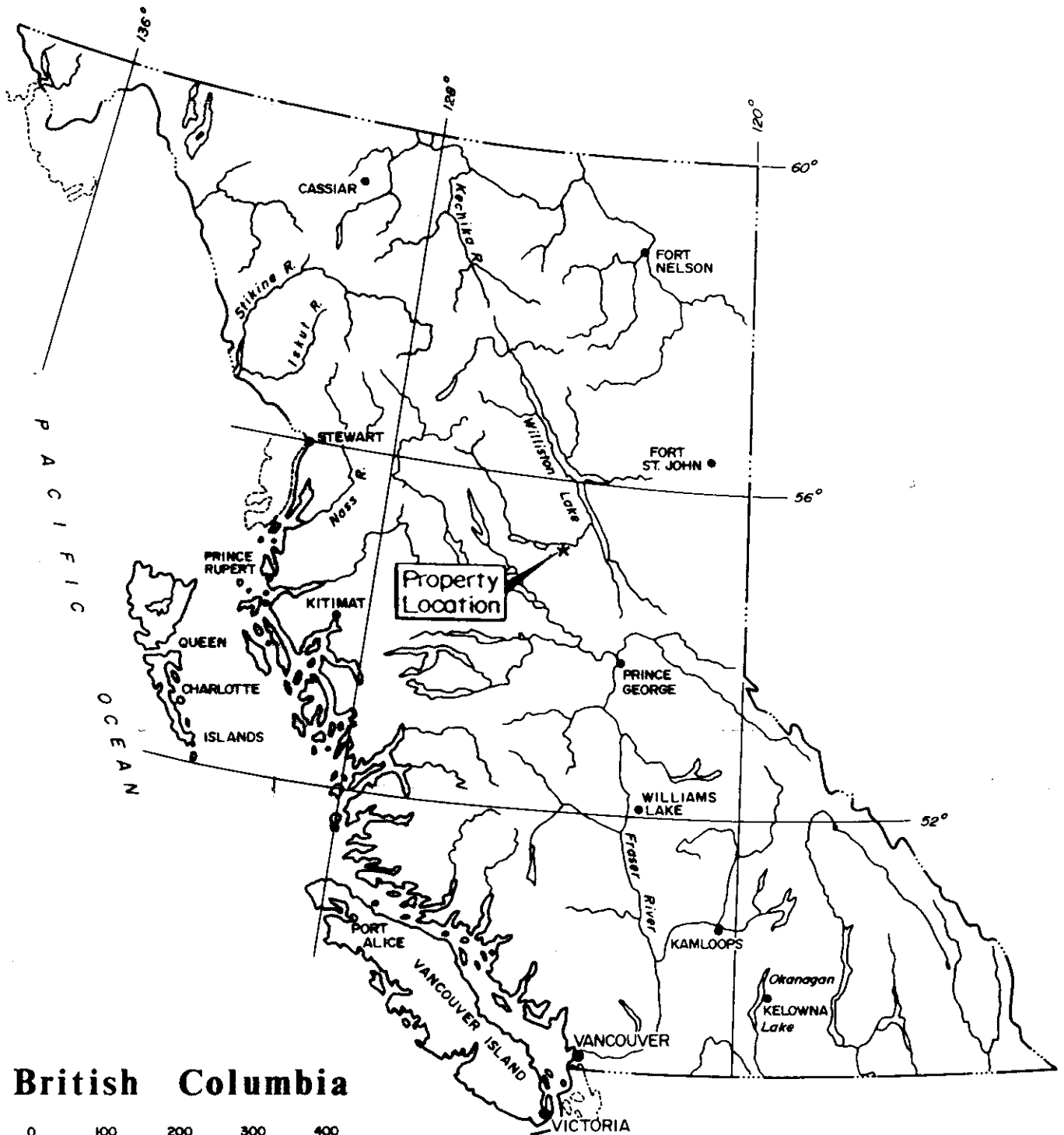
The Superior Property is situated in the Omineca Mining Division of the Mt Milligan area of British Columbia, approximately 60 kilometers west of Mackenzie (Figures 1 and 2).

The claims are located on Map Sheet NTS 93N/1E, at latitude 55° 12' North, longitude 124° 02' West, and between UTM 332145 m and 332189 m North, and UTM 332145 m and 357145 m East.

Access to the property is via helicopter, based in Mackenzie. Forest service roads end at Mitzi Lake, 4 kilometers south of the property.

The property is on flat to gentle rolling terrain with gentle slopes rising from about 900 m to 1000 m above mean sea level. Bogs and swamps are prevalent in the low-lying regions of the property. Higher ground hosts pine, fir and spruce forest with intermittent patches of alder.

Recommended work season is late May to mid November, although geophysics could be performed year round.



BGM DIVERSIFIED ENERGY INC.		
SUPERIOR PROPERTY		
OMINECA M.D., B.C.		
General Location Map		
Scale noted above	N.T.S. 93N/1E	Drawn by
Date July 1991	Geologist	Figure 1
RELIANCE GEOLOGICAL SERVICES INC.		

3.0 PROPERTY STATUS

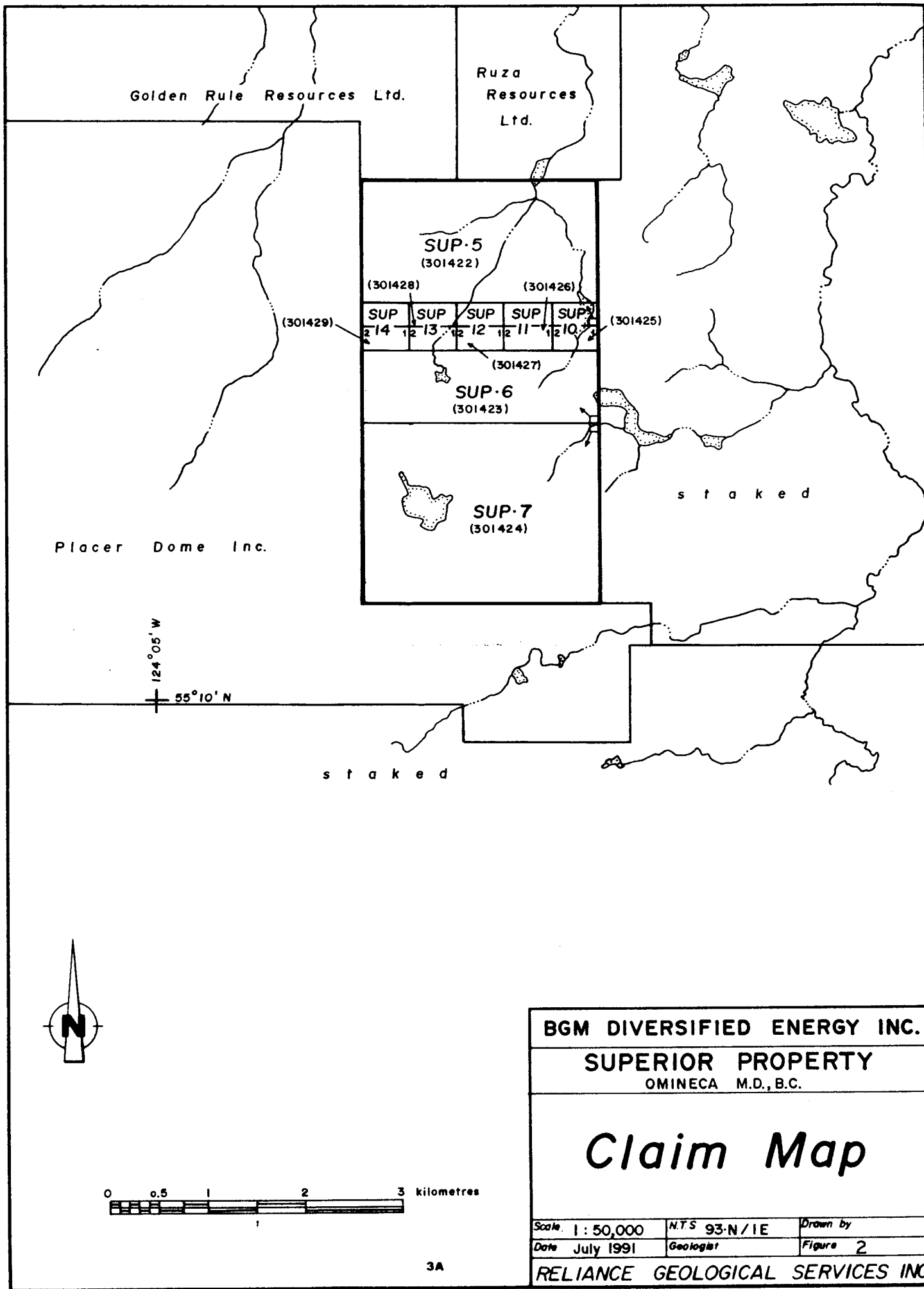
The property consists of 8 claims totalling 50 units (Figure 2) in the Omineca Mining Division. The claims are owned 100% by BGM Diversified Energy Inc.

Details of the claims are as follows:

<u>Claim</u>	<u>Record #</u>	<u>Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
SUP 5	301422	15	25 Jun 1991	25 Jun 1994
SUP 6	301423	10	25 Jun 1991	25 Jun 1994
SUP 7	301424	20	25 Jun 1991	25 Jun 1994
SUP 10	301425	1	28 Jun 1991	28 Jun 1994
SUP 11	301426	1	28 Jun 1991	28 Jun 1994
SUP 12	301427	1	28 Jun 1991	28 Jun 1994
SUP 13	301428	1	28 Jun 1991	28 Jun 1994
SUP 14	301429	<u>1</u>	28 Jun 1991	28 Jun 1994
		50		

The total area covered by the claims is 1125 hectares, or 2780 acres, after correcting for overlap.

The writers are not aware of any particular environmental, political, or regulatory problems that would adversely affect mineral exploration and development on the Superior Property.



4.0 AREA HISTORY

Recent attention in the area has focused on the Mt Milligan deposit (6 km to the south) first developed by Continental Gold Corp, and now taken over by Placer Dome Inc. Two large porphyry copper-gold deposits have been defined at Mt Milligan. A large-scale open pit mine is being developed, with proposed capital investment to exceed \$400 million.

Rebagliati (1990) summarizes the deposits as follows:

"The Mt Milligan property lies within the regionally extensive Mesozoic Quesnel Belt. Many alkaline plutons intruding the largely alkaline volcanic strata of the Quesnel Belt host porphyry deposits. These deposits have recently been recognized as an important source of gold.

On the Mt Milligan property, volcanic strata are intruded by several alkaline plutons. A 10 square kilometer, hydrothermally altered, metal-rich sulphide system, encompassing a cluster of small porphyritic monzonite plutons, hosts extensive disseminated and stockwork porphyry-type gold-copper mineralization.

Diamond drilling has outlined two large, bulk tonnage, gold-copper porphyry deposits (MBX and Southern Star) hosted by potassium metasomatized and propylitic altered alkaline volcanic strata enclosing porphyritic monzonite stocks."

Total reserves are calculated at 440 million tons grading 0.014 oz/ton gold plus 0.20% copper. Feasibility studies are considering a 60,000 ton/day facility, with budgeted recovery of 440,000 oz gold and 83 million lbs copper per year.

A belt approximately 120 km long and 60 km wide has been staked recently in the area known as the Omineca Porphyry Copper-Gold District.

In addition to Placer Dome's Mt Milligan project, advanced stage projects include: (distances from Superior Property in brackets)

a) Chuchi Property (30 km west)

Digger Resources Inc/BP Resources:

Drilling in previous years intersected 328 ft and 100 ft grading 0.28% Cu and 0.009 oz/ton Au, 50 ft grading 0.34% Cu and 0.013 oz/ton Au, 623 ft grading 0.22% Cu and 120 ppb Au, and 576 ft grading 0.16% Cu and 120 ppb Au.

1991 drilling has concentrated on a major fault zone with results including 154 meters grading 0.22% Cu and .006 oz Au/t, and 54.6 meters grading 0.09% Cu and .06 oz Au/t gold. The current target is an area 1500 m x 1000 m which has been defined by IP, magnetic and soil surveys.

b) Klaw Property (33 km west)

Rio Algom/Westmin Resources:

An extensive diamond drill program was undertaken in 1990, and is continuing in 1991. No results have been announced to date.

c) Col Property (47 km west)

Kookaburra Gold Corp/Asarco:

Drilling in 1960 outlined 2 million tons grading 0.6% Cu. Limited re-sampling of old drill core has produced results up to 0.069 oz/ton Au. Geophysical (IP) and geochemical surveys in 1991 have increased the size of the Col target to 2800 m x 600 m. A 1500 meter drill program is planned for 1991.

d) Tas Property (37 km southwest)

Halleran Group:

Previous drilling intersected 11.2 ft. grading 1.64% Cu and 1.25 oz/ton Au.

- e) Swan Property (90 km to the northwest)
Eastfield Resources Ltd/Candela Resources:
Drilling in 1960 yielded results of 0.21% Cu over 620 ft. and 0.43% Cu over 150 ft. In 1991, a 1794 ft drill program has been completed, with no significant results.
- f) Indata Property (86 km to the west)
Eastfield Resources Ltd:
A 1988 drill hole intersected 20 ft. grading 0.92 oz/ton gold. No work has been announced for 1991.
- g) Takla-Rainbow Property (93 km to the northwest)
Eastfield Resources Ltd/Cathedral Gold Corp:
Drilling by Falconbridge in the 1970's outlined 320,000 tons grading 0.25 oz/ton Au. Four holes drilled in 1990 returned values averaging approximately 0.003 opt Au and 0.125% Cu over widths up to 550 ft. An IP program has been completed in 1991, and a drill program is planned.
- h) Lorraine Deposit (120 km to the northwest)
Kenneco:
Drilling in the 1970's outlined a deposit with 10 million tons grading 0.67% Cu and 0.006 oz/ton Au.
- i) Cat-Bet Property (132 km to the northwest)
BP Resources/Lysander Gold Corp:
1989 diamond drilling gave results up to 1.67% Cu, 0.02 oz/ton Au over 117 feet. The 1990 drill program (8500 ft) returned significant results including 0.12% Cu, 0.035 oz/ton Au over 321 feet, 0.53% Cu, 0.01 oz/ton Au over 243 ft, 0.48% Cu over 34 ft and .048 opt Au over 33 ft. Drilling in 1991 is testing a large sulphide system defined by 1990 IP surveys. Significant results include 137 ft grading 0.10% Cu and 72 ft grading 0.3% Cu.

j) Tam Property (81 km to the northwest)

Varitech Resource Ltd/Major General Resources Ltd:

Drilling by UMAX Inc. in 1973-75 outlined a deposit of 7.7 million tons grading 0.55% Cu. Gold was not assayed.

In 1990, soil and rock geochemical surveys outlined two new areas of copper-gold and two new areas of copper mineralization. Results from select sampling include values up to 1.93 opt Au and 4.78% Cu.

k) Mitzi Property (27 km to the west)

Alban Explorations Ltd/Noranda Exploration/Placer Dome:

IP work is being done to further determine the extent of a 1 km x 3.2 km anomaly which is open in three directions and has been linked with a halo of disseminated mineralization surrounding a number of buried intrusive bodies. A 6000 ft drill program is planned for 1991.

5. PROPERTY HISTORY

No previous work is known to have been done on the property, apart from coverage by government aeromagnetic surveys. The G.S.C. Aeromagnetic Map 1594G shows that a magnetic low exists in the center of the property, and that the property is situated on the northeastern flank of the magnetic high associated with the Mt Milligan deposit.

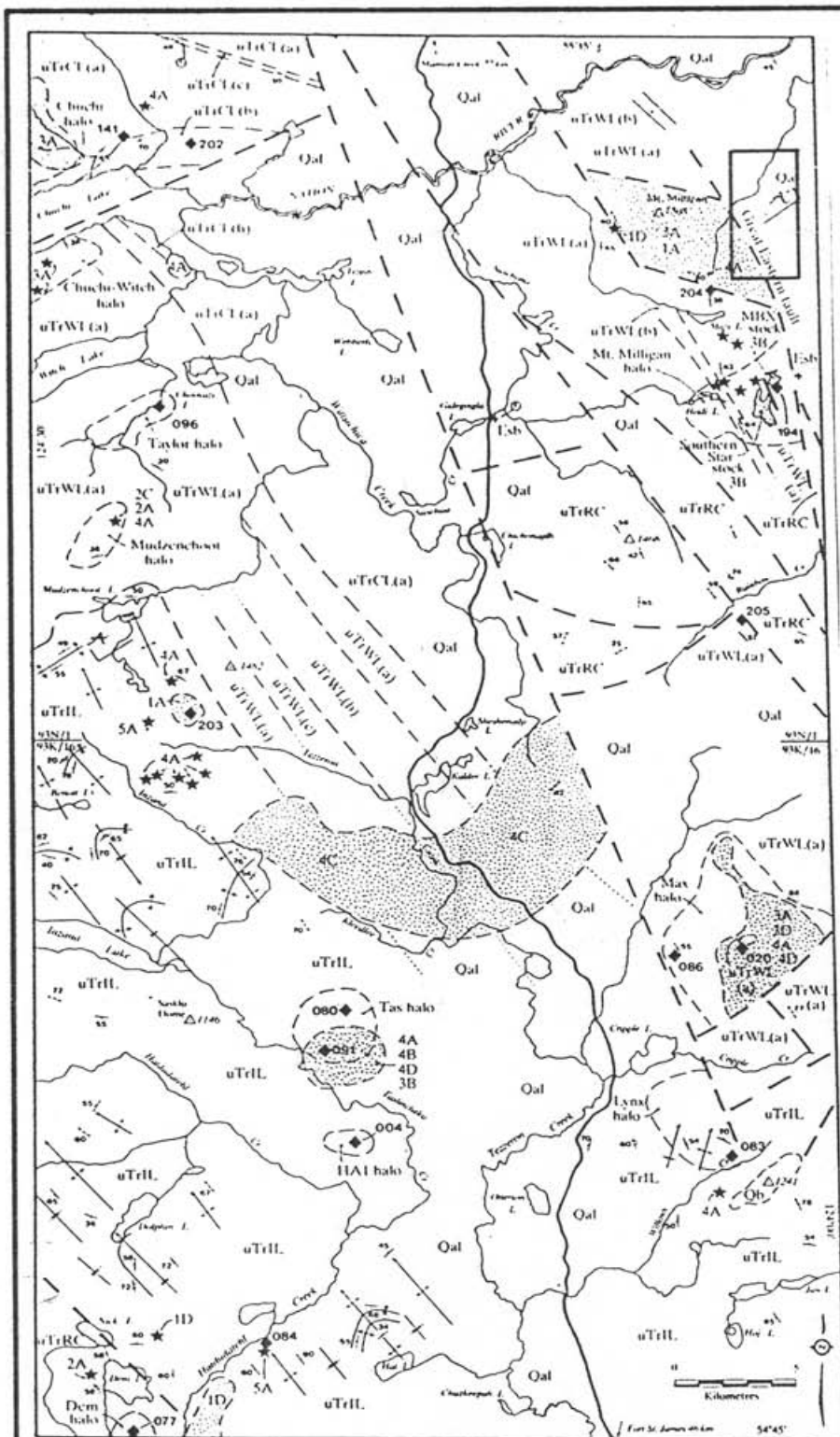
6.0 REGIONAL GEOLOGY

(After Rebagliati, 1990)

"The Mt Milligan property lies within the regionally extensive early Mesozoic Quesnel Belt. This belt extends northwesterly for 1200 km and includes equivalent rocks of the Upper Triassic-Lower Jurassic Takla, Nicola, and Stuhini Groups (Mortimer, 1986). To the west, deformed uplifted Permian Cache Creek Group rocks are separated from the Quesnel Belt by the Pinchi fault zone. To the east, the Manson fault zone separates this belt from the uplifted Proterozoic/early-Palaeozoic Wolverine Metamorphic Complex, and the Mississippian-Permian Slide Mountain and Cache Creek Groups (Garnet, 1978) (Figure 3).

In the Mt Milligan district, the Takla Group volcanics are dominated by subaqueous alkalic to subalkalic dark green tuffs and volcanic breccias of andesitic and basaltic composition interbedded with pyroxene porphyritic flow rocks of similar composition. Intercalated bedded tuffs and argillites are subordinate. Black argillites interfinger with volcanic rocks to the east and west of the central volcanic core.

Intruding the volcanic-sedimentary strata of the Quesnel Belt are alkaline syenite, monzonite, and diorite batholiths, stocks and dykes. Many of the stocks lie along linear trends which are interpreted to reflect the fault zones which controlled the location of volcanism and stock emplacement.



LEGEND

LAYERED ROCKS

QUATERNARY

Qal

UNCONSOLIDATED GLACIAL TILL AND ALLUVIUM

QUATERNARY

Qd

DYKE HEARING BASALT

Eocene - Oligocene

Eab

BASALT, VOLCANIC WACKE AND FOSSILIFEROUS VOLCANIC ASH RICH MUDSTONE

UPPER THASSIC/JURASSIC

TAKLA GROUP

uTrCL

CHUCHO LAKE FORMATION: (A) AUGITE (+) AND BANNONITE FERROSLIC AGGLOMERATE; (B) PLAGIOCLASE-PORPHYRY TRACHYTE FLOWS AND NH₄ COALS; (C) INTERVOLCANIC SEDIMENTS

uTrWL

WITCH LAKE FORMATION: (A) AUGITE (+) PLAGIOCLASE + HORNBLENDE PORPHYRY AGGLOMERATE, VOLCANIC BRECCIA, LAPILLI TUFF AND EPICLASTIC SEDIMENTS; (B) TRACHYTE FLOWS AND TUFF-BRECCIAS; (C) PLAGIOCLASE (+) AUGITE PORPHYRY LATITE FLOWS AND AGGLOMERATES

uTrIL

MEZANA LAKE FORMATION: VOLCANIC SANDSTONE, SLTSTONE, ARGILLITE, LAPILLI TUFF AND SEDIMENTARY BRECCIA

uTrRC

RAINBOW CREEK FORMATION: GRAY SLATE, THIN BEDDED SLTSTONE, SANDHOL VOLCANIClastic SEDIMENTS

INTRUSIVE ROCKS

LATE CRETACEOUS-EARLY TERTIARY

1

GRANITE SUITE: (1A) EQUIGRANULAR, COARSE GRAINED GRANITE; (1B) HYPODIOCTE/DIOCTE

LATE TRIASSIC-EARLY JURASSIC

2

SYENITE SUITE: (2A) COARSE GRAINED, EQUIGRANULAR SYENITE; (2B) MEGACRYSTIC SYENITE

3

MONZONITE SUITE: (3A) EQUIGRANULAR, COARSE GRAINED MONZONITE; (3B) CROWNED PLAGIOCLASE PORPHYRY MONZONITE; (3C) SPARSELY PORPHYRYIC LATITE

4

DIORITE/MONZODIORITE SUITE: (4A) COARSE GRAINED, EQUIGRANULAR DIORITE/MONZODIORITE; (4B) CROWNED PLAGIOCLASE PORPHYRYIC DIORITE; (4C) MEGACRYSTIC PLAGIOCLASE (+) AUGITE PORPHYRYIC DIORITE; (4D) SPARSELY PORPHYRYIC ANDESITE

5

GABBRO/MONZOGABBRO SUITE: (5A) COARSE GRAINED, EQUIGRANULAR GABBRO/MONZOGABBRO

SYMBOLS

geologic contact (approximate, inferred).....	— ·····
stratigraphic contact (approximate, inferred).....	— ·····
fault (defined, inferred).....	— — — — —
F ₁ axial trace (arcinal, synclinal).....	— + — + — + —
F ₂ axial trace (antiform, synclinal).....	— + — + — + —
bedding (dips known, tops unknown, over 10°) 50°/50°/50°	— + — + — + —
location.....	○
large intrusion.....	★
small intrusion.....	★
area of alteration.....	★
mineral occurrence and MINFILE number.....	◆ 086
fossil locality.....	○
diamond drill hole.....	+
elevation in metres.....	△ 1482

Geological Fieldwork 1990, Paper 1991-1



BGM DIVERSIFIED ENERGY INC.

SUPERIOR PROPERTY

OMINECA M.D., B.C.

Regional Geology Map

Scale	as shown	N.T.S. 93N/1E	Drawn by
Date	July 1991	Geologist	Figure 3
RELIANCE GEOLOGICAL SERVICES INC.			

The alkalic stocks of the Quesnel Belt commonly host porphyry copper deposits which are increasingly being recognized as an important source of gold. It has also been recently recognized that related failed porphyry systems (those that did not form copper deposits) also have the potential to generate disseminated gold deposits (i.e. QR).

The volcanic strata on the Mt. Milligan property are intruded by several alkalic plutons. Some of these plutons display many of the geological characteristics related to the formation of gold-rich porphyry copper deposits in the Quesnel Belt."

Many prospects are under active exploration within the above-described Quesnel Belt and the following auriferous porphyry copper deposits have been defined:

<u>Exploration Development Stage</u>	<u>Number of Deposits</u>	<u>Reserves/Mineral Copper - lbs (000,000's)</u>	<u>Inventory Gold - oz (000's)</u>
Mt. Polley (Imperial Metals)	2	875	2,000
Galore Creek (Hudson Bay et al)	8	3,000	1,750
Red Chris (Noranda)	2	550	450
QR (QPX)	4	-0-	200
Lorraine (Kenneco)	2	150	100
Mt Milligan (Placer Dome)	2	1,680	6,376
<u>In Production:</u>			
Copper Mountain (Cassiar)	5	1,600	910
Afton (Teck)	2	680	970

(Modified after Mustard 1989)

7.0 1991 WORK PROGRAM

7.1 Methods and Procedures

Soil sampling, geologic mapping, stream sediment sampling, rock sampling, and airborne magnetic-VLF surveys were carried out on the claims.

A survey grid was laid out over the Superior Property. The baseline and cross-lines were surveyed using compass, hip chain and flagging.

Cross-lines were established at 1000N, 500N, 0N, 1200S, 1600S, 2000S and 2500S. Stations on baselines and cross-lines were marked at 50 meter intervals with marked, double flagging. Total line surveyed was 18.5 kilometers.

Geological mapping was performed over the property at a scale of 1:5,000 (Figure 4).

Three rock samples were collected and sent to International Plasma Laboratory Ltd of Vancouver (IPL) for gold fire assay and 30 element ICP analysis. See Appendix A for rock sample descriptions and Appendix B for analytical reports and techniques.

Eight stream sediment samples were collected and analyzed for gold and 30 element ICP.

The grid was soil sampled at 50 meter station spacings. 228 samples were taken over 14 km of soil sample lines. All samples were taken with a grub hoe from the B horizon (approximate depth 45 cm), placed into marked Kraft paper bags and sent to IPL for analysis.

Airborne geophysical surveys (magnetic and VLF-EM) were conducted over the property by Aerodat Ltd. See Appendix C for survey specifications.

7.2 Property Geology (Figure 4)

The low hill in the central region of the property was the only area where outcrop was found. It is estimated that the property has less than 1% outcrop. The remainder of the ground is covered by glacial till, with eskers present on the western edge.

The only rock type found in outcrop was a green propylitic andesite. Phenocrysts of augite up to 2mm are contained in a very fine grained groundmass. Minor hornblende and biotite phenocrysts are visible, as is very fine-grained disseminated pyrite which comprises less than 1% of the rock. Alteration is weak to non-existent.

SUP91-KR01 exhibits potassium feldspar, which may be secondary. SUP91-NR9 hosts 1 mm wide discontinuous quartz stringers oriented at 140°/60°. Thirty meters southeast of SUP91-NR9, a joint set was found, with a strike of 012° and 132°. Dips could not be determined.

7.3 Rock Geochemistry (Figure 4)

Assays revealed no significant values. Copper values in andesites could not be considered anomalous (up to 109 ppm), and gold and silver were at or below minimum detection limits.

7.4 Soil Geochemistry (Figure 4)

Twenty-three of the 228 soil samples were anomalous in copper, using 50 ppm as the low anomalous value (standard in the Mt Milligan area). Nine copper anomalies were identified on Line 2500S between 100W and 700W. The remainder, including the highest value of 147 ppm, were spot anomalies.

7.5 Geophysics

An airborne magnetic and VLF-EM survey was flown over the Superior Property by Aerodat Ltd.

7.5.1 Magnetics: (Figures 5 & 6)

Contoured maps of total magnetic field and vertical magnetic gradient were produced. Magnetic readings range from 57,240nT to 59,600nT for a total magnetic relief of 2,180nT.

Three distinct magnetic highs are present.

The first exists along the northern boundary of the Sup 5 claim. The anomaly measures roughly 1500 meters x 500 meters, and is open to the north of the claims. Magnetic contours are gradational.

The second anomaly, a roughly circular high (500 meters diameter) on the west central side of the property exhibits a range of 430 gammas from the low on its northeast flank to its peak. The anomaly trends west of the claims.

The strongest and most significant anomaly appears in the southwest corner of the property (Sup 7 claim). This anomaly (approximately 500 meters wide) has readings up to 59,600nT and is abruptly flanked by a northwest-southeast trending magnetic low with readings to 57,400nT. The anomaly is located along the northeast side of the large regional high associated with the Mt Milligan deposit.

A northwest-southeast trending linear high measuring 250 meters x 1300 meters extends from the third anomaly. This elongate high lies along the northwest side of the 57,400nT low.

7.5.2 VLF-EM: (Figure 7)

The variances on the VLF-EM total field map correlate to the topography of the property, with lakes and streams showing low values, and topographic highs showing greater values.

DISCUSSION

The VLF-EM total field map appears to reflect only the topography of the property and overburden thickness and conductivity.

The magnetic highs in the north and west of the property may be related to small intrusive stocks.

The anomaly in the southwest corner may represent a lobe of the Mt Milligan intrusive. The linear features that radiate outward from this anomaly may be related to faults or dikes associated with the intrusives, or to variations in response in the andesites.

The nine copper soil anomalies on L2500S correlate with the magnetic anomaly in the southwest corner. No other soil lines were run in this area. Their correspondence with the magnetic high can be considered significant. While these soil anomalies might be due to glacial drift originating from the Mt Milligan deposit, if that were the case, it is likely the whole property would have similar copper soil values.

9.0 CONCLUSIONS

The soil and magnetic surveys have revealed anomalies in the southwestern corner of the property which may reflect an extension of the structure which hosts the Mt Milligan deposit.

The correlation of these anomalies is considered significant.

Therefore the type and extent of any mineralization in the southwestern region of the property should be investigated further.

10.0

RECOMMENDATIONS

Phase 2:

1. Lay out and cut 19 km of grid over the southwest area of the claims. Line spacings should be 200 meters and length 2.5 kilometers.
2. Collect approximately 350 soil samples over the grid at 50 meter spacings.
3. Run an induced polarization and resistivity survey over the grid.

After data compilation from Phases 1 and 2, and contingent on favorable results, Phase 3 would consist of diamond drilling to test the targets at depth.

11.0 BUDGET - GOLD POWER Project

Project preparation		\$	300
Mobilization & demobilization		\$	7,840
Field Crew:			
Project Geologist	\$ 325/day x 7 days	\$	2,275
Crew Chief	\$ 225/day x 13 days	\$	2,925
Geotechnicians (3)	\$ 210/day x 39 days	\$	<u>8,190</u>
		\$	13,390
Field Costs:			
Helicopter	2 hrs @ \$735	\$	1,470*
* will be charged at actual cost			
Communications	\$ 45/day x 13 days	\$	585
Expediting		\$	300
Food & accommodation	\$ 70/day x 59 days	\$	4,130
Freight		\$	200
Supplies	\$ 70/day x 13 days	\$	910
Vehicle (standby)	\$ 20/day x 13 days	\$	<u>260</u>
		\$	7,855
Assays & Analysis:			
350 soil samples @ \$14/sample		\$	4,900
20 rock samples @ \$17/sample		\$	<u>340</u>
		\$	5,240
Geophysics:			
IP Survey (all-inclusive)	\$1500/line km x 17.5 km	\$	26,250
Report:			
Drafting and map preparation		\$	1,200
Report writing and editing		\$	2,000
Word processing, copying, binding		\$	<u>600</u>
		\$	3,800
Administration, incl Overhead and Profit		\$	<u>7,600</u>
Sub-total		\$	72,275
plus 7% G.S.T.		\$	<u>5,059</u>
Total		\$	<u>77,334</u>

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1990: Jun 6, 11, 19; July 4, 16, 20, 31; Aug 24; Oct 5,
10, 16, 17, 23; Nov 1.
1991: Jun 12; Jul 31; Aug 6, 7, 16.

CERTIFICATE

I, **NIGEL B. LUCKMAN**, of 11500 Granville Avenue, Richmond, B.C., do hereby state that:

1. I am a graduate of the University of British Columbia, Vancouver, British Columbia, with a Bachelor of Applied Science Degree in Geological Engineering, 1988.
2. I have actively pursued my career as a geological engineer for three years in British Columbia, the Yukon and California.
3. The information, opinions, and recommendations in this report are based on published and unpublished literature, and my research of and field experience in the general area of the claims. I visited the subject property from June 26 to June 29, 1991.
4. I have no interest, direct or indirect, in the subject claims or the securities of any company which has an interest in the subject claims.
5. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

RELIANCE GEOLOGICAL SERVICES INC.

Nigel B. Luckman, B.A.Sc.

Dated at North Vancouver, B.C., this 10th day of August 1991.

CERTIFICATE

I, **ROGER G. KIDLARK**, of #303 - 9110 Halston Court, Burnaby, B.C. do hereby certify that:

1. I am a graduate of the University of Toronto with a Bachelor of Science Degree in Geology, 1974.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I have practised my profession as a geologist for sixteen years in the Yukon and Northwest Territories, British Columbia, Ontario, Nova Scotia, Montana, and Arizona.
4. The information, opinions, and recommendations in this report are based on fieldwork carried out in my presence or under my direction, and information derived from published and unpublished literature. I was present on the subject property from June 26 to June 29, 1991.
5. I am presently employed by Reliance Geological Services Inc. and have no interest, direct or indirect, in the subject claims or the securities of BGM Diversified Energy Inc.
6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

RELIANCE GEOLOGICAL SERVICES INC.



Roger G. Kidlark, B.Sc., F.G.A.C.

Dated the 10th day of August 1991, at North Vancouver, B.C.

CERTIFICATE

I, **PETER D. LERICHE**, of 3125 West 12th Avenue, Vancouver, B.C., V6K 2R6, do hereby state that:

1. I am a graduate of McMaster University, Hamilton, Ontario, with a Bachelor of Science Degree in Geology, 1980.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I have actively pursued my career as a geologist for eleven years in British Columbia, Ontario, the Yukon and Northwest Territories, Arizona, Nevada, Oregon and California.
4. The information, opinions, and recommendations in this report are based on fieldwork carried out under my direction, and on published and unpublished literature. I have not visited the subject property.
5. I have no interest, direct or indirect, in the subject claims or the securities of BGM Diversified Energy Inc.
6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

RELIANCE GEOLOGICAL SERVICES INC.

Peter D. Leriche
Peter D. Leriche, B.Sc., G.A.C.

Dated at North Vancouver, B.C., this 20th day of August 1991.



RELIANCE GEOLOGICAL SERVICES INC.

241 EAST 1ST STREET
NORTH VANCOUVER, B.C.
V7L 1B4

TEL: (604) 984-3663
FAX: (604) 988-4653

ITEMIZED COST STATEMENT SUPERIOR PROJECT No. 714

Project preparation		\$	300	
Mobilization and demobilization (includes transportation and wages)		\$	2,180	
Field Crew:				
Project Geologist	\$ 325/day x 5 days	\$	1,625	
(R. Kidlark: June 25 to 29, 1991)				
Field Geologist	\$ 275/day x 5 days	\$	1,375	
(N. Luckman: June 25 to 29, 1991)				
Geotechnicians (2)	\$ 210/day x 10 days	\$	<u>2,100</u>	\$ 5,100
(B. Chore, B. Doubt: June 25 to 29, 1991)				
Field Costs:				
Helicopter	\$ 670/hr x 2.5 hrs	\$	1,675	
Communications	\$ 50/day x 5 days	\$	250	
Food & accommodation	\$ 70/day x 20 days	\$	1,400	
Supplies		\$	250	
Vehicles	\$ 20/day x 5 days	\$	<u>100</u>	\$ 3,675
Assays & Analysis:				
8 silt and 228 soil samples @ \$14/sample		\$	3,304	
(Aqua regia/AA for Au + 30 element ICP)				
3 rock samples @ \$17/sample		\$	<u>51</u>	\$ 3,355
FA/AA for Au + 30 element ICP				
Sub-Contractors:				
Airborne Magnetic/VLF-EM		\$	14,900	
Report:				
incl Drafting, Map prep, Writing, Editing, Word processing, Copying, Binding		\$	2,550	
Administration, incl overhead and profit		\$	<u>3,200</u>	
Sub-total		\$	35,260	
plus 7% G.S.T.		\$	<u>2,468</u>	
TOTAL		\$	37,728	

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

SUP PROPERTY

SAMPLE NO.	DESCRIPTION	WIDTH (cm)
SUP 91 KR01	Chip sample from a porphyritic augite hornblende-biotite andesite. Rock is fine to very fine grained. Trace of fine grained pyrite. Accessory minerals include K-spar (secondary) up to 10% in places.	3.0 m
SUP 91 KR02	Chip sample from a light brown coloured weathering andesite. Averaging 1% fine grained disseminated pyrite.	
SUP 91 NR9	A select sample from a fine-grained augite (1mm phenocrysts) porphyry, andesitic in composition. Thin 1-2 mm wide quartz stringers are present. Very fine-grained pyrite is visible (<1%).	

APPENDIX B

ANALYTICAL REPORTS and TECHNIQUES



2036 Columbia Street
 Vancouver, B.C.
 Canada V5Y 3E1
 Phone (604) 879-7878
 Fax (604) 879-7898

R E P O R T S U M M A R Y

Report:[9100241 R]

A N A L Y T I C A L R E P O R T

=====

Origin

Inception Date:[Jul 08, 1991]

 Client:[200 | Reliance Geological Services Ltd.]
 Contact:[| Nigel Luckman]
 Project:[0 | 714]
 Amount/Type:[1 | Rock -Rock Reject Stored 3 Mon]
 [| -Soil Reject Discarded]

Analytical Requisition

 Geochemical:[ICP(AqR)30]
 Assay:[Au(FA/AAS 20g)] ICP:[30]
 Comments:[None]

Delivery Information

Reporting Date:[Jul 15, 1991]

Principal Destination (Hardcopy, Fascimile, Invoice)

 Company:[Reliance Geological Services Ltd.]
 Address:[241 East 1st Street]
 City/Province:[North Vancouver, BC]
 Country/Postal:[V7L 1B4]
 Attention:[Nigel Luckman]
 Fascimile:[(604)988-4653]

Secondary Destination (Hardcopy)

 Company:[]
 Address:[]
 City/Province:[]
 Country/Postal:[]
 Attention:[]
 Fascimile:[]

1 data pages in this report.

Approved by: _____

B.C. Certified Assayers

iPL CODE: 910715-14:31:42

Report: 9100241 R Reliance Geological Services Ltd.

Project: 714

Page 1 of 1

Section 1 of 2

Sample Name	Type	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm	Ba ppm
SUP91 NR09	Rock	5	0.1	109	<2	72	<5	7	<3	3	<10	<2	<0.1	32	48	<5	23

Minimum Detection	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	5	2
Maximum Detection	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	1000	10000
Method	FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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Report: 9100241 R Reliance Geological Services Ltd.

Project: 714

Page 1 of 1

Section 2 of 2

Sample Name	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP91 NR09	64	217	823	3	25	12	7	0.36	3.12	1.86	>5.00	2.89	0.09	0.05	0.12

Minimum Detection	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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 Canada V5Y 3E1
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 Fax (604) 879-7898

R E P O R T S U M M A R Y

Report:[9100233 R]

A N A L Y T I C A L R E P O R T

Origin

Inception Date:[Jul 04, 1991]

```

-----
Client:[ 200 | Reliance Geological Services Ltd. ]
Contact:[ | Peter Leriche ]
Project:[ 0 | None Given ]
Amount/Type:[ 238 | Soil -Rock Reject Stored 3 Mon ]
[ | -Soil Reject Discarded ]
  
```

Analytical Requisition

```

-----
Geochemical:[ Au ICP(AqR)30 ]
Assay:[ None ] ICP:[ 30 ]
Comments:[ None ]
  
```

Delivery Information

Reporting Date:[Jul 09, 1991]

Principal Destination (Hardcopy,Fascimile,Invoice)

```

-----
Company:[ Reliance Geological Services Ltd. ]
Address:[ 241 East 1st Street ]
City/Province:[ North Vancouver, BC ]
Country/Postal:[ V7L 1B4 ]
Attention:[ Peter Leriche ]
Fascimile:[ (604)988-4653 ]
  
```

Secondary Destination (Hardcopy)

```

-----
Company:[ ]
Address:[ ]
City/Province:[ ]
Country/Postal:[ ]
Attention:[ ]
Fascimile:[ ]
  
```

7 data pages in this report.

Approved by: 

B.C. Certified Assayers

iPL CODE: 910709-10:41:44

Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L 0+00N 0+50E	Soil	--	<5	0.3	88	<2	55	<5	<5	<3	4	<10	<2	0.3	7	27	<5
SUP-91 L 0+00N 1+00E	Soil	--	<5	<0.1	20	<2	37	8	<5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L 0+00N 1+50E	Soil	--	<5	<0.1	44	<2	62	9	<5	<3	1	<10	<2	0.1	17	34	<5
SUP-91 L 0+00N 2+00E	Soil	--	5	<0.1	47	<2	53	12	<5	<3	2	<10	<2	<0.1	17	36	<5
SUP-91 L 0+00N 2+50E	Soil	--	<5	<0.1	30	<2	51	9	<5	<3	1	<10	<2	<0.1	11	20	<5
SUP-91 L 0+00N 3+00E	Soil	--	<5	<0.1	26	<2	56	7	<5	<3	1	<10	<2	<0.1	10	21	<5
SUP-91 L 0+00N 3+50E	Soil	--	5	<0.1	22	<2	53	8	<5	<3	1	<10	<2	<0.1	9	18	<5
SUP-91 L 0+00N 4+00E	Soil	--	5	<0.1	18	<2	37	6	<5	<3	1	<10	<2	<0.1	9	14	<5
SUP-91 L 0+00N 4+50E	Soil	--	5	<0.1	36	<2	41	5	<5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L 0+00N 5+00E	Soil	--	<5	<0.1	27	<2	43	6	<5	<3	1	<10	<2	<0.1	11	20	<5
SUP-91 L 0+00N 5+50E	Soil	--	<5	<0.1	24	<2	47	7	<5	<3	1	<10	<2	<0.1	10	17	<5
SUP-91 L 0+00N 6+00E	Soil	--	<5	<0.1	36	<2	67	16	<5	<3	1	<10	<2	<0.1	14	28	<5
SUP-91 L 0+00N 6+50E	Soil	--	<5	<0.1	38	<2	65	15	<5	<3	2	<10	<2	<0.1	15	31	<5
SUP-91 L 0+00N 7+00E	Soil	--	<5	<0.1	38	<2	63	10	<5	<3	1	<10	<2	<0.1	15	32	<5
SUP-91 L 0+00N 0+50W	Soil	--	<5	<0.1	27	<2	43	7	<5	<3	1	<10	<2	<0.1	12	20	<5
SUP-91 L 0+00N 1+00W	Soil	--	<5	<0.1	19	<2	37	6	<5	<3	1	<10	<2	<0.1	9	18	<5
SUP-91 L 0+00N 1+50W	Soil	--	<5	<0.1	19	<2	39	8	<5	<3	1	<10	<2	<0.1	10	19	<5
SUP-91 L 0+00N 2+00W	Soil	--	<5	<0.1	24	<2	43	9	<5	<3	1	<10	<2	<0.1	11	21	<5
SUP-91 L 0+00N 3+00W	Soil	--	<5	<0.1	20	<2	38	7	<5	<3	1	<10	<2	<0.1	10	18	<5
SUP-91 L 0+00N 3+50W	Soil	--	<5	<0.1	35	<2	43	6	<5	<3	1	<10	<2	<0.1	13	24	<5
SUP-91 L 0+00N 4+00W	Soil	--	<5	<0.1	27	<2	43	7	5	<3	1	<10	<2	0.1	14	22	<5
SUP-91 L 0+00N 4+50W	Soil	--	<5	<0.1	20	<2	42	6	<5	<3	1	<10	<2	<0.1	10	19	<5
SUP-91 L 0+00N 5+00W	Soil	--	<5	<0.1	33	<2	49	9	<5	<3	1	<10	<2	<0.1	13	28	<5
SUP-91 L 0+00N 5+50W	Soil	--	<5	<0.1	27	<2	41	9	<5	<3	<1	<10	<2	<0.1	12	24	<5
SUP-91 L 0+00N 6+00W	Soil	--	<5	<0.1	19	<2	40	6	<5	<3	<1	<10	<2	<0.1	10	19	<5
SUP-91 L 0+00N 6+50W	Soil	--	<5	<0.1	22	<2	49	8	<5	<3	<1	<10	<2	<0.1	11	21	<5
SUP-91 L 0+00N 7+00W	Soil	--	<5	<0.1	53	<2	45	7	<5	<3	2	<10	<2	<0.1	16	31	<5
SUP-91 L 0+00N 8+00W	Soil	--	<5	<0.1	63	<2	62	9	6	<3	2	<10	<2	0.3	20	48	<5
SUP-91 L 0+00N 8+50W	Soil	--	<5	<0.1	38	<2	41	7	<5	<3	1	<10	<2	<0.1	14	29	<5
SUP-91 L 0+00N 9+00W	Soil	--	<5	<0.1	26	<2	40	8	<5	<3	1	<10	<2	<0.1	11	23	<5
SUP-91 L 0+00N 9+50W	Soil	--	<5	<0.1	47	<2	48	9	<5	<3	1	<10	<2	<0.1	18	40	<5
SUP-91 L 0+00N 10+00W	Soil	--	<5	<0.1	57	<2	70	8	<5	<3	1	<10	<2	<0.1	18	44	<5
SUP-91 L 0+00N 12+00W	Soil	--	<5	<0.1	34	<2	38	8	<5	<3	1	<10	<2	<0.1	11	21	<5
SUP-91 L 0+00N 12+50W	Soil	--	<5	<0.1	26	<2	37	8	<5	<3	1	<10	<2	<0.1	11	20	<5
SUP-91 L 0+00N 13+00W	Soil	--	<5	<0.1	20	<2	54	9	<5	<3	1	<10	<2	0.1	10	19	<5
SUP-91 L 0+00N 13+50W	Soil	--	<5	0.1	22	<2	49	8	<5	<3	1	<10	<2	<0.1	10	19	<5
SUP-91 L 0+00N 14+00W	Soil	--	<5	<0.1	31	<2	70	10	<5	<3	1	<10	<2	<0.1	14	29	<5
SUP-91 L 0+00N 14+50W	Soil	--	<5	<0.1	15	2	47	8	<5	<3	1	<10	<2	<0.1	8	18	<5
SUP-91 L 5+00N 0+25E	Soil	--	<5	<0.1	39	<2	53	11	<5	<3	2	<10	<2	0.1	15	30	<5

Minimum Detection 5 5 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 5
 Maximum Detection 10000 10000 100.0 20000 20000 20000 10000 1000 10000 1000 1000 10000 10000.0 10000 10000 10000 ICP
 Method FA/AAS GeoSp ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP
 -- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



2036 Columbia Street
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 Phone (604) 879-7878
 Fax (604) 879-7898

Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L 0+00N 0+50E	213	30	29	4317	6	152	1	2	0.01	0.91	5.18	1.31	0.22	0.02	0.02	0.17
SUP-91 L 0+00N 1+00E	56	59	121	244	6	33	1	2	0.10	1.14	0.63	3.25	0.50	0.03	0.02	0.11
SUP-91 L 0+00N 1+50E	84	72	132	374	6	29	3	4	0.12	2.12	0.45	4.09	0.78	0.06	0.02	0.21
SUP-91 L 0+00N 2+00E	98	86	141	285	6	30	5	4	0.14	2.21	0.42	3.99	0.66	0.05	0.02	0.15
SUP-91 L 0+00N 2+50E	83	53	93	217	7	36	3	3	0.13	1.70	0.51	2.55	0.59	0.03	0.02	0.09
SUP-91 L 0+00N 3+00E	95	44	74	183	6	29	2	3	0.10	1.78	0.36	2.29	0.54	0.04	0.02	0.06
SUP-91 L 0+00N 3+50E	69	44	85	171	6	30	2	3	0.12	1.69	0.43	2.16	0.51	0.03	0.02	0.09
SUP-91 L 0+00N 4+00E	55	37	77	162	5	35	2	3	0.13	1.38	0.57	1.81	0.52	0.02	0.02	0.08
SUP-91 L 0+00N 4+50E	69	64	108	253	8	44	4	4	0.14	1.40	0.73	2.85	0.66	0.04	0.03	0.12
SUP-91 L 0+00N 5+00E	61	49	98	219	6	37	3	3	0.13	1.40	0.61	2.44	0.63	0.03	0.02	0.09
SUP-91 L 0+00N 5+50E	62	43	88	194	6	34	2	3	0.12	1.29	0.53	2.28	0.55	0.03	0.02	0.08
SUP-91 L 0+00N 6+00E	123	57	108	259	7	33	3	4	0.12	2.06	0.40	3.34	0.61	0.04	0.02	0.10
SUP-91 L 0+00N 6+50E	85	58	113	248	6	32	3	4	0.12	2.47	0.38	3.57	0.69	0.04	0.02	0.10
SUP-91 L 0+00N 7+00E	109	66	129	310	7	40	3	4	0.14	2.10	0.56	3.90	0.75	0.06	0.02	0.17
SUP-91 L 0+00N 0+50W	56	57	112	337	7	39	1	3	0.13	1.36	0.79	2.92	0.62	0.03	0.02	0.11
SUP-91 L 0+00N 1+00W	56	48	79	199	6	32	2	3	0.12	1.34	0.52	2.12	0.57	0.02	0.02	0.08
SUP-91 L 0+00N 1+50W	55	50	88	211	7	35	2	3	0.12	1.28	0.56	2.36	0.60	0.03	0.02	0.10
SUP-91 L 0+00N 2+00W	62	47	84	239	7	36	2	3	0.12	1.33	0.55	2.42	0.68	0.03	0.02	0.10
SUP-91 L 0+00N 3+00W	51	44	87	206	6	32	2	2	0.12	1.28	0.52	2.28	0.64	0.03	0.02	0.08
SUP-91 L 0+00N 3+50W	93	63	112	335	7	59	2	3	0.13	1.47	0.72	2.99	0.74	0.04	0.02	0.12
SUP-91 L 0+00N 4+00W	68	61	102	391	8	42	2	3	0.14	1.51	0.68	2.75	0.72	0.04	0.02	0.12
SUP-91 L 0+00N 4+50W	58	47	81	215	6	39	2	3	0.14	1.38	0.58	2.12	0.64	0.03	0.02	0.08
SUP-91 L 0+00N 5+00W	87	67	99	250	6	40	3	3	0.14	1.80	0.58	2.79	0.73	0.04	0.02	0.11
SUP-91 L 0+00N 5+50W	67	60	95	225	6	39	2	3	0.14	1.67	0.57	2.60	0.65	0.04	0.02	0.11
SUP-91 L 0+00N 6+00W	53	44	82	222	7	42	2	3	0.14	1.33	0.64	2.10	0.68	0.03	0.02	0.11
SUP-91 L 0+00N 6+50W	68	43	77	192	7	33	2	3	0.11	1.77	0.46	2.30	0.59	0.03	0.02	0.09
SUP-91 L 0+00N 7+00W	59	81	114	431	7	40	2	3	0.16	1.38	0.74	3.02	0.88	0.05	0.02	0.12
SUP-91 L 0+00N 8+00W	114	117	154	487	10	61	4	7	0.16	2.04	1.08	4.65	1.37	0.06	0.03	0.17
SUP-91 L 0+00N 8+50W	56	80	117	328	9	45	3	4	0.14	1.27	0.82	3.16	0.80	0.03	0.03	0.16
SUP-91 L 0+00N 9+00W	61	53	82	201	6	36	2	3	0.14	1.49	0.56	2.27	0.73	0.03	0.02	0.10
SUP-91 L 0+00N 9+50W	91	100	119	331	8	41	4	3	0.18	1.88	0.71	3.38	1.06	0.04	0.02	0.14
SUP-91 L 0+00N 10+00W	105	98	127	475	9	53	2	6	0.15	2.08	0.98	3.95	1.18	0.07	0.03	0.13
SUP-91 L 0+00N 12+00W	77	39	90	308	9	51	2	4	0.12	1.35	0.68	2.49	0.67	0.05	0.02	0.10
SUP-91 L 0+00N 12+50W	64	37	86	287	7	44	2	3	0.13	1.36	0.56	2.53	0.62	0.05	0.02	0.11
SUP-91 L 0+00N 13+00W	48	45	117	269	6	36	2	3	0.11	1.56	0.46	3.57	0.52	0.06	0.02	0.20
SUP-91 L 0+00N 13+50W	79	42	87	203	6	34	2	3	0.11	1.69	0.41	2.70	0.51	0.04	0.02	0.10
SUP-91 L 0+00N 14+00W	82	48	98	237	7	33	3	3	0.10	2.14	0.40	3.44	0.66	0.05	0.02	0.12
SUP-91 L 0+00N 14+50W	46	37	65	111	5	20	1	2	0.08	1.50	0.22	2.24	0.37	0.03	0.02	0.04
SUP-91 L 5+00N 0+25E	105	56	102	453	8	40	2	4	0.11	1.66	0.53	3.35	0.85	0.06	0.02	0.10

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample

Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L 5+00N 0+50E	Soil	--	<5	<0.1	35	<2	76	16	<5	<3	1	<10	<2	0.1	16	35	<5
SUP-91 L 5+00N 1+00E	Soil	--	<5	<0.1	44	<2	66	15	<5	<3	1	<10	<2	0.2	14	38	<5
SUP-91 L 5+00N 1+50E	Soil	--	<5	<0.1	43	<2	63	12	<5	<3	1	<10	<2	<0.1	16	37	<5
SUP-91 L 5+00N 2+00E	Soil	--	<5	<0.1	28	<2	58	8	<5	<3	1	<10	<2	<0.1	12	27	<5
SUP-91 L 5+00N 2+50E	Soil	--	<5	<0.1	34	<2	47	7	<5	<3	1	<10	<2	0.1	13	24	<5
SUP-91 L 5+00N 3+50E	Soil	--	<5	<0.1	34	<2	58	10	<5	<3	1	<10	<2	0.2	16	29	<5
SUP-91 L 5+00N 4+00E	Soil	--	<5	<0.1	26	<2	70	8	<5	<3	1	<10	<2	<0.1	12	23	<5
SUP-91 L 5+00N 4+50E	Soil	--	<5	<0.1	27	<2	90	10	<5	<3	1	<10	<2	0.2	14	26	<5
SUP-91 L 5+00N 5+00E	Soil	--	<5	<0.1	31	<2	54	8	<5	<3	1	<10	<2	0.1	12	23	<5
SUP-91 L 5+00N 5+50E	Soil	--	<5	<0.1	24	<2	48	7	<5	<3	1	<10	<2	<0.1	10	20	<5
SUP-91 L 5+00N 6+00E	Soil	--	<5	<0.1	27	<2	49	8	<5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L 5+00N 6+50E	Soil	--	<5	<0.1	31	<2	69	8	<5	<3	1	<10	<2	<0.1	14	27	<5
SUP-91 L 5+00N 7+00E	Soil	--	<5	<0.1	27	<2	52	7	<5	<3	1	<10	<2	<0.1	12	23	<5
SUP-91 L 5+00N 8+00E	Soil	--	<5	<0.1	40	<2	58	10	<5	<3	1	<10	<2	0.1	15	31	<5
SUP-91 L 5+00N 8+50E	Soil	--	<5	<0.1	24	<2	89	11	<5	<3	1	<10	<2	0.2	13	23	<5
SUP-91 L 5+00N 9+00E	Soil	--	<5	<0.1	38	<2	82	12	5	<3	1	<10	<2	0.1	15	27	<5
SUP-91 L 5+00N 9+50E	Soil	--	<5	<0.1	12	<2	41	<5	<5	<3	1	<10	<2	<0.1	11	14	<5
SUP-91 L 5+00N 10+00E	Soil	--	<5	<0.1	40	<2	63	14	<5	<3	1	<10	<2	0.1	17	33	<5
SUP-91 L10+00N 1+00E	Soil	--	<5	<0.1	47	<2	68	12	<5	<3	1	<10	<2	0.1	15	36	<5
SUP-91 L10+00N 1+50E	Soil	--	<5	<0.1	39	<2	59	10	<5	<3	1	<10	<2	<0.1	13	30	<5
SUP-91 L10+00N 2+00E	Soil	--	<5	<0.1	29	<2	59	10	<5	<3	1	<10	<2	<0.1	12	26	<5
SUP-91 L10+00N 2+50E	Soil	--	<5	<0.1	27	<2	54	8	<5	<3	1	<10	<2	<0.1	11	24	<5
SUP-91 L10+00N 3+00E	Soil	--	10	<0.1	42	<2	49	8	<5	<3	1	<10	<2	0.1	15	30	<5
SUP-91 L10+00N 3+50E	Soil	--	<5	<0.1	34	<2	56	10	<5	<3	1	<10	<2	0.1	14	32	<5
SUP-91 L10+00N 4+00E	Soil	--	<5	<0.1	43	<2	60	11	<5	<3	1	<10	<2	<0.1	18	34	<5
SUP-91 L10+00N 4+50E	Soil	--	<5	<0.1	37	<2	55	10	<5	<3	1	<10	<2	<0.1	13	31	<5
SUP-91 L10+00N 5+00E	Soil	--	<5	<0.1	26	<2	49	7	<5	<3	1	<10	<2	<0.1	11	23	<5
SUP-91 L10+00N 5+50E	Soil	--	<5	<0.1	30	<2	60	13	<5	<3	1	<10	<2	0.1	12	26	<5
SUP-91 L10+00N 6+00E	Soil	--	<5	0.2	34	<2	90	9	<5	<3	1	<10	<2	<0.1	18	28	<5
SUP-91 L10+00N 6+50E	Soil	--	<5	<0.1	34	<2	53	13	<5	<3	1	<10	<2	0.2	14	32	<5
SUP-91 L10+00N 6+75E	Soil	--	<5	<0.1	34	<2	46	7	<5	<3	1	<10	<2	0.1	14	27	<5
SUP-91 L10+00N 8+00E	Soil	--	<5	<0.1	24	<2	55	6	<5	<3	1	<10	<2	0.1	12	27	<5
SUP-91 L10+00N 8+50E	Soil	--	<5	<0.1	25	<2	56	7	<5	<3	1	<10	<2	0.1	12	23	<5
SUP-91 L10+00N 9+00E	Soil	--	<5	<0.1	48	<2	89	9	<5	<3	1	<10	<2	0.3	16	29	<5
SUP-91 L10+00N 9+50E	Soil	--	<5	<0.1	32	<2	61	10	<5	<3	1	<10	<2	0.1	19	40	<5
SUP-91 L10+00N 10+00E	Soil	--	<5	0.1	26	<2	77	16	<5	<3	1	<10	<2	0.2	14	31	<5
SUP-91 L10+00N 0+50W	Soil	--	<5	<0.1	27	<2	44	7	<5	<3	1	<10	<2	<0.1	12	22	<5
SUP-91 L10+00N 1+00W	Soil	--	5	<0.1	37	<2	55	8	<5	<3	1	<10	<2	0.1	13	25	<5
SUP-91 L10+00N 1+50W	Soil	--	<5	<0.1	36	<2	50	9	<5	<3	1	<10	<2	<0.1	14	29	<5

Minimum Detection 5 5 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 5
 Maximum Detection 10000 10000 100.0 20000 20000 20000 10000 1000 10000 1000 1000 10000 10000.0 10000 10000 1000
 Method FA/AAS GeoSp ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP
 -- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L 5+00N 0+50E	85	58	105	241	6	21	2	4	0.07	2.45	0.29	3.96	0.66	0.06	0.01	0.25
SUP-91 L 5+00N 1+00E	128	54	95	315	8	34	2	4	0.09	2.51	0.43	3.52	0.93	0.05	0.02	0.14
SUP-91 L 5+00N 1+50E	86	56	97	293	7	27	3	5	0.10	2.42	0.37	3.60	0.81	0.06	0.02	0.15
SUP-91 L 5+00N 2+00E	94	42	78	289	7	31	2	4	0.10	1.93	0.45	2.74	0.72	0.05	0.02	0.12
SUP-91 L 5+00N 2+50E	84	44	83	389	9	35	1	4	0.10	1.38	0.61	2.66	0.68	0.05	0.02	0.10
SUP-91 L 5+00N 3+50E	84	49	100	515	7	42	2	4	0.12	1.67	0.65	3.28	0.92	0.06	0.02	0.10
SUP-91 L 5+00N 4+00E	90	40	84	395	7	38	2	3	0.10	1.66	0.57	2.75	0.75	0.04	0.02	0.11
SUP-91 L 5+00N 4+50E	78	44	88	392	6	29	2	3	0.09	1.83	0.41	3.06	0.64	0.06	0.02	0.17
SUP-91 L 5+00N 5+00E	78	41	87	332	7	35	1	4	0.11	1.67	0.47	2.72	0.75	0.04	0.02	0.08
SUP-91 L 5+00N 5+50E	77	35	71	244	6	32	2	3	0.10	1.39	0.44	2.24	0.68	0.03	0.02	0.07
SUP-91 L 5+00N 6+00E	93	38	76	248	8	39	3	3	0.12	1.50	0.57	2.36	0.75	0.04	0.02	0.09
SUP-91 L 5+00N 6+50E	117	45	85	417	7	40	2	4	0.11	1.85	0.63	2.83	0.78	0.06	0.02	0.04
SUP-91 L 5+00N 7+00E	85	41	80	322	7	37	2	4	0.12	1.45	0.53	2.54	0.76	0.04	0.02	0.07
SUP-91 L 5+00N 8+00E	104	59	108	312	7	35	2	4	0.12	1.87	0.52	3.32	0.72	0.05	0.02	0.14
SUP-91 L 5+00N 8+50E	98	55	118	522	6	26	2	3	0.09	1.76	0.39	3.60	0.44	0.06	0.02	0.19
SUP-91 L 5+00N 9+00E	76	55	119	280	6	31	4	4	0.11	2.08	0.45	3.71	0.69	0.05	0.02	0.18
SUP-91 L 5+00N 9+50E	43	36	90	360	4	41	2	3	0.16	1.14	0.62	2.13	0.66	0.04	0.02	0.04
SUP-91 L 5+00N 10+00E	153	52	114	261	6	42	3	4	0.13	2.30	0.49	3.44	0.74	0.04	0.02	0.08
SUP-91 L10+00N 1+00E	119	62	106	409	7	41	1	4	0.11	2.12	0.63	3.41	0.87	0.08	0.02	0.15
SUP-91 L10+00N 1+50E	96	51	87	268	6	30	3	4	0.10	1.88	0.42	2.95	0.68	0.06	0.02	0.13
SUP-91 L10+00N 2+00E	75	52	89	233	5	23	2	3	0.09	1.94	0.30	3.09	0.60	0.04	0.02	0.13
SUP-91 L10+00N 2+50E	71	45	85	241	5	30	2	3	0.10	1.91	0.41	2.87	0.63	0.04	0.02	0.11
SUP-91 L10+00N 3+00E	90	54	101	513	10	47	2	5	0.11	1.37	0.71	3.23	0.80	0.07	0.02	0.13
SUP-91 L10+00N 3+50E	89	56	99	287	7	35	3	4	0.11	2.10	0.48	3.38	0.79	0.05	0.02	0.16
SUP-91 L10+00N 4+00E	96	52	98	330	10	38	4	5	0.12	2.48	0.46	3.42	0.85	0.06	0.02	0.14
SUP-91 L10+00N 4+50E	103	53	95	273	8	34	3	4	0.11	2.21	0.45	3.28	0.77	0.05	0.02	0.13
SUP-91 L10+00N 5+00E	88	40	80	237	7	35	2	3	0.11	1.70	0.46	2.58	0.68	0.04	0.02	0.10
SUP-91 L10+00N 5+50E	63	54	107	239	5	26	2	4	0.10	2.16	0.37	3.58	0.63	0.04	0.02	0.18
SUP-91 L10+00N 6+00E	95	47	77	571	6	23	2	4	0.08	2.29	0.28	3.05	0.62	0.05	0.02	0.10
SUP-91 L10+00N 6+50E	76	56	99	267	6	29	4	4	0.11	2.04	0.34	3.45	0.69	0.04	0.02	0.12
SUP-91 L10+00N 6+75E	82	51	100	422	9	43	2	5	0.13	1.34	0.64	3.09	0.78	0.06	0.02	0.12
SUP-91 L10+00N 8+00E	76	42	83	290	7	36	2	4	0.12	1.47	0.50	2.73	0.72	0.05	0.02	0.08
SUP-91 L10+00N 8+50E	73	41	82	296	8	45	2	4	0.13	1.46	0.65	2.55	0.74	0.05	0.02	0.10
SUP-91 L10+00N 9+00E	119	51	103	631	8	52	1	5	0.12	2.00	0.72	3.39	0.89	0.06	0.02	0.07
SUP-91 L10+00N 9+50E	114	71	116	403	6	38	2	3	0.20	2.12	0.55	3.72	1.29	0.21	0.02	0.10
SUP-91 L10+00N 10+00E	87	54	105	272	7	24	3	3	0.09	2.26	0.29	4.25	0.63	0.06	0.02	0.21
SUP-91 L10+00N 0+50W	94	43	87	286	8	42	1	4	0.12	1.42	0.65	2.52	0.65	0.04	0.02	0.08
SUP-91 L10+00N 1+00W	99	49	104	330	9	47	2	4	0.13	1.57	0.74	3.04	0.77	0.05	0.02	0.12
SUP-91 L10+00N 1+50W	107	50	97	324	8	38	1	4	0.11	1.77	0.50	3.05	0.72	0.05	0.02	0.13
Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L10+00N 3+00W	Soil	--	<5	<0.1	32	<2	38	7	<5	<3	<1	<10	<2	0.1	11	23	<5
SUP-91 L10+00N 3+50W	Soil	--	<5	<0.1	39	<2	42	9	<5	<3	1	<10	<2	0.1	14	29	<5
SUP-91 L10+00N 4+00W	Soil	--	<5	<0.1	29	<2	37	11	<5	<3	1	<10	<2	<0.1	12	23	<5
SUP-91 L10+00N 4+50W	Soil	--	<5	<0.1	50	<2	45	13	<5	<3	2	<10	<2	<0.1	17	43	<5
SUP-91 L10+00N 5+00W	Soil	--	<5	<0.1	27	<2	52	12	<5	<3	2	<10	<2	0.1	12	26	<5
SUP-91 L10+00N 5+50W	Soil	--	<5	<0.1	35	<2	43	13	<5	<3	2	<10	<2	0.1	13	28	<5
SUP-91 L10+00N 6+00W	Soil	--	20	<0.1	44	<2	34	8	<5	<3	1	<10	<2	0.1	12	20	<5
SUP-91 L10+00N 7+00W	Soil	--	<5	<0.1	21	<2	27	<5	<5	<3	1	<10	<2	<0.1	9	17	<5
SUP-91 L10+00N 7+50W	Soil	--	<5	<0.1	23	<2	34	6	<5	<3	1	<10	<2	<0.1	9	19	<5
SUP-91 L10+00N 8+00W	Soil	--	<5	<0.1	29	<2	46	6	<5	<3	1	<10	<2	<0.1	12	24	<5
SUP-91 L10+00N 8+50W	Soil	--	<5	<0.1	18	<2	31	7	<5	<3	1	<10	<2	<0.1	8	16	<5
SUP-91 L10+00N 9+00W	Soil	--	<5	<0.1	27	<2	38	7	<5	<3	1	<10	<2	<0.1	9	20	<5
SUP-91 L10+00N 9+50W	Soil	--	5	<0.1	18	<2	30	5	<5	<3	1	<10	<2	<0.1	8	15	<5
SUP-91 L10+00N 10+00W	Soil	--	<5	<0.1	25	<2	35	8	<5	<3	1	<10	<2	<0.1	10	18	<5
SUP-91 L10+00N 10+50W	Soil	--	<5	<0.1	33	<2	39	8	<5	<3	1	<10	<2	<0.1	12	23	<5
SUP-91 L10+00N 11+00W	Soil	--	<5	<0.1	34	<2	41	12	5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L10+00N 11+50W	Soil	--	<5	<0.1	28	<2	44	8	<5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L10+00N 12+00W	Soil	--	<5	<0.1	38	<2	44	10	<5	<3	1	<10	<2	<0.1	13	25	<5
SUP-91 L10+00N 12+50W	Soil	--	<5	<0.1	32	<2	34	6	<5	<3	1	<10	<2	<0.1	11	21	<5
SUP-91 L10+00N 13+00W	Soil	--	<5	<0.1	34	<2	37	7	<5	<3	1	<10	<2	0.1	11	21	<5
SUP-91 L10+00N 13+50W	Soil	--	<5	<0.1	44	<2	41	11	<5	<3	<1	<10	<2	0.2	12	25	<5
SUP-91 L10+00N 14+00W	Soil	--	<5	<0.1	35	<2	40	5	<5	<3	1	<10	<2	<0.1	12	22	<5
SUP-91 L10+00N 14+50W	Soil	--	<5	0.1	90	<2	67	12	<5	<3	2	<10	<2	0.7	21	39	<5
SUP-91 L12+00S 0+00E	Soil	--	<5	0.2	47	<2	129	15	<5	<3	3	<10	<2	0.6	18	47	<5
SUP-91 L12+00S 0+50E	Soil	--	<5	0.4	23	<2	151	15	<5	3	2	<10	<2	1.7	15	23	<5
SUP-91 L12+00S 1+00E	Soil	--	<5	0.2	42	<2	141	18	<5	<3	4	<10	<2	0.5	13	36	<5
SUP-91 L12+00S 1+50E	Soil	--	<5	<0.1	30	<2	182	15	<5	<3	3	<10	<2	0.6	12	27	<5
SUP-91 L12+00S 2+00E	Soil	--	<5	<0.1	40	<2	109	14	<5	<3	3	<10	<2	0.4	14	29	<5
SUP-91 L12+00S 3+00E	Soil	--	<5	1.2	147	<2	90	5	<5	<3	5	<10	<2	1.2	13	36	<5
SUP-91 L12+00S 3+50E	Soil	--	<5	<0.1	34	<2	63	7	<5	<3	2	<10	<2	0.1	12	24	<5
SUP-91 L12+00S 4+00E	Soil	--	<5	<0.1	38	<2	74	10	<5	<3	1	<10	<2	0.3	14	26	<5
SUP-91 L12+00S 4+50E	Soil	--	<5	<0.1	20	<2	59	6	<5	<3	1	<10	<2	<0.1	9	18	<5
SUP-91 L12+00S 5+00E	Soil	--	<5	0.1	30	<2	59	12	<5	<3	2	<10	<2	0.1	12	23	<5
SUP-91 L12+00S 5+50E	Soil	--	<5	0.1	26	<2	76	10	<5	<3	2	<10	<2	0.1	11	24	<5
SUP-91 L12+00S 6+00E	Soil	--	<5	<0.1	18	<2	66	11	<5	<3	1	<10	<2	0.1	8	17	<5
SUP-91 L12+00S 6+50E	Soil	--	<5	0.5	61	<2	82	6	<5	<3	1	<10	<2	0.4	7	22	<5
SUP-91 L12+00S 8+00E	Soil	--	<5	<0.1	21	<2	42	9	<5	<3	1	<10	<2	<0.1	8	18	<5
SUP-91 L12+00S 8+50E	Soil	--	<5	<0.1	24	<2	46	5	<5	<3	1	<10	<2	<0.1	9	18	<5
SUP-91 L12+00S 0+50W	Soil	--	<5	0.1	21	<2	252	13	<5	<3	2	<10	<2	1.1	16	31	<5

Minimum Detection 5 5 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 5
 Maximum Detection 10000 10000 100.0 20000 20000 20000 10000 1000 10000 1000 1000 10000 10000.0 10000 10000 1000
 Method FA/AAS GeoSp ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP
 -- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
 Vancouver, B.C.
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Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L10+00N 3+00W	97	42	86	365	7	44	1	3	0.09	1.34	0.70	2.56	0.65	0.04	0.02	0.11
SUP-91 L10+00N 3+50W	81	48	109	250	6	31	2	3	0.09	1.89	0.44	3.64	0.64	0.05	0.02	0.18
SUP-91 L10+00N 4+00W	88	42	100	222	5	29	2	3	0.10	1.82	0.37	3.22	0.54	0.05	0.02	0.13
SUP-91 L10+00N 4+50W	108	58	114	226	4	29	2	3	0.11	2.35	0.32	3.91	0.77	0.07	0.02	0.10
SUP-91 L10+00N 5+00W	97	52	98	191	6	21	2	3	0.08	1.91	0.20	3.62	0.54	0.04	0.02	0.13
SUP-91 L10+00N 5+50W	93	50	107	215	5	26	2	4	0.11	2.22	0.30	3.56	0.59	0.04	0.02	0.12
SUP-91 L10+00N 6+00W	89	44	111	328	9	42	2	4	0.10	1.43	0.70	3.11	0.59	0.03	0.02	0.11
SUP-91 L10+00N 7+00W	53	31	66	178	6	33	1	2	0.11	1.15	0.49	1.83	0.57	0.03	0.02	0.08
SUP-91 L10+00N 7+50W	65	34	82	204	6	34	1	2	0.10	1.28	0.54	2.28	0.59	0.03	0.02	0.13
SUP-91 L10+00N 8+00W	75	40	76	290	7	33	2	3	0.10	1.54	0.49	2.46	0.84	0.04	0.02	0.08
SUP-91 L10+00N 8+50W	57	29	60	154	5	26	1	2	0.08	1.16	0.37	1.79	0.51	0.03	0.02	0.08
SUP-91 L10+00N 9+00W	70	35	69	181	6	27	2	2	0.08	1.46	0.37	2.25	0.59	0.03	0.02	0.08
SUP-91 L10+00N 9+50W	56	28	64	157	5	27	1	2	0.08	1.25	0.36	1.97	0.47	0.04	0.02	0.08
SUP-91 L10+00N 10+00W	75	34	78	203	6	31	1	2	0.09	1.62	0.41	2.56	0.56	0.04	0.02	0.13
SUP-91 L10+00N 10+50W	94	44	94	233	5	30	2	3	0.09	1.92	0.36	3.08	0.62	0.04	0.02	0.11
SUP-91 L10+00N 11+00W	73	47	95	224	6	29	2	3	0.10	1.99	0.37	3.07	0.63	0.04	0.02	0.11
SUP-91 L10+00N 11+50W	79	42	82	209	6	29	1	3	0.10	1.81	0.38	2.64	0.70	0.04	0.02	0.09
SUP-91 L10+00N 12+00W	90	54	112	261	7	35	2	4	0.11	1.84	0.43	3.49	0.67	0.04	0.02	0.13
SUP-91 L10+00N 12+50W	66	44	94	270	9	41	2	3	0.11	1.11	0.67	2.61	0.66	0.05	0.02	0.15
SUP-91 L10+00N 13+00W	71	45	98	308	9	48	2	4	0.11	1.02	0.77	2.82	0.63	0.05	0.03	0.15
SUP-91 L10+00N 13+50W	79	50	108	330	9	51	2	4	0.11	1.14	0.80	3.23	0.72	0.06	0.03	0.15
SUP-91 L10+00N 14+00W	68	48	87	391	8	47	1	3	0.10	1.08	0.73	2.75	0.71	0.05	0.03	0.14
SUP-91 L10+00N 14+50W	206	62	125	629	15	67	3	8	0.08	2.54	0.90	4.55	0.76	0.08	0.03	0.18
SUP-91 L12+00S 0+00E	106	51	132	294	5	46	3	4	0.12	2.41	0.40	4.16	0.81	0.06	0.02	0.15
SUP-91 L12+00S 0+50E	91	43	108	355	6	34	2	4	0.11	2.12	0.32	3.65	0.43	0.05	0.02	0.22
SUP-91 L12+00S 1+00E	133	52	158	315	5	72	5	5	0.12	3.10	0.37	>5.00	0.88	0.06	0.02	0.21
SUP-91 L12+00S 1+50E	97	43	124	270	5	38	3	4	0.09	2.84	0.30	4.29	0.61	0.06	0.02	0.27
SUP-91 L12+00S 2+00E	107	47	132	268	6	53	3	4	0.12	2.18	0.64	3.76	0.70	0.05	0.02	0.07
SUP-91 L12+00S 3+00E	251	44	59	1444	35	167	1	4	0.01	2.73	2.90	2.96	0.42	0.02	0.02	0.22
SUP-91 L12+00S 3+50E	94	38	88	379	7	54	2	4	0.10	1.46	0.62	2.66	0.69	0.04	0.02	0.10
SUP-91 L12+00S 4+00E	98	42	108	371	6	51	2	3	0.10	1.65	0.59	3.24	0.67	0.05	0.02	0.13
SUP-91 L12+00S 4+50E	71	30	77	232	6	41	2	3	0.11	1.31	0.58	2.15	0.69	0.04	0.02	0.10
SUP-91 L12+00S 5+00E	79	50	135	220	4	31	2	3	0.10	1.92	0.37	4.11	0.62	0.03	0.02	0.20
SUP-91 L12+00S 5+50E	84	38	117	337	5	36	2	3	0.10	1.96	0.36	3.53	0.68	0.05	0.02	0.10
SUP-91 L12+00S 6+00E	72	35	104	208	5	38	3	3	0.10	1.60	0.40	3.04	0.46	0.04	0.02	0.13
SUP-91 L12+00S 6+50E	157	28	49	491	10	148	<1	1	0.02	1.38	2.54	1.80	0.49	0.03	0.02	0.15
SUP-91 L12+00S 8+00E	74	32	75	178	6	43	2	3	0.10	1.51	0.49	2.33	0.50	0.03	0.02	0.10
SUP-91 L12+00S 8+50E	70	32	69	210	7	47	2	4	0.11	1.30	0.60	2.11	0.55	0.02	0.02	0.08
SUP-91 L12+00S 0+50W	69	39	87	323	4	25	3	3	0.10	2.01	0.30	2.98	0.52	0.04	0.02	0.13

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L12+00S 1+00W	Soil	--	<5	0.1	39	<2	427	20	<5	<3	6	<10	<2	1.2	19	53	<5
SUP-91 L12+00S 1+50W	Soil	--	<5	<0.1	47	<2	96	10	<5	<3	1	<10	<2	0.4	17	30	<5
SUP-91 L12+00S 2+00W	Soil	--	<5	<0.1	29	<2	103	11	<5	<3	1	<10	<2	0.2	14	26	<5
SUP-91 L12+00S 2+50W	Soil	--	<5	<0.1	61	<2	117	9	<5	<3	1	<10	<2	<0.1	27	55	<5
SUP-91 L12+00S 4+50W	Soil	--	<5	0.1	22	<2	54	8	<5	<3	1	<10	<2	0.1	9	17	<5
SUP-91 L12+00S 5+00W	Soil	--	<5	<0.1	29	<2	77	9	<5	<3	2	<10	<2	<0.1	13	20	<5
SUP-91 L12+00S 5+50W	Soil	--	<5	<0.1	30	<2	56	6	<5	<3	1	<10	<2	<0.1	10	18	<5
SUP-91 L12+00S 6+00W	Soil	--	<5	<0.1	29	<2	51	7	<5	<3	2	<10	<2	0.1	11	20	<5
SUP-91 L12+00S 6+50W	Soil	--	<5	<0.1	43	<2	51	8	<5	<3	2	<10	<2	<0.1	14	26	<5
SUP-91 L12+00S 7+00W	Soil	--	<5	<0.1	37	<2	62	8	<5	<3	1	<10	<2	0.1	14	26	<5
SUP-91 L12+00S 7+50W	Soil	--	<5	0.1	30	<2	88	12	<5	<3	2	<10	<2	0.3	12	25	<5
SUP-91 L12+00S 8+00W	Soil	--	<5	<0.1	37	<2	84	10	<5	<3	1	<10	<2	0.2	13	28	<5
SUP-91 L12+00S 8+50W	Soil	--	<5	<0.1	38	<2	84	9	<5	<3	1	<10	<2	0.2	13	28	<5
SUP-91 L12+00S 9+00W	Soil	--	20	<0.1	37	<2	79	11	<5	<3	1	<10	<2	0.3	15	27	<5
SUP-91 L12+00S 9+50W	Soil	--	<5	<0.1	41	<2	72	7	<5	<3	1	<10	<2	0.1	15	25	<5
SUP-91 L12+00S 10+00W	Soil	--	<5	<0.1	32	<2	66	8	<5	<3	2	<10	<2	0.2	12	22	<5
SUP-91 L12+00S 11+00W	Soil	--	<5	0.1	114	<2	78	10	<5	<3	2	<10	<2	0.3	17	28	<5
SUP-91 L12+00S 12+50W	Soil	--	<5	0.2	66	<2	75	19	<5	<3	4	<10	<2	0.8	17	28	<5
SUP-91 L12+00S 13+00W	Soil	--	<5	<0.1	26	<2	55	6	<5	<3	1	<10	<2	0.1	11	23	<5
SUP-91 L16+00S 0+00E	Soil	--	<5	<0.1	39	<2	49	13	<5	<3	1	<10	<2	<0.1	14	27	<5
SUP-91 L16+00S 0+50E	Soil	--	<5	<0.1	52	<2	55	12	<5	<3	2	<10	<2	0.1	16	31	<5
SUP-91 L16+00S 1+00E	Soil	--	<5	<0.1	15	<2	41	9	<5	<3	1	<10	<2	<0.1	6	11	<5
SUP-91 L16+00S 1+50E	Soil	--	<5	<0.1	23	2	43	10	<5	<3	1	<10	<2	<0.1	8	15	<5
SUP-91 L16+00S 2+00E	Soil	--	<5	<0.1	46	<2	61	13	<5	<3	2	<10	<2	0.1	18	40	<5
SUP-91 L16+00S 2+50E	Soil	--	<5	<0.1	29	<2	44	8	<5	<3	1	<10	<2	0.2	11	21	<5
SUP-91 L16+00S 3+00E	Soil	--	<5	<0.1	17	<2	51	<5	<5	<3	<1	<10	<2	0.1	4	8	<5
SUP-91 L16+00S 3+50E	Soil	--	<5	0.6	85	<2	69	<5	<5	<3	4	<10	<2	0.8	24	31	<5
SUP-91 L16+00S 4+00E	Soil	--	<5	<0.1	27	<2	46	7	<5	<3	1	<10	<2	<0.1	11	19	<5
SUP-91 L16+00S 4+50E	Soil	--	<5	<0.1	34	<2	35	6	<5	<3	1	<10	<2	<0.1	11	20	<5
SUP-91 L16+00S 5+00E	Soil	--	<5	<0.1	44	<2	46	12	<5	<3	1	<10	<2	<0.1	13	26	<5
SUP-91 L16+00S 5+50E	Soil	--	<5	<0.1	36	<2	45	11	<5	<3	1	<10	<2	<0.1	11	20	<5
SUP-91 L16+00S 6+00E	Soil	--	<5	<0.1	36	<2	41	11	<5	<3	1	<10	<2	<0.1	11	22	<5
SUP-91 L16+00S 6+50E	Soil	--	<5	<0.1	37	<2	44	11	<5	<3	1	<10	<2	0.1	13	24	<5
SUP-91 L16+00S 7+00E	Soil	--	<5	<0.1	30	<2	46	11	<5	<3	2	<10	<2	0.1	13	21	<5
SUP-91 L16+00S 7+50E	Soil	--	<5	<0.1	38	<2	58	11	<5	<3	1	<10	<2	<0.1	14	26	<5
SUP-91 L16+00S 8+00E	Soil	--	<5	<0.1	25	<2	50	15	5	<3	1	<10	<2	0.3	11	23	<5
SUP-91 L16+00S 8+50E	Soil	--	<5	<0.1	19	<2	80	11	<5	<3	1	<10	<2	0.2	13	21	<5
SUP-91 L16+00S 9+00E	Soil	--	<5	0.2	17	2	83	5	<5	<3	2	<10	<2	0.6	8	12	<5
SUP-91 L16+00S 9+50E	Soil	--	<5	0.4	51	<2	42	<5	<5	<3	2	<10	<2	0.3	11	10	<5

Minimum Detection	5	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	5
Maximum Detection	10000	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	1000
Method	FA/AAS	GeoSp	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



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Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L12+00S 1+00W	93	52	178	297	6	92	3	5	0.12	3.07	0.43	>5.00	0.83	0.05	0.02	0.11
SUP-91 L12+00S 1+50W	96	52	139	483	6	91	3	5	0.15	2.13	0.70	3.91	1.09	0.04	0.03	0.13
SUP-91 L12+00S 2+00W	55	47	106	239	7	33	4	4	0.12	2.37	0.36	3.72	0.65	0.05	0.02	0.21
SUP-91 L12+00S 2+50W	109	67	162	417	5	97	4	5	0.16	3.21	0.61	>5.00	1.42	0.06	0.02	0.17
SUP-91 L12+00S 4+50W	55	37	104	192	5	44	1	3	0.12	1.34	0.47	2.56	0.55	0.03	0.02	0.11
SUP-91 L12+00S 5+00W	73	38	101	246	7	44	1	3	0.13	1.82	0.51	2.78	0.70	0.04	0.02	0.10
SUP-91 L12+00S 5+50W	69	28	76	215	7	44	1	3	0.12	1.59	0.55	2.21	0.58	0.03	0.02	0.09
SUP-91 L12+00S 6+00W	73	33	98	211	7	44	1	3	0.11	1.70	0.51	2.74	0.64	0.03	0.02	0.10
SUP-91 L12+00S 6+50W	108	42	117	245	7	43	2	4	0.13	2.12	0.49	3.51	0.69	0.04	0.02	0.11
SUP-91 L12+00S 7+00W	99	40	107	242	8	37	2	4	0.12	2.19	0.43	3.56	0.68	0.05	0.02	0.10
SUP-91 L12+00S 7+50W	79	39	100	283	8	37	1	4	0.10	1.87	0.47	3.26	0.72	0.05	0.02	0.10
SUP-91 L12+00S 8+00W	73	44	108	301	8	56	1	4	0.12	2.03	0.65	3.39	0.86	0.06	0.03	0.13
SUP-91 L12+00S 8+50W	84	45	95	345	9	60	1	4	0.12	1.80	0.63	2.95	0.90	0.05	0.02	0.10
SUP-91 L12+00S 9+00W	79	44	121	396	10	63	2	4	0.15	1.80	0.81	3.40	0.87	0.06	0.03	0.14
SUP-91 L12+00S 9+50W	77	42	113	382	12	69	4	5	0.16	1.62	0.92	3.30	0.86	0.06	0.03	0.16
SUP-91 L12+00S 10+00W	62	37	110	352	8	56	1	4	0.13	1.52	0.75	3.04	0.73	0.05	0.02	0.14
SUP-91 L12+00S 11+00W	119	54	138	427	15	85	1	8	0.11	2.45	1.34	3.86	0.90	0.04	0.02	0.17
SUP-91 L12+00S 12+50W	109	64	303	526	8	54	1	5	0.13	2.44	0.71	>5.00	0.77	0.04	0.02	0.21
SUP-91 L12+00S 13+00W	67	43	85	305	9	51	3	4	0.13	1.29	0.70	2.56	0.69	0.04	0.03	0.13
SUP-91 L16+00S 0+00E	98	48	103	296	8	47	3	4	0.13	1.92	0.63	3.16	0.88	0.05	0.02	0.14
SUP-91 L16+00S 0+50E	121	51	106	315	8	48	2	4	0.13	2.25	0.62	3.31	0.93	0.05	0.02	0.12
SUP-91 L16+00S 1+00E	66	27	71	122	6	28	2	3	0.09	1.63	0.30	2.14	0.32	0.03	0.02	0.04
SUP-91 L16+00S 1+50E	96	29	75	155	7	35	1	3	0.11	1.83	0.37	2.06	0.42	0.04	0.02	0.05
SUP-91 L16+00S 2+00E	114	92	148	318	6	40	2	4	0.14	2.41	0.54	4.54	1.05	0.09	0.02	0.13
SUP-91 L16+00S 2+50E	91	39	90	242	6	44	1	3	0.12	1.72	0.52	2.75	0.60	0.04	0.02	0.10
SUP-91 L16+00S 3+00E	94	23	47	83	4	40	1	1	0.05	0.92	0.31	1.24	0.16	0.03	0.02	0.03
SUP-91 L16+00S 3+50E	207	72	150	2962	7	115	1	3	0.03	2.03	2.28	4.27	0.72	0.05	0.03	0.22
SUP-91 L16+00S 4+00E	76	33	86	203	7	47	1	3	0.11	1.66	0.61	2.43	0.57	0.03	0.02	0.10
SUP-91 L16+00S 4+50E	73	35	78	212	7	45	2	3	0.11	1.59	0.57	2.31	0.71	0.03	0.02	0.11
SUP-91 L16+00S 5+00E	84	39	89	222	7	39	3	4	0.11	1.93	0.51	2.88	0.71	0.04	0.02	0.11
SUP-91 L16+00S 5+50E	91	37	108	217	6	44	1	3	0.12	1.94	0.50	3.18	0.61	0.04	0.02	0.09
SUP-91 L16+00S 6+00E	80	37	98	216	7	38	1	4	0.10	1.94	0.48	3.08	0.55	0.04	0.02	0.09
SUP-91 L16+00S 6+50E	81	45	116	238	9	48	2	4	0.13	1.92	0.58	3.36	0.67	0.05	0.02	0.12
SUP-91 L16+00S 7+00E	76	45	128	252	7	47	2	4	0.13	1.87	0.61	3.72	0.56	0.05	0.02	0.16
SUP-91 L16+00S 7+50E	112	48	127	317	7	63	2	4	0.14	1.94	0.84	3.36	0.82	0.05	0.03	0.11
SUP-91 L16+00S 8+00E	57	46	139	223	5	38	2	3	0.12	1.70	0.43	4.17	0.58	0.04	0.02	0.11
SUP-91 L16+00S 8+50E	84	44	119	470	5	37	1	3	0.10	1.74	0.45	3.67	0.44	0.05	0.02	0.27
SUP-91 L16+00S 9+00E	123	34	118	212	3	43	1	2	0.16	0.79	0.57	2.65	0.28	0.06	0.02	0.04
SUP-91 L16+00S 9+50E	118	28	38	912	8	118	1	1	0.01	0.97	2.04	1.66	0.22	0.03	0.01	0.16

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample

Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L16+00S 0+50W	Soil	--	<5	<0.1	42	<2	55	15	<5	<3	1	<10	<2	0.2	13	28	<5
SUP-91 L16+00S 1+00W	Soil	--	<5	<0.1	33	<2	47	7	<5	<3	1	<10	<2	<0.1	12	21	<5
SUP-91 L16+00S 1+50W	Soil	--	<5	<0.1	47	<2	51	8	<5	<3	1	<10	<2	0.2	13	27	<5
SUP-91 L16+00S 2+00W	Soil	--	<5	<0.1	33	<2	60	12	<5	<3	2	<10	<2	0.1	13	24	<5
SUP-91 L16+00S 2+50W	Soil	--	<5	0.2	39	2	34	<5	<5	<3	1	<10	<2	0.1	3	9	<5
SUP-91 L16+00S 3+00W	Soil	--	<5	<0.1	20	2	42	7	<5	<3	1	<10	<2	<0.1	9	21	<5
SUP-91 L16+00S 3+50W	Soil	--	<5	<0.1	18	<2	48	10	<5	<3	1	<10	<2	<0.1	12	24	<5
SUP-91 L16+00S 4+00W	Soil	--	<5	<0.1	20	<2	44	7	<5	<3	1	<10	<2	<0.1	8	17	<5
SUP-91 L16+00S 4+50W	Soil	--	<5	<0.1	20	<2	33	10	<5	<3	<1	<10	<2	0.1	10	20	<5
SUP-91 L16+00S 5+00W	Soil	--	10	<0.1	36	<2	80	10	<5	<3	1	<10	<2	0.3	14	27	<5
SUP-91 L16+00S 5+50W	Soil	--	<5	<0.1	28	<2	54	14	<5	<3	1	<10	<2	0.2	13	24	<5
SUP-91 L16+00S 6+00W	Soil	--	<5	<0.1	28	<2	33	7	<5	<3	<1	<10	<2	<0.1	8	15	<5
SUP-91 L16+00S 6+50W	Soil	--	<5	<0.1	22	<2	42	8	<5	<3	1	<10	<2	0.1	10	18	<5
SUP-91 L16+00S 7+00W	Soil	--	<5	<0.1	25	<2	41	5	<5	<3	<1	<10	<2	<0.1	9	17	<5
SUP-91 L16+00S 7+50W	Soil	--	<5	<0.1	22	<2	49	6	<5	<3	1	<10	<2	<0.1	10	21	<5
SUP-91 L16+00S 8+00W	Soil	--	<5	<0.1	25	<2	38	6	<5	<3	1	<10	<2	<0.1	10	19	<5
SUP-91 L16+00S 8+50W	Soil	--	<5	<0.1	18	<2	41	5	<5	<3	1	<10	<2	<0.1	8	14	<5
SUP-91 L16+00S 9+00W	Soil	--	<5	<0.1	25	<2	33	6	<5	<3	1	<10	<2	<0.1	9	18	<5
SUP-91 L16+00S 9+50W	Soil	--	<5	<0.1	26	<2	55	8	<5	<3	1	<10	<2	0.1	11	20	<5
SUP-91 L16+00S 10+00W	Soil	--	<5	<0.1	23	2	46	6	<5	<3	<1	<10	<2	<0.1	9	17	<5
SUP-91 L16+00S 10+50W	Soil	--	<5	<0.1	30	2	42	7	<5	<3	1	<10	<2	<0.1	9	21	<5
SUP-91 L20+00S 0+50E	Soil	--	<5	<0.1	31	<2	48	10	<5	<3	1	<10	<2	0.1	13	19	<5
SUP-91 L20+00S 1+00E	Soil	--	<5	<0.1	18	<2	54	13	<5	<3	1	<10	<2	0.4	11	19	<5
SUP-91 L20+00S 1+50E	Soil	--	<5	0.2	25	<2	74	9	<5	<3	1	<10	<2	0.4	12	18	<5
SUP-91 L20+00S 2+00E	Soil	--	<5	<0.1	21	<2	66	8	<5	<3	1	<10	<2	<0.1	12	18	<5
SUP-91 L20+00S 2+50E	Soil	--	<5	<0.1	31	<2	55	9	<5	<3	1	<10	<2	0.1	13	24	<5
SUP-91 L20+00S 3+00E	Soil	--	<5	<0.1	32	<2	53	12	<5	<3	1	<10	<2	<0.1	13	24	<5
SUP-91 L20+00S 3+50E	Soil	--	<5	<0.1	18	<2	37	7	<5	<3	1	<10	<2	<0.1	7	13	<5
SUP-91 L20+00S 4+00E	Soil	--	<5	<0.1	15	<2	35	7	<5	<3	<1	<10	<2	<0.1	5	9	<5
SUP-91 L20+00S 4+50E	Soil	--	<5	<0.1	46	<2	82	11	<5	<3	2	<10	<2	0.2	19	29	<5
SUP-91 L20+00S 5+00E	Soil	--	<5	<0.1	29	<2	52	11	<5	<3	2	<10	<2	0.2	14	21	<5
SUP-91 L20+00S 5+50E	Soil	--	<5	0.1	40	<2	50	11	<5	<3	1	<10	<2	0.1	11	22	<5
SUP-91 L20+00S 6+50E	Soil	--	<5	<0.1	43	<2	57	16	<5	<3	1	<10	<2	<0.1	15	30	<5
SUP-91 L20+00S 7+00E	Soil	--	<5	<0.1	23	<2	79	20	<5	<3	>1	<10	<2	0.1	12	21	<5
SUP-91 L20+00S 7+50E	Soil	--	<5	<0.1	32	<2	92	18	<5	<3	1	<10	<2	0.2	16	41	<5
SUP-91 L20+00S 8+00E	Soil	--	<5	<0.1	28	<2	86	17	5	<3	1	<10	<2	0.2	12	23	<5
SUP-91 L20+00S 8+50E	Soil	--	<5	0.1	53	<2	58	13	<5	<3	2	<10	<2	0.1	15	29	<5
SUP-91 L20+00S 9+00E	Soil	--	<5	<0.1	26	<2	39	6	<5	<3	1	<10	<2	<0.1	10	19	<5
SUP-91 L20+00S 9+50E	Soil	--	<5	<0.1	24	<2	62	10	<5	<3	1	<10	<2	<0.1	10	20	<5

Minimum Detection	5	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	5
Maximum Detection	10000	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	1000
Method	FA/AAS	GeoSp	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

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Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L16+00S 0+50W	107	46	97	280	7	41	2	4	0.10	2.07	0.54	3.12	0.84	0.06	0.02	0.13
SUP-91 L16+00S 1+00W	81	37	83	353	9	50	1	4	0.10	1.31	0.67	2.61	0.67	0.05	0.02	0.12
SUP-91 L16+00S 1+50W	104	43	82	417	9	48	1	4	0.09	1.54	0.64	2.71	0.74	0.04	0.02	0.10
SUP-91 L16+00S 2+00W	89	46	107	452	7	43	1	3	0.09	1.56	0.56	3.23	0.83	0.05	0.02	0.11
SUP-91 L16+00S 2+50W	76	6	15	566	5	120	1	1	0.01	0.59	3.33	0.62	0.28	0.02	0.01	0.10
SUP-91 L16+00S 3+00W	80	30	81	207	7	45	1	3	0.11	1.53	0.64	2.03	0.69	0.04	0.02	0.13
SUP-91 L16+00S 3+50W	87	41	90	304	4	24	3	3	0.09	1.61	0.29	2.94	0.47	0.03	0.02	0.09
SUP-91 L16+00S 4+00W	85	28	75	184	7	31	1	3	0.08	1.48	0.32	2.47	0.44	0.04	0.02	0.07
SUP-91 L16+00S 4+50W	67	37	84	191	5	30	1	3	0.08	1.41	0.31	2.68	0.42	0.03	0.02	0.10
SUP-91 L16+00S 5+00W	99	47	94	287	7	33	1	3	0.08	1.76	0.35	3.19	0.59	0.05	0.02	0.12
SUP-91 L16+00S 5+50W	84	44	106	190	5	35	3	4	0.09	2.14	0.29	3.40	0.51	0.03	0.02	0.14
SUP-91 L16+00S 6+00W	79	30	79	185	8	52	2	4	0.09	1.13	0.53	2.20	0.49	0.03	0.02	0.12
SUP-91 L16+00S 6+50W	84	31	85	215	8	48	2	3	0.09	1.26	0.57	2.37	0.56	0.03	0.02	0.11
SUP-91 L16+00S 7+00W	74	32	77	241	9	59	2	4	0.11	1.10	0.69	2.26	0.57	0.03	0.03	0.15
SUP-91 L16+00S 7+50W	71	33	72	228	7	52	2	3	0.10	1.29	0.57	2.16	0.63	0.04	0.02	0.08
SUP-91 L16+00S 8+00W	74	35	82	285	9	56	2	4	0.10	1.17	0.68	2.43	0.57	0.04	0.03	0.12
SUP-91 L16+00S 8+50W	69	24	68	174	6	43	1	3	0.09	1.26	0.48	1.93	0.44	0.04	0.02	0.09
SUP-91 L16+00S 9+00W	70	35	84	196	9	56	2	3	0.10	1.05	0.65	2.39	0.53	0.02	0.02	0.15
SUP-91 L16+00S 9+50W	87	32	88	194	7	48	2	3	0.10	1.70	0.54	2.65	0.60	0.05	0.02	0.13
SUP-91 L16+00S 10+00W	81	27	62	183	7	37	1	3	0.08	1.30	0.46	1.95	0.55	0.03	0.02	0.06
SUP-91 L16+00S 10+50W	83	40	68	280	9	48	2	4	0.10	1.14	0.65	2.30	0.63	0.04	0.02	0.13
SUP-91 L20+00S 0+50E	86	37	96	259	7	38	1	3	0.10	1.71	0.45	2.89	0.58	0.04	0.02	0.11
SUP-91 L20+00S 1+00E	58	43	123	180	4	21	3	4	0.09	2.14	0.27	3.80	0.36	0.04	0.02	0.17
SUP-91 L20+00S 1+50E	90	40	101	213	6	33	3	4	0.10	2.01	0.36	3.09	0.48	0.04	0.02	0.18
SUP-91 L20+00S 2+00E	67	35	91	308	7	50	1	3	0.13	1.66	0.62	2.29	0.72	0.04	0.02	0.10
SUP-91 L20+00S 2+50E	94	42	103	198	6	33	3	3	0.11	2.21	0.35	3.47	0.55	0.04	0.02	0.08
SUP-91 L20+00S 3+00E	94	47	97	214	6	33	4	4	0.10	2.32	0.35	3.14	0.62	0.04	0.02	0.09
SUP-91 L20+00S 3+50E	80	25	67	116	6	30	1	3	0.09	1.60	0.30	1.82	0.35	0.03	0.02	0.04
SUP-91 L20+00S 4+00E	79	19	60	119	4	26	1	2	0.08	1.39	0.26	1.78	0.35	0.03	0.02	0.05
SUP-91 L20+00S 4+50E	163	51	130	686	9	50	2	5	0.10	2.06	0.62	3.69	0.74	0.04	0.02	0.13
SUP-91 L20+00S 5+00E	66	70	136	397	6	59	2	3	0.12	1.46	0.93	3.62	0.92	0.07	0.04	0.11
SUP-91 L20+00S 5+50E	86	36	96	217	6	38	1	3	0.10	1.81	0.52	2.76	0.69	0.04	0.02	0.09
SUP-91 L20+00S 6+50E	87	59	114	174	4	23	3	4	0.17	2.78	0.31	3.65	0.90	0.04	0.01	0.12
SUP-91 L20+00S 7+00E	79	44	124	194	5	28	3	4	0.12	2.66	0.32	4.14	0.53	0.05	0.02	0.18
SUP-91 L20+00S 7+50E	85	59	127	283	5	38	3	4	0.12	2.86	0.44	4.54	0.76	0.05	0.02	0.33
SUP-91 L20+00S 8+00E	68	45	108	320	5	29	2	4	0.09	2.75	0.37	3.85	0.49	0.05	0.02	0.26
SUP-91 L20+00S 8+50E	198	43	103	588	9	65	1	4	0.06	2.06	0.99	3.05	0.59	0.05	0.02	0.10
SUP-91 L20+00S 9+00E	60	43	81	242	7	40	1	3	0.11	1.19	0.61	2.37	0.65	0.04	0.02	0.12
SUP-91 L20+00S 9+50E	82	32	74	184	5	35	1	3	0.09	1.60	0.48	2.15	0.61	0.04	0.02	0.06

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

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Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 L20+00S 10+00E	Soil	--	<5	<0.1	18	<2	43	8	<5	<3	1	<10	<2	<0.1	9	16	<5
SUP-91 L25+00S 2+50E	Soil	--	<5	0.1	26	<2	85	13	<5	<3	1	<10	<2	0.1	14	26	<5
SUP-91 L25+00S 3+00E	Soil	--	<5	0.1	33	<2	67	13	<5	<3	1	<10	<2	<0.1	10	23	<5
SUP-91 L25+00S 4+50E	Soil	--	<5	<0.1	37	<2	45	10	<5	<3	1	<10	<2	<0.1	17	30	<5
SUP-91 L25+00S 5+00E	Soil	--	<5	<0.1	25	<2	31	9	<5	<3	1	<10	<2	<0.1	10	18	<5
SUP-91 L25+00S 5+50E	Soil	--	<5	<0.1	25	<2	30	8	<5	<3	<1	<10	<2	<0.1	10	18	<5
SUP-91 L25+00S 6+00E	Soil	--	<5	0.1	28	<2	78	9	<5	<3	1	<10	<2	<0.1	12	24	<5
SUP-91 L25+00S 6+50E	Soil	--	<5	0.1	37	<2	71	11	<5	<3	1	<10	<2	<0.1	13	27	<5
SUP-91 L25+00S 7+00E	Soil	--	<5	0.1	38	<2	78	9	<5	<3	1	<10	<2	<0.1	14	29	<5
SUP-91 L25+00S 7+50E	Soil	--	<5	0.2	40	<2	93	10	<5	<3	1	<10	<2	0.4	17	30	<5
SUP-91 L25+00S 8+00E	Soil	--	<5	0.2	57	<2	82	11	<5	<3	2	<10	<2	0.3	16	31	<5
SUP-91 L25+00S 8+50E	Soil	--	<5	0.1	35	<2	69	8	<5	<3	2	<10	<2	0.2	13	23	<5
SUP-91 L25+00S 1+00W	Soil	--	<5	<0.1	57	<2	44	9	<5	<3	1	<10	<2	<0.1	13	24	<5
SUP-91 L25+00S 1+50W	Soil	--	<5	<0.1	55	<2	50	9	<5	<3	1	<10	<2	0.1	14	26	<5
SUP-91 L25+00S 2+00W	Soil	--	<5	<0.1	36	<2	42	9	<5	<3	1	<10	<2	<0.1	13	21	<5
SUP-91 L25+00S 2+50W	Soil	--	<5	<0.1	38	<2	39	8	<5	<3	1	<10	<2	<0.1	11	19	<5
SUP-91 L25+00S 3+00W	Soil	--	<5	<0.1	61	<2	47	12	<5	<3	1	<10	<2	<0.1	16	30	<5
SUP-91 L25+00S 3+50W	Soil	--	<5	<0.1	56	<2	49	9	<5	<3	1	<10	<2	<0.1	16	29	<5
SUP-91 L25+00S 4+00W	Soil	--	<5	<0.1	38	<2	46	8	<5	<3	3	<10	<2	0.1	13	21	<5
SUP-91 L25+00S 4+50W	Soil	--	<5	<0.1	56	<2	45	10	<5	<3	1	<10	<2	0.1	14	24	<5
SUP-91 L25+00S 5+00W	Soil	--	<5	0.2	50	<2	60	8	<5	<3	2	<10	<2	<0.1	15	24	<5
SUP-91 L25+00S 5+50W	Soil	--	<5	<0.1	35	<2	45	8	<5	<3	1	<10	<2	0.1	12	18	<5
SUP-91 L25+00S 6+00W	Soil	--	<5	<0.1	64	<2	38	10	<5	<3	1	<10	<2	<0.1	14	27	<5
SUP-91 L25+00S 6+50W	Soil	--	<5	<0.1	51	<2	50	10	<5	<3	<1	<10	<2	<0.1	14	22	<5
SUP-91 L25+00S 7+00W	Soil	--	<5	<0.1	118	<2	62	14	7	5	3	<10	<2	<0.1	31	50	<5
SUP-91 L25+00S 9+00W	Soil	--	<5	<0.1	42	<2	39	7	<5	<3	2	<10	<2	0.1	11	19	<5
SUP-91 L25+00S 9+50W	Soil	--	<5	<0.1	36	<2	50	12	<5	<3	1	<10	<2	0.1	13	25	<5
SUP-91 L25+00S 10+00W	Soil	--	<5	0.2	32	<2	68	9	<5	<3	1	<10	<2	0.3	13	20	<5
SUP-91 L25+00S 10+50W	Soil	--	<5	0.1	22	<2	26	8	<5	<3	1	<10	<2	0.1	9	16	<5
SUP-91 L25+00S 11+00W	Soil	--	10	0.1	22	<2	32	9	<5	<3	1	<10	<2	0.2	9	18	<5
SUP-91 L25+00S 11+50W	Soil	--	<5	0.2	16	<2	36	6	<5	<3	1	<10	3	<0.1	9	13	<5
SUP-91 L25+00S 12+00W	Soil	--	<5	0.2	21	<2	60	10	<5	<3	1	<10	<2	0.2	10	14	<5
SUP-91 L25+00S 12+50W	Soil	--	<5	0.2	22	<2	43	10	<5	<3	1	<10	<2	0.1	10	17	<5
SUP-91 KL01	Silt	--	5	0.1	30	<2	54	<5	<5	<3	2	>10	<2	1.5	15	20	>5
SUP-91 KL02	Silt	--	5	0.1	33	<2	48	9	<5	<3	1	<10	<2	<0.1	12	22	<5
SUP-91 KL03	Silt	--	<5	0.2	27	<2	50	5	<5	<3	1	>10	<2	0.2	14	26	>5
SUP-91 NL02	Silt	--	<5	<0.1	21	<2	43	7	<5	<3	2	>10	<2	0.2	12	15	>5
SUP-91 NL03	Silt	--	<5	<0.1	40	<2	50	5	<5	<3	2	>10	<2	0.5	18	28	>5
SUP-91 NL04	Silt	--	<5	<0.1	40	<2	47	7	5	<3	1	>10	<2	0.4	18	27	>5

Minimum Detection	5	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	5
Maximum Detection	10000	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	1000
Method	FA/AAS	GeoSp	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample

Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 L20+00S 10+00E	54	29	75	197	5	28	2	2	0.09	1.17	0.44	2.07	0.55	0.03	0.02	0.08
SUP-91 L25+00S 2+50E	73	49	97	254	5	18	2	4	0.09	2.30	0.20	3.66	0.52	0.04	0.02	0.20
SUP-91 L25+00S 3+00E	89	50	88	165	6	24	1	4	0.08	2.41	0.26	3.12	0.48	0.05	0.02	0.14
SUP-91 L25+00S 4+50E	100	56	124	299	6	37	1	3	0.18	1.87	0.79	3.48	1.03	0.04	0.03	0.09
SUP-91 L25+00S 5+00E	68	36	75	202	8	42	2	3	0.11	1.28	0.56	2.15	0.58	0.03	0.02	0.10
SUP-91 L25+00S 5+50E	88	34	70	172	8	42	2	3	0.11	1.44	0.56	1.86	0.53	0.03	0.02	0.11
SUP-91 L25+00S 6+00E	92	53	88	254	8	29	1	5	0.12	2.90	0.34	2.91	1.37	0.05	0.02	0.10
SUP-91 L25+00S 6+50E	101	42	74	207	5	29	3	4	0.10	2.46	0.36	2.50	0.67	0.05	0.02	0.10
SUP-91 L25+00S 7+00E	113	47	89	371	7	43	2	5	0.11	1.86	0.61	2.85	0.78	0.04	0.03	0.07
SUP-91 L25+00S 7+50E	139	48	92	672	9	49	1	5	0.09	1.95	0.65	3.03	0.81	0.05	0.03	0.10
SUP-91 L25+00S 8+00E	121	53	111	518	8	44	2	5	0.09	2.20	0.68	3.60	0.89	0.05	0.03	0.07
SUP-91 L25+00S 8+50E	98	42	85	328	8	47	1	4	0.10	1.55	0.70	2.70	0.76	0.04	0.03	0.08
SUP-91 L25+00S 1+00W	81	47	106	391	9	73	3	5	0.11	1.39	0.88	3.30	0.86	0.05	0.03	0.15
SUP-91 L25+00S 1+50W	84	51	117	340	9	65	2	5	0.11	1.54	0.83	3.46	0.81	0.05	0.03	0.14
SUP-91 L25+00S 2+00W	70	41	96	252	7	61	2	4	0.13	1.62	0.67	2.67	0.78	0.03	0.03	0.12
SUP-91 L25+00S 2+50W	69	39	93	223	9	62	3	4	0.12	1.42	0.73	2.53	0.68	0.03	0.03	0.14
SUP-91 L25+00S 3+00W	112	50	106	241	7	50	3	4	0.11	2.23	0.64	3.19	0.83	0.04	0.02	0.14
SUP-91 L25+00S 3+50W	102	57	134	251	6	49	3	4	0.10	2.11	0.58	3.89	0.85	0.04	0.02	0.14
SUP-91 L25+00S 4+00W	68	40	94	235	7	46	2	3	0.11	1.53	0.59	2.70	0.75	0.03	0.02	0.10
SUP-91 L25+00S 4+50W	84	48	129	256	8	51	3	4	0.11	1.79	0.63	3.51	0.79	0.04	0.02	0.14
SUP-91 L25+00S 5+00W	106	44	101	325	8	53	1	4	0.09	1.79	0.69	3.09	0.78	0.04	0.02	0.11
SUP-91 L25+00S 5+50W	58	40	98	312	7	51	2	3	0.11	1.30	0.69	2.76	0.80	0.03	0.02	0.14
SUP-91 L25+00S 6+00W	98	54	103	283	6	48	4	4	0.10	1.72	0.59	3.19	0.85	0.03	0.02	0.14
SUP-91 L25+00S 6+50W	75	50	111	348	8	57	3	5	0.13	1.43	0.74	3.17	0.95	0.04	0.02	0.13
SUP-91 L25+00S 7+00W	51	153	153	704	4	41	7	7	0.16	2.32	0.71	>5.00	1.98	0.03	0.02	0.13
SUP-91 L25+00S 9+00W	58	31	81	361	9	51	2	4	0.09	1.05	0.61	2.47	0.61	0.05	0.02	0.12
SUP-91 L25+00S 9+50W	76	42	111	235	7	39	2	3	0.10	1.91	0.41	3.47	0.63	0.07	0.02	0.15
SUP-91 L25+00S 10+00W	54	44	151	268	6	29	2	3	0.07	1.89	0.39	4.39	0.46	0.05	0.02	0.27
SUP-91 L25+00S 10+50W	52	35	106	152	6	29	1	2	0.08	1.24	0.32	3.06	0.36	0.03	0.02	0.12
SUP-91 L25+00S 11+00W	54	35	100	165	6	33	1	2	0.07	1.58	0.39	3.24	0.41	0.03	0.02	0.11
SUP-91 L25+00S 11+50W	44	30	120	240	5	38	1	2	0.08	0.91	0.43	3.12	0.42	0.03	0.02	0.10
SUP-91 L25+00S 12+00W	63	34	112	274	6	27	1	3	0.07	1.65	0.31	3.53	0.34	0.03	0.01	0.23
SUP-91 L25+00S 12+50W	56	36	96	187	6	25	1	2	0.08	1.55	0.26	3.08	0.41	0.04	0.02	0.11
SUP-91 KL01	118	37	85	1807	7	71	1	3	0.06	1.47	1.19	3.37	0.58	0.04	0.02	0.16
SUP-91 KL02	101	44	75	352	7	60	1	4	0.08	1.83	0.92	2.30	0.70	0.04	0.02	0.12
SUP-91 KL03	83	37	82	891	8	52	1	3	0.08	1.33	0.93	2.71	0.64	0.04	0.02	0.16
SUP-91 NL02	63	35	88	830	8	44	1	3	0.09	1.02	0.72	3.23	0.59	0.06	0.03	0.18
SUP-91 NL03	96	54	133	2017	8	68	1	4	0.10	1.44	0.88	4.29	0.87	0.08	0.04	0.15
SUP-91 NL04	74	52	132	1448	7	57	2	3	0.10	1.36	0.85	4.22	0.91	0.08	0.04	0.16

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample

Report: 9100233 R Reliance Geological Services Ltd.

Project: None Given

Page 7 of 7

Section 1 of 2

Sample Name	Type	Au ppb	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	W ppm
SUP-91 NL05	Silt	--	<5	0.1	45	<2	50	8	<5	<3	4	<10	<2	0.6	19	29	<5
SUP-91 NL06	Silt	--	<5	0.1	34	<2	51	7	<5	<3	2	<10	<2	0.3	15	28	<5
SUP-91 KR01	Rock	<5	--	<0.1	97	<2	103	7	<5	<3	1	<10	<2	0.2	37	48	<5
SUP-91 KR02	Rock	<5	--	0.1	66	<2	61	5	<5	<3	2	<10	<2	0.3	19	9	<5

Minimum Detection	5	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	5
Maximum Detection	10000	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	1000
Method	FA/AAS	GeoSp	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
-- = Not Analysed	ReC = ReCheck in progress	ins = Insufficient Sample														



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 Vancouver, B.C.
 Canada V5Y 3E1
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 Fax (604) 879-7898

Sample Name	Ba ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SUP-91 NL05	104	41	142	1915	8	84	<1	3	0.09	1.56	0.83	4.61	0.71	0.07	0.03	0.12
SUP-91 NL06	58	47	96	560	9	69	1	4	0.09	1.48	0.84	3.35	1.00	0.08	0.03	0.17
SUP-91 KR01	43	35	182	1003	4	27	25	9	0.39	3.66	2.32	>5.00	2.88	0.06	0.04	0.10
SUP-91 KR02	67	51	123	912	7	43	10	4	0.22	1.99	1.44	4.54	1.11	0.17	0.09	0.15

Minimum Detection	2	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed ReC = ReCheck in progress ins = Insufficient Sample



2036 Columbia Street
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Method of Gold analysis by Fire Assay / AAS

- (a) 20.0 to 30.0 grams of sample is mixed with a combination of fluxes in a fusion pot. The sample is then fused at high temperature to form a lead "button".
- (b) The precious metals are extracted by cupellation. Any Silver is dissolved by nitric acid and decanted. The gold bead is then dissolved in boiling concentrated aqua regia solution heated by a hot water bath.
- (c) The gold in solution is determined with an Atomic Absorption Spectrometer. The gold value, in parts per billion, is calculated by comparison with a set of known gold standards.

QUALITY CONTROL

Every fusion of 24 pots contains 22 samples, one internal standard or blank, and a random reweigh of one of the samples. Samples with anomalous gold values greater than 500 ppb are automatically checked by Fire Assay/AA methods. Samples with gold values greater than 10000 ppb are automatically checked by Fire Assay/Gravimetric methods.

Method of ICP Multi-element Analyses

- (a) 0.50 grams of sample is digested with diluted aqua regia solution by heating in a hot water bath for 90 minutes, then cooled, bulked up to a fixed volume with demineralized water, and thoroughly mixed.
- (b) The specific elements are determined using an Inductively Coupled Argon Plasma spectrophotometer. All elements are corrected for inter-element interference. All data are subsequently stored onto computer diskette.
- * Aqua regia leaching is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

QUALITY CONTROL

The machine is calibrated using six known standards and a blank. Another blank, which was digested with the samples, and a standard are tested before any samples to confirm the calibration. A maximum of 20 samples are analysed, and then a standard, also digested with the samples, is run. A known standard with characteristics best matching the samples is chosen and tested. Another 20 samples are analysed, with the last one being a random reweigh of one of the samples. The standard used at the beginning is rerun. This procedure is repeated for all of the samples.

APPENDIX C

GEOPHYSICAL SURVEY SPECIFICATIONS

**REPORT ON A
COMBINED HELICOPTER-BORNE
MAGNETIC AND VLF SURVEY
FORT ST. JAMES
BRITISH COLUMBIA**

FOR

RELIANCE GEOLOGICAL SERVICES INC.

BY

**AERODAT LIMITED
3883 NASHUA DRIVE
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L4V 1R3
PHONE: 416 - 671-2446**

August 7, 1991

J9143

Ron Steiner

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APPENDIX I	- Personnel	
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LIST OF MAPS

Basic Maps: (As described under Appendix B of the Contract)

1. **TOPOGRAPHIC BASE MAP;** As required by Reliance.
2. **FLIGHT LINE MAP;** Showing all flight lines and fiducials with the base map.
3. **TOTAL FIELD MAGNETIC CONTOURS;** Showing magnetic values corrected of all diurnal variation with flight lines, fiducials, and base map.
4. **VERTICAL MAGNETIC GRADIENT CONTOURS;** Showing magnetic gradient values calculated from the total field magnetics with flight lines, fiducials and base map.
5. **VLF-EM TOTAL FIELD CONTOURS;** Showing VLF total field response from the line transmitter with flight lines, fiducials, and base map.

**REPORT ON A
COMBINED HELICOPTER-BORNE
MAGNETIC AND VLF SURVEY
FORT ST. JAMES
BRITISH COLUMBIA**

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Reliance Geological Services Inc. Equipment operated during the survey included a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera, radar altimeter, and an electronic positioning system. Magnetic and altimeter data were recorded both in digital and analog forms. Positioning data was stored in digital form, encoded on VHS format video tape and recorded at regular intervals in local UTM coordinates, as well as being marked on the flight path mosaic by the operator while in flight.

The survey is located approximately 100 kilometres north of Fort. St. James, British Columbia. Data from one (1) flight was used to compile the survey results. The flight lines were oriented at an angle of 90 degrees, with a nominal line spacing of 100 metres (according to Appendix "A" of the Contract). Geophysical information is provided in the form of maps at 1:10,000. Coverage and data quality were considered to be well within the specifications described in the service contract.

The purpose of the survey was to record airborne geophysical data over ground that is of interest to Reliance Geological Services Inc.

The survey encompasses approximately 120 line kilometres of the recorded data that were compiled in a map form at a scale of 1:10,000. The maps are presented as part of this report according to specifications laid out by Reliance Geological Services Inc.

2. SURVEY AREA LOCATION

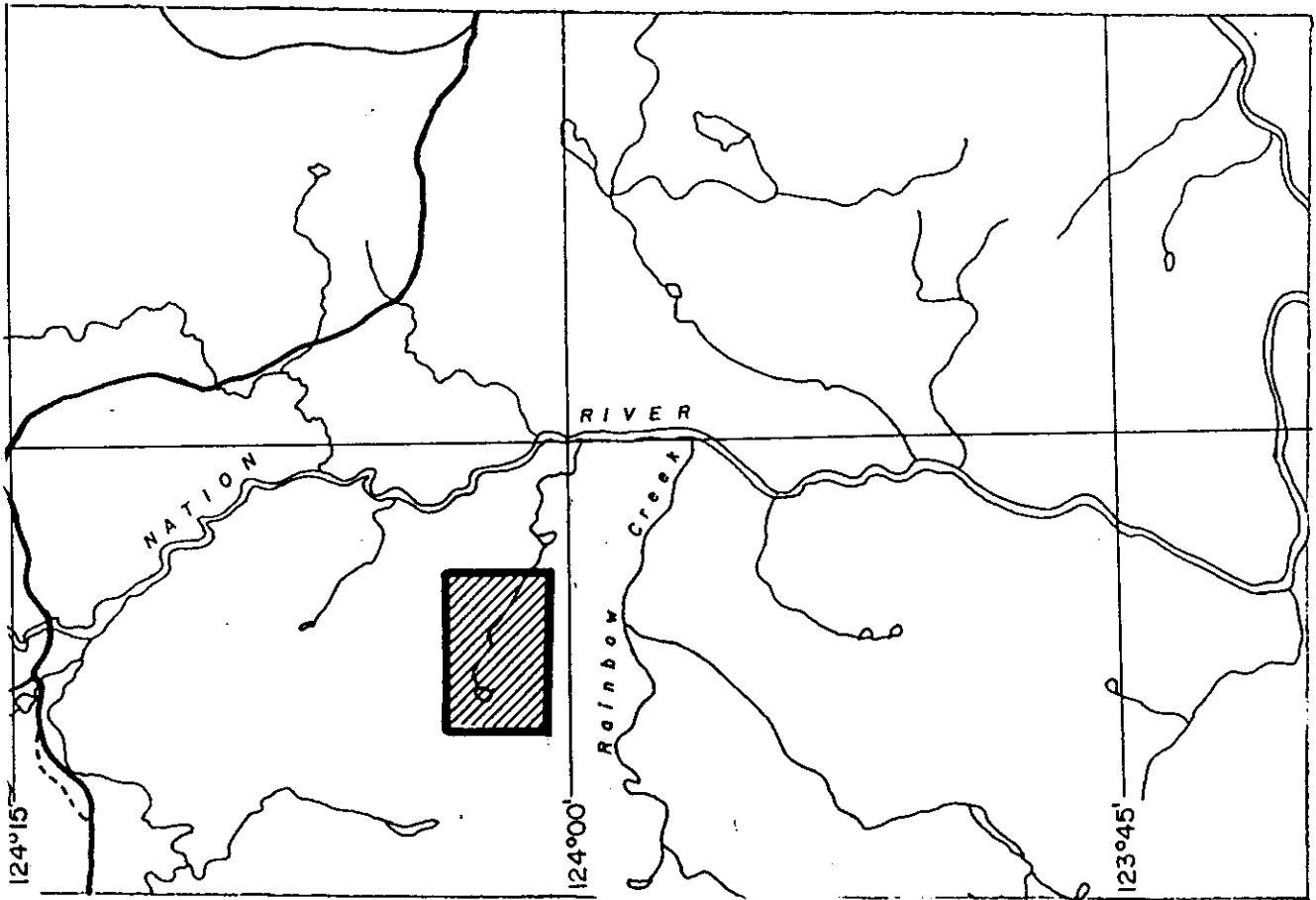
The survey area is depicted on the following index map.

The area is centered at approximate geographic latitude 55 degrees 13 minutes North, longitude 124 degrees 2 minutes West.

3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

A Lama helicopter, (C-GXYM), piloted by Del Rokosh, owned and operated by Peace



LOCATION MAP

**HELICOPTERBORNE MAGNETIC AND VLF SURVEY
FORT ST. JAMES
BRITISH COLUMBIA**

on behalf of
RELIANCE GEOLOGICAL SERVICES INC.

BY

**AERODAT LIMITED
J9143**

Helicopters Limited, was used for the survey. Pierre Moisan of Aerodat acted as navigator and equipment operator. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey aircraft was flown at a mean terrain clearance of 60 metres.

3.2 VLF-EM System

The VLF-EM System was a Herz Totem 2A. This instrument measures the total field and quadrature component of the selected frequency. The sensor was towed in a bird 30 metres below the helicopter.

3.3 Magnetometer System

The magnetometer employed was a Scintrex Model VIW 2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas. The sensor was towed in a bird 30 metres below the helicopter.

3.4 Ancillary Systems

Base Station Magnetometer

An IFG-2 proton precession magnetometer was operated at the base of operations to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to facilitate later correlation.

Altimeter System

A King KRA-10 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

Tracking Camera

A Panasonic colour video flight path recording system was used to record flight path on standard VHS format video tapes. The system was operated in continuous mode and the flight number, real time and manual fiducials were registered on the picture frame for cross-reference to the analog and digital data.

Analog Recorder

A RMS dot matrix recorder was used to display the data during the survey. In addition to manual and time fiducials, the following data was recorded:

Channel	Input	Scale
VLT	VLF-EM Total Field, Line	25 %/cm
VLQ	VLF-EM Quadrature, Line	25 %/cm
VOT	VLF-EM Total Field, Ortho	25 %/cm
COQ	VLF-EM Quadrature, Ortho	25 %/cm
RALT	Radar Altimeter	100 ft./cm
MAGF	Magnetometer, fine	25 nT/cm
MAGC	Magnetometer, coarse	250 nT/cm

Digital Recorder

A DGR-33:16 data system recorded the survey on magnetic tape. Information recorded was as follows:

<u>Equipment</u>	<u>Recording Interval</u>
VLF-EM	0.20 seconds
Magnetometer	0.20 seconds
Altimeter	0.20 seconds
Nav System	0.20 seconds

Radar Positioning System

A Mini-Ranger MRS-III radar navigation system was used for both navigation and flight path recovery. Transponders cited at fixed locations were interrogated several times per second and the ranges from these points to the helicopter were measured to a high degree of accuracy. A navigational computer triangulated the position of the helicopter and provided the pilot with navigation information. The range/range data was recorded on magnetic tape for subsequent flight path determination.

4. DATA PRESENTATION

4.1 Base Map

A topographic base map at a scale of 1:10,000 was requested by Reliance Geological Services Inc.

4.2 Flight Path Map

The flight path was derived from the Mini-Ranger radar positioning system. The distance from the helicopter to two established reference locations was measured several times per second and the position of the helicopter was calculated by triangulation. It is estimated that the flight path is generally accurate to about 10 metres with respect to the topographic detail on the base map.

The flight lines have the time and the navigator's manual fiducials for cross reference to both analog and digital data.

4.3 Total Field Magnetics

The magnetic data from the high sensitivity cesium magnetometer provided virtually a continuous magnetic reading when recording at 0.2 second intervals. The system is also noise free for all practical purposes.

A sensitivity of 0.1 nanoTesla (nT) allows for the mapping of very small inflections in the magnetic field, resulting in a contour map that is equal to or exceeds ground data in quality and accuracy.

The aeromagnetic data was corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation was applied. The corrected data was interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. This grid provided the basis for threading the presented contours at a 2 nT interval.

The contoured aeromagnetic data has been presented on a Cronaflex copy of the base map with flight lines.

4.4 Vertical Magnetic Gradient

The vertical magnetic gradient was calculated from the total field magnetic data. Contoured at a 0.2 nT/m interval, the data was presented on a cronaflex copy of the base map with flight lines.

4.5 VLF-EM

The VLF data was interpolated onto a regular grid at a 25 metre true scale interval using an Akima spline technique. This grid provided the basis for threading the contours at a 2% interval.

The VLF-EM signal from the line transmitting station was compiled as contours in map form on cronaflex copies of the base map with flight lines.

The VLF stations used for the survey area were NLK, Seattle, Washington, U.S.A., broadcasting at 24.8 kHz and NAA Cutler, Maine, U.S.A., broadcasting at 24.0 kHz. NLK was used as the line transmitting station and NAA was used as the orthogonal station.

Respectfully submitted,



Ron Steiner for
AERODAT LIMITED
August 7, 1991

J9143

APPENDIX I

PERSONNEL

FIELD

Flown	July 1991
Pilots	Del Rokosh
Operators	Pierre Moisan

OFFICE

Processing	Ron Steiner George McDonald
Report	Ron Steiner

APPENDIX II

GENERAL INTERPRETIVE CONSIDERATIONS

Magnetics

A digital base station magnetometer was used to detect fluctuations in the magnetic field during flight times. The airborne magnetic data was levelled by removing these diurnal changes. The Total Field Magnetic map shows the levelled magnetic contours, uncorrected for regional variation.

The Calculated Vertical Gradient map shows contours of the magnetic gradient as calculated from the total field magnetic data. The zero contour shows changes in the magnetic lithologies and will coincide closely with geologic contacts assuming a steeply dipping interface. Thus this data may be used as a pseudo-geologic map.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce

measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground to depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

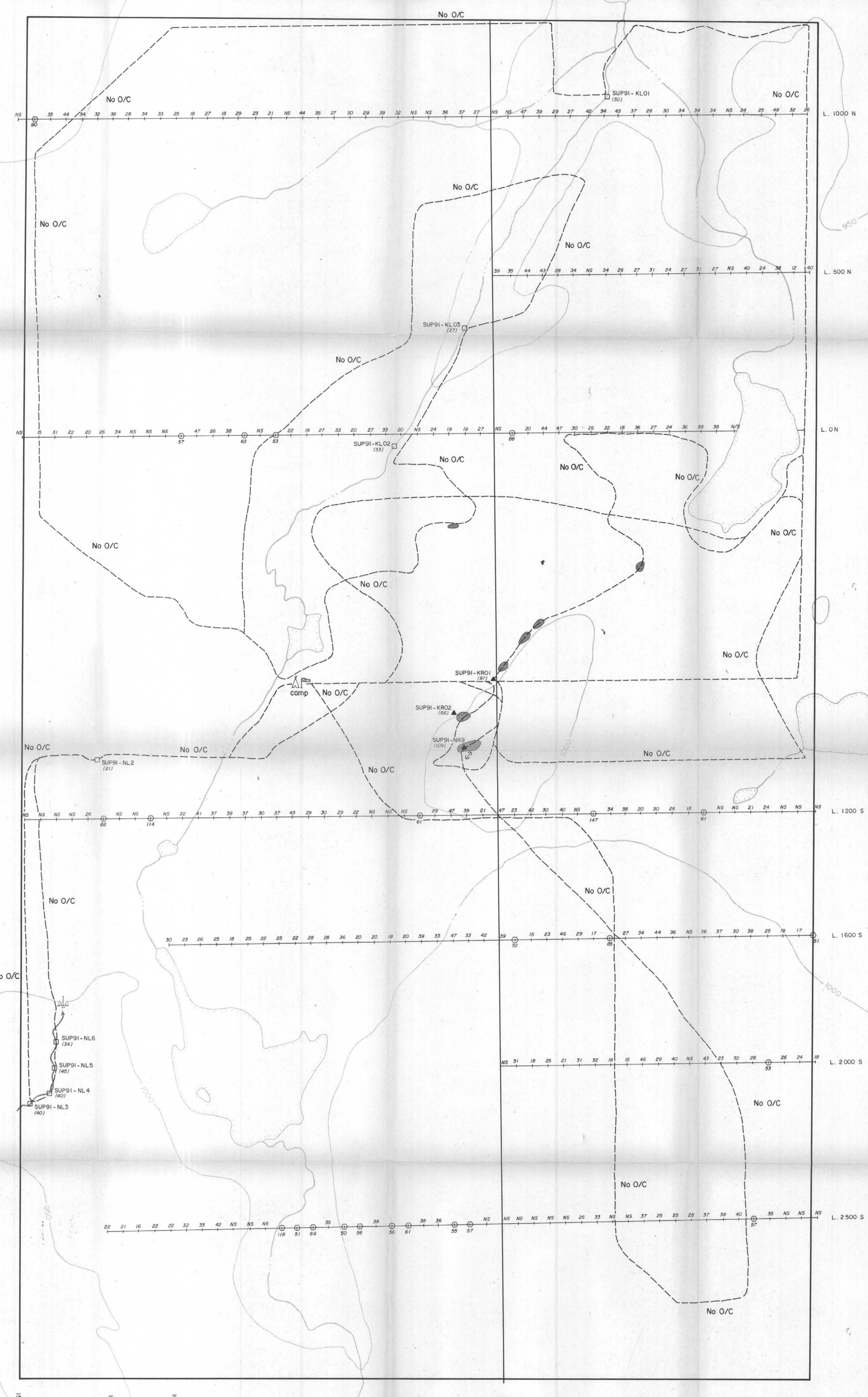
The vertical quadrature component over steeply dipping sheet-like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by this altered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

A net positive phase shift combined with the geometrical cross-over shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.



LEGEND

- Swamp
- Lake
- Creek
- Topographic Contour Interval - 50 metres
- Cu (ppm) Soil Sample Line (50m spacing)
- Outcrop Sample (Cu ppm)
- Float Sample (Cu ppm)
- Stream Sediment Sample (Cu ppm)
- Glacial Striation
- Porphyritic Andesite
- No O/C
- Traverse Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

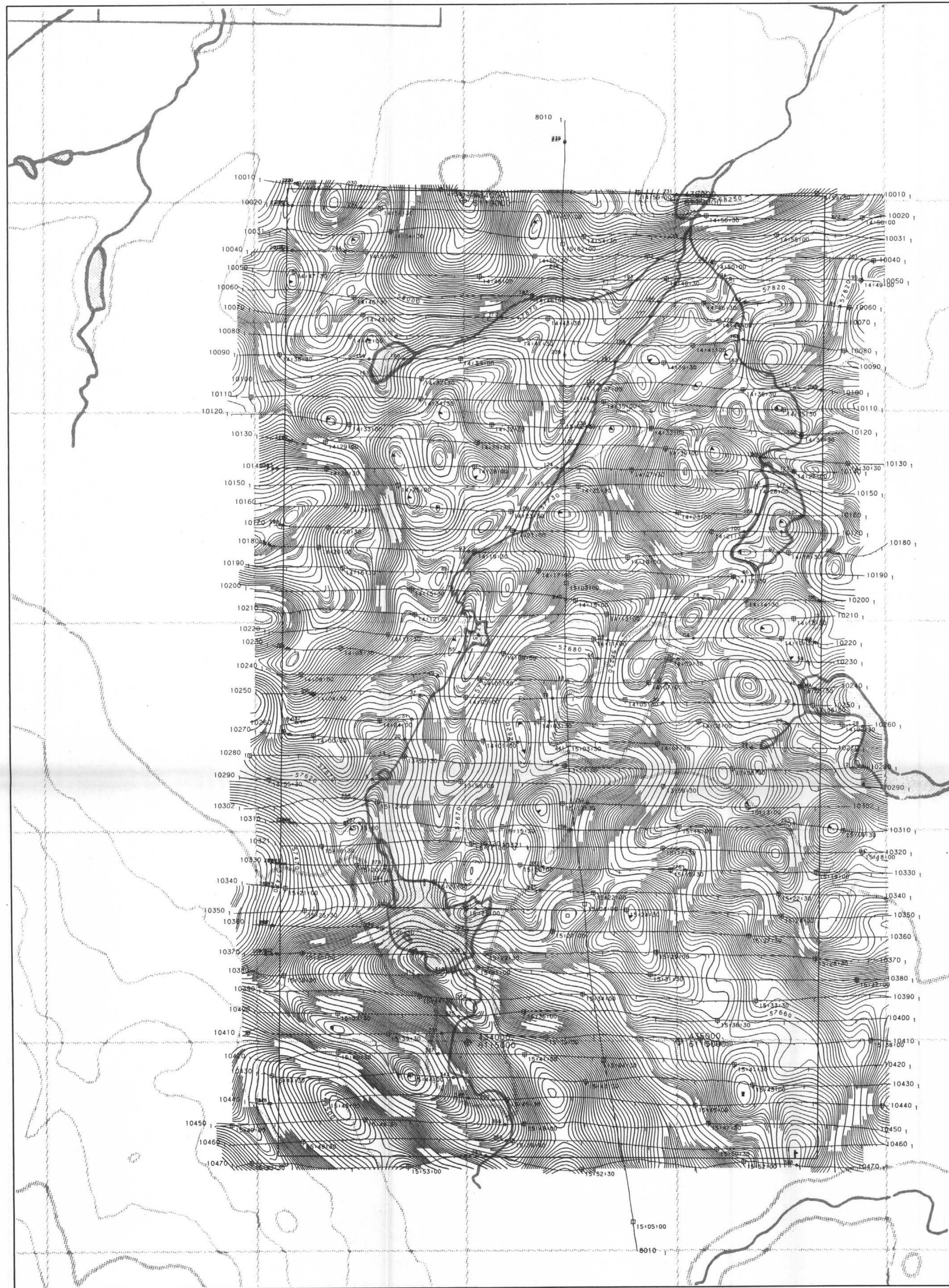
22,010

0 50 100 200 300 400 500 METRES

BGM DIVERSIFIED ENERGY INC.
SUPERIOR PROPERTY
 OMINECA, M.D., B.C.

Geology & Geochemistry

Scale	1 : 5,000	N.T.S.	93-N/1 E	Drawn by
Date	July 1991	Geologist		Figure 4
RELIANCE GEOLOGICAL SERVICES INC.				



Flight Path

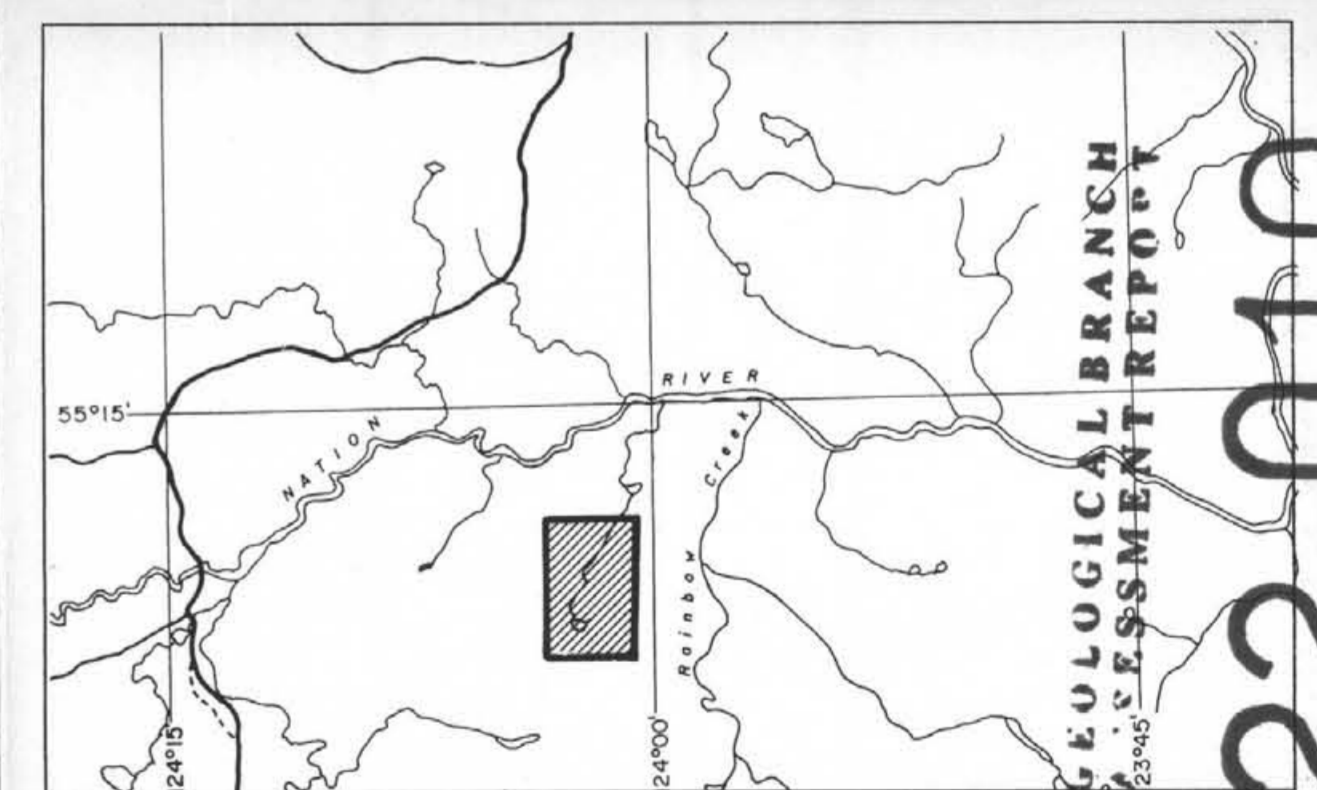
Navigation and recovery using a Motorola Mini-Ranger (MRS III) navigation system.
Average terrain clearance 60m
Average line spacing 100m

Magnetics

Total Field Magnetic Intensity Contours in nT.
Cesium high sensitivity magnetometer.
Sensor elevation 45m

Map contours are multiples of those listed below

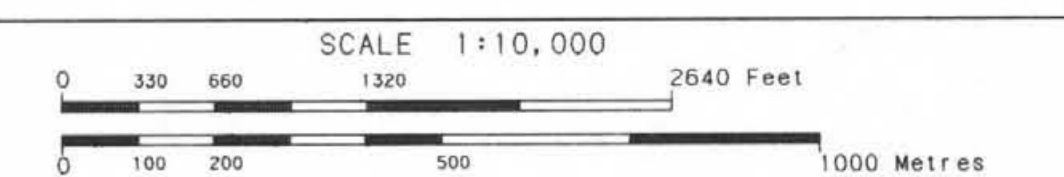
- 2 nT
- 10 nT
- 50 nT
- 250 nT
- 1000 nT



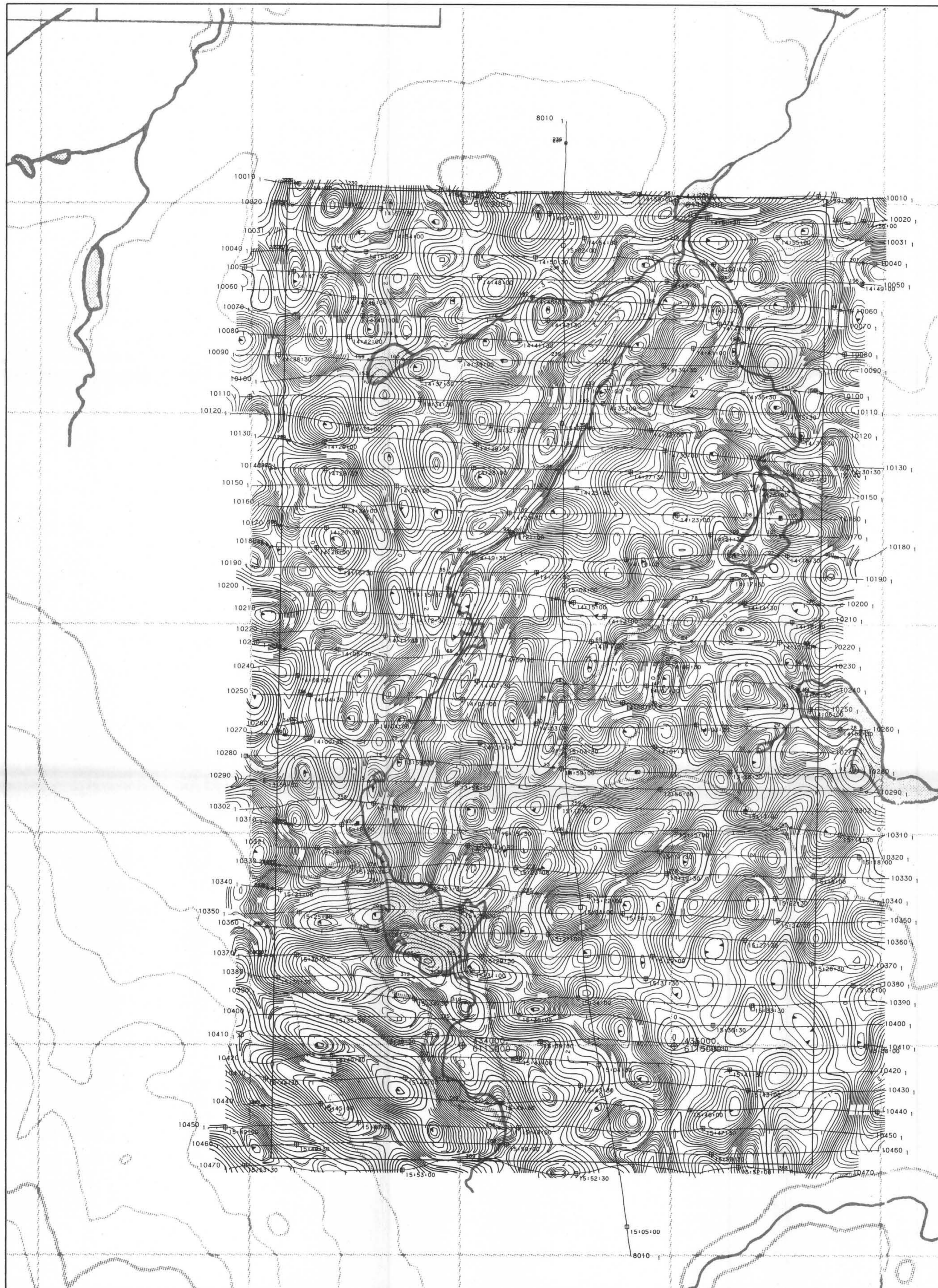
RELIANCE GEOLOGICAL SERVICES INC.

TOTAL FIELD MAGNETIC CONTOURS

MT. MILLIGAN
BRITISH COLUMBIA



DATE: JULY 1991
NTS No: 93 N/1
MAP No: 5 J9143 - 1



Flight Path

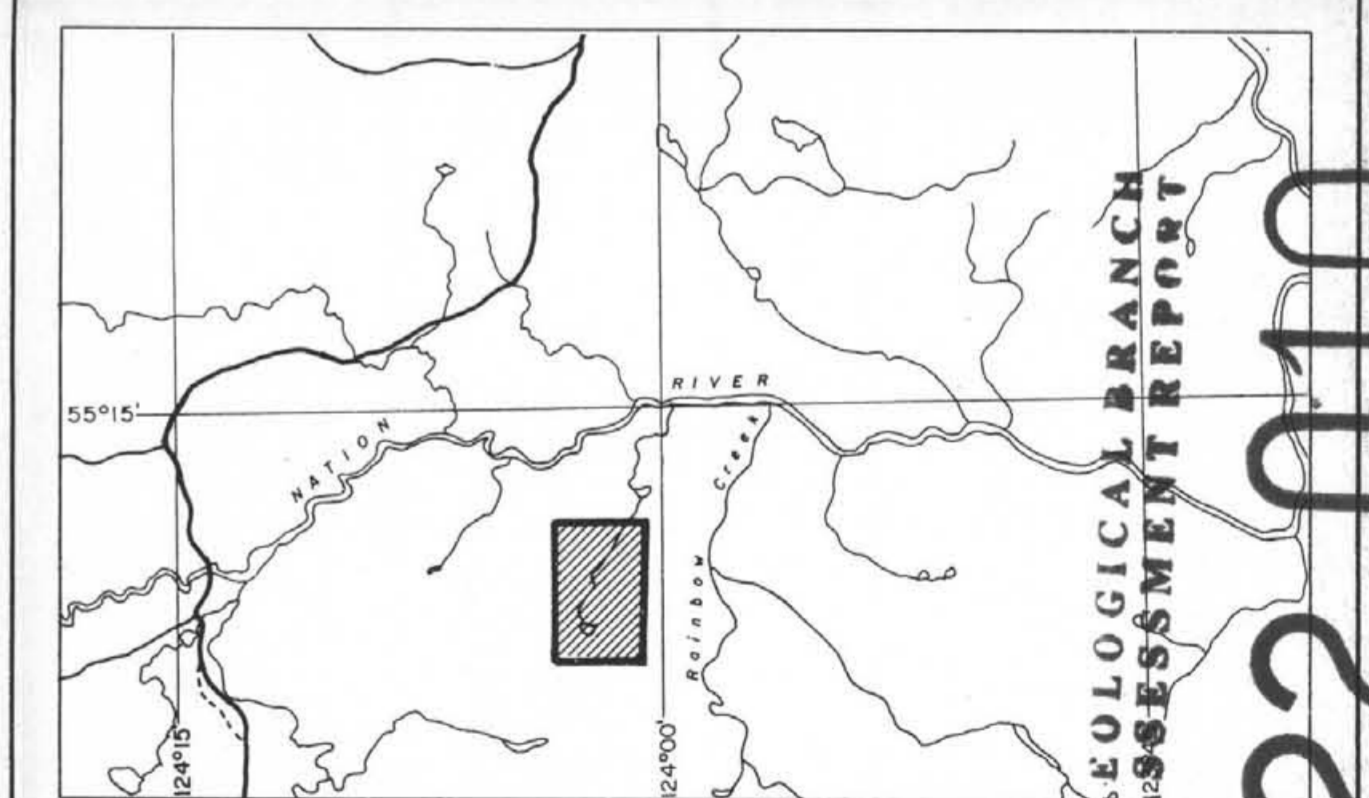
Navigation and recovery using a Motorola Mini-Ranger (MRS 111) navigation system.
Average terrain clearance 60m
Average line spacing 100m

Vertical Gradient

Vertical Magnetic Gradient calculated from the total field magnetic intensity in nT/m.
Cesium high sensitivity magnetometer.
Sensor elevation 45m

Map contours are multiples of those listed below

- .2 nT
- 1.00 nT
- 5.00 nT
- 25.00 nT
- 100.00 nT



GEOLOGICAL BRANCH
ASSESSMENT REPORT

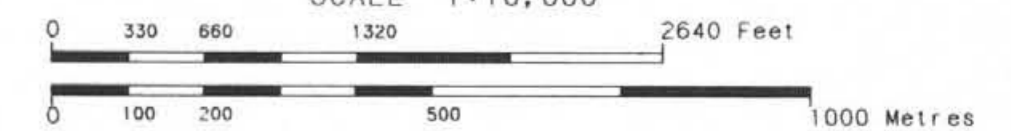
22,010

RELIANCE GEOLOGICAL SERVICES INC.

CALCULATED VERTICAL MAGNETIC GRADIENT

MT. MILLIGAN
BRITISH COLUMBIA

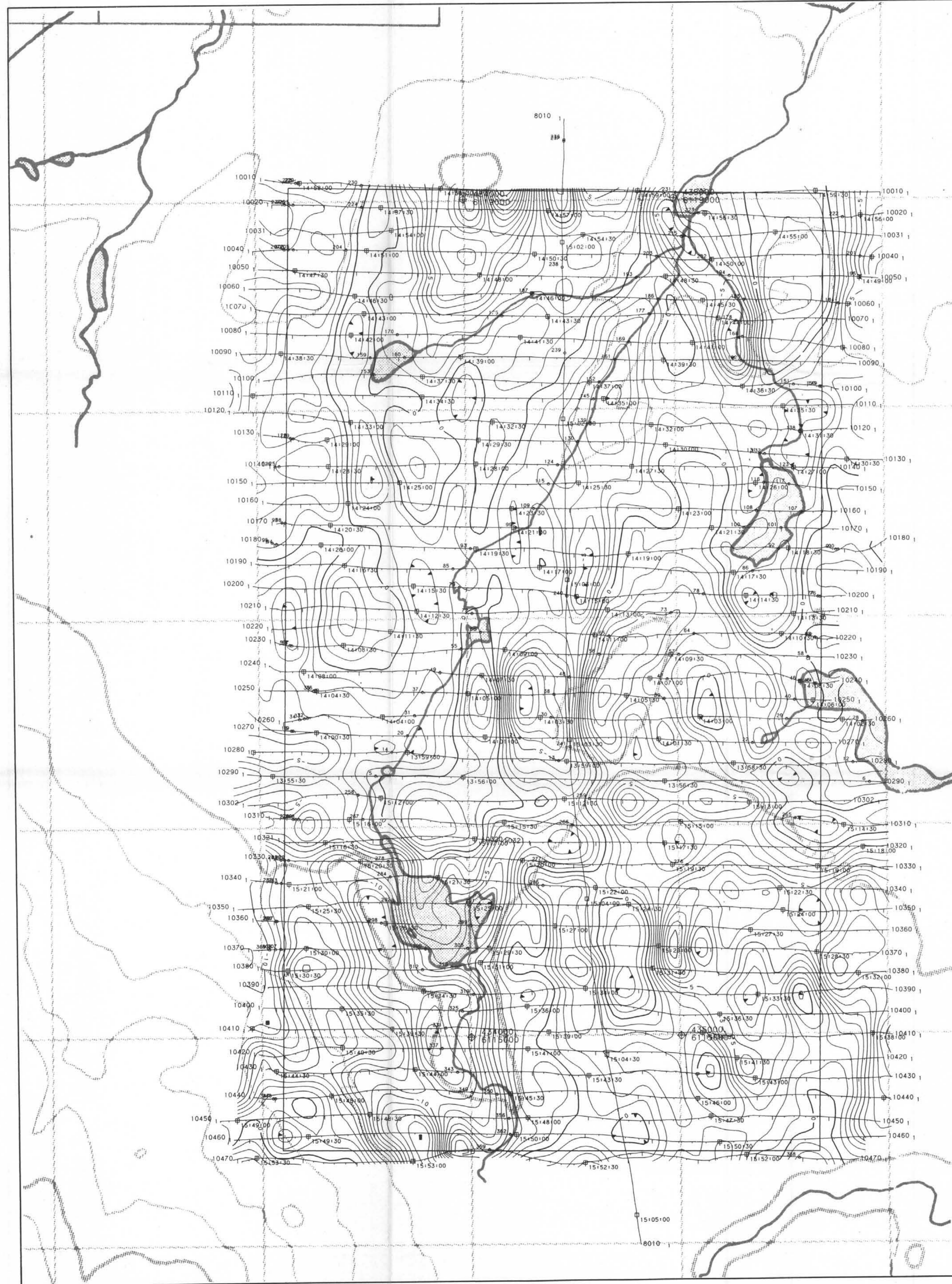
SCALE 1:10,000



DATE: JULY 1991

NTS No: 93 N/1

MAP No: 6 J9143 - 1



Flight Path

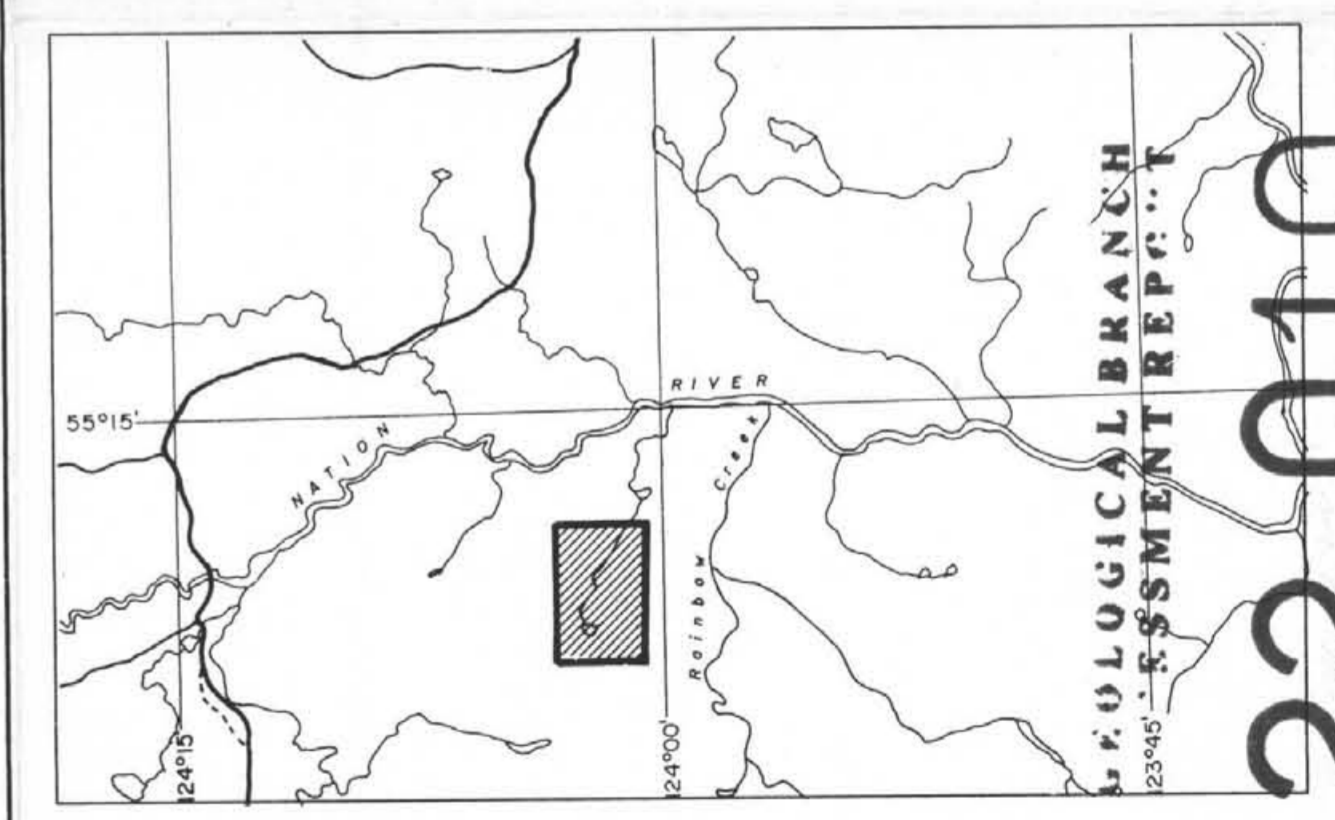
Navigation and recovery using a Motorola Mini-Ranger (MRS III) navigation system.
Average terrain clearance 60m
Average line spacing 100m

VLF-EM

VLF-EM Total Field Intensity in percent.
Station: NLK
Jim Creek, Washington
24.8 KHz
Sensor elevation 45m

Map contours are multiples of those listed below

- 1 x
- 5 x
- 25 x
- 100 x



GEOLOGICAL BRANCH
 23°45' - 55° WEST REPORT
 22,010

RELIANCE GEOLOGICAL SERVICES INC.

VLF-EM TOTAL FIELD CONTOURS (LINE CHANNEL)

MT. MILLIGAN
BRITISH COLUMBIA

SCALE 1:10,000
0 330 660 1320 2640 Feet
0 100 200 500 1000 Metres

	DATE: JULY 1991
	NTS No: 93 N/1
	MAP No: 7 J9143 - 1