

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 94.10.12

ASSESSMENT REPORT 23189

MINING DIVISION: Vernon

PROPERTY: Nugget

LOCATION: LAT 50 10 00 LONG 118 25 00  
UTM 11 5557903 398821  
NTS 082L01W

CLAIM(S): Nugget 1-2

OPERATOR(S): McLeod, J.W.

AUTHOR(S): McLeod, J.W.

REPORT YEAR: 1994, 52 Pages

COMMODITIES

SEARCHED FOR: Copper, Lead, Zinc, Silver, Gold

KEYWORDS: Carboniferous-Triassic, Sediments, Volcanics, Jurassic, Intrusives  
Alteration, Faults, Veins, Quartz, Chalcopyrite, Galena, Sphalerite  
Pyrite, Pyrrhotite

WORK  
DONE: Geological, Geophysical, Geochemical, Physical

EMGR 8.7 km; VLF

GEOL 50.0 ha

LINE 12.1 km

MAGG 8.7 km

ROCK 8 sample(s) ; AU, AG

MINFILE: 082LSE020

LOG NO: 1994 January RD.

ACTION.

FILE NO:

Report on the

# NUGGET CLAIM GROUP

Yeoward Mountain Area,  
Vernon Mining Division, B.C.

Lat. 50°10'N; Long. 118°25'W  
NTS 82L/1W

on behalf of

Harold V. Arnold

by

James W. McLeod, P. Geol.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

January 6th, 1994  
Delta, British Columbia

23,189

FILMED

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## **INTRODUCTION**

During the period September 29 to October 22, 1993 the writer supervised an exploration program on the Nugget and Nugget 2 lode mineral claims located on the west flank of Yeoward Mountain in the Vernon Mining Division of British Columbia.

The program which was grid controlled included rock exposure mapping and sampling and geophysical surveys.

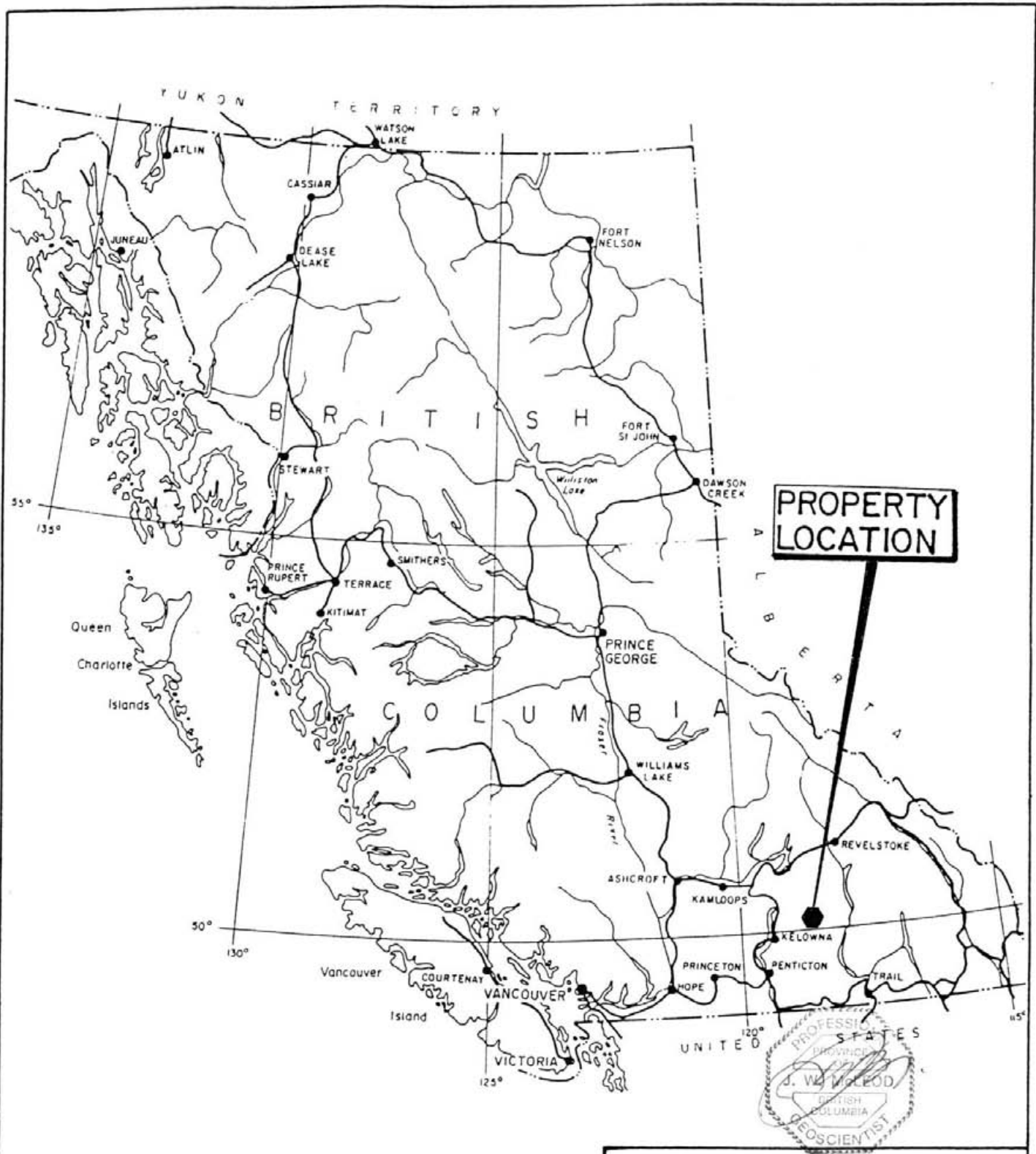
Portions of the current surveys have previously undergone considerable physical work of both hand and bulldozer trenching.

The current field work and report are being done at the request of Harold V. Arnold of Vernon, B.C.

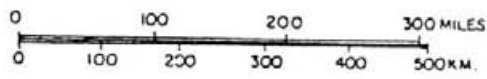
## **LOCATION AND ACCESS**

The Nugget mineral claim group is located on the west-facing slope of Yeoward Mountain which is bound on the north and south by Monashee Creek and the Kettle River, respectively. The mineral claims may be located on map reference NTS 82L/1W at latitude 50°10' north and longitude 118°25' west.

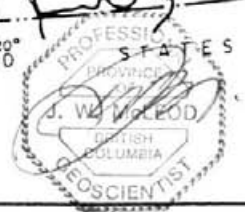
Access to the property is provided during the summer by 4X4 road from the Keefer Lake road (headwater area of the Kettle River), but during the current program access was provided by travelling 52 kilometres (31 miles) east of the city of Vernon, B.C., passing through the town of Lumby, B.C. to the South Fork road (Monashee Creek) and then easterly for 14 kilometres (8.5 miles) up the north side of Yeoward Creek. The property was then accessed by travelling east up a new re-cut 4 Trac/snowmobile trail for one kilometre (0.6 miles) to the western property



**PROPERTY  
LOCATION**



CARBON REEF RESOURCES INC.	
YEOWARD MTN. PROPERTY LOCATION MAP	
N.T.S. 82L-1W	VERNON M.D., B.C.
SCALE : AS SHOWN	DATE : OCT. 1993
DRAWN BY : J.M.	FIGURE NO. 1



boundary. The property is then traversed to its eastern boundary by a generally good 4X4 road which climbs up the western flank of Yeoward Mountain and eventually exits to the Keefer Lake road.

### TOPOGRAPHICAL AND PHYSICAL ENVIRONMENT

The property lies on the western flank of Yeoward Mountain (which rises to 2,131 metres or 6,990 feet) and ranges in elevation from 1,295 to 1,875 metres (4,250 - 6,150 feet) mean sea level.

The claim area occurs in rounded-steep mountainous conifer (spruce, cedar and pine) covered terrain which forms a gently westward sloping plateau in the centre of the claims.

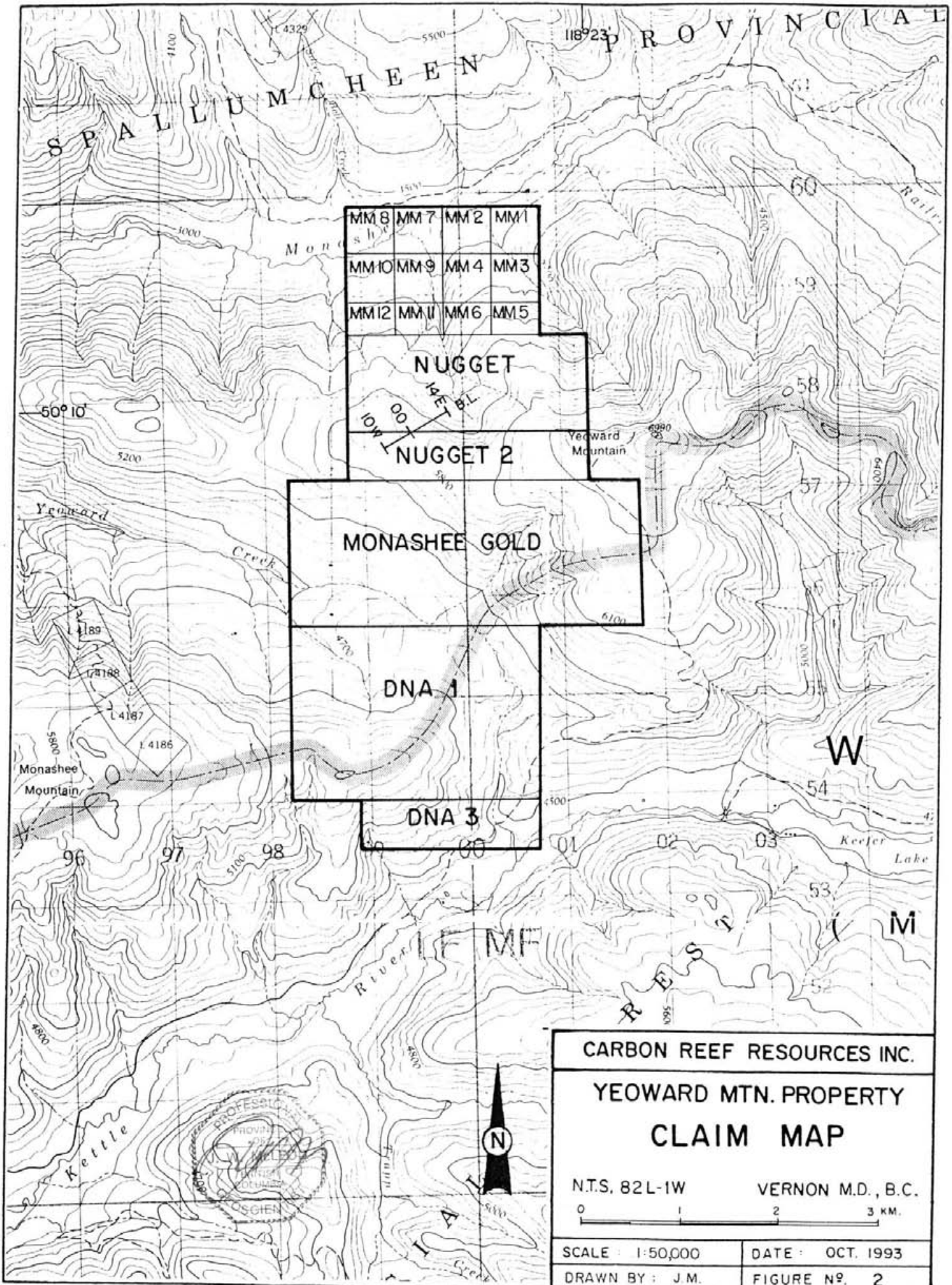
The biotic position of the property is generally sub-Alpine which is transitional; between the Interior wet belt and the Alpine zone.

The area experiences approximately 120 centimetres (50 inches) of precipitation per year, of which 15 to 20 centimetres occur as a snow equivalent.

### PROPERTY AND OWNERSHIP

The Nugget claim group consists of two contiguous mineral claims comprising a total of 15 units which are listed as follows:

<u>Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Anniversary Date</u>
Nugget	259063	10	October 21
Nugget 2	259133	<u>5</u>	August 4
	Total	15 units	





The claims cover an area of 375 hectares (926 acres). The claims are owned 100% by Mr. Harold V. Arnold of Vernon, B.C.

## **HISTORY**

Some old hand pits were known on the property prior to 1974, during which year a reconnaissance geochemical soil survey at 120 metres x 120 metres (400-foot x 400 foot) sample centres was conducted over a portion of the claims.

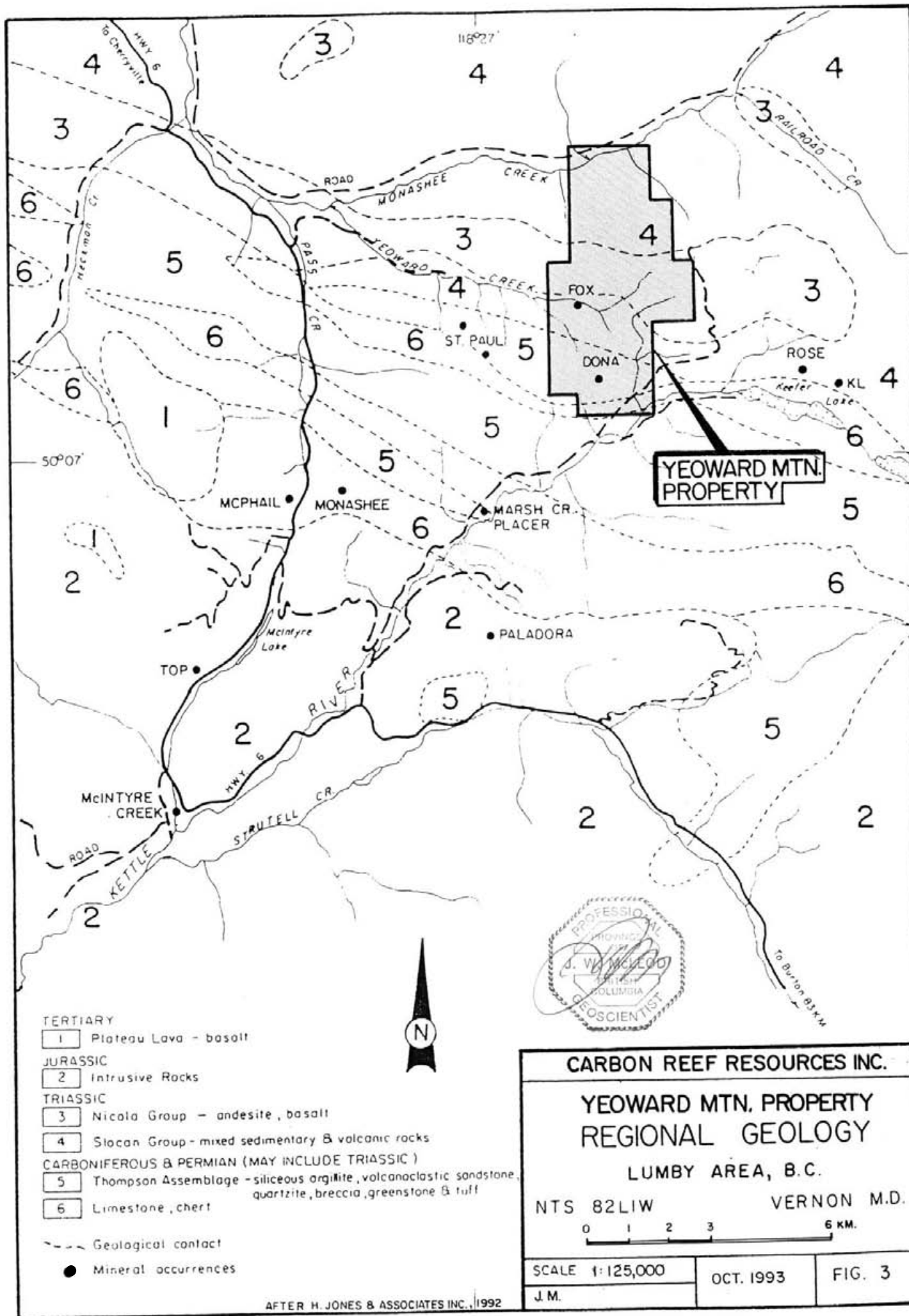
During 1978 another reconnaissance geochemical soil survey near the Nugget - Nugget 2 boundary was conducted at a 30 metre x 120 metre (100 foot x 400 foot) spacing.

Subsequently some of the high geochemical zones underwent a widespread bulldozer trenching program. Abundant quartz-graphitic (shaley)-volcanic contact and fault-shear zones were uncovered. Some rock sampling and prospecting was performed until the present time.

Several narrow high grade areas of copper, lead, zinc, silver and gold mineralization were reportedly encountered in the past.

## **REGIONAL GEOLOGY**

The general area is underlain by a west-northwest trending package of sediments and volcanics of the Thompson Assemblage which has been assigned a Carboniferous-Permian (possibly to Triassic) age, formerly referred to as the Cache Creek Group. The Thompson Assemblage is seen to be overlain unconformably on the north by mixed sediments and volcanics assigned to the Slocan Group which are thought to be of Triassic or older age. The Slocan Group is in turn overlain on the north by volcanic rocks of the Nicola Group which are assigned a Triassic age.



- TERTIARY
  - 1 Plateau Lava - basalt
- JURASSIC
  - 2 Intrusive Rocks
- TRIASSIC
  - 3 Nicola Group - andesite, basalt
  - 4 Slokan Group - mixed sedimentary & volcanic rocks
- CARBONIFEROUS & PERMIAN (MAY INCLUDE TRIASSIC)
  - 5 Thompson Assemblage - siliceous argillite, volcanoclastic sandstone, quartzite, breccia, greenstone & tuff
  - 6 Limestone, chert
- - - Geological contact
- Mineral occurrences



**CARBON REEF RESOURCES INC.**

**YEOWARD MTN. PROPERTY  
REGIONAL GEOLOGY**

**LUMBY AREA, B.C.**

NTS 82LIW      VERNON M.D.

0 1 2 3 6 KM.

SCALE 1:125,000	OCT. 1993	FIG. 3
J.M.		

These sedimentary-volcanic units are seen to reflect low grade (greenschist facies) regional metamorphism.

The general area has been affected by Valhalla Complex intrusive events of Jurassic age. The intrusive rocks observed in the general area are most often as granodiorite to diorite (rhyodacite to andesite) composition.

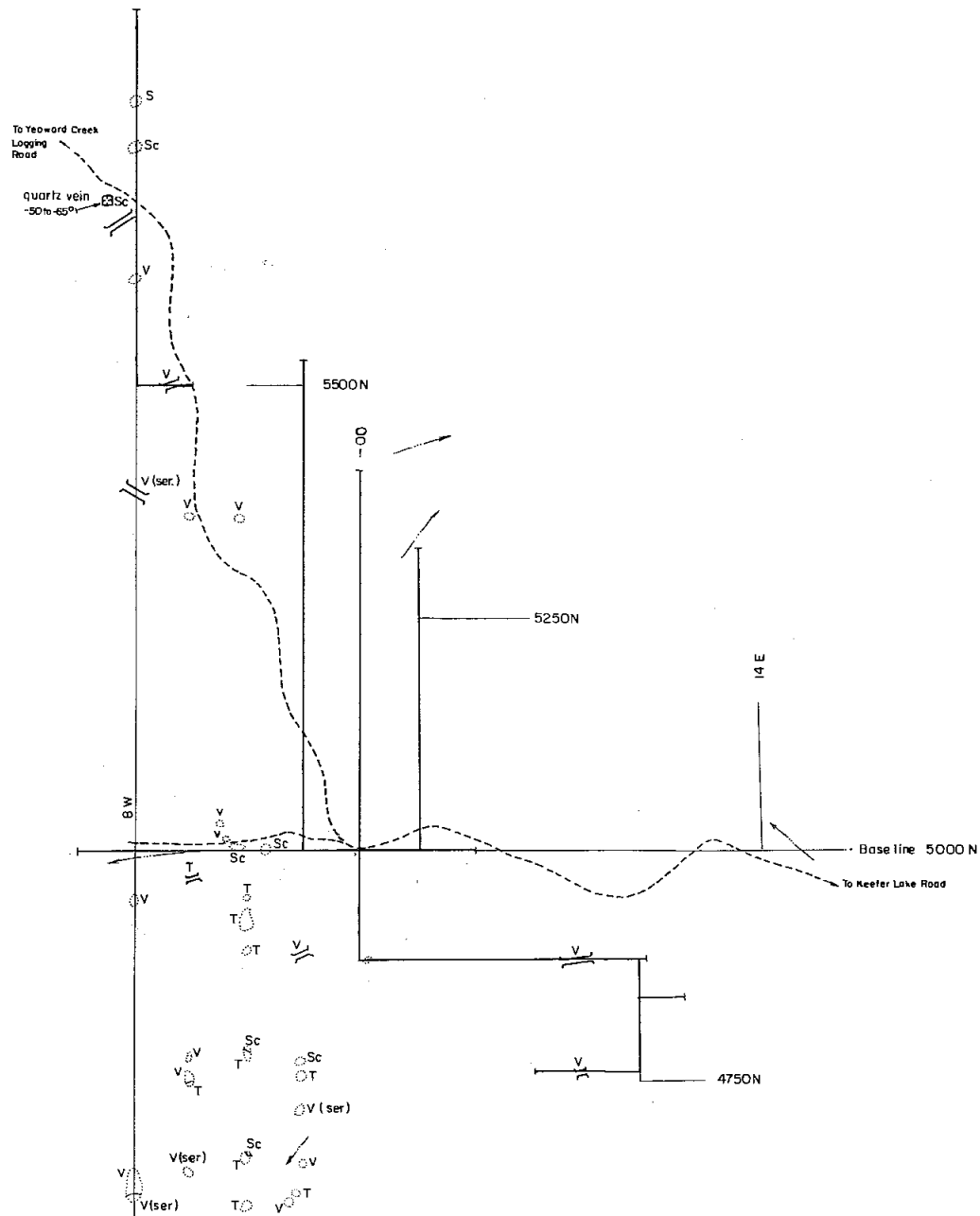
Localized occurrences throughout the general area of Tertiary plateau basalts are observed as cap and localized valley flows.

### **PROPERTY GEOLOGY**

The western half of the Nugget claim group is seen to be underlain by metamorphosed sediments and possibly interlayered volcanics. The sediments generally occur as aphanitic to fine grained schists and phyllites. The schists are often carbonaceous (graphitic). The volcanics range from vitric and lithic flow tuffs to crystalline tuffs and aphanitic to fine and medium grained volcanics of rhyodacite composition. These rocks are seen to express low to moderate alteration as chlorite, sericite and pervasive and widespread silicification as quartz stringers (<1mm) to large veins? to several metres in thickness. Minor limonite with cubic "boxwork" structure (after pyrite) and localized, accompanying manganese stain are observed in several locations on the property.

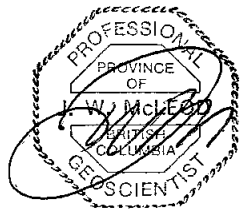
Mineralization reported from the property and examined by the writer occurs as:

- a) galena - sphalerite - chalcopryrite - chalcocite? - cerussite? - quartz "eyes"  
- tetrahedrite? with silver and gold values; and
- b) pyrrhotite - sphalerite (black) - chalcopryrite - pyrite - minor quartz.



**LEGEND**

- Sc Schist (may be graphitic)
- T Tuff (crystal, some flow banded?)
- S Sediment (not tuffaceous)
- V Volcanic (f-m grained) may be intrusive (rhyodacite composition)
- Ser Sericite
- Outcrop
- ↑ Direction of dip of quartz vein
- ⊞ Pit
- ⊞ Trench
- Road
- Spontaneous Potential (S.P.) line
- Drainage



CARBON REEF RESOURCES INC.

**YEOWARD MTN. PROPERTY  
PROPERTY GEOLOGY &  
S.P. GRID**

LUMBY AREA, B.C.

N.T.S. 82L-1W VERNON M.D.

0 100 200 300 METRES

SCALE 1:5000	JAN., 1994	FIG. 12
J.M.		

Both occurrences appear as vein fillings.

The writer feels that the mineralization observed is related to fault-contact vein structures which in turn have experienced post-mineralization offsets due in part to northwest-southeast faulting. A possible general sequence of events related to mineralization emplacement may be as follows:

- 1) Interlayered sediment and volcanic deposition, some of which may be sub-aerial.
- 2) General uplift and northeast compression causing major undulation and alternating dips of the bedding from southwest to northeast.
- 3) Low angle separation of contacts and thrust faulting affording the system of conduits and depositional sites for widespread silicification as lenses and sills.
- 4) Subsequent sulphide mineralization (carrying precious metal values) along east-west trending structures.

*Note:* (3) and (4) may be contemporaneous and related to igneous activity.

- 5) Post-mineralization faulting causing offset along northwest-southeast structures (see Figure 4).

### **PRESENT WORK PROGRAM**

The current fieldwork program included the installation of 725 metres of flagged and blazed baseline; 11,375 metres of flagged grid lines for a total of 12.1 kilometres of line installation.

Two station VLF-EM and magnetometer surveys were conducted over 8.7 kilometre of survey grid (see Figures 4 - 11, inclusive). The particulars of the geophysical surveys, including methodology, instrumentation, field readings, maps, results, conclusions, and recommendations are included in Appendix I - Report on Geophysical Surveys, Yeoward Mountain Property by F.J.R. Syberg, Geophysicist, December, 1993.

In addition, some rock exposure mapping and sampling, as well as an orientation spontaneous or (self) potential (S.P.) survey, was run over some of the old geochemical soil anomalies and observed graphitic schist occurrences with the objective of possibly using the method in the future, in conjunction with VLF-EM surveys, to allow discrimination between sulphide and graphite caused conductors.

One kilometre of access 4 Trac/snowmobile trail was cut-out (improved) from the end of the Yeoward Creek logging road to the west boundary of the property which now connects with the east-west traversing property road which in turn connects with the Keefer Lake (Kettle River) road.

The fieldwork program was conducted on behalf of Harry Arnold of Vernon, B.C.

## CONCLUSIONS

The current fieldwork program on the Nugget claim group, Yeoward Mountain property has revealed a number of interesting features which required further field investigations to determine their geological and economic significance.

Historical indications of vein type base and precious metal occurrences underwent limited reconnaissance soil geochemistry, very limited geological mapping, and widespread bulldozer trenching over many of the soil anomalies.

The current program was designed to test the reconnaissance soil anomaly zones with several geophysical methods (VLF-EM, MAG and SP).

The VLF-EM and magnetometer surveys reveal a series of east-west trending conductors which are offset by north-south faults. These conductive zones may indicate sulphide mineralization and its corresponding wallrock alteration in an east-west trending fault-contact vein setting. This is suggested by the dip angle data and corresponding "reverse" dipping quadrature of the VLF-EM surveys. In the northern part of the grid these conductors accompany a sharply dipping magnetic gradient.

A further feature noted by the writer in several locations underlain by metasediments was the occurrence of graphitic schists. A number of quartz-graphitic, shaley zones are evident in some of the old trenches, in particular in the north L8W area.

The occurrence of graphite in some of the metasedimentary units were tested with reconnaissance SP lines and the SP response was stronger, i.e. 0.500 - 0.987 millivolts. The writer feels that SP on this property is very useful in discriminating between VLF-EM conductors possibly caused by sulphide and graphite. For example, the east-west trending conductor between L0 and L6E (see Figure 4) was cut by an SP test line and returned readings in the range of 0.150+ - 0.327 millivolts which may indicate an underlying sulphide conductor. The SP test line along L0 indicates a broad zone of highs, 0.150+ to 0.660 millivolts which may indicate a mix of sulphides and graphite. These methods appear useful determining underlying structure.

Current fieldwork has not been able to correlate previous geochemical soil patterns and conductor responses, but a continuation of the current program and additional geochemistry is recommended. The writer feels that when the next surface exploration program is completed a structural geochemical model will evolve which can be used to direct drill testing of the anomalous zones.

**RECOMMENDATIONS**

The writer recommends that the current geophysical surveys, including SP, should be undertaken over the entire claims, except where abundant outcropping and topography makes in impractical.

The conductor anomalies, which are possibly of a sulphide cause, should undergo closely spaced, auger retrieved soil sampling.

The property should be geologically mapped.

Priority anomalous areas should undergo drill testing to determine if economic mineralization is present.

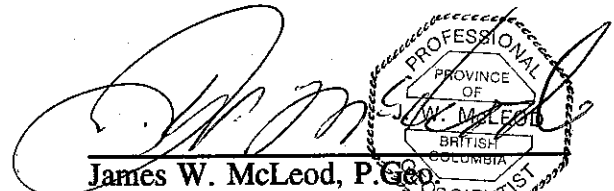
**COST ESTIMATE**

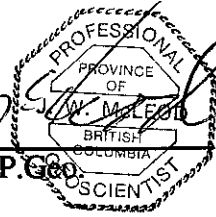
Phase I - Geological mapping and supervision	\$ 6,000
Grid installation	5,000
Geophysical surveys, including two-station VLF-EM, magnetometer (with base station, diurnal corrections) and spontaneous potential (SP)	25,000
Detail geochemistry of anomalous zones	5,000
Geochemical analyses and assays, 200 samples @ \$15 per sample	3,000
Camp and board for 200 mandays @ \$80 per manday	16,000
Transportation	3,000
Insurance, licences and fees	6,000
Equipment and supplies	2,000
Reports and maps	4,000
Preliminary drill testing, 1,000 feet @ \$25 per foot	25,000



Road repairs and drill access to sites	5,000
Contingency - 10%	<u>10,500</u>
<b>Total - Phase I</b>	<b>\$ <u>115,500</u></b>

Respectfully submitted,

  
James W. McLeod, P. Geo.



**STATEMENT OF COSTS**

Geology and supervision		\$ 3,000
Grid installation		1,000
Geophysical surveys, including VLF-EM, magnetometer and spontaneous potential test		6,000
Equipment rental, chainsaw, generator, radio, etc.		1,500
Transportation and access, including 4 Trac, 2 motorbikes, van and trailer		2,500
Camp and board, 50 mandays @ \$80 per manday		4,000
Office and field data handling		400
Reports, maps		1,500
<del>Licences and fees</del>	<i>Admin.</i>	<u>300</u>
<b>TOTAL</b>		<b>\$ <u>20,200</u></b>

**CERTIFICATE**

I, **JAMES W. McLEOD**, of the Municipality of Delta, Province of British Columbia, hereby certify as follows:

1. I am an Consulting Geologist with an office at #207, 1318 - 56th Street, Delta, B.C. V4L 2A4.
2. I am a Professional Geoscientist registered in the Province of British Columbia and a Fellow of the Geological Association of Canada.
3. I graduated with a degree of Bachelor of Science, Major in Geology, from the University of British Columbia in 1969.
4. I have practised my profession since 1969.
5. I have no direct or indirect interest in the Nugget claim group nor do I expect to receive any as a result of doing this report.
6. The above report is based on personal field experience gained by working on the claims during 1993.

DATED at Delta, Province of British Columbia this 6th day of January, 1994.

  
James W. McLeod, P. Geo.  
Consulting Geologist



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**Appendix I**

**Report of Geophysical (VLF-EM and MAG) Surveys  
by F.J.R. Syberg, Geophysicist, December, 1993  
(including Figures 4-11 and field observations)**

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REPORT ON  
GEOPHYSICAL SURVEYS

YEOWARD MOUNTAIN PROPERTY

GOLD PAN, B.C.

N.T.S. 82L/1

for

CARBON REEF RESOURCES INC.

VANCOUVER, B.C.

by

F.J.R. SYBERG  
GEOPHYSICIST

December, 1993

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CERTIFICATE OF QUALIFICATIONS

APPENDIX 'A' List of Geophysical Observations

Fig. No.

- 4 Geophysical Interpretations.
- 5 Total Magnetic Field
- 6 Cutler Dip Angle
- 7 Cutler Dip Angle - Fraser filtered
- 8 Cutler Quadrature
- 9 Hawaii Dip Angle
- 10 Hawaii Dip Angle - Fraser filtered
- 11 Hawaii Quadrature

**SUMMARY**

About 8.7 line kilometers of geophysical surveys have been carried out in the Yeoward Mountain area, B.C. The surveys consisted of total magnetic field measurements and the VLF-EM responses due to two transmitter stations located in Hawaii and at Cutler, Maine. The surveys have arrived at a strong easterly striking conductor anomaly. It is most likely indicative of a conductive contact alteration zone.

## INTRODUCTION

During October, 1993, geophysical surveys were conducted on behalf of Carbon Reef Resources Inc. over an area in vicinity of Yeoward Mountain near Gold Pan, B.C.

Access to the survey area was about twelve kilometers over a logging road and then three kilometers over an ATV trail.

The surveys consisted of total magnetic field measurements and observations of VLF-EM responses due to two transmitter stations, Hawaii and Cutler, Maine. The field VLF-EM measurements consisted of the in-phase and out-phase vertical electromagnetic fields and the horizontal field.

The geophysical instrumentation consisted of a Scintrex IGS-2 field unit capable of measuring the total magnetic field and the VLF-EM responses due to a maximum of three transmitter stations, and a Scintrex IGS-2 magnetic basestation.

Both these units are microprocessors which include sufficient random access memory, RAM, to store all relevant data while the survey is in progress. At the end of a survey day each unit was connected to a computer and data acquired during the day was transferred to disk files.

The survey grid was made up of a baseline, 5000-N, striking N60°E and twelve survey lines about 62 meters apart. The station interval along the lines was 20 meters. The survey totalled 8.7 line kilometers.



#### DATA PREPARATION AND PRESENTATION

The field data computer files were edited to suit the input requirements to appropriate computer applications. The total magnetic field measurements were corrected for diurnal variations and the VLF-EM vertical in-phase and out-phase electromagnetic responses were used to compute the secondary field dip angles and quadratures. The method of computation was in accordance with algorithms published by Scintrex Ltd. in manuals concerned with the IGS-2 system

In preparation of digital contouring and analytical applications a 10 by 10 meter grid was superimposed on the survey data. Grid matrices confined to the boundaries of the survey area were interpolated unto such grids using the field observations. All grid matrices were smoothed. The total magnetic field was continued upward 15 meters. This is equivalent to simulating having conducted the magnetic survey at an elevation 15 meters above surface. The dip angle and quadrature matrices were smoothed using a mild low-pass filter.

Fraser filtering was applied to the dip angle matrices. The Hawaii dip angle matrix along columns, e.g. parallel to the survey lines, and the Cutler dip angle matrix along rows, or across the survey lines.

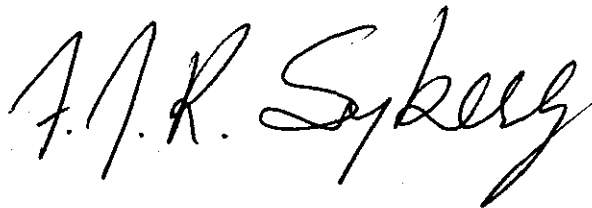
#### INTERPRETATIONS

A strong easterly striking anomaly has been located in the northern part of the survey area. It consists of a dip angle

crossover coincident with a quadrature "reverse" crossover. This is indicative of a true conductor. For most of its strike length the conductor coincides with a strong magnetic gradient. Northwesterly trending cross faulting is suggested by en echelon offsets in the contour patterns. The Fraser filtered Cutler dip angle contours suggest a southerly dip. It is possible that the conductor anomaly corresponds to a contact alteration zone.

In the south-central part of the survey area a dip angle anomaly suggests an underlying structure probably of lesser importance than the northerly located anomaly.

Respectfully submitted,

A handwritten signature in cursive script, reading "F.J.R. Syberg". The signature is written in dark ink and is positioned below the typed name.

F.J.R. Syberg, Geophysicist.

CERTIFICATE OF QUALIFICATION

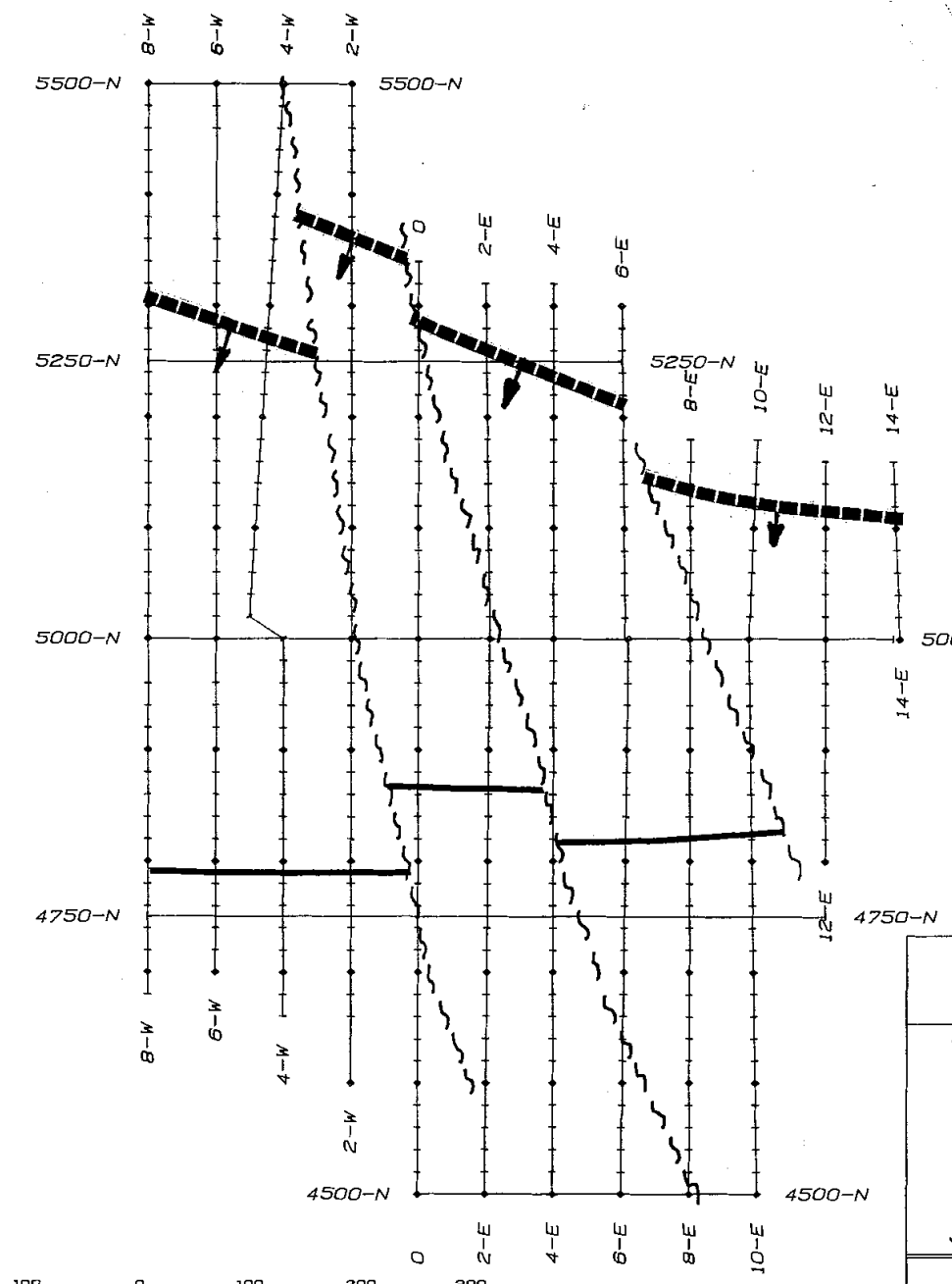
I, F.J.R. Syberg, 2228 Franklin Street, Vancouver, B.C.,  
hereby certify that:

- 1) I graduated from the University of British Columbia in 1967 having obtained a B.Sc. degree majoring in geophysics and geology.
- 2) I have been engaged in mining exploration and production since 1956.
- 3) I am responsible for all computer programs used to process the field data.
- 4) I have no interest whatsoever in the property described herein or the securities of Carbon Reef Resources Inc.
- 6) I grant Carbon Reef Resources Inc. permission to use all data and information contained in this report as the company may see fit.




Dated at Vancouver, B.C. this 16 day of December, 1993.

F.J.R. Syberg

Fred J.R. Syberg, Geophysicist



**LEGEND**

-  CONDUCTOR
-  FAULT/SHEAR/CONTACT
-  INTERPRETED FAULT

**CARBON REEF RESOURCES INC.**

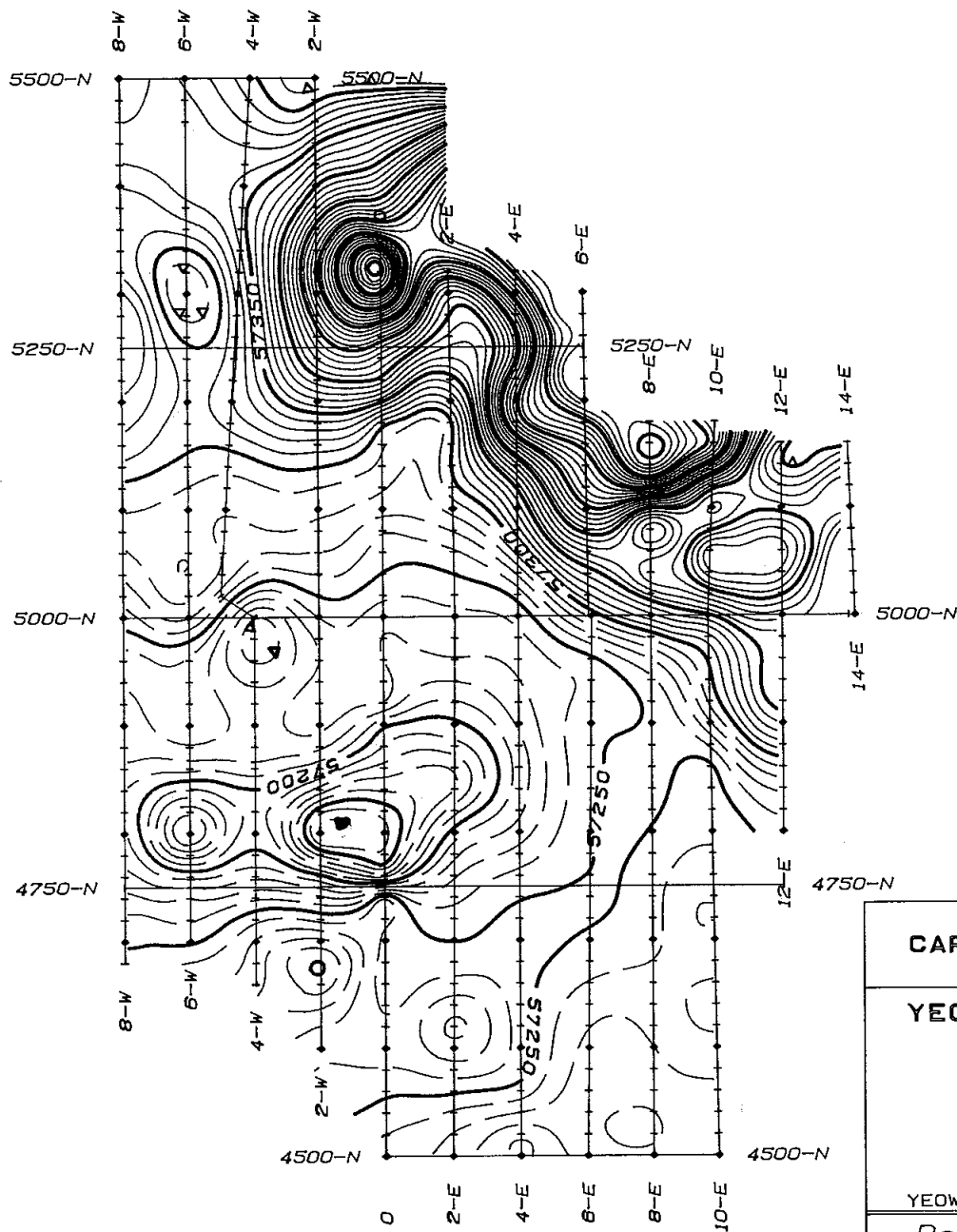
**YEOWARD MOUNTAIN PROPERTY**  
 GEOPHYSICAL INTERPRETATIONS

Contour Interval 1%

YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA

*Donegal Developments Ltd*

COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1993	4



**CARBON REEF RESOURCES INC.**

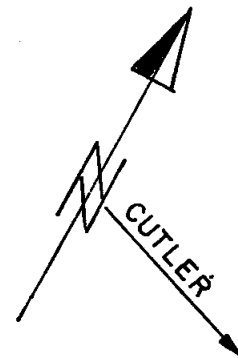
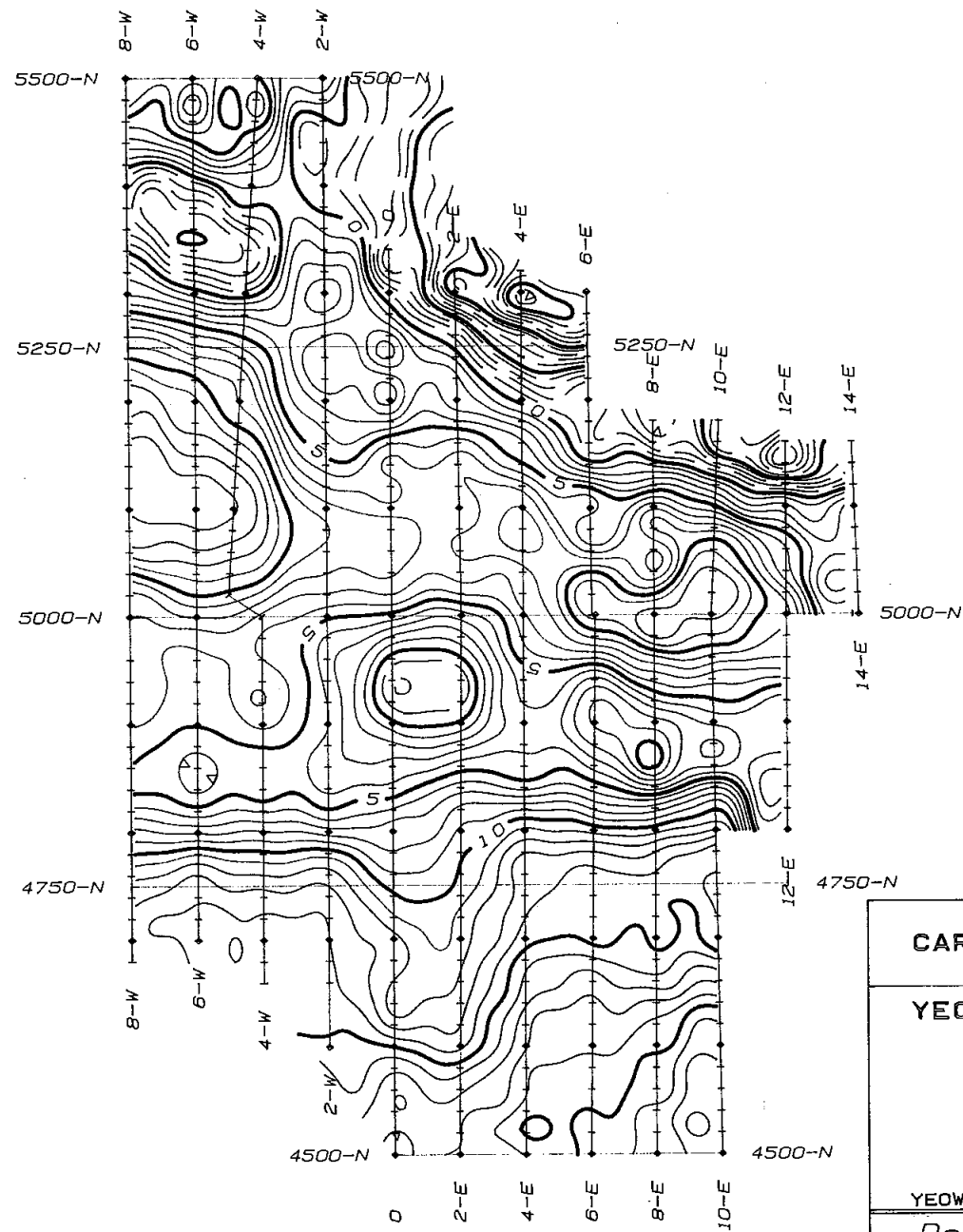
**YEOWARD MOUNTAIN PROPERTY**

TOTAL MAGNETIC FIELD  
UPWARD CONTINUED 15 m  
Contour Interval 10 nT

YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA

*Donegal Developments Ltd*

COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1983	5



**CARBON REEF RESOURCES INC.**

**YEOWARD MOUNTAIN PROPERTY**

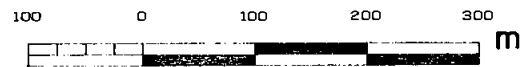
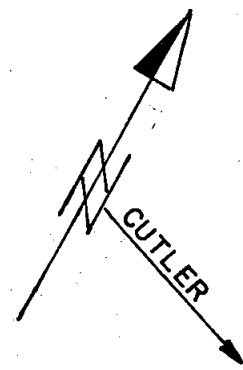
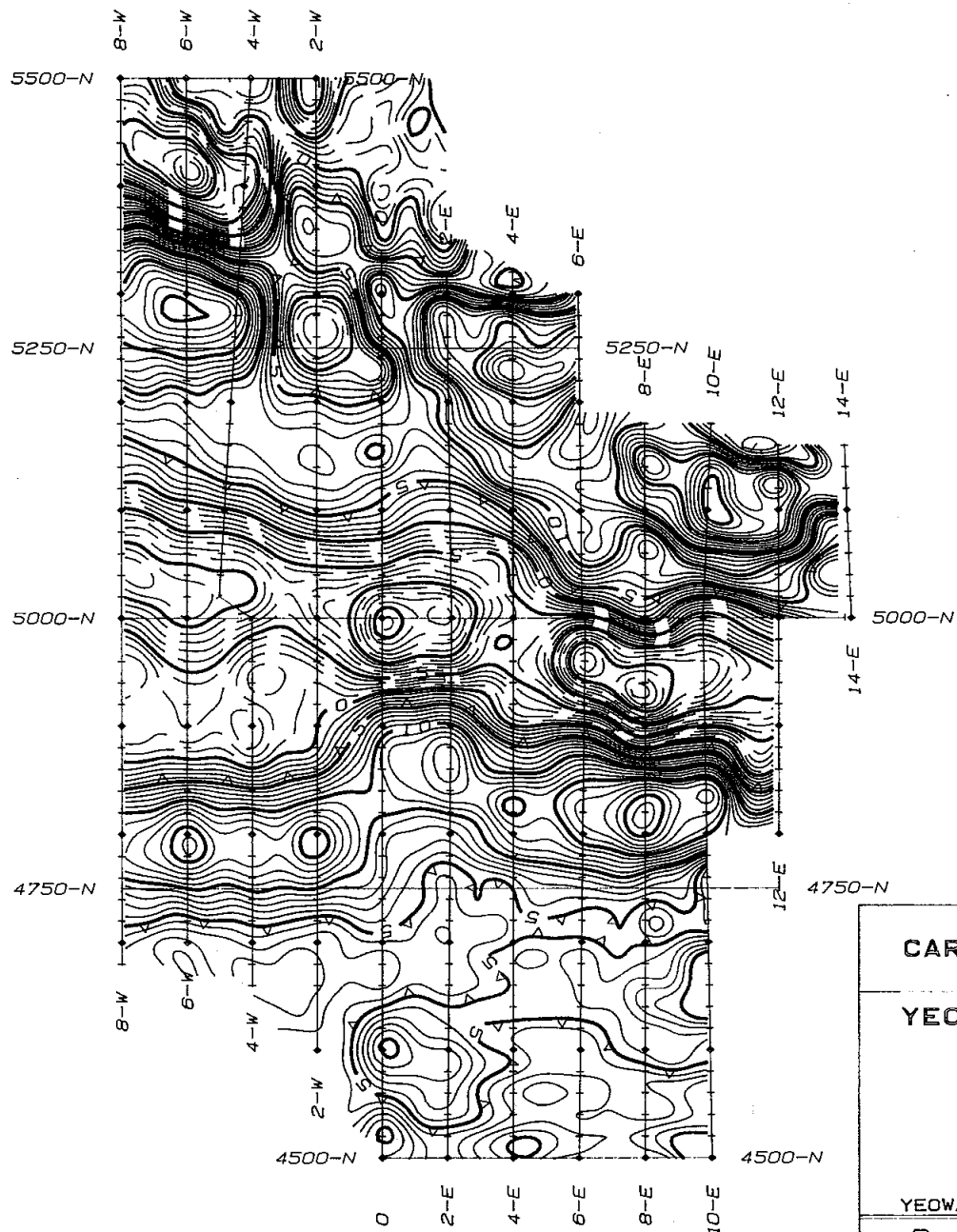
VLF-EM CUTLER DIP ANGLE

Contour Interval 1°

YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA

*Donegal Developments Ltd*

COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1983	6



**CARBON REEF RESOURCES INC.**

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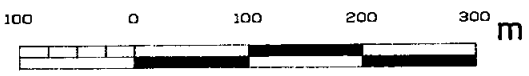
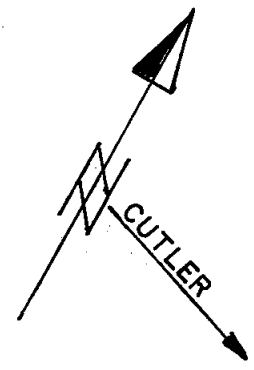
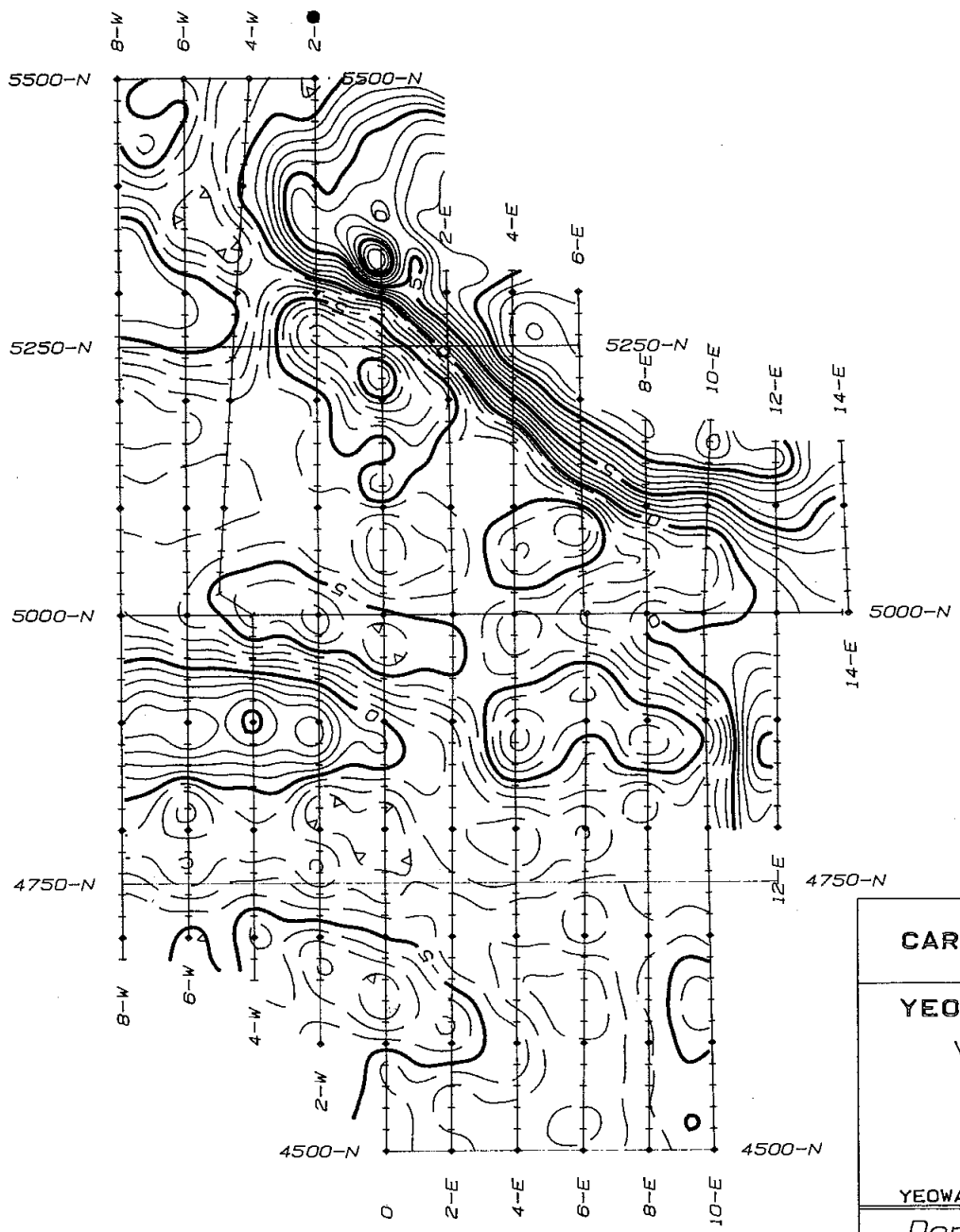
**YEOWARD MOUNTAIN PROPERTY**  
 VLF-EM CUTLER DIP ANGLE  
 FRASER FILTERED  
 Contour Interval 1°

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YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA

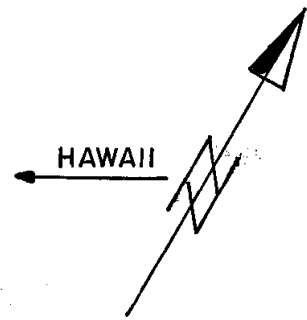
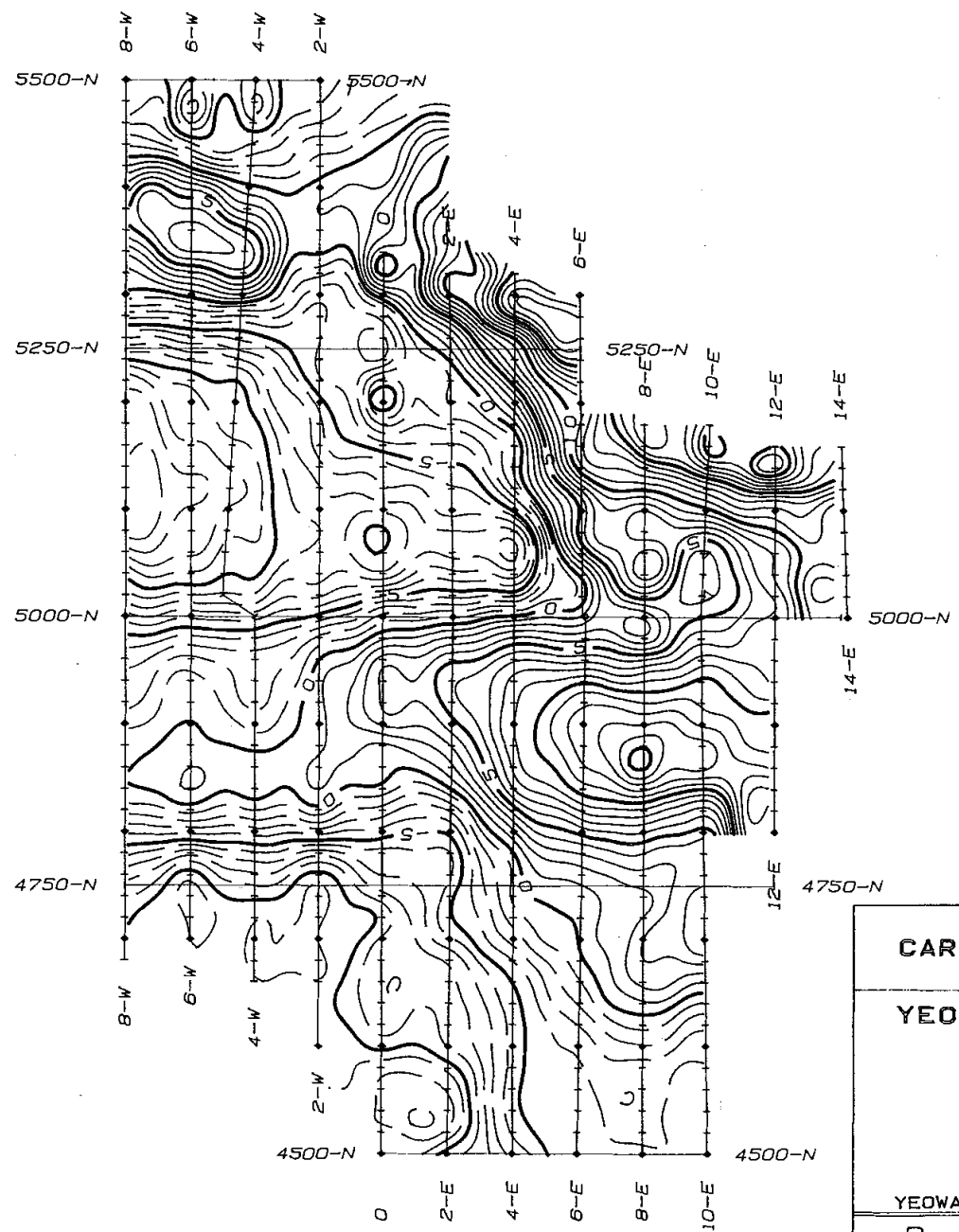
*Donegal Developments Ltd*

COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1983	7

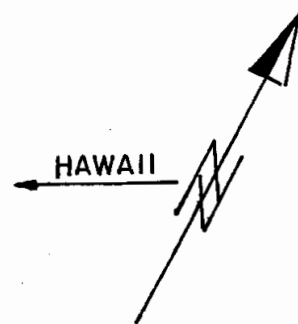
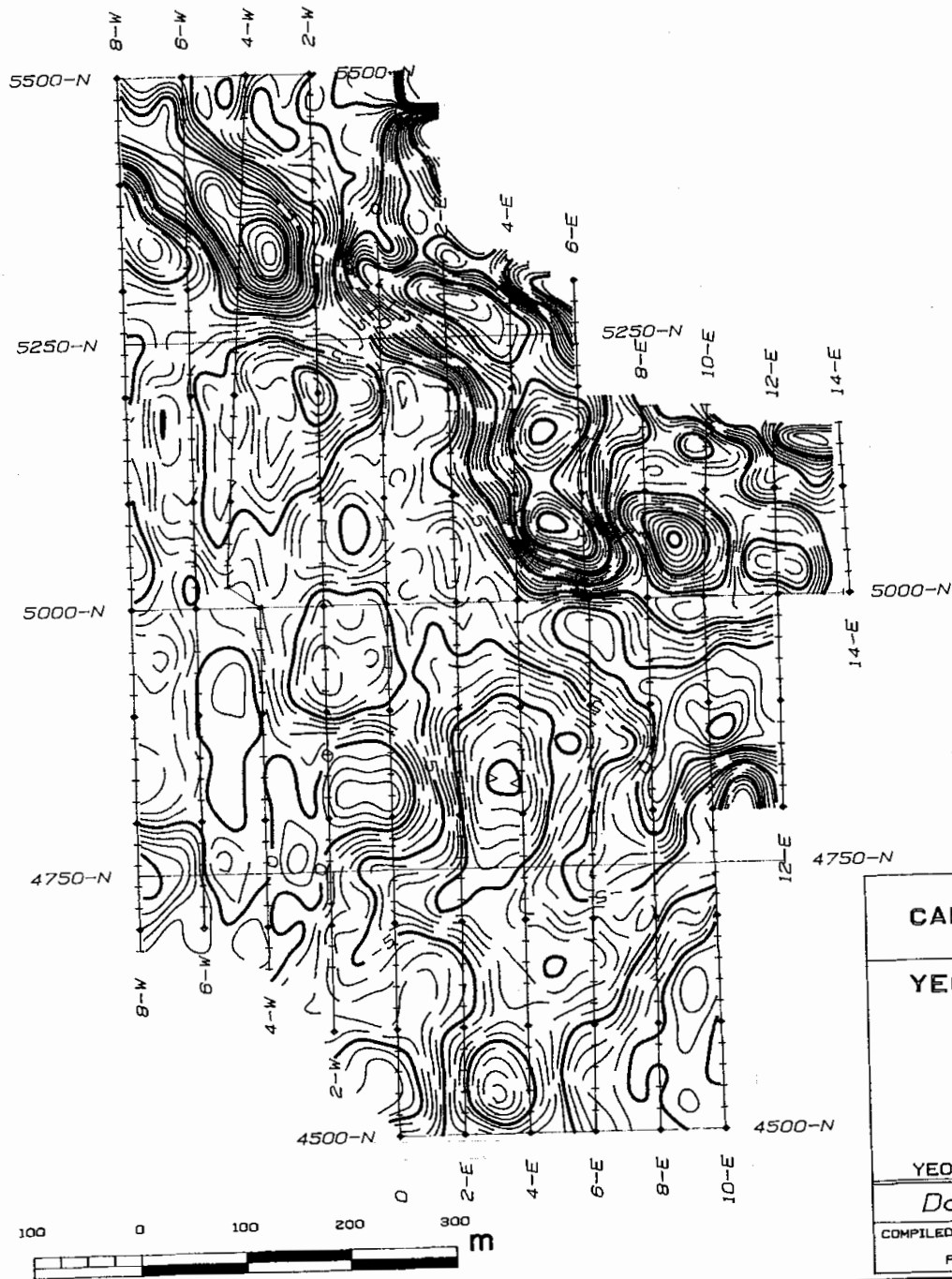


<b>CARBON REEF RESOURCES INC.</b>			
<b>YEOWARD MOUNTAIN PROPERTY</b>			
VLF-EM CUTLER QUADRATURE			
Contour Interval 1%			
YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA			
<i>Donegal Developments Ltd</i>			
COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1993	8

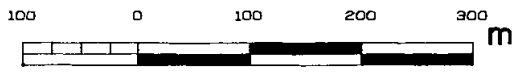
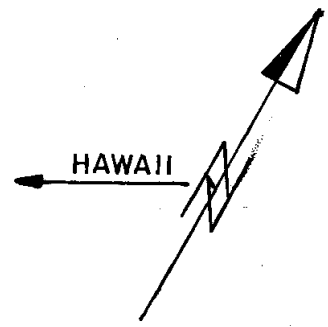
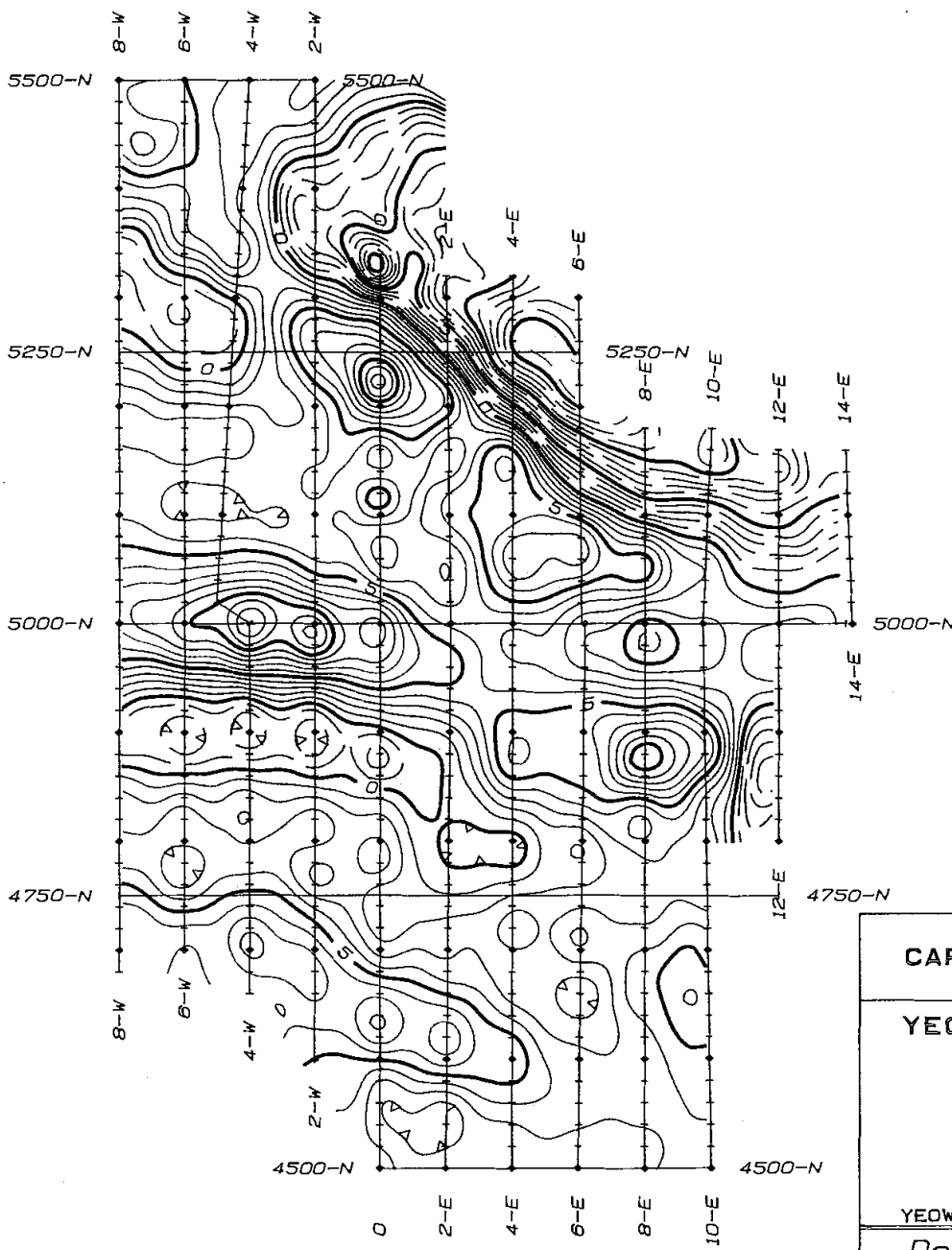




<b>CARBON REEF RESOURCES INC.</b>			
<b>YEOWARD MOUNTAIN PROPERTY</b>			
VLF-EM HAWAII DIP ANGLE			
Contour Interval 1"			
YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA			
<i>Donegal Developments Ltd</i>			
COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1993	9



<b>CARBON REEF RESOURCES INC.</b>			
<b>YEOWARD MOUNTAIN PROPERTY</b>			
VLF-EM HAWAII DIP ANGLE FRASER FILTERED Contour Interval 1°			
YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA			
<i>Donegal Developments Ltd</i>			
COMPILED F. Syberg	N.T.S 82L/1	DATE November, 1993	FIG. NO 10



<b>CARBON REEF RESOURCES INC.</b>			
<b>YEOWARD MOUNTAIN PROPERTY</b>			
VLF-EM HAWAII QUADRATURE			
Contour Interval 1%			
YEOWARD MOUNTAIN AREA, BRITISH COLUMBIA			
<i>Donegal Developments Ltd</i>			
COMPILED	N.T.S	DATE	FIG. NO
F. Syberg	82L/1	November, 1993	11

0~~	4500N	.0	4500.0	57220.2	-15	5	1.5	5.1	-8.6	28	-8	3.6	-8.6	15.7
0~~	4520N	.0	4520.0	57226.4	-21	2	1.6	2.1	-11.9	31	-4	3.6	-4.4	17.2
0~~	4540N	.0	4540.0	57234.8	-24	2	1.6	2.1	-13.5	33	-4	3.7	-4.4	18.3
0~~	4560N	.0	4560.0	57235.9	-24	0	1.7	.0	-13.5	40	-4	3.5	-4.6	21.8
0~~	4580N	.0	4580.0	57251.3	-23	0	1.8	.0	-13.0	31	0	4.2	.0	17.2
0~~	4600N	.0	4600.0	57270.6	-15	5	2.1	5.1	-8.6	30	-6	4.1	-6.5	16.8
0~~	4620N	.0	4620.0	57239.2	-12	9	2.0	9.1	-6.9	19	-8	4.4	-8.3	10.8
0~~	4640N	.0	4640.0	57222.5	-14	10	1.9	10.2	-8.0	17	-11	4.2	-11.3	9.8
0~~	4660N	.0	4660.0	57227.1	-12	7	2.0	7.1	-6.9	22	-9	4.2	-9.4	12.5
0~~	4680N	.0	4680.0	57221.2	-13	4	2.1	4.1	-7.4	22	-6	4.4	-6.3	12.4
0~~	4700N	.0	4700.0	57222.6	-15	1	2.1	1.0	-8.5	25	-5	4.4	-5.3	14.1
0~~	4720N	.0	4720.0	57233.7	-22	0	2.0	.0	-12.4	18	-3	4.7	-3.1	10.2
0~~	4740N	.0	4740.0	57737.3	-13	0	2.2	.0	-7.4	16	-2	4.6	-2.1	9.1
0~~	4760N	.0	4760.0	56806.1	-10	1	2.2	1.0	-5.7	16	-2	4.6	-2.1	9.1
0~~	4780N	.0	4780.0	57034.1	-11	7	2.2	7.1	-6.3	10	-6	4.7	-6.1	5.7
0~~	4800N	.0	4800.0	57058.5	-8	3	2.4	3.0	-4.6	16	-4	4.5	-4.1	9.1
0~~	4820N	.0	4820.0	57111.0	-4	4	2.8	4.0	-2.3	10	-5	4.8	-5.1	5.7
0~~	4840N	.0	4840.0	57160.0	-1	1	2.8	1.0	-.6	6	-2	4.9	-2.0	3.4
0~~	4860N	.0	4860.0	57182.5	-1	-2	2.7	-2.0	-.6	6	1	4.8	1.0	3.4
0~~	4880N	.0	4880.0	57177.8	-3	-5	2.8	-5.0	-1.7	4	2	4.7	2.0	2.3
0~~	4900N	.0	4900.0	57073.8	8	-1	3.0	-1.0	4.6	1	0	5.3	.0	.6
0~~	4920N	.1	4920.0	57362.8	10	3	2.5	3.0	5.7	-7	-3	4.8	-3.0	-4.0
0~~	4940N	.1	4940.0	57238.7	7	5	2.4	5.0	4.0	-6	-5	4.8	-5.0	-3.4
0~~	4960N	.1	4960.0	57202.4	10	9	2.5	9.1	5.8	-2	-9	4.6	-9.0	-1.2
0~~	4980N	.1	4980.0	57197.4	1	9	2.3	9.0	.6	1	-8	4.4	-8.0	.6
0~~	5000N	.1	5000.0	57186.9	0	13	2.8	13.0	.0	10	-5	4.6	-5.1	5.7
0~~	5020N	.1	5020.0	57240.8	-9	7	3.0	7.1	-5.2	14	-3	4.8	-3.1	8.0
0~~	5040N	.1	5040.0	57233.3	-19	2	3.7	2.1	-10.8	15	0	5.3	.0	8.5
0~~	5060N	.1	5060.0	57245.0	-20	0	4.0	.0	-11.3	17	0	5.5	.0	9.6
0~~	5080N	.1	5080.0	57193.0	-22	0	4.0	.0	-12.4	18	1	5.6	1.0	10.2
0~~	5100N	.1	5100.0	57292.4	-16	5	4.1	5.1	-9.1	12	-4	6.0	-4.1	6.9
0~~	5120N	.1	5120.0	57259.0	-12	10	4.0	10.1	-6.9	8	-11	6.1	-11.1	4.6
0~~	5140N	.1	5140.0	57310.7	-12	2	4.2	2.0	-6.8	17	-5	5.7	-5.1	9.7
0~~	5160N	.1	5160.0	57279.9	-10	0	4.5	.0	-5.7	14	-2	6.6	-2.0	8.0
0~~	5180N	.1	5180.0	57137.6	0	4	4.4	4.0	.0	5	-6	6.6	-6.0	2.9
0~~	5200N	.1	5200.0	57432.0	8	12	4.0	12.1	4.6	-5	-13	6.5	-13.0	-2.9
0~~	5220N	.1	5220.0	57559.0	4	19	3.5	19.0	2.4	0	-17	5.9	-17.0	.0
0~~	5240N	.1	5240.0	57401.4	-10	14	3.5	14.1	-5.8	12	-12	6.3	-12.2	6.9
0~~	5260N	.1	5260.0	57429.8	-15	7	3.8	7.2	-8.6	14	-4	7.3	-4.1	8.0
0~~	5280N	.1	5280.0	57603.8	-5	9	3.7	9.0	-2.9	-2	-10	7.0	-10.0	-1.2
0~~	5300N	.1	5300.0	57943.8	-6	0	4.6	.0	-3.4	5	1	8.6	1.0	2.9
0~~	5320N	.1	5320.0	58138.2	23	-14	3.6	-14.8	13.2	-17	18	6.6	18.5	-10.0
0~~	5340N	.1	5340.0	58133.1	7	-19	3.4	-19.1	4.2	-8	22	6.6	22.1	-4.8
2-E	4500N	61.0	4500.0	57227.9	-20	3	1.5	3.1	-11.3	35	-4	3.7	-4.5	19.3
2-E	4520N	61.2	4520.0	57217.9	-25	2	1.5	2.1	-14.0	31	-2	4.0	-2.2	17.2
2-E	4540N	61.3	4540.0	57238.2	-28	0	1.5	.0	-15.6	31	-1	4.2	-1.1	17.2
2-E	4560N	61.5	4560.0	57244.4	-27	-2	1.6	-2.1	-15.1	31	0	4.4	.0	17.2
2-E	4580N	61.6	4580.0	57296.3	-22	3	1.7	3.1	-12.4	26	-4	4.8	-4.3	14.6
2-E	4600N	61.8	4600.0	57226.2	-14	11	1.7	11.2	-8.1	19	-10	4.6	-10.4	10.9
2-E	4620N	62.0	4620.0	57493.9	-14	9	1.6	9.2	-8.0	18	-9	4.4	-9.3	10.3
2-E	4640N	62.1	4640.0	57274.1	-19	9	1.6	9.3	-10.8	23	-7	4.4	-7.4	13.0
2-E	4660N	62.3	4660.0	57250.9	-16	4	1.7	4.1	-9.1	22	-3	4.6	-3.1	12.4
2-E	4680N	62.4	4680.0	57249.3	-19	1	1.6	1.0	-10.8	14	-1	4.7	-1.0	8.0
2-E	4700N	62.6	4700.0	57233.0	-12	4	1.8	4.1	-6.9	19	-3	4.9	-3.1	10.8
2-E	4720N	62.8	4720.0	57212.2	-2	4	1.7	4.0	-1.1	23	-8	4.2	-8.4	13.0

2-E 4740N	62.9	4740.0	57254.9	-12	1	1.6	1.0	-6.8	14	-2	4.8	-2.0	8.0
2-E 4760N	63.1	4760.0	57228.6	-16	0	1.6	.0	-9.1	17	-1	4.8	-1.0	9.6
2-E 4780N	63.2	4780.0	57248.1	-14	-2	1.7	-2.0	-8.0	15	-1	4.9	-1.0	8.5
2-E 4800N	63.4	4800.0	57223.7	-15	-1	1.7	-1.0	-8.5	18	-1	5.0	-1.0	10.2
2-E 4820N	63.6	4820.0	57385.2	-11	-1	1.7	-1.0	-6.3	16	0	5.2	.0	9.1
2-E 4840N	63.7	4840.0	56788.1	0	-1	1.7	-1.0	.0	14	0	4.7	.0	8.0
2-E 4860N	63.9	4860.0	57188.5	2	0	1.7	.0	1.1	9	0	4.4	.0	5.1
2-E 4880N	64.0	4880.0	57189.7	-1	-3	1.6	-3.0	-.6	4	2	5.4	2.0	2.3
2-E 4900N	64.2	4900.0	57161.7	3	-2	1.7	-2.0	1.7	0	1	5.5	1.0	.0
2-E 4920N	64.4	4920.0	57172.5	13	3	1.1	3.1	7.4	-11	-3	4.7	-3.0	-6.3
2-E 4940N	64.5	4940.0	57190.6	12	6	1.2	6.1	6.9	-10	-6	4.5	-6.1	-5.7
2-E 4960N	64.7	4960.0	57274.0	10	9	1.2	9.1	5.8	-4	-8	4.4	-8.0	-2.3
2-E 4980N	64.8	4980.0	57228.0	7	5	1.2	5.0	4.0	0	-6	4.3	-6.0	.0
2-E 5000N	65.0	5000.0	57227.9	-5	3	.9	3.0	-2.9	-1	-6	3.2	-6.0	-.6
2-E 5020N	64.8	5020.0	57240.6	-7	0	1.0	.0	-4.0	12	-3	4.7	-3.0	6.8
2-E 5040N	64.5	5040.0	57262.4	-11	0	1.0	.0	-6.3	15	-3	4.7	-3.1	8.5
2-E 5060N	64.3	5060.0	57195.3	-18	-2	1.0	-2.1	-10.2	17	-1	4.9	-1.0	9.6
2-E 5080N	64.0	5080.0	57281.8	-16	3	1.1	3.1	-9.1	11	-4	5.4	-4.0	6.3
2-E 5100N	63.8	5100.0	57242.9	-7	6	1.1	6.0	-4.0	11	-1	5.3	-1.0	6.3
2-E 5120N	63.5	5120.0	57322.6	-10	5	1.2	5.1	-5.7	11	-8	5.3	-8.1	6.3
2-E 5140N	63.3	5140.0	57306.4	-10	0	1.2	.0	-5.7	19	-5	5.1	-5.2	10.8
2-E 5160N	63.0	5160.0	57317.7	-14	-3	1.3	-3.1	-8.0	17	0	5.8	.0	9.6
2-E 5180N	62.8	5180.0	56825.1	-6	0	1.3	.0	-3.4	7	-3	6.5	-3.0	4.0
2-E 5200N	62.5	5200.0	57243.7	3	15	1.0	15.0	1.8	-1	-16	5.7	-16.0	-.6
2-E 5220N	62.3	5220.0	57246.6	-6	10	1.4	10.0	-3.5	7	-7	6.5	-7.0	4.0
2-E 5240N	62.0	5240.0	57302.4	-7	1	1.8	1.0	-4.0	8	0	7.0	.0	4.6
2-E 5260N	61.8	5260.0	57339.8	-1	-2	2.5	-2.0	-.6	2	3	7.8	3.0	1.1
2-E 5280N	61.5	5280.0	57408.7	0	-9	2.9	-9.0	.0	-4	9	8.5	9.0	-2.3
2-E 5300N	61.3	5300.0	57108.7	20	-11	3.3	-11.4	11.4	-22	9	8.7	9.4	-12.5
2-E 5320N	61.0	5320.0	56830.1	44	-11	3.2	-13.2	24.0	-49	8	7.7	9.9	-26.2
2-W 4600N	-61.0	4600.0	57256.1	-20	5	6.2	5.2	-11.3	33	-4	3.9	-4.4	18.3
2-W 4660N	-61.0	4660.0	57254.2	-22	6	5.8	6.3	-12.4	28	-6	4.1	-6.5	15.7
2-W 4680N	-61.0	4680.0	57612.8	-22	10	5.7	10.5	-12.5	23	-12	4.3	-12.6	13.1
2-W 4700N	-61.0	4700.0	57275.6	-20	7	6.1	7.3	-11.4	26	-7	4.4	-7.5	14.6
2-W 4720N	-61.0	4720.0	57099.9	-17	6	6.4	6.2	-9.7	27	-4	4.5	-4.3	15.1
2-W 4740N	-61.0	4740.0	57317.0	-25	4	5.8	4.3	-14.1	26	-1	4.6	-1.1	14.6
2-W 4760N	-61.0	4760.0	57233.5	-26	1	5.7	1.1	-14.6	24	0	4.6	.0	13.5
2-W 4780N	-61.0	4780.0	57332.8	-23	-6	6.7	-6.3	-13.0	30	5	4.8	5.5	16.7
2-W 4800N	-61.0	4800.0	56425.4	1	9	7.6	9.0	.6	5	-7	5.7	-7.0	2.9
2-W 4820N	-61.0	4820.0	57295.2	2	5	6.9	5.0	1.1	10	-9	3.8	-9.1	5.8
2-W 4840N	-61.0	4840.0	57169.1	6	3	6.6	3.0	3.4	3	-5	4.6	-5.0	1.7
2-W 4860N	-61.0	4860.0	57205.2	3	1	6.0	1.0	1.7	3	3	4.5	3.0	1.7
2-W 4880N	-61.0	4880.0	57290.6	0	-5	5.8	-5.0	.0	6	9	4.4	9.0	3.5
2-W 4900N	-61.0	4900.0	57229.8	3	-5	5.6	-5.0	1.7	9	6	4.6	6.0	5.2
2-W 4920N	-61.0	4920.0	57309.7	0	-3	5.5	-3.0	.0	8	3	4.6	3.0	4.6
2-W 4940N	-61.0	4940.0	57229.5	3	-1	5.3	-1.0	1.7	8	1	4.6	1.0	4.6
2-W 4960N	-61.0	4960.0	57214.7	0	8	5.7	8.0	.0	6	-2	4.6	-2.0	3.4
2-W 4980N	-61.0	4980.0	57241.2	4	17	5.2	17.0	2.4	1	-13	4.0	-13.0	.6
2-W 5000N	-61.0	5000.0	57284.0	-14	17	3.5	17.3	-8.2	12	-9	4.1	-9.1	6.9
2-W 5020N	-61.0	5020.0	57254.8	-16	6	2.6	6.2	-9.1	14	-6	4.4	-6.1	8.0
2-W 5040N	-61.0	5040.0	57323.9	-15	3	2.9	3.1	-8.5	14	-4	4.5	-4.1	8.0
2-W 5060N	-61.0	5060.0	57288.7	-18	3	3.0	3.1	-10.2	13	-3	3.8	-3.1	7.4
2-W 5080N	-61.0	5080.0	57302.5	-15	2	3.0	2.0	-8.5	22	-4	4.5	-4.2	12.4
2-W 5100N	-61.0	5100.0	57248.1	-14	0	3.3	.0	-8.0	17	-1	5.0	-1.0	9.6
2-W 5120N	-61.0	5120.0	57316.8	-15	6	3.4	6.1	-8.6	9	-5	5.2	-5.0	5.2

2-W	5140N	-61.0	5140.0	57309.5	-14	4	3.3	4.1	-8.0	5	-4	5.2	-4.0	2.9
2-W	5160N	-61.0	5160.0	57277.6	-6	5	3.7	5.0	-3.4	6	-7	5.3	-7.0	3.5
2-W	5180N	-61.0	5180.0	57333.4	-13	1	3.4	1.0	-7.4	4	-2	5.1	-2.0	2.3
2-W	5200N	-61.0	5200.0	57346.6	-20	0	3.3	.0	-11.3	6	0	5.5	.0	3.4
2-W	5220N	-61.0	5220.0	57503.6	-5	1	4.1	1.0	-2.9	2	-3	6.0	-3.0	1.1
2-W	5240N	-61.0	5240.0	57466.4	-1	7	3.6	7.0	-.6	-9	-10	5.3	-10.1	-5.2
2-W	5260N	-61.0	5260.0	57429.0	-9	11	3.2	11.1	-5.2	-3	-16	4.8	-16.0	-1.8
2-W	5280N	-61.0	5280.0	57435.1	-11	11	3.6	11.1	-6.4	15	-17	4.8	-17.4	8.8
2-W	5300N	-61.0	5300.0	57468.8	-16	6	4.3	6.2	-9.1	20	-5	5.7	-5.2	11.3
2-W	5320N	-61.0	5320.0	57493.8	-4	0	4.2	.0	-2.3	6	3	6.0	3.0	3.4
2-W	5340N	-61.0	5340.0	57600.4	-3	-4	4.3	-4.0	-1.7	12	6	5.7	6.1	6.9
2-W	5360N	-61.0	5360.0	57420.1	-4	-8	4.2	-8.0	-2.3	4	12	7.0	12.0	2.3
2-W	5380N	-61.0	5380.0	57320.8	3	-7	4.0	-7.0	1.7	2	12	6.3	12.0	1.2
2-W	5400N	-61.0	5400.0	57451.0	1	-12	3.3	-12.0	.6	-5	11	6.2	11.0	-2.9
2-W	5420N	-61.0	5420.0	57334.8	-7	0	4.1	.0	-4.0	-2	8	4.8	8.0	-1.2
2-W	5440N	-61.0	5440.0	57286.9	5	0	3.9	.0	2.9	-17	3	5.6	3.1	-9.7
2-W	5460N	-61.0	5460.0	57372.5	-1	2	3.4	2.0	-.6	-13	-1	5.4	-1.0	-7.4
2-W	5480N	-61.0	5480.0	57078.5	-14	7	3.3	7.1	-8.0	-7	-2	5.2	-2.0	-4.0
2-W	5500N	-61.0	5500.0	57131.2	-3	9	4.0	9.0	-1.7	5	-5	5.5	-5.0	2.9
4-E	4500N	121.9	4500.0	56878.1	-7	2	7.1	2.0	-4.0	42	-2	5.1	-2.4	22.8
4-E	4520N	121.9	4520.0	57248.0	-9	2	7.0	2.0	-5.1	36	0	5.4	.0	19.8
4-E	4540N	121.9	4540.0	57266.0	-6	3	7.7	3.0	-3.4	35	-3	5.4	-3.4	19.3
4-E	4560N	121.9	4560.0	57267.3	-5	4	7.7	4.0	-2.9	36	-4	5.2	-4.5	19.8
4-E	4580N	121.9	4580.0	57295.2	-7	6	7.6	6.0	-4.0	35	-5	5.3	-5.6	19.3
4-E	4600N	121.9	4600.0	57242.3	-12	8	7.3	8.1	-6.9	33	-5	5.4	-5.5	18.3
4-E	4620N	121.9	4620.0	57250.6	-7	5	8.1	5.0	-4.0	35	-3	5.6	-3.4	19.3
4-E	4640N	121.9	4640.0	57252.5	-9	5	8.1	5.0	-5.2	32	-2	5.6	-2.2	17.8
4-E	4660N	121.9	4660.0	57252.9	-11	0	8.1	.0	-6.3	30	0	5.6	.0	16.7
4-E	4680N	121.9	4680.0	57219.3	-9	0	8.7	.0	-5.1	30	0	5.8	.0	16.7
4-E	4700N	121.9	4700.0	57317.5	0	3	8.9	3.0	.0	28	-5	5.6	-5.4	15.7
4-E	4720N	121.9	4720.0	57251.7	0	6	8.9	6.0	.0	24	-5	5.7	-5.3	13.5
4-E	4740N	121.9	4740.0	57263.1	-1	4	8.3	4.0	-.6	24	-1	5.6	-1.1	13.5
4-E	4760N	121.9	4760.0	57251.1	1	1	9.3	1.0	.6	27	-1	5.7	-1.1	15.1
4-E	4780N	121.9	4780.0	57221.6	-2	-1	9.1	-1.0	-1.1	24	2	5.8	2.1	13.5
4-E	4800N	121.9	4800.0	57181.9	5	-3	10.5	-3.0	2.9	27	1	5.6	1.1	15.1
4-E	4820N	121.9	4820.0	57219.8	8	-1	10.6	-1.0	4.6	17	0	6.2	.0	9.6
4-E	4840N	121.9	4840.0	57215.5	22	5	10.3	5.2	12.4	4	-7	5.7	-7.0	2.3
4-E	4860N	121.9	4860.0	57196.7	18	8	9.5	8.3	10.3	3	-10	5.8	-10.0	1.7
4-E	4880N	121.9	4880.0	57213.6	16	10	9.6	10.3	9.2	10	-15	5.3	-15.2	5.8
4-E	4900N	121.9	4900.0	57233.0	17	7	9.4	7.2	9.7	8	-10	5.5	-10.1	4.6
4-E	4920N	121.9	4920.0	57223.9	16	6	9.2	6.2	9.1	11	-7	5.2	-7.1	6.3
4-E	4940N	121.9	4940.0	57226.5	18	4	8.9	4.1	10.2	13	-3	5.0	-3.1	7.4
4-E	4960N	121.9	4960.0	57207.2	12	0	8.9	.0	6.8	12	0	5.0	.0	6.8
4-E	4980N	121.9	4980.0	57229.3	16	4	8.8	4.1	9.1	15	-1	4.7	-1.0	8.5
4-E	5000N	121.9	5000.0	57206.4	1	0	3.0	.0	.6	10	1	6.2	1.0	5.7
4-E	5020N	121.9	5020.0	57182.9	-7	6	3.0	6.0	-4.0	13	-6	6.3	-6.1	7.4
4-E	5040N	121.9	5040.0	57200.7	-23	10	2.9	10.5	-13.1	8	-10	6.0	-10.1	4.6
4-E	5060N	121.9	5060.0	57290.6	-24	11	2.6	11.6	-13.6	18	-8	6.8	-8.3	10.3
4-E	5080N	121.9	5080.0	57277.9	-24	9	3.0	9.5	-13.6	23	-8	7.4	-8.4	13.0
4-E	5100N	121.9	5100.0	57300.7	-23	4	3.8	4.2	-13.0	24	-2	8.2	-2.1	13.5
4-E	5120N	121.9	5120.0	57253.2	19	-1	4.6	-1.0	10.8	14	0	8.6	.0	8.0
4-E	5140N	121.9	5140.0	57338.9	-7	18	3.1	18.1	-4.1	4	-13	7.3	-13.0	2.3
4-E	5160N	121.9	5160.0	57311.6	-10	12	3.1	12.1	-5.8	8	-8	7.8	-8.1	4.6
4-E	5180N	121.9	5180.0	58102.0	-5	5	4.1	5.0	-2.9	13	-2	8.7	-2.0	7.4
4-E	5200N	121.9	5200.0	57465.6	2	-7	4.6	-7.0	1.2	-3	8	10.8	8.0	-1.7

4-E	5220N	121.9	5220.0	57845.2	22	-8	3.6	-8.4	12.5	-21	6	8.2	6.3	-11.9
4-E	5240N	121.9	5240.0	57074.9	11	-19	4.1	-19.2	6.5	-5	17	8.6	17.0	-2.9
4-E	5260N	121.9	5260.0	57170.5	-3	-26	3.7	-26.0	-1.8	-5	22	10.3	22.1	-3.0
4-E	5280N	121.9	5280.0	57527.1	47	-13	4.1	-15.9	25.5	-38	11	8.9	12.6	-21.0
4-E	5300N	121.9	5300.0	57455.5	42	-8	3.8	-9.4	22.9	-36	10	7.3	11.3	-20.0
4-E	5320N	121.9	5320.0	58129.6	36	-7	4.2	-7.9	19.9	-34	10	6.9	11.2	-18.9
4-W	4660N	-122.0	4660.0	57333.9	-22	4	6.4	4.2	-12.4	31	-2	4.1	-2.2	17.2
4-W	4680N	-122.0	4680.0	57288.4	-16	7	6.4	7.2	-9.1	26	-4	4.2	-4.3	14.6
4-W	4700N	-122.0	4700.0	57320.4	-21	10	6.1	10.4	-12.0	24	-9	4.0	-9.5	13.6
4-W	4720N	-122.0	4720.0	57249.8	-20	10	6.1	10.4	-11.4	27	-5	3.7	-5.4	15.1
4-W	4740N	-122.0	4740.0	57228.0	-14	7	6.6	7.1	-8.0	23	-5	3.7	-5.3	13.0
4-W	4760N	-122.0	4760.0	57248.4	-12	6	6.9	6.1	-6.9	20	-4	3.7	-4.2	11.3
4-W	4780N	-122.0	4780.0	57263.8	-10	3	7.0	3.0	-5.7	19	0	3.6	.0	10.8
4-W	4800N	-122.0	4800.0	57241.2	-7	2	6.6	2.0	-4.0	15	1	3.9	1.0	8.5
4-W	4820N	-122.0	4820.0	57227.4	-1	4	7.5	4.0	-.6	10	-1	3.8	-1.0	5.7
4-W	4840N	-122.0	4840.0	57196.8	2	3	7.0	3.0	1.1	6	1	3.8	1.0	3.4
4-W	4860N	-122.0	4860.0	57250.3	1	3	6.7	3.0	.6	6	1	3.6	1.0	3.4
4-W	4880N	-122.0	4880.0	57223.2	-1	-2	6.6	-2.0	-.6	10	5	3.4	5.1	5.7
4-W	4900N	-122.0	4900.0	57224.6	-6	-6	6.0	-6.0	-3.4	13	7	3.4	7.1	7.4
4-W	4920N	-122.0	4920.0	57221.4	-9	-3	6.5	-3.0	-5.1	16	7	3.4	7.2	9.1
4-W	4940N	-122.0	4940.0	57189.1	-8	0	6.6	.0	-4.6	19	2	3.3	2.1	10.8
4-W	4960N	-122.0	4960.0	57160.1	-2	7	6.8	7.0	-1.2	7	-2	3.5	-2.0	4.0
4-W	4980N	-122.0	4980.0	57147.3	0	11	6.3	11.0	.0	8	-8	3.3	-8.1	4.6
4-W	5000N	-122.0	5000.0	56927.0	-19	21	3.1	21.8	-11.2	11	-8	4.4	-8.1	6.3
4-W	5020N	-153.0	5020.0	57292.1	-16	12	4.2	12.3	-9.2	16	-8	4.3	-8.2	9.1
4-W	5040N	-151.7	5040.0	57364.7	-20	7	4.3	7.3	-11.4	22	-6	4.4	-6.3	12.4
4-W	5060N	-150.4	5060.0	57278.9	-18	4	4.4	4.1	-10.2	22	-3	4.6	-3.1	12.4
4-W	5080N	-149.1	5080.0	57217.8	-19	4	4.8	4.1	-10.8	24	-3	4.7	-3.2	13.5
4-W	5100N	-147.8	5100.0	57280.7	-19	2	4.8	2.1	-10.8	29	-4	4.7	-4.3	16.2
4-W	5120N	-146.5	5120.0	57288.4	-27	2	4.3	2.1	-15.1	24	0	5.2	.0	13.5
4-W	5140N	-145.3	5140.0	57263.7	-21	2	5.1	2.1	-11.9	25	-1	5.2	-1.1	14.0
4-W	5160N	-144.0	5160.0	57260.8	-21	4	5.0	4.2	-11.9	21	-3	5.6	-3.1	11.9
4-W	5180N	-142.7	5180.0	57356.0	-17	9	4.9	9.3	-9.7	14	-7	5.6	-7.1	8.0
4-W	5200N	-141.4	5200.0	57387.6	-16	3	5.2	3.1	-9.1	12	-3	5.2	-3.0	6.8
4-W	5220N	-140.1	5220.0	57289.0	-21	0	5.2	.0	-11.9	18	-1	5.8	-1.0	10.2
4-W	5240N	-138.8	5240.0	57300.2	-16	0	5.2	.0	-9.1	14	-1	6.0	-1.0	8.0
4-W	5260N	-137.5	5260.0	57330.1	-12	-1	5.4	-1.0	-6.8	9	0	6.0	.0	5.1
4-W	5280N	-136.2	5280.0	57306.1	-7	-4	5.6	-4.0	-4.0	4	2	5.7	2.0	2.3
4-W	5300N	-134.9	5300.0	57335.8	1	-2	6.0	-2.0	.6	2	2	6.3	2.0	1.1
4-W	5320N	-133.6	5320.0	57334.3	22	3	5.7	3.1	12.4	-15	-1	5.5	-1.0	-8.5
4-W	5340N	-132.3	5340.0	57327.7	24	14	4.2	14.8	13.7	-18	-12	4.8	-12.4	-10.3
4-W	5360N	-131.0	5360.0	57351.9	7	5	4.0	5.0	4.0	0	-2	4.7	-2.0	.0
4-W	5380N	-129.8	5380.0	57348.8	4	1	4.2	1.0	2.3	2	1	5.1	1.0	1.1
4-W	5400N	-128.5	5400.0	57349.3	-5	5	3.3	5.0	-2.9	5	0	5.2	.0	2.9
4-W	5420N	-127.2	5420.0	57310.9	-2	5	4.0	5.0	-1.1	8	-1	5.1	-1.0	4.6
4-W	5440N	-125.9	5440.0	57331.6	-9	5	3.6	5.0	-5.2	9	-1	5.2	-1.0	5.1
4-W	5460N	-124.6	5460.0	57332.9	-9	3	3.9	3.0	-5.1	13	0	5.2	.0	7.4
4-W	5480N	-123.3	5480.0	57328.1	-16	3	4.1	3.1	-9.1	16	0	5.2	.0	9.1
4-W	5500N	-122.0	5500.0	57279.1	-22	3	4.2	3.1	-12.4	19	-1	5.4	-1.0	10.8
6-E	4500N	182.9	4500.0	57280.6	-8	1	7.3	1.0	-4.6	40	0	5.5	.0	21.8
6-E	4520N	183.1	4520.0	57237.0	-7	2	7.0	2.0	-4.0	34	-1	5.6	-1.1	18.8
6-E	4540N	183.4	4540.0	57250.4	-8	4	7.1	4.0	-4.6	34	0	5.7	.0	18.8
6-E	4560N	183.6	4560.0	57179.3	-8	4	7.2	4.0	-4.6	39	-3	5.4	-3.5	21.3
6-E	4580N	183.9	4580.0	57187.7	-8	4	7.1	4.0	-4.6	35	-2	5.8	-2.2	19.3
6-E	4600N	184.1	4600.0	57208.4	-7	4	7.1	4.0	-4.0	32	-1	6.0	-1.1	17.7

6-E 4620N	184.3	4620.0	57215.9	-9	2	6.8	2.0	-5.1	33	0	6.1	.0	18.3
6-E 4640N	184.6	4640.0	57215.0	0	0	7.5	.0	.0	34	0	6.2	.0	18.8
6-E 4660N	184.8	4660.0	57237.1	-2	-1	7.7	-1.0	-1.1	35	0	6.1	.0	19.3
6-E 4680N	185.1	4680.0	57237.6	-3	-1	7.6	-1.0	-1.7	30	0	6.4	.0	16.7
6-E 4700N	185.3	4700.0	57247.2	4	7	7.5	7.0	2.3	22	-9	6.0	-9.4	12.5
6-E 4720N	185.5	4720.0	57243.5	-2	7	6.5	7.0	-1.2	23	-7	6.1	-7.4	13.0
6-E 4740N	185.8	4740.0	57284.7	0	2	7.1	2.0	.0	29	-4	5.9	-4.3	16.2
6-E 4760N	186.0	4760.0	57224.8	1	2	7.6	2.0	.6	28	-3	6.1	-3.2	15.7
6-E 4780N	186.3	4780.0	57260.8	3	0	7.8	.0	1.7	26	0	6.4	.0	14.6
6-E 4800N	186.5	4800.0	57264.0	10	0	8.0	.0	5.7	18	0	6.7	.0	10.2
6-E 4820N	186.7	4820.0	57256.5	11	1	7.6	1.0	6.3	14	0	6.7	.0	8.0
6-E 4840N	187.0	4840.0	57247.3	22	6	7.3	6.3	12.4	12	-6	5.9	-6.1	6.9
6-E 4860N	187.2	4860.0	57226.9	20	6	7.0	6.2	11.3	8	-3	5.7	-3.0	4.6
6-E 4880N	187.5	4880.0	57265.1	20	1	6.8	1.0	11.3	5	0	6.5	.0	2.9
6-E 4900N	187.7	4900.0	57268.3	22	2	6.9	2.1	12.4	0	-2	6.4	-2.0	.0
6-E 4920N	187.9	4920.0	57258.1	27	9	5.2	9.7	15.2	-6	-12	5.4	-12.0	-3.5
6-E 4940N	188.2	4940.0	57196.4	19	4	5.9	4.1	10.8	0	-11	5.6	-11.0	.0
6-E 4960N	188.4	4960.0	57183.0	14	0	5.5	.0	8.0	6	-5	5.6	-5.0	3.4
6-E 4980N	188.7	4980.0	57228.8	13	2	5.9	2.0	7.4	12	-2	5.7	-2.0	6.8
6-E 5000N	188.9	5000.0	57281.5	-2	0	5.8	.0	-1.1	29	-1	6.0	-1.1	16.2
6-E 5001N	186.0	5000.0	57320.8	-3	0	5.7	.0	-1.7	27	-1	5.8	-1.1	15.1
6-E 5020N	185.8	5019.1	57279.2	-7	0	6.0	.0	-4.0	29	0	6.3	.0	16.2
6-E 5040N	185.6	5039.1	57367.6	-13	7	6.8	7.1	-7.4	29	-4	8.0	-4.3	16.2
6-E 5060N	185.4	5059.2	57388.1	19	8	7.1	8.3	10.8	0	-5	8.8	-5.0	.0
6-E 5080N	185.2	5079.3	57551.9	22	12	6.3	12.6	12.6	-1	-18	6.9	-18.0	-1.6
6-E 5100N	185.0	5099.3	57617.0	7	8	6.2	8.0	4.0	11	-12	6.5	-12.1	6.4
6-E 5120N	184.8	5119.4	57718.1	3	-1	7.7	-1.0	1.7	25	0	6.9	.0	14.0
6-E 5140N	184.6	5139.5	57341.3	40	-4	7.2	-4.6	21.8	-18	6	9.0	6.2	-10.2
6-E 5160N	184.4	5159.5	57260.1	25	-6	6.6	-6.4	14.1	-6	7	7.6	7.0	-3.5
6-E 5180N	184.1	5179.6	57585.1	19	-15	5.6	-15.6	11.0	-5	11	7.9	11.0	-2.9
6-E 5200N	183.9	5199.7	57301.8	22	-20	5.4	-21.0	12.9	0	17	8.2	17.0	.0
6-E 5220N	183.7	5219.7	58512.3	13	-23	6.4	-23.4	7.8	9	19	9.0	19.2	5.3
6-E 5240N	183.5	5239.8	57962.0	35	-15	6.4	-16.9	19.7	-12	13	9.2	13.2	-7.0
6-E 5260N	183.3	5259.9	56677.1	51	-11	5.8	-13.9	27.2	-28	8	8.1	8.6	-15.7
6-E 5280N	183.1	5279.9	58014.3	42	-14	5.5	-16.5	23.1	-41	15	7.3	17.6	-22.7
6-E 5300N	182.9	5300.0	58346.4	40	-7	5.2	-8.1	21.9	-47	7	7.5	8.6	-25.3
6-W 4700N	-183.0	4700.0	57271.0	-20	7	6.1	7.3	-11.4	26	-7	4.4	-7.5	14.6
6-W 4720N	-183.0	4720.0	57095.5	-17	6	6.4	6.2	-9.7	27	-4	4.5	-4.3	15.1
6-W 4740N	-183.0	4740.0	57313.0	-25	4	5.8	4.3	-14.1	26	-1	4.6	-1.1	14.6
6-W 4760N	-183.0	4760.0	57229.9	-26	1	5.7	1.1	-14.6	24	0	4.6	.0	13.5
6-W 4780N	-183.0	4780.0	57329.4	-23	-6	6.7	-6.3	-13.0	30	5	4.8	5.5	16.7
6-W 4800N	-183.0	4800.0	56422.0	1	9	7.6	9.0	.6	5	-7	5.7	-7.0	2.9
6-W 4820N	-183.0	4820.0	57291.8	2	5	6.9	5.0	1.1	10	-9	3.8	-9.1	5.8
6-W 4840N	-183.0	4840.0	57165.2	6	3	6.6	3.0	3.4	3	-5	4.6	-5.0	1.7
6-W 4860N	-183.0	4860.0	57201.3	3	1	6.0	1.0	1.7	3	3	4.5	3.0	1.7
6-W 4880N	-183.0	4880.0	57286.5	0	-5	5.8	-5.0	.0	6	9	4.4	9.0	3.5
6-W 4900N	-183.0	4900.0	57225.9	3	-5	5.6	-5.0	1.7	9	6	4.6	6.0	5.2
6-W 4920N	-183.0	4920.0	57305.9	0	-3	5.5	-3.0	.0	8	3	4.6	3.0	4.6
6-W 4940N	-183.0	4940.0	57225.8	3	-1	5.3	-1.0	1.7	8	1	4.6	1.0	4.6
6-W 4960N	-183.0	4960.0	57211.0	0	8	5.7	8.0	.0	6	-2	4.6	-2.0	3.4
6-W 5000N	-183.0	5000.0	57428.7	-6	12	6.3	12.0	-3.5	13	-5	1.9	-5.1	7.4
6-W 5020N	-183.0	5020.0	57261.6	-12	9	6.4	9.1	-6.9	18	-3	1.9	-3.1	10.2
6-W 5040N	-183.0	5040.0	57343.4	-25	6	5.8	6.4	-14.1	23	-1	1.8	-1.1	13.0
6-W 5060N	-183.0	5060.0	57390.4	-24	4	6.5	4.2	-13.5	22	-3	2.0	-3.1	12.4
6-W 5080N	-183.0	5080.0	57212.4	-22	3	6.7	3.1	-12.4	26	-2	2.0	-2.1	14.6



6-W	5100N	-183.0	5100.0	57273.0	-22	2	6.6	2.1	-12.4	27	-3	2.0	-3.2	15.1
6-W	5120N	-183.0	5120.0	57283.9	-24	0	7.0	.0	-13.5	27	0	2.1	.0	15.1
6-W	5140N	-183.0	5140.0	57330.9	-27	2	7.1	2.1	-15.1	28	-2	2.1	-2.2	15.6
6-W	5160N	-183.0	5160.0	57274.5	-18	8	7.6	8.3	-10.3	19	-6	2.1	-6.2	10.8
6-W	5180N	-183.0	5180.0	57267.5	-17	7	7.7	7.2	-9.7	17	-6	2.1	-6.2	9.7
6-W	5200N	-183.0	5200.0	57306.9	-20	3	7.6	3.1	-11.3	23	-4	2.1	-4.2	13.0
6-W	5220N	-183.0	5220.0	57267.5	-22	-1	7.9	-1.0	-12.4	21	0	2.2	.0	11.9
6-W	5240N	-183.0	5240.0	57282.9	-16	-2	8.5	-2.1	-9.1	16	0	2.3	.0	9.1
6-W	5260N	-183.0	5260.0	57222.5	-14	-2	8.3	-2.0	-8.0	10	2	2.2	2.0	5.7
6-W	5280N	-183.0	5280.0	57235.3	-2	-4	8.6	-4.0	-1.1	9	2	2.3	2.0	5.1
6-W	5300N	-183.0	5300.0	57116.5	-4	-5	8.6	-5.0	-2.3	2	2	2.2	2.0	1.1
6-W	5320N	-183.0	5320.0	57138.1	1	-6	9.2	-6.0	.6	-2	6	2.2	6.0	-1.1
6-W	5340N	-183.0	5340.0	57268.3	30	7	8.8	7.6	16.8	-25	-7	1.9	-7.4	-14.1
6-W	5360N	-183.0	5360.0	57331.1	19	8	6.8	8.3	10.8	-12	-9	1.5	-9.1	-6.9
6-W	5380N	-183.0	5380.0	57361.1	5	1	6.9	1.0	2.9	-2	-2	1.5	-2.0	-1.1
6-W	5460N	-183.0	5460.0	57376.8	-10	6	6.4	6.1	-5.7	11	-6	3.1	-6.1	6.3
6-W	5480N	-183.0	5480.0	57306.8	-19	5	6.3	5.2	-10.8	16	-5	3.2	-5.1	9.1
6-W	5500N	-183.0	5500.0	57324.1	-16	3	7.2	3.1	-9.1	19	-6	3.3	-6.2	10.8
8-E	4500N	243.9	4500.0	57224.0	-9	0	10.4	.0	-5.1	39	-2	4.2	-2.3	21.3
8-E	4520N	243.9	4520.0	57261.5	-5	3	8.1	3.0	-2.9	38	-3	4.0	-3.4	20.8
8-E	4540N	243.9	4540.0	57230.9	-3	3	8.7	3.0	-1.7	42	-5	3.8	-5.9	22.8
8-E	4560N	243.9	4560.0	57220.8	-12	3	10.1	3.0	-6.8	35	-3	4.2	-3.4	19.3
8-E	4580N	243.9	4580.0	57221.0	-4	3	10.6	3.0	-2.3	35	-4	4.1	-4.5	19.3
8-E	4600N	243.9	4600.0	57220.4	-3	2	10.9	2.0	-1.7	38	-3	4.1	-3.4	20.8
8-E	4620N	243.9	4620.0	57227.0	1	4	10.6	4.0	.6	32	-3	4.3	-3.3	17.8
8-E	4640N	243.9	4640.0	57221.0	5	4	11.6	4.0	2.9	35	-5	4.0	-5.6	19.3
8-E	4660N	243.9	4660.0	57220.3	7	6	11.5	6.0	4.0	26	-4	4.3	-4.3	14.6
8-E	4680N	243.9	4680.0	57250.0	8	6	11.3	6.0	4.6	24	-4	4.4	-4.2	13.5
8-E	4700N	243.9	4700.0	57255.5	6	4	10.9	4.0	3.4	26	-3	4.3	-3.2	14.6
8-E	4720N	243.9	4720.0	57264.6	4	2	11.2	2.0	2.3	27	-2	4.5	-2.1	15.1
8-E	4740N	243.9	4740.0	57234.3	-3	1	9.2	1.0	-1.7	26	0	4.7	.0	14.6
8-E	4760N	243.9	4760.0	57255.2	4	1	11.7	1.0	2.3	28	-2	4.4	-2.2	15.6
8-E	4780N	243.9	4780.0	57225.0	9	5	12.1	5.0	5.2	23	-6	5.1	-6.3	13.0
8-E	4800N	243.9	4800.0	57261.5	9	6	12.4	6.0	5.2	18	-4	5.3	-4.1	10.2
8-E	4820N	243.9	4820.0	57265.1	15	0	12.7	.0	8.5	16	2	5.3	2.1	9.1
8-E	4840N	243.9	4840.0	57263.3	20	-4	13.6	-4.2	11.3	7	7	5.3	7.0	4.0
8-E	4860N	243.9	4860.0	57268.8	48	18	12.1	22.3	26.2	-24	-14	5.3	-14.8	-13.7
8-E	4880N	243.9	4880.0	57248.3	31	17	9.5	18.7	17.7	-5	-15	4.2	-15.0	-2.9
8-E	4900N	243.9	4900.0	57231.3	21	10	9.7	10.4	12.0	5	-7	4.6	-7.0	2.9
8-E	4920N	243.9	4920.0	57216.5	19	5	10.3	5.2	10.8	6	-4	4.6	-4.0	3.4
8-E	4940N	243.9	4940.0	57213.5	17	2	10.2	2.1	9.7	15	-2	4.3	-2.0	8.5
8-E	4980N	243.9	4980.0	57243.3	-6	-8	7.9	-8.0	-3.5	26	5	4.7	5.3	14.6
8-E	5000N	243.9	5000.0	57288.1	-15	-2	9.1	-2.0	-8.5	40	0	5.0	.0	21.8
8-E	5020N	243.9	5020.0	57407.4	15	-2	13.5	-2.0	8.5	16	1	6.4	1.0	9.1
8-E	5040N	243.9	5040.0	57512.0	42	11	11.4	13.0	23.0	-13	-8	5.0	-8.1	-7.5
8-E	5060N	243.9	5060.0	57980.9	23	10	10.0	10.5	13.1	10	-5	4.9	-5.1	5.7
8-E	5080N	243.9	5080.0	56104.8	5	3	10.6	3.0	2.9	24	0	5.1	.0	13.5
8-E	5100N	243.9	5100.0	57351.3	-1	-4	12.9	-4.0	-.6	25	2	5.6	2.1	14.0
8-E	5120N	243.9	5120.0	57595.2	15	-10	16.3	-10.2	8.6	11	13	5.9	13.2	6.4
8-E	5140N	243.9	5140.0	58438.8	29	-8	14.5	-8.7	16.3	-6	11	6.2	11.0	-3.5
8-E	5160N	243.9	5160.0	57849.6	26	-14	15.6	-15.0	14.8	-1	15	6.7	15.0	-.6
8-E	5180N	243.9	5180.0	57306.4	43	-8	14.9	-9.5	23.4	-20	10	6.4	10.4	-11.4
8-W	4680N	-244.0	4680.0	57284.3	-16	7	6.4	7.2	-9.1	26	-4	4.2	-4.3	14.6
8-W	4700N	-244.0	4700.0	57316.4	-21	10	6.1	10.4	-12.0	24	-9	4.0	-9.5	13.6
8-W	4720N	-244.0	4720.0	57245.6	-20	10	6.1	10.4	-11.4	27	-5	3.7	-5.4	15.1

8-W	4740N	-244.0	4740.0	57224.6	-14	7	6.6	7.1	-8.0	23	-5	3.7	-5.3	13.0
8-W	4760N	-244.0	4760.0	57245.3	-12	6	6.9	6.1	-6.9	20	-4	3.7	-4.2	11.3
8-W	4780N	-244.0	4780.0	57260.9	-10	3	7.0	3.0	-5.7	19	0	3.6	.0	10.8
8-W	4800N	-244.0	4800.0	57238.3	-7	2	6.6	2.0	-4.0	15	1	3.9	1.0	8.5
8-W	4820N	-244.0	4820.0	57224.4	-1	4	7.5	4.0	-.6	10	-1	3.8	-1.0	5.7
8-W	4840N	-244.0	4840.0	57193.7	2	3	7.0	3.0	1.1	6	1	3.8	1.0	3.4
8-W	4860N	-244.0	4860.0	57246.9	1	3	6.7	3.0	.6	6	1	3.6	1.0	3.4
8-W	4880N	-244.0	4880.0	57218.8	-1	-2	6.6	-2.0	-.6	10	5	3.4	5.1	5.7
8-W	4900N	-244.0	4900.0	57220.2	-6	-6	6.0	-6.0	-3.4	13	7	3.4	7.1	7.4
8-W	4920N	-244.0	4920.0	57217.0	-9	-3	6.5	-3.0	-5.1	16	7	3.4	7.2	9.1
8-W	4940N	-244.0	4940.0	57184.8	-8	0	6.6	.0	-4.6	19	2	3.3	2.1	10.8
8-W	4960N	-244.0	4960.0	57156.1	-2	7	6.8	7.0	-1.2	7	-2	3.5	-2.0	4.0
8-W	5000N	-244.0	5000.0	57248.6	-11	12	6.0	12.1	-6.4	14	-7	1.9	-7.1	8.0
8-W	5020N	-244.0	5020.0	57236.0	-16	9	5.9	9.2	-9.2	-8	-1	1.7	-1.0	-4.6
8-W	5040N	-244.0	5040.0	57229.9	-20	6	6.0	6.2	-11.3	26	-5	2.2	-5.3	14.6
8-W	5060N	-244.0	5060.0	57277.9	-27	5	5.7	5.4	-15.1	26	-4	2.4	-4.3	14.6
8-W	5080N	-244.0	5080.0	57290.2	-29	4	5.8	4.3	-16.2	25	-2	2.4	-2.1	14.0
8-W	5100N	-244.0	5100.0	57284.1	-31	5	5.9	5.5	-17.3	26	-3	2.5	-3.2	14.6
8-W	5120N	-244.0	5120.0	57273.4	-26	2	6.6	2.1	-14.6	27	-2	2.6	-2.1	15.1
8-W	5140N	-244.0	5140.0	57322.0	-31	2	6.6	2.2	-17.2	30	-2	2.8	-2.2	16.7
8-W	5160N	-244.0	5160.0	57356.8	-24	2	7.3	2.1	-13.5	29	-4	2.7	-4.3	16.2
8-W	5180N	-244.0	5180.0	57348.8	-24	7	7.2	7.4	-13.6	22	-7	3.0	-7.3	12.5
8-W	5200N	-244.0	5200.0	57318.9	-25	7	6.4	7.4	-14.1	24	-7	3.0	-7.4	13.6
8-W	5220N	-244.0	5220.0	57385.9	-32	1	6.9	1.1	-17.7	23	-4	3.0	-4.2	13.0
8-W	5240N	-244.0	5240.0	57338.0	-18	5	7.4	5.2	-10.2	19	-2	3.1	-2.1	10.8
8-W	5260N	-244.0	5260.0	57481.6	-19	0	7.9	.0	-10.8	20	1	3.2	1.0	11.3
8-W	5280N	-244.0	5280.0	57481.7	0	0	8.5	.0	.0	8	2	3.5	2.0	4.6
8-W	5300N	-244.0	5300.0	57410.0	3	0	7.8	.0	1.7	2	2	3.2	2.0	1.1
8-W	5320N	-244.0	5320.0	57257.2	-2	-1	8.4	-1.0	-1.1	10	2	3.2	2.0	5.7
8-W	5340N	-244.0	5340.0	57279.8	-4	-4	7.7	-4.0	-2.3	3	5	3.7	5.0	1.7
8-W	5360N	-244.0	5360.0	57447.3	9	-6	8.1	-6.0	5.2	-4	6	3.8	6.0	-2.3
8-W	5380N	-244.0	5380.0	57212.8	27	0	8.0	.0	15.1	-19	3	3.5	3.1	-10.8
8-W	5400N	-244.0	5400.0	57294.5	19	7	6.4	7.3	10.8	-17	-8	2.2	-8.2	-9.7
8-W	5420N	-244.0	5420.0	57314.1	0	0	6.3	.0	.0	0	-1	2.6	-1.0	.0
8-W	5440N	-244.0	5440.0	57375.0	-1	16	5.4	16.0	-.6	1	-12	2.7	-12.0	.6
8-W	5460N	-244.0	5460.0	57365.6	-10	14	5.5	14.1	-5.8	13	-10	2.6	-10.2	7.5
8-W	5480N	-244.0	5480.0	57355.4	-17	6	6.5	6.2	-9.7	19	-6	2.9	-6.2	10.8
8-W	5500N	-244.0	5500.0	57406.5	-12	3	7.4	3.0	-6.8	19	-2	3.1	-2.1	10.8
10-E	4500N	304.9	4500.0	57212.6	-8	2	10.4	2.0	-4.6	53	-6	3.8	-7.7	28.0
10-E	4520N	304.6	4520.0	57192.6	-8	5	10.7	5.0	-4.6	45	-5	4.1	-6.0	24.3
10-E	4540N	304.3	4540.0	57156.4	-8	5	10.8	5.0	-4.6	43	-5	4.1	-5.9	23.3
10-E	4560N	303.9	4560.0	57250.9	-10	5	10.6	5.1	-5.7	41	-3	4.1	-3.5	22.3
10-E	4580N	303.6	4580.0	57228.1	-8	5	10.9	5.0	-4.6	44	-4	4.2	-4.8	23.8
10-E	4600N	303.3	4600.0	57225.7	-12	4	10.9	4.1	-6.9	44	-3	4.3	-3.6	23.8
10-E	4620N	303.0	4620.0	57259.4	-7	6	11.7	6.0	-4.0	45	-9	4.3	-10.8	24.4
10-E	4640N	302.7	4640.0	57299.7	-5	8	11.2	8.0	-2.9	36	-8	4.5	-9.0	19.9
10-E	4660N	302.3	4660.0	57245.8	-1	7	12.1	7.0	-.6	36	-7	4.6	-7.9	19.9
10-E	4680N	302.0	4680.0	57214.9	4	6	12.2	6.0	2.3	30	-4	4.6	-4.4	16.7
10-E	4700N	301.7	4700.0	57191.7	16	7	12.4	7.2	9.1	23	-5	4.3	-5.3	13.0
10-E	4720N	301.4	4720.0	57176.7	13	6	11.4	6.1	7.4	24	-4	4.2	-4.2	13.5
10-E	4740N	301.1	4740.0	57181.9	8	3	11.2	3.0	4.6	28	-1	4.2	-1.1	15.6
10-E	4760N	300.7	4760.0	57214.9	1	0	11.3	.0	.6	29	0	4.5	.0	16.2
10-E	4780N	300.4	4780.0	57223.4	1	3	11.8	3.0	.6	31	-4	4.6	-4.4	17.2
10-E	4800N	300.1	4800.0	57228.5	4	3	12.2	3.0	2.3	26	-3	4.6	-3.2	14.6
10-E	4820N	299.8	4820.0	57232.7	4	3	12.0	3.0	2.3	21	-3	4.7	-3.1	11.9

10-E	4840N	299.5	4840.0	57233.9	10	0	13.0	.0	5.7	25	-2	4.3	-2.1	14.0
10-E	4860N	299.1	4860.0	57176.3	30	4	13.4	4.4	16.7	-2	-3	4.6	-3.0	-1.1
10-E	4880N	298.8	4880.0	57181.3	30	14	9.9	15.3	17.0	0	-14	3.5	-14.0	.0
10-E	4900N	298.5	4900.0	57292.0	14	8	10.1	8.2	8.0	9	-4	3.8	-4.0	5.2
10-E	4920N	298.2	4920.0	57304.5	18	2	11.1	2.1	10.2	12	0	3.9	.0	6.8
10-E	4940N	297.9	4940.0	57313.0	23	1	11.0	1.1	13.0	9	0	4.0	.0	5.1
10-E	4960N	297.5	4960.0	57249.8	22	1	10.5	1.0	12.4	13	2	3.7	2.0	7.4
10-E	4980N	297.2	4980.0	57252.5	11	-1	10.4	-1.0	6.3	17	2	4.0	2.1	9.7
10-E	5000N	296.9	5000.0	57259.9	8	0	10.6	.0	4.6	28	-1	3.9	-1.1	15.6
10-E	5020N	297.8	5020.0	57334.5	2	2	11.3	2.0	1.1	30	-4	4.4	-4.4	16.7
10-E	5040N	298.7	5040.0	57594.9	0	2	12.4	2.0	.0	28	-4	4.5	-4.3	15.7
10-E	5060N	299.6	5060.0	57782.0	0	3	13.0	3.0	.0	22	-4	5.4	-4.2	12.4
10-E	5080N	300.5	5080.0	57351.7	7	-1	14.0	-1.0	4.0	19	0	5.3	.0	10.8
10-E	5100N	301.3	5100.0	57085.8	17	0	14.1	.0	9.6	8	-1	5.4	-1.0	4.6
10-E	5120N	302.2	5120.0	57103.8	21	-3	14.9	-3.1	11.9	4	1	6.1	1.0	2.3
10-E	5140N	303.1	5140.0	57406.8	25	-14	16.8	-14.9	14.3	3	17	6.0	17.0	1.8
10-E	5160N	304.0	5160.0	58437.6	46	-12	17.5	-14.6	25.0	-18	14	6.9	14.5	-10.4
10-E	5180N	304.9	5180.0	57329.6	55	-9	15.7	-11.7	29.0	-32	15	6.0	16.6	-18.1
12-E	4800N	365.9	4800.0	57309.8	47	-2	7.7	-2.4	25.2	-10	5	6.4	5.1	-5.7
12-E	4820N	365.9	4820.0	57249.8	38	-4	7.3	-4.6	20.8	-10	5	6.9	5.1	-5.7
12-E	4840N	365.9	4840.0	57250.8	41	-8	6.4	-9.4	22.4	-8	5	6.4	5.0	-4.6
12-E	4860N	365.9	4860.0	57265.4	14	-8	6.9	-8.2	8.0	5	11	6.7	11.0	2.9
12-E	4880N	365.9	4880.0	57345.5	13	-12	9.5	-12.2	7.5	12	13	7.9	13.2	7.0
12-E	4900N	365.9	4900.0	57423.0	21	-2	10.4	-2.1	11.9	4	5	8.4	5.0	2.3
12-E	4920N	365.9	4920.0	57512.0	20	-5	8.8	-5.2	11.3	-7	6	6.7	6.0	-4.0
12-E	4940N	365.9	4940.0	57490.6	6	0	9.9	.0	3.4	13	5	6.5	5.1	7.4
12-E	4960N	365.9	4960.0	57382.8	9	8	11.7	8.1	5.2	22	-1	7.2	-1.0	12.4
12-E	4980N	365.9	4980.0	57249.5	22	8	10.7	8.4	12.5	11	-1	7.0	-1.0	6.3
12-E	5000N	365.8	5000.0	57341.1	5	1	11.3	1.0	2.9	24	2	6.4	2.1	13.5
12-E	5020N	365.8	5020.0	57476.8	13	0	13.2	.0	7.4	18	-1	7.3	-1.0	10.2
12-E	5040N	365.8	5040.0	57520.4	14	-2	12.0	-2.0	8.0	5	1	6.8	1.0	2.9
12-E	5060N	365.8	5060.0	57668.4	15	0	11.4	.0	8.5	11	2	6.3	2.0	6.3
12-E	5080N	365.8	5080.0	57553.3	17	-7	12.7	-7.2	9.7	10	8	7.2	8.1	5.7
12-E	5100N	365.8	5100.0	57270.1	15	-7	14.4	-7.2	8.6	9	9	8.2	9.1	5.2
12-E	5120N	365.8	5120.0	57445.7	27	-6	15.8	-6.4	15.2	-2	7	8.5	7.0	-1.2
12-E	5140N	365.8	5140.0	57232.5	44	-12	18.3	-14.4	24.0	-21	15	9.4	15.7	-12.1
12-E	5160N	365.8	5160.0	56882.4	76	-8	17.3	-12.6	37.3	-58	13	8.9	17.4	-30.4
14-E	5000N	432.8	5000.0	57313.3	35	0	11.9	.0	19.3	-9	3	7.1	3.0	-5.1
14-E	5020N	432.0	5020.0	57337.0	32	2	11.8	2.2	17.8	-9	2	7.2	2.0	-5.1
14-E	5040N	431.3	5040.0	57219.4	28	2	11.7	2.2	15.6	-6	3	6.8	3.0	-3.4
14-E	5060N	430.5	5060.0	57168.6	19	0	11.8	.0	10.8	5	4	7.3	4.0	2.9
14-E	5080N	429.8	5080.0	57192.8	19	0	12.4	.0	10.8	6	2	6.9	2.0	3.4
14-E	5100N	429.0	5100.0	57302.0	13	-1	12.8	-1.0	7.4	10	1	8.2	1.0	5.7
14-E	5120N	428.3	5120.0	58345.1	7	-6	14.4	-6.0	4.0	18	4	9.2	4.1	10.2
14-E	5140N	427.5	5140.0	57051.8	36	-4	18.7	-4.5	19.8	-14	7	10.8	7.1	-8.0
14-E	5160N	426.8	5160.0	57023.6	48	-3	14.6	-3.7	25.7	-37	5	8.8	5.7	-20.3

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**Appendix II**

**Geochemical Certificate and Assay Results**

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**VGC****VANGEOCHEM LAB LIMITED**MAIN OFFICE  
1630 PANDORA STREET  
VANCOUVER, B.C.  
V5L 1L6  
TEL (604) 251-5656  
FAX (604) 254-5717

IN ACCOUNT WITH:

INVOICE: 930149NA

OMEGA SERVICES  
207 - 1318 56th Street  
Surrey, BC

DATE: Nov 25 1993

V4L 2A4

PROFESSIONAL SERVICE  
INVOICE IS PAYABLE UPON RECEIPT

PO#: NONE GIVEN

REPORT: 930149 GA PA

PROJECT: JOB "KETTLE"

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
RE: JOB "KETTLE" TWO ROCK SAMPLES FOR ANALYSES SAMPLE # 7116 & 7117			
2	Rock samples prepared for analyses	3.00	\$6.00 G
2	Geochemical analyses for Silver	2.50	\$5.00 G
2	Gold analyses by fire assay/AAS finish	7.50	\$15.00 G
2	Multi-element analyses by ICP	6.50	\$13.00 G
		Subtotal	\$39.00
	7% GST on \$39.00		\$2.73

G = GST

P = PST

B = GST &amp; PST

\*\*\* GST REGISTRATION NUMBER IS R105488803 \*\*\*

\*\*\* MINIMUM CHARGE PER INVOICE IS \$50.00 \*\*\*

TOTAL, THIS INVOICE: \$41.73

A SERVICE CHARGE OF 2% PER MONTH IS LEVIED ON OVERDUE ACCOUNTS

PLEASE PAY BY INVOICE  
NO STATEMENT WILL BE ISSUED



**VGC**

**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1630 PANDORA STREET  
VANCOUVER, B.C.  
V5L 1L6  
TEL (604) 251-5656  
FAX (604) 254-5717

**GEOCHEMICAL ANALYTICAL REPORT**  
-----

**CLIENT: OMEGA SERVICES**  
**ADDRESS: 207 - 1318 56th St.**  
: Delta, BC  
: V4L 2A4

**DATE: NOV 25 1993**

**REPORT#: 930149 GA**  
**JOB#: 930149**

**PROJECT#: JOB KETTLE**  
**SAMPLES ARRIVED: NOV 24 1993**  
**REPORT COMPLETED: NOV 25 1993**  
**ANALYSED FOR: Ag Au (FA/AAS) ICP**

**INVOICE#: 930149 NA**  
**TOTAL SAMPLES: 2**  
**SAMPLE TYPE: 2 ROCK**  
**REJECTS: SAVED**

**SAMPLES FROM: MR. JIM MCLEOD**  
**COPY SENT TO: OMEGA SERVICES**

**PREPARED FOR: MR. JIM MCLEOD**

**ANALYSED BY: Raymond Chan**

**SIGNED:** \_\_\_\_\_  
*Raymond Chan*

**GENERAL REMARK: None**



**VGC VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1630 PANDORA STREET  
VANCOUVER, B.C.  
V5L 1L6  
TEL (604) 251-5656  
FAX (604) 254-5717

REPORT NUMBER: 930149 GA

JOB NUMBER: 930149

OMEGA SERVICES

PAGE 1 OF 1

SAMPLE #

Ag  
ppm  
0.8  
0.5

Au  
ppb  
nd  
20

7116

7117

DETECTION LIMIT  
nd = none detected

0.1  
-- = not analysed    is = insufficient sample

**VANGEOCHEM LAB LIMITED**

1630 Pandora Street, Vancouver, B.C. V5L 1L6  
Ph: (604)251-5656 Fax: (604)254-5717

**ICAP GEOCHEMICAL ANALYSIS**

A .5 gram sample is digested with 5 ml of 3:1:2 HCL to HNO<sub>3</sub> to H<sub>2</sub>O at 95 °C for 90 minutes and is diluted to 10 ml with water.  
This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: *[Signature]*

REPORT #: 930149 PA

OMEGA SERVICES

PROJECT: KETTLE

DATE IN: NOV 24 1993

DATE OUT: NOV 25 1993

ATTENTION: MR. JIM MCLEOD

PAGE 1 OF 1

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sn ppm	Sr ppm	U ppm	W ppm	Zn ppm		
7116	0.9	0.07	28	62	<3	0.36	1.5	26	83	91	2.30	0.65	0.06	207	7	0.06	39	0.01	20	4	<2	10	<5	<3	111		
7117	0.6	1.10	24	117	<3	2.08	2.5	9	39	15	3.15	<0.01	0.57	1203	2	0.11	13	0.09	12	<2	<2	83	<5	<3	109		
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1		
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000		
< - Less Than Minimum    > - Greater Than Maximum    is - Insufficient Sample    ns - No Sample    ANOMALOUS RESULTS - Further Analyses By Alternate Methods Suggested.																											







**VGC**

**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1630 PANDORA STREET  
VANCOUVER, B.C.  
V5L 1L6  
TEL (604) 251-5656  
FAX (604) 254-5717

**GEOCHEMICAL ANALYTICAL REPORT**

=====

**CLIENT: OMEGA SERVICES**  
**ADDRESS: 207 - 1318 56th St.**  
: Delta, BC  
: V4L 2A4

**DATE: NOV 25 1993**

**REPORT#: 930148 GA**  
**JOB#: 930148**

**PROJECT#: JOB KETTLE**  
**SAMPLES ARRIVED: NOV 24 1993**  
**REPORT COMPLETED: NOV 25 1993**  
**ANALYSED FOR: Ag Au (FA/AAS)**

**INVOICE#: 930148 NA**  
**TOTAL SAMPLES: 6**  
**SAMPLE TYPE: 1 SILT/5 ROCK**  
**REJECTS: SAVED**

**SAMPLES FROM: MR. JIM MCLEOD**  
**COPY SENT TO: OMEGA SERVICES**

**PREPARED FOR: MR. JIM MCLEOD**

**ANALYSED BY: Raymond Chan**

**SIGNED:** \_\_\_\_\_

**GENERAL REMARK: None**



**VGC**

**VANGEOCHEM LAB LIMITED**

MAIN OFFICE  
1630 PANDORA STREET  
VANCOUVER, B.C.  
VSL 1L6  
TEL (604) 251-5656  
FAX (604) 254-5717

REPORT NUMBER: 930148 GA

JOB NUMBER: 930148

OMEGA SERVICES

PAGE 1 OF 1

SAMPLE #	Ag ppm	Au ppb
NUG BL L12E SILT	1.2	10
L2W 4755N	5.5	30
8W 5380N	1.1	130
SHAFT	1.5	nd
SHAFT ROAD	1.7	20
RED	1.0	10

DETECTION LIMIT

0.1

5

nd = none detected

-- = not analysed

is = insufficient sample

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## **Appendix III**

### **Spontaneous Potential (SP) Results**

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<u>millivolts (mv)</u>		<u>millivolts (mv)</u>		<u>millivolts (mv)</u>		<u>millivolts (mv)</u>	
L0		5080N,	36,	100E,	-277,	6+20W,	-0.035,
4990N,	-25,	5100N,	7,	110E,	-229,	6+40W,	0.028,
4980N,	-10,	5120N,	-276,	120E,	-186,	6+60W,	-0.021, 7W
4970N,	-32,	5140N,	-144,	130E,	-45,	6+80W,	-0.018,
4960N,	-47,	5160N,	-209,	140E,	-150,	7+00W,	-0.006,
4950N,	62,	5180N,	-69,	150E,	-161,	L8W,	-0.003,
4940N,	-35,	5200N,	-94,	160E,	14,		
4930N,	-59,	5220N,	-129,	170E,	37,	L8W	
4920N,	-114,	5240N,	-194,	180E,	59,	5510N,	-0.023,
4910N,	-50,	5260N,	-153,	190E,	-54,	5520N,	-0.014,
4900N,	-39,	5280N,	-215,	200E,	-26,	5530N,	-0.028,
4890N,	-17,	5300N,	-217,	210E,	-45,	5540N,	-0.034,
4880N,	-71,	5320N,	-217,	220E,	-140,	5550N,	-0.051,
		5340N,	-153,	230E,	-189,	5560N,	-0.100,
L0		5360N,	-87,	240E,	-382,	5570N,	-0.100,
0N,	0, 5000N	5380N,	-61,	250E,	-528,	5580N,	-0.119,
20N,	-9,	5400N,	-91,	260E,	-508,	5590N,	-0.093,
40N,	-9,	5420N,	-164,	270E,	-377, 10E	5600N,	-0.093,
60N,	21,	5440N,	-116,			5610N,	-0.075,
80N,	25,	5460N,	-72,	L5000N		5620N,	-0.057,
100N,	-3,	5480N,	-98,	0,	0,	5630N,	-0.155,
110N,	-45,	5500N,	-241,	25W,	-13,	5640N,	-0.398,
120N,	-151, 5100N	5520N,	-332,	50W,	-23,	5650N,	-0.472,
130N,	-74,			75W,	-47,	5660N,	-0.382,
140N,	-48,	L10E		100W,	-53,	5670N,	-0.386,
150N,	-18,	4870N,	-514,	125W,	-65,	5680N,	-0.348,
160N,	-137,	4860N,	-575,	150W,	-63,	5690N,	-0.448,
170N,	-314,	4850N,	-358,	175W,	-65,	5700N,	-0.874,
180N,	-314, 5200N	4840N,	-176,	200W,	-105, 2W	5710N,	-0.680,
190N,	-310,	4830N,	-192,	225W,	-171,	5720N,	-0.603,
200N,	-247,	4820N,	-224,	250W,	-78,	5730N,	-0.987,
210N,	-120,	4810N,	-66,	275W,	-45,	5740N,	-0.981,
220N,	-266,	4800N,	33,	300W,	-49,	5750N,	-0.965,
230N,	-660, 5300N	4790N,	7,	325W,	-14,	5760N,	-0.774,
240N,	-534,	4780N,	-14,	350W,	-99,	5770N,	-0.342,
250N,	-197,	4770N,	-17,	375W,	-29,	5780N,	-0.157,
260N,	-360,	4760N,	-3,	400W,	-44,	5790N,	-0.171,
270N,	-495,			425W,	-21,	5800N,	-0.170,
280N,	-116, 5400N	L4660N		450W,	-32,	5810N,	-0.134,
290N,	-223,	280E,	-606,	475W,	-84,	5820N,	-0.125,
		290E,	-499,	500W,	-13,	5830N,	-0.099,
L2E		300E,	-468,	525W,	40,	5840N,	-0.098,
0N,	2, 5000N	310E,	-268,	550W,	11,	5850N,	-0.136,
20N,	19,			575W,	-10,	5860N,	-0.432,
40N,	20,	L4760N		600W,	-14,	5870N,	-0.755,
60N,	18,	260E,	-27,	625W,	-13,	5880N,	-0.902,
80N,	-21,	250E,	10,	650W,	-38, 6W	5890N,	-0.645,
100N,	-66, 5100N	240E,	35,	675W,	-35,	5900N,	-0.424,
120N,	-236,	230E,	26,	700W,	-35,	5910N,	-0.221,
127N,	-32,	220E,	4,	725W,	-34,		
140N,	-10,	210E,	-36,	750W,	-29,		
160N,	-14,	200E,	-36,	775W,	-23,		
180N,	-273,	190E,	-98,	800W,	-18,		
200N,	-200, 5200N	180E,	-131,	825W,	-35,		
220N,	-117,	170E,	-84,	850W,	-16, 8W		
240N,	-64,			875W,	-19,		
260N,	-115,	L4480N		900W,	-19,		
300N,	-172,	10E,	-92,	925W,	-14,		
320N,	-327, 5300N	20E,	-47,	950W,	-28,		
340N,	-292,	30E,	-56,	975W,	-12,		
360N,	-91,	40E,	-84,	1000W,	-8,		
		50E,	-76,	1025W,	-4,		
L2W		60E,	3,	1050W,	-12, 10W		
5020N	-30,	70E,	5,				
5040N,	4,	80E,	-10,	L5500N			
5060N,	10,	90E,	-214,	6W,	-0.026,		

