

LOG NO: Feb 28/91	RD.
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1990 Summary Report

on the

**Ket 1 Group**  
(Ket 1, Ket 2, and Ket 3 Claims)

Greenwood Mining Division  
British Columbia

North Latitude 49° 01' West Longitude 118° 58'

NTS 82E/2W

LOG NO: OCT 11 1991	RD.
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Prepared for

**Crown Resources Corp.**  
Seventh Street Plaza  
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February 1991

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,005

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## 1.0 INTRODUCTION

### 1.1 Summary

The 1990 exploration program on the Ket 1 group (Ket 1, Ket 2 and Ket 3 claims), was conducted between June and November 1990. Initially, exploration was directed towards locating on surface the airborne geophysical anomalies deduced from the 1989 Terraquest airborne geophysical survey flight data (Basil, 1990).

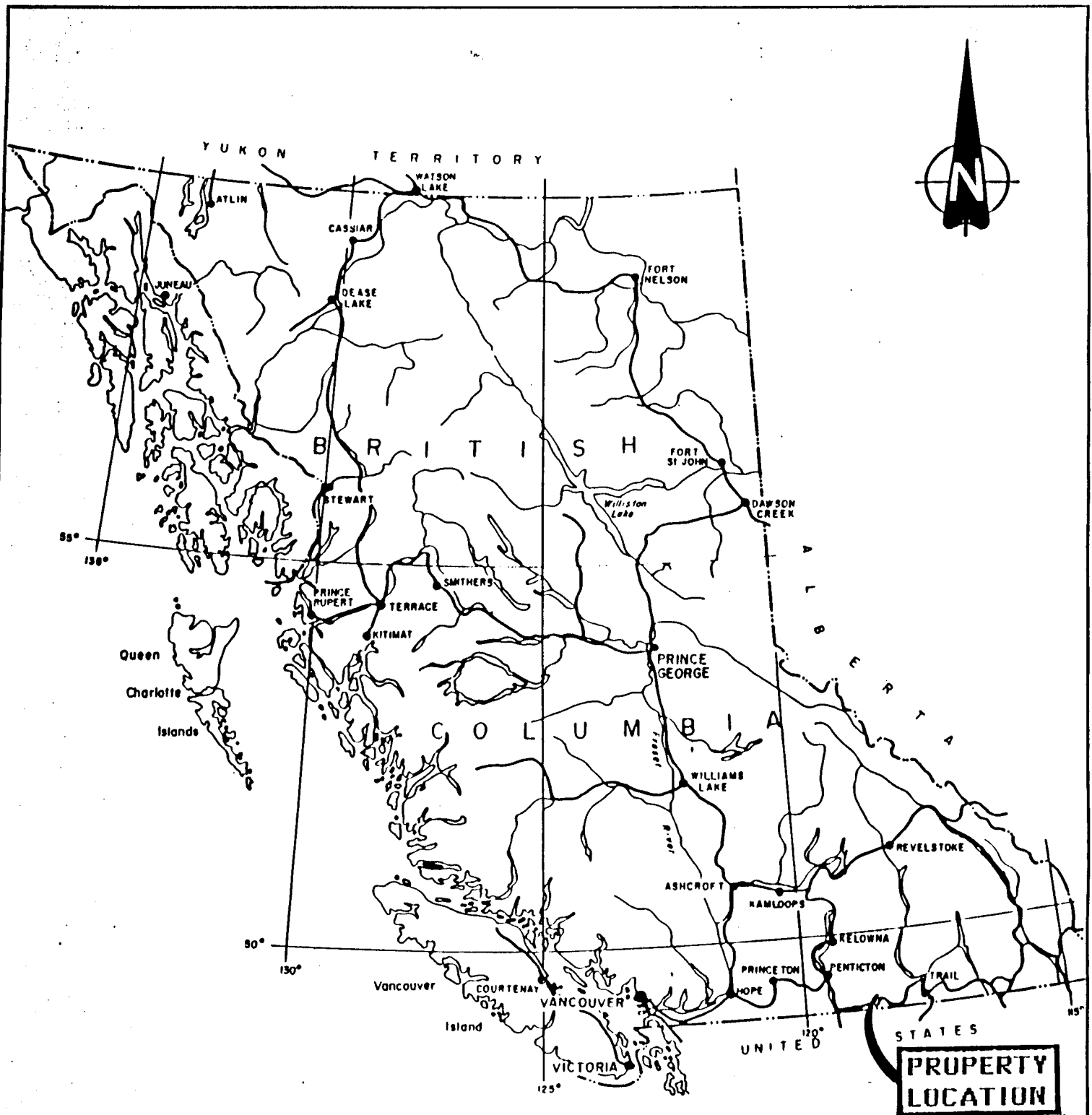
Three broad anomaly types were located: total field magnetic, VLF-EM conductors, and faults. These anomalies were investigated on the ground by visual geologic interpretation based on a gold skarn model, reconnaissance and fixed line magnetometry, and rock chip sampling.

In addition, because of similar geology at the Buckhorn gold skarn deposit in Washington, USA, approximately four kilometres south of the Ket 1 claim, the granodiorite-hornfelsic metasediment contact was traced across the southwestern quarter of Ket 1. Mineral assemblages in the granodiorite contact aureole were noted, specifically those calc-silicate and sulphide minerals that were thought to be related to gold skarn model.

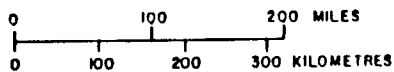
Additional exploration work and drilling is recommended.

### 1.2 Location and Access

The Ket 1 group of claims is located between the Edelweiss Motel at



<b>CROWN RESOURCES CORP.</b>			
<b>KET 1 GROUP</b>			
<b>PROPERTY LOCATION MAP</b>			
<b>GREENWOOD MINING DIVISION</b>			
<b>COAST MOUNTAIN GEOLOGICAL LTD.</b>			
DRAWN BY: B.K.	NTS: 82E/2W	DATE: FEBRUARY, 1991	FIGURE: 1



Rock Creek, British Columbia, and the Canada-USA border due south of the motel. The claims are centred at approximately 49° 01' north latitude and 118° 58' west longitude in the extreme southwest corner of the NTS 82E/2 mapsheet (Figure 1).

Access is via the Starr Anchor Ranch Road, Dolomite Quarry Road, Myers Creek Forest Service Road, or the Harpur Ranch Road.

### 1.3 Physiography and Climate

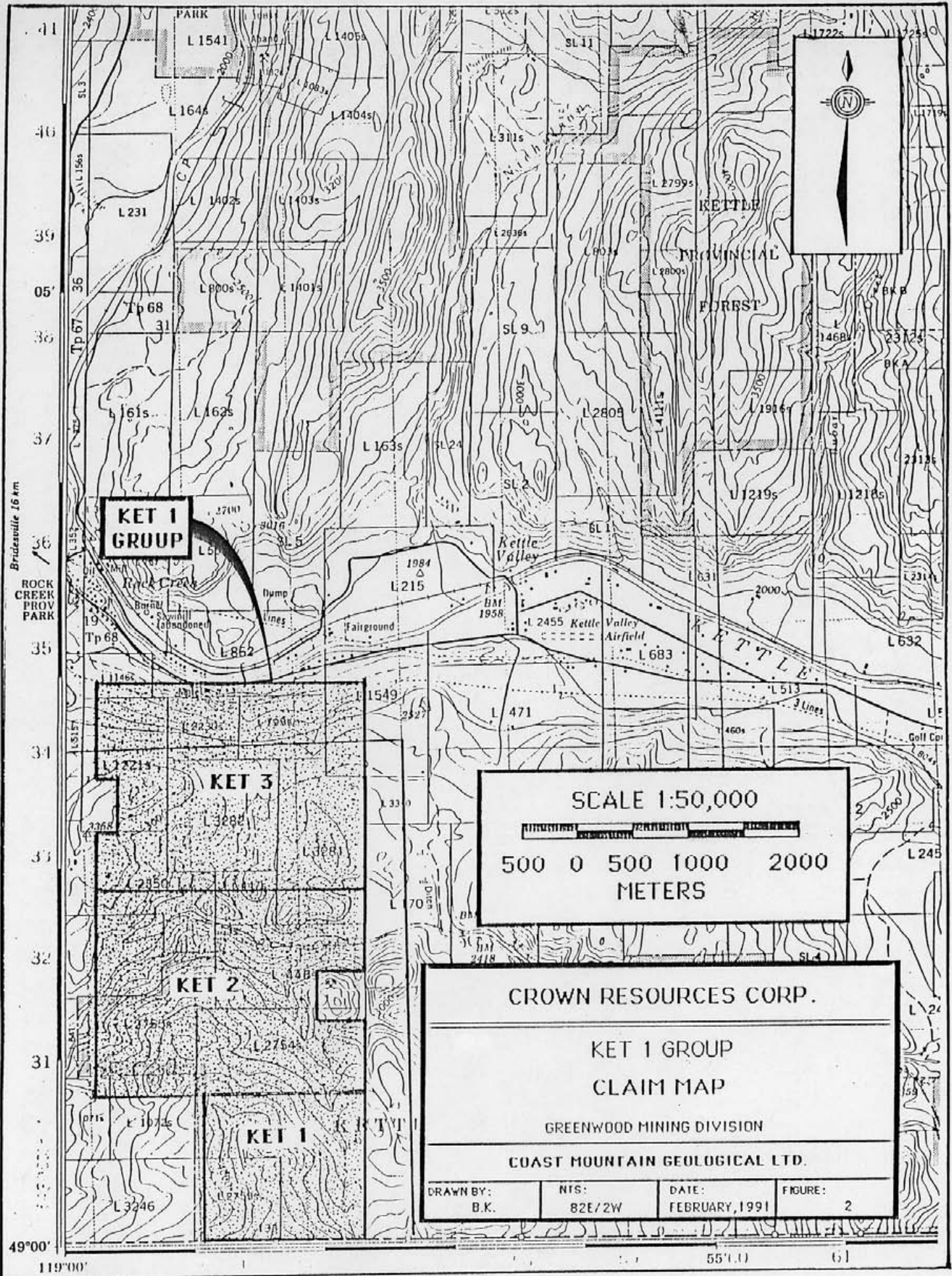
Myers Creek flows in an easterly direction, dividing the claim group into two sections. South of Myers Creek is a conifer covered mountainous terrain sloping south. To the north of Myers Creek the claims open up to a high grass covered meadow area developed on rolling hills.

The climate is characterized by hot, dry summers and mild winters with little precipitation.

Local relief varies from an elevation of 700 meters at the motel near the Kettle River to approximately 1400 meters at a peak five kilometres south of the motel near the southern border of the Ket 1 claim.

### 1.4 Property Description

The Ket 1 group is located within the Greenwood Mining Division of southern British Columbia (Figure 2). It is comprised of three



**KET 1 GROUP**

**KET 3**

**KET 2**

**KET 1**

SCALE 1:50,000

500 0 500 1000 2000 METERS

CROWN RESOURCES CORP.

KET 1 GROUP CLAIM MAP

GREENWOOD MINING DIVISION

COAST MOUNTAIN GEOLOGICAL LTD.

DRAWN BY: B.K.	NTS: 82E/2W	DATE: FEBRUARY, 1991	FIGURE: 2
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Brudeney 16 km

ROCK CREEK PROV PARK

49°00' 119°00'

55(1) 61

claims totalling 49 units, and covers an area of approximately 1225 hectares.

Crownex Resources Canada Ltd., a subsidiary of Crown Resources Corp. of Denver, Colorado, USA, is the owner of the claims.

Table 1 summarizes the pertinent claim data.

**Table 1 : Claim Status - Ket 1 Group**

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date*</u>
Ket 1	5315	9	29/11/91
Ket 2	5316	20	29/11/91
Ket 3	5317	20	30/11/91

\* Pending acceptance of this report.

### 1.5 Property History

Dolomite is presently being mined at the Mighty White Dolomite quarry located just outside of the eastern boundary of the Ket 2 claim.

The area in the vicinity of the claim group has a record of exploration dating back to the turn of the century. Many trenches, shafts and adits were dug by independent prospectors, and most are without any record of work. The most significant work in the area were the placer deposits the McKinney Creek and the mines of Camp McKinney, located north of the subject property, and worked from 1894 to 1962.

In the 1960's and 1970's numerous magnetometer, VLF-EM and soil geochemistry surveys were carried out, concentrating primarily on Cu-Ni deposits. Later surveys in the area concentrated on attempting to locate and delineate potential vent areas in the Kettle River Volcanics as a possible site for mineralization.

In the late 1980's, exploration in the Buckhorn Mountain skarn system, to the south of the claims in Washington State, produced significant results. In 1989 a regional airborne magnetometer and VLF-EM survey was conducted over the area by Terraquest Ltd. of Toronto, for Crown Resources Corp. of Colorado (Basil, 1990 - Assessment Report #19737).

No extensive metallic mines or prospects were noted on the claims, and the authors are not aware of any records of such. The closest workings, known as the Bob Cowan prospects, are west of Ket 1 to the east of the Harpur Ranch headquarters. Five kilometres south of Ket 1, on the American side of the border, lay the Magnetic Mine and the Crown Jewel gold skarn deposits.

#### 1.6 1990 Work Program

Fifteen field days were spent on the Ket 1 group performing the following work:

- a. Locating on surface the airborne magnetic and VLF-EM anomalies from the 1989 Terraquest programs.
- b. Investigation of the magnetic and VLF-EM anomalies on



surface by geologic interpretation, reconnaissance magnetometry, fixed line magnetometry and rock chip sampling.

c. Locating and investigating the granodiorite-metasediment contact related to the Buckhorn gold skarn south of Ket 1 by utilizing observational geology to identify the nature of the metasomatic mineral suites, along with reconnaissance and fixed line magnetometry.

During the work program 49 rock chip samples and 2 stream sediment samples were collected. A total of 3.9 kilometres of fixed ground magnetometer lines were also completed.

## 2.0 GEOLOGY, GEOCHEMISTRY AND GEOPHYSICS

### 2.1 Regional Geology

Metasedimentary, intrusive, and extrusive igneous rocks are found regionally ranging in age from late Palaeozoic to middle Eocene (Figure 3). Pleistocene and Recent till, sand, gravel, and silts are well developed in valley floors.

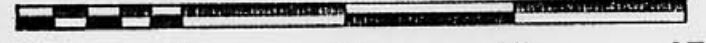
The Carboniferous (Permian?) rocks are tightly folded and faulted along a regional northwest to northeast trend that is terminated, at times, by strong east-west faulting.

### 2.2 Property Geology

Greenstone, amphibolite, massive chert, argillite, quartzite, siltstone, dolomitic marble and minor conglomerate all belonging to



SCALE 1 : 250,000



KILOMETERS

CROWN RESOURCES CORP.

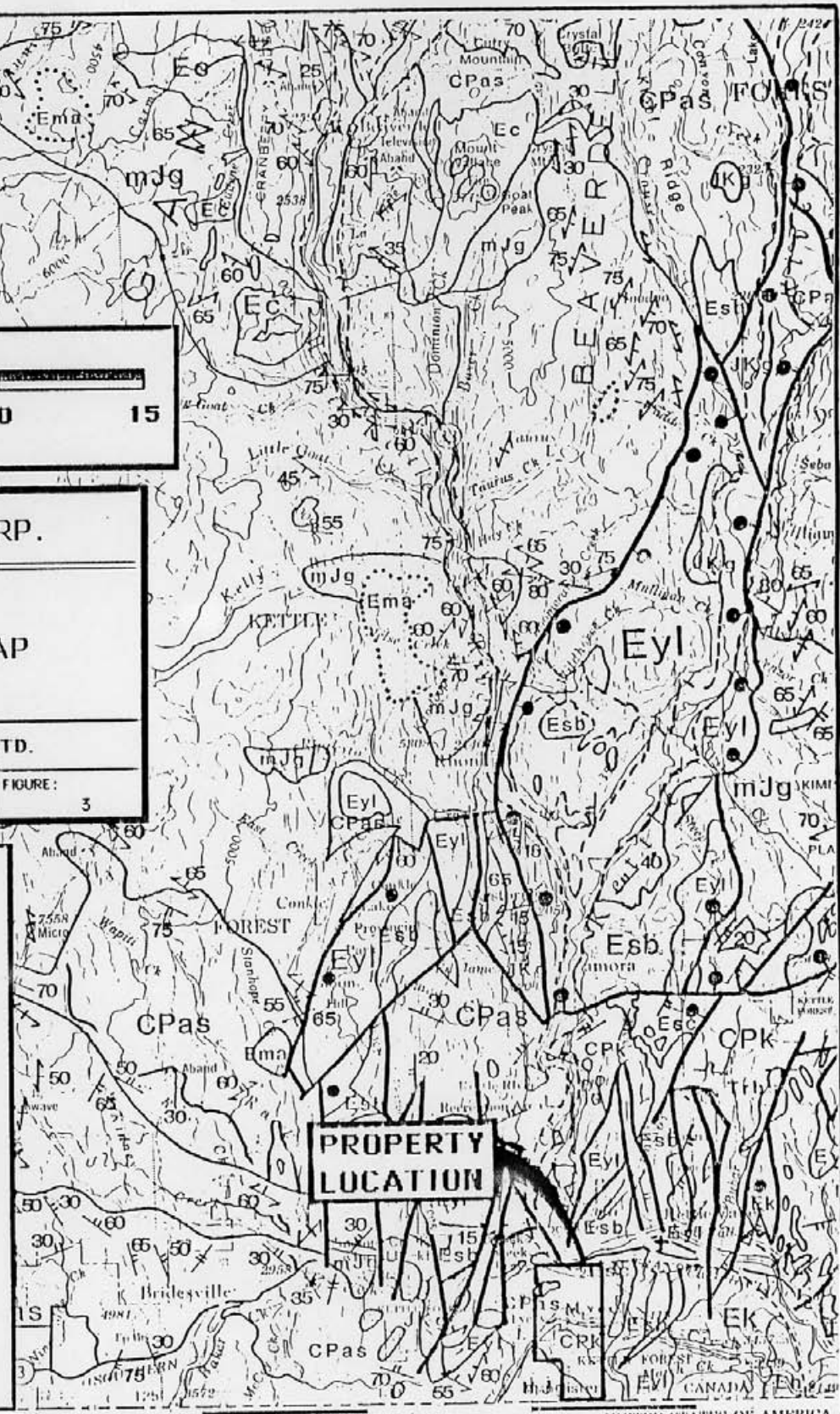
KET 1 GROUP  
REGIONAL GEOLOGY MAP

GREENWOOD MINING DIVISION

COAST MOUNTAIN GEOLOGICAL LTD.

DRAWN BY:	NTS:	DATE:	FIGURE:
B.K.	B2E/2W	FEBRUARY, 1991	3

- Ek** KITLEY LAKE FORMATION: massive, yellowish to buff, trachyte to brachyandesite, plagioclase and biotite glomerophenocrysts to 3 cm (10% of the rock) in a finely crystalline groundmass. Includes ash flow tuff and minor muscovite. Includes undifferentiated intrusive equivalents. Church determined K-Ar ages between 52.9 (biotite) and 44.2 Ma (whole rock).
- Eyl** YELLOW LAKE FORMATION: massive to block, tabular flow of buff to light tan dykes-rich, mafic phonolite locally with minor anorthoclase phenocrysts and primary analcite, abundant zirconite. No cracks and amygdaloids. Includes undifferentiated intrusive equivalents.
- Esb** SPRINGBROOK FORMATION: poorly sorted, massive to thick bedded, immature, coarse boulder and pebble conglomerate. Gasts to 50 cm are rounded, but of low sphericity and are locally derived (chert, greenstone, granite, and other pre-Eocene rocks with fewer Marion Group clasts, many Yellow Lake and Kitley formation). Near Rock Creek this unit consists of white to light grey, medium bedded, facies, fine-grained sandstone and shale with clay partings, named the *Ellie Ever formation*.
- CRETACEOUS AND OR JURASSIC**
- JKg** OKANAGAN BATHOLITH: massive, light grey weathering, medium to coarse grained, equigranular to porphyritic, unfoliated to weakly foliated, fresh biotite granodiorite and granite. Includes undifferentiated granodiorite of the Nelson suite. Age poorly constrained.
- MIDDLE JURASSIC**
- mJg** NELSON PLUTONIC ROCKS: massive generally moderately foliated, medium grey weathering, medium to coarse grained, equigranular, hornblende-biotite granodiorite, quartz diorite and granite. Includes undifferentiated biotite granite of the Valinella suite. Age poorly constrained.
- CARBONIFEROUS OR PERMIAN**
- CPk** KNOB HILL GROUP: massive "chert" (largely siliceous greenstones, greenstone and amphibolite, minor limestone or marble, minor "sharpstone", age unknown).
- CARBONIFEROUS OR OLDER**
- CPa** ANARCHIST GROUP: dark grey weathering, recessive, amphibolite, greenstone, quartz-chlorite schist, quartz biotite schist, minor serpenitized gneiss, "chert" breccia that resembles tuff. Includes CPaP: peridotite and serpenitized equivalents. CPaA: amphibolite. Age unknown.



PROPERTY  
LOCATION

the Carboniferous(?) -Permian(?) Knob Hill Group make up most of the rocks in the Ket 1 group (Figure 7). The Knob Hill group is cut by a Jurassic-Cretaceous granodiorite intrusion referred to as the Nelson Batholith.

Minor outcrops of Eocene age Marron Formation intrusive rocks are observed on the claims. The intrusives tend to be mainly alkaline syenite, locally referred to as rhomb-porphry. In addition, conglomerates of the Eocene age Kettle River Formation were noted in Ket 3.

### 2.3 Structure

The predominant structural feature is the fairly consistent northerly dip of the Knob Hill Group rocks. The dip tends to be steep near the granodiorite contact and becomes less steep to the north away from the contact. Minor faulting can be observed in a north south drainage west of the dolomite quarry.

Based on the available geology south of the international boundary on Buckhorn Mountain, the Ket 1 group may cover the north dipping end of an antiform structure.

### 2.4 Mineralization and Associated Alteration

Disseminated and veinlet pyrite and/or pyrrhotite appears to be associated with silic greenstone and metasilstones. Magnetite

occurrences correlate fairly well with rhomb-porphyry intrusives. Disseminated pyrite is found in close proximity to the granodiorite contact aureole as mostly euhedral grains usually but not exclusively in the hornfels.

Silicification along the granodiorite-metasediment contact and minor skarn development along the north west side of the dolomite quarry were noted.

## 2.5 Geochemistry

Stream sediment samples were collected from active parts of major streams. They were collected in kraft gusseted paper bags and sent to Chemex Labs Ltd. of North Vancouver, B.C., for analysis. At Chemex, the samples were oven dried at approximately 60 degrees Celsius, sieved to minus 80 mesh and analyzed geochemically for 32 elements by the induced coupled plasma (ICP) technique, and for gold by the atomic absorption (AA) technique.

Rock samples were collected in plastic bags and also sent to Chemex. Samples were then crushed to 3/16 of an inch, and then about .25 kg was pulverized to minus 100 mesh. A 0.5 gram sample of the minus 80 fraction of the samples was digested in hot, dilute aqua regia in a boiling water bath and then diluted to 10 milliliters with distilled water. Samples were analyzed for a group of 30 elements by ICP technique. In addition, gold was analyzed from a 10 gram fraction by AA.

Rock chip samples were collected from outcrops with mineralogy, geology or geophysical signature similar to those found in the vicinity of known gold skarns.

Samples taken from the hornfelsic metasedimentary section of the granodiorite-metasediment contact, 90CM158R through 161R and 90CM184R, show a low level gold signature in weakly mylonitic and very fine crystalline clinopyroxene hornfels. Low level geochemical gold skarn indicators from mylonites and hornfels are very similar to the geochemical signatures obtained from mylonites and hornfels at the Crown Jewel gold skarn deposit on Buckhorn Mountain some four to six kilometres south on the American side of the border.

Additional rock chip samples were taken from sulphide and/or magnetite bearing outcrops and skarn. The highest gold value was 40 ppb which came from an iron oxide stained argillite at the west edge of the dolomite quarry (Figure 8).

## 2.6 Geophysics

A Geometrics magnetometer, (model 816/826) was used in the hand-held position on reconnaissance traverses as an aid in geologic interpretation and to locate, on the ground, airborne magnetometer highs generated by Terraquest.

A total of 3.9 kilometers of fixed ground magnetometer lines were

completed. A three-point running average (over 75 metres) method was used to eliminate spurious local highs and to delineate larger scale magnetic structures.

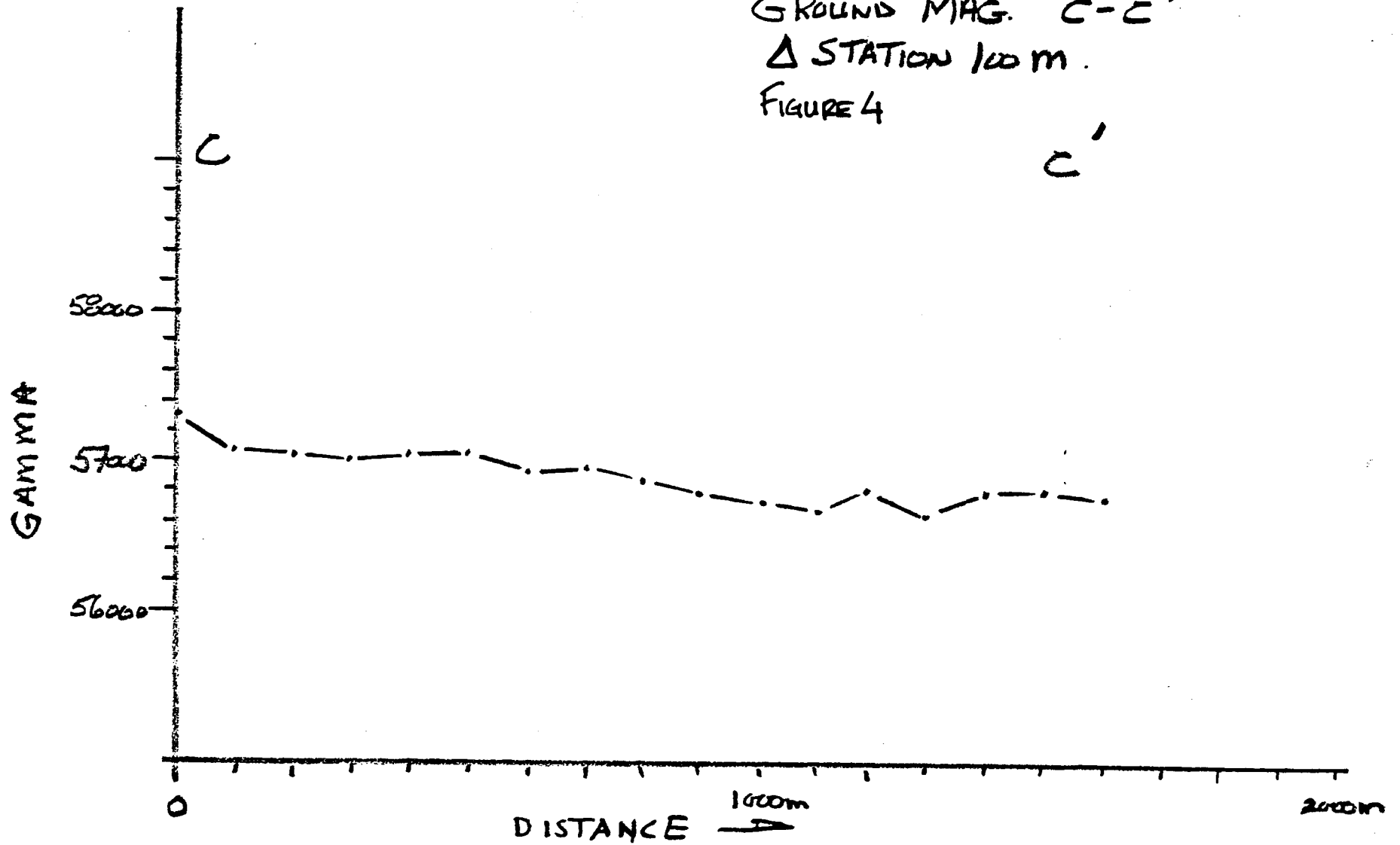
**Magnetics:** Total field magnetic readings were obtained in a reconnaissance program to locate the magnetic units and iron formations as shown on the Terraquest Airborne Interpretation map (Figures 4, 5 & 6).

**Conductors:** All of the airborne VLF-EM conductors projected to occur on the Ket 1 group were located on surface and could be explained as geologic contacts and/or wet areas (Figures 9 & 10). The large split conductor that trends north west from Ket 1 and the conductor in the south west quarter of Ket 2 are related to the granodiorite-metasedimentary contact and are weakly enriched in sulphides, mainly pyrite. The conductor parallel to the international boundary in Ket 1 appears to lie in a small drainage in the granodiorite.

Field investigation indicated that there were three main geologic relationships that accounted for the magnetic anomalies:

- i. alkaline syenite-rhomb-porphry intrusives and associated contact zones.
- ii. magnetite bearing greenstone.
- iii. magnetite, sulphide bearing greenstone and metasediments.

KET 1  
GROUND MAG. C-C'  
Δ STATION 100 m.  
FIGURE 4



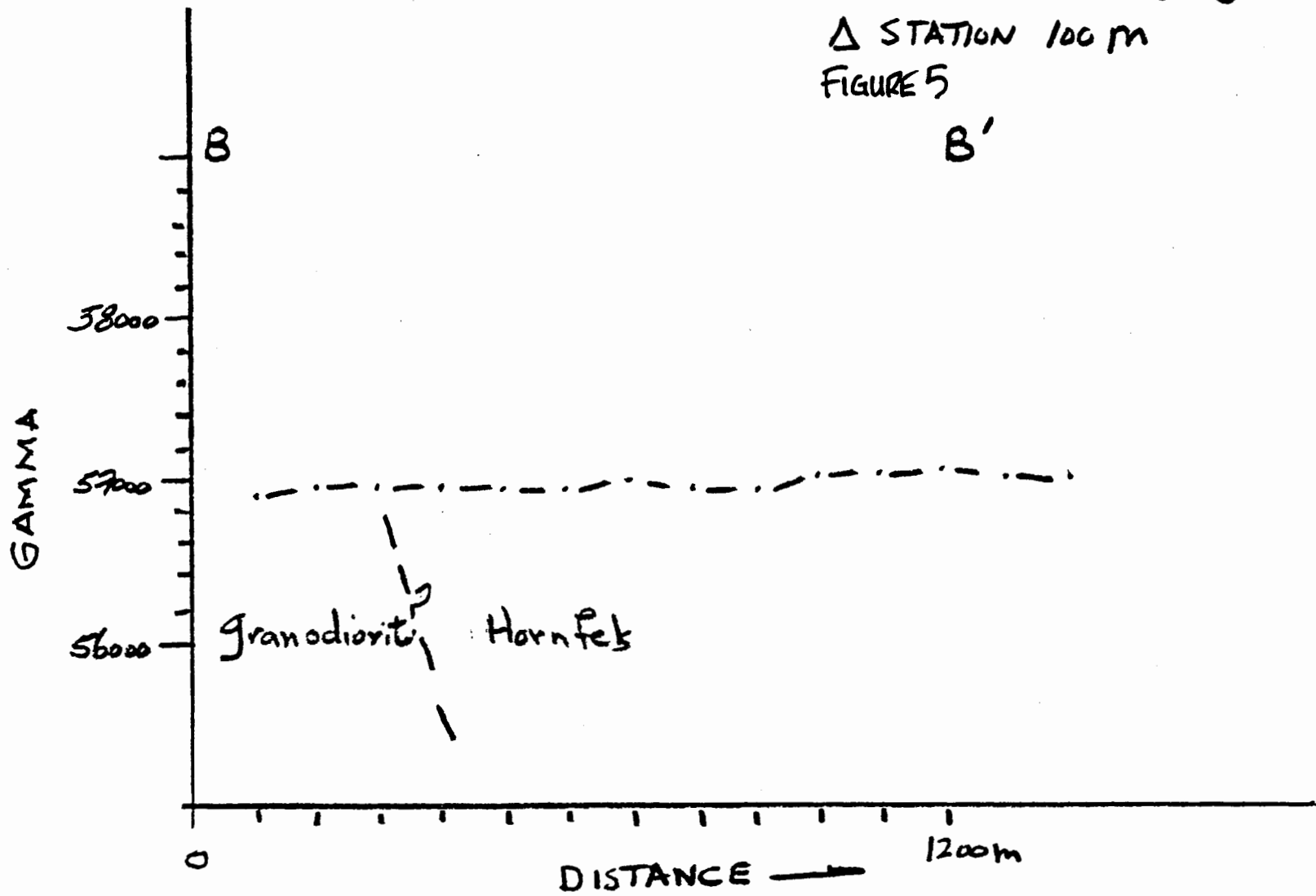
KET 2

GROUND-MAG. B-B'

Δ STATION 100 m

FIGURE 5

B'





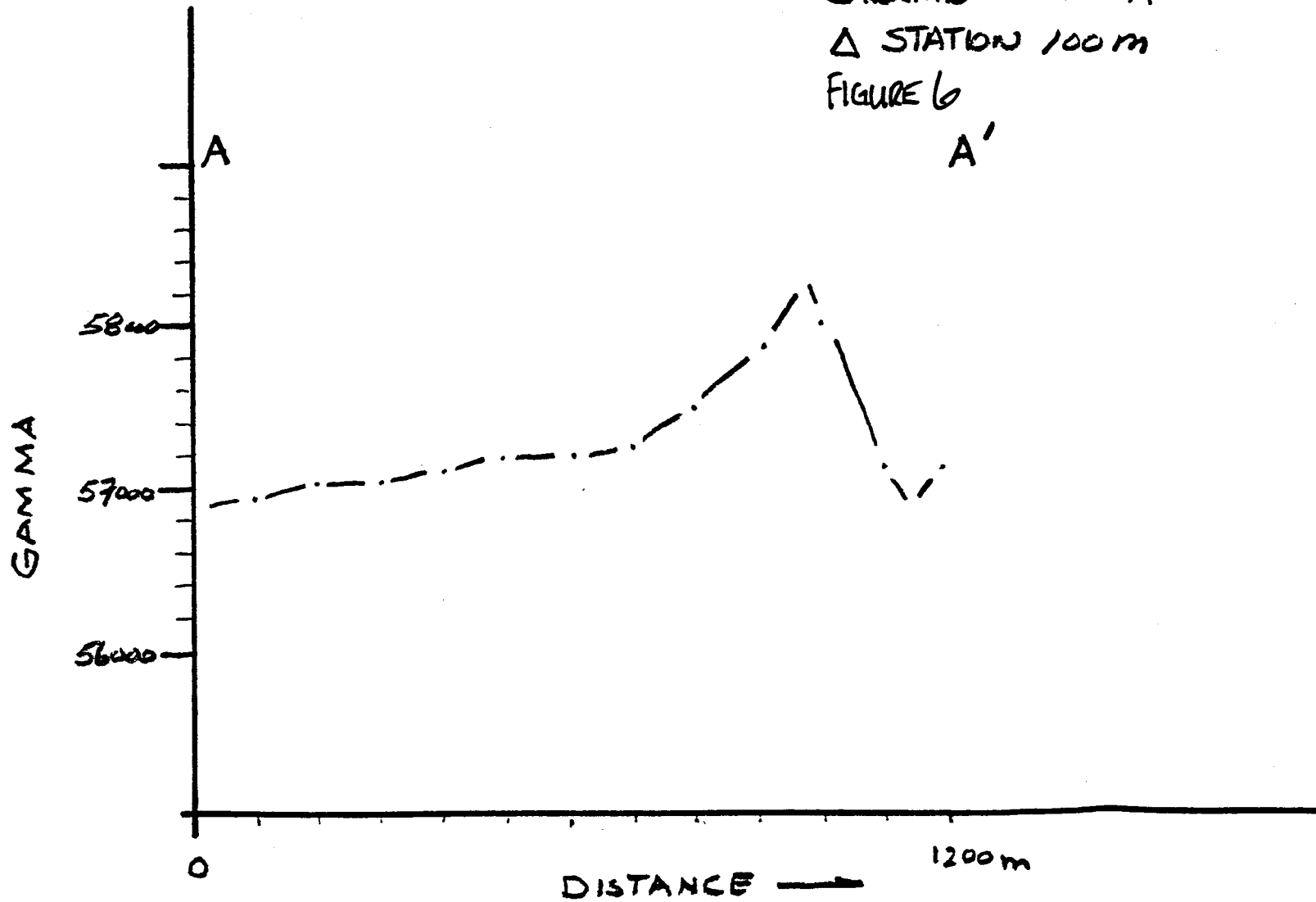
KET 3 - KET 2.

GROUND MAG A-A'

Δ STATION 100 m

FIGURE 6

A'



The large high amplitude magnetic anomaly in the south east quarter of Ket 3 is related to an alkaline syenite intrusive.

Although general reconnaissance didn't show an obvious magnetic high along the granodiorite-metasedimentary contact, fluctuations of 100 plus gammas did occur.

Fixed line ground magnetics generally supported the airborne magnetics with the exception that higher isolated ground magnetic signatures were obtained from areas where the airborne magnetic signatures were relatively uniform, suggesting that maybe deep seated magnetic bodies with low magnetic surface profiles could lie at depth within areas shown to be fairly uninteresting based on the airborne magnetics.

### 3.0 DISCUSSION

Although the initial reconnaissance program didn't generate an obvious starting point for a continuing exploration program, it did demonstrate that the geology and geologic relationships at the Crown Jewel deposit on Buckhorn Mountain, some four to six kilometres south of the Ket 1 group, extend onto the Ket 1 group claims.

Therefore a typical pre-drilling program of geochemistry and geophysics should be conducted over the granodiorite-metasediment contact. Exploration targets would include gold skarn and/or gold

replacement type deposits at depth along the granodiorite contact aureole.

#### **4.0 RECOMMENDATIONS**

Soil geochemistry and ground magnetics along grid points that cover the granodiorite-metasedimentary contact, followed by drilling to test any anomalies uncovered by the grid program.


**APPENDIX A**  
**STATEMENT OF QUALIFICATIONS**

**STATEMENT OF QUALIFICATIONS**

I, ROBERT E. MILLER, of Oroville, Washington, DO HEREBY CERTIFY THAT:

1. I am a geologist with Crown Resources Corporation, with a business address of Star Route 85, Oroville, Washington 98844.
2. I am a 1962 graduate from Brigham Young University with a Geological Engineering degree.
3. I have practised my profession continuously since graduation.
4. I personally conducted the 1990 exploration program discussed in this report.

Dated this 12<sup>th</sup> day of February, 1991.


  
Robert E. Miller  
Geological Engineer

## STATEMENT OF QUALIFICATIONS

I, WILLIAM R. KUSHNER, of 1942 East 2nd Avenue, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geologist in the employment of Coast Mountain Geological Ltd. with offices at 820-650 West Georgia Street, Vancouver, British Columbia.
2. THAT I am a graduate from the University of Alberta with a bachelor of Science degree in Geology (1987).
3. THAT my primary employment since graduation has been in the field of mineral exploration.
4. THAT this report is based on field work conducted by Crown Resources Corporation on the subject property between June and November, 1990, and on information from government publications and reports filed with the Government of British Columbia.
5. THAT I did not visit the subject property.
6. THAT I do not own or expect to receive any interest in the property described herein, nor in any securities of any company rendered in the preparation of this report.

DATED at Vancouver, British Columbia, this 20<sup>th</sup> day of February, 1991.

  
\_\_\_\_\_  
William R. Kushner, B.Sc.  
Geologist

**APPENDIX B**  
**STATEMENT OF EXPENDITURES**

## STATEMENT OF EXPENDITURES

Rock Sample Assays 49 samples @ \$11.00/sample	\$539.00
Stream Sediment Sample Assays 2 samples @ \$8.00/sample	\$16.00
Magnetometer Survey 3.9 km @ \$125/km	\$487.50
Vehicle 6 days @ \$75.00/day	\$450.00
Senior Geologist 1 day @ \$400/day	\$400.00
Geologist 6 days @ \$285/day	\$1710.00
Geotechnician 4 days @ \$250/day	\$1000.00
Geotechnician 4 days @ \$250/day	\$1000.00
Room and Board 15 days @ \$120/day	\$1800.00
Miscellaneous (Shipping, Field Expendables, etc.)	\$75.00
<b>Subtotal:</b>	<b>\$7477.50</b>
Management Fee (13.5%)	\$1009.46
Report and Drafting	\$500.00
<b>TOTAL:</b>	<b>\$8986.96</b>



**APPENDIX C**

**REFERENCES**

## REFERENCES

Basil, Chris, 1990. Airborne Magnetic and VLF-EM Survey Report on the Ket 1-22 and Ket 24-32 Mineral Claims, Assessment Report for Crown Resources Corp.

Geological Survey of Canada, Map 15-1961, Kettle River, British Columbia, Sheet 82E West Half Scale 1:253,440.

Miller, B. and W. Kushner, 1991. 1990 Summary report on the Homestake and Daisy Fraction Claims, Assessment Report for Crown Resources Corp.

Templeman, Kluit, D.S., 1989. Geology, Penticton, British Columbia, Geological Survey of Canada, Map 1736A, 1:250,000 Scale.

**APPENDIX D**  
**CERTIFICATE OF ANALYSIS**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 BROOKSBANK AVE. NORTH VANCOUVER,  
 BRITISH COLUMBIA, CANADA V7J-2C1  
 PHONE (604) 924-0221

1 BROWN RESOURCE CORPORATION

820 16TH ST., STE. 415  
 DENVER, COLORADO  
 80202

Project : MIDWAY  
 Comments: ATTN: CHRIS HERALD CC: J. SHANNON

\*\*Page No. 1-A  
 Tot. Pages: 1  
 Date : 31-MAY-90  
 Invoice # : I-9015923  
 P.O. # : NONE

## CERTIFICATE OF ANALYSIS A9015923

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
90 CM 151 R	205 294	55	< 0.2	0.61	160	80	< 0.5	< 2	8.49	< 0.5	15	153	8	2.82	< 10	< 1	0.26	< 10	4.30	865
90 CM 152 R	205 294	< 5	< 0.2	0.89	20	110	< 0.5	< 2	8.60	< 0.5	18	173	11	3.18	< 10	< 1	0.31	< 10	4.30	620
90 CM 153 R	205 294	25	0.8	0.09	15	< 10	< 0.5	6	0.11	20.0	9	303	13	1.46	< 10	< 1	0.01	< 10	0.05	35
90 CM 154 R	205 294	10	< 0.2	1.51	5	100	< 0.5	< 2	2.09	< 0.5	6	92	51	2.46	< 10	< 1	0.59	20	0.87	515
90 CM 155 R	205 294	40	< 0.2	2.48	5	20	< 0.5	< 2	1.16	< 0.5	26	135	74	4.46	< 10	< 1	0.18	10	2.71	560
90 CM 156 R	205 294	5	< 0.2	1.60	< 5	60	< 0.5	< 2	13.05	< 0.5	28	336	94	2.13	< 10	< 1	0.27	< 10	2.16	495
90 CM 157 R	205 294	< 5	< 0.2	0.27	< 5	< 10	< 0.5	< 2	>15.00	< 0.5	6	11	9	0.67	< 10	< 1	0.04	< 10	0.30	225
90 CM 158 R	205 294	5	< 0.2	2.32	60	100	< 0.5	< 2	0.19	< 0.5	2	69	39	4.08	< 10	< 1	0.14	10	1.41	240
90 CM 159 R	205 294	25	< 0.2	2.89	180	340	< 0.5	2	0.17	< 0.5	7	91	48	4.68	< 10	< 1	0.71	20	1.10	235
90 CM 160 R	205 294	< 5	< 0.2	3.48	25	190	< 0.5	< 2	0.51	< 0.5	16	120	24	5.53	< 10	< 1	0.34	10	2.37	590
90 CM 161 R	205 294	30	< 0.2	3.33	10	170	< 0.5	< 2	0.81	< 0.5	17	107	35	5.49	< 10	< 1	0.54	10	2.33	520
90 CM 162 R	205 294	10	< 0.2	3.47	10	50	< 0.5	< 2	1.42	< 0.5	30	113	35	6.58	< 10	< 1	0.21	10	2.36	1410
90 CM 163 R	205 294	< 5	< 0.2	0.89	15	90	< 0.5	< 2	0.22	< 0.5	3	186	18	1.60	< 10	< 1	0.28	10	0.44	195
90 CM 164 R	205 294	10	< 0.2	0.30	15	30	< 0.5	< 2	0.11	< 0.5	1	230	29	1.95	< 10	< 1	0.02	< 10	0.12	115
90 CM 165 R	205 294	10	< 0.2	0.35	15	510	< 0.5	< 2	0.02	< 0.5	1	279	13	1.14	< 10	< 1	0.07	< 10	0.20	50
90 CM 166 R	205 294	< 5	< 0.2	0.81	10	90	< 0.5	< 2	1.42	< 0.5	10	139	27	1.59	< 10	< 1	0.20	10	0.65	240
90 CM 167 R	205 294	10	< 0.2	2.05	5	10	< 0.5	< 2	12.60	< 0.5	9	141	15	3.47	< 10	< 1	< 0.01	< 10	0.25	1060
90 CM 168 R	205 294	5	< 0.2	1.79	5	350	< 0.5	< 2	>15.00	< 0.5	10	121	8	2.57	< 10	< 1	0.01	< 10	0.41	1175
90 CM 169 R	205 294	< 5	< 0.2	0.59	< 5	< 10	< 0.5	< 2	>15.00	< 0.5	4	8	1	0.51	< 10	< 1	< 0.01	< 10	9.26	320
90 CM 170 R	205 294	5	< 0.2	1.06	15	50	< 0.5	< 2	1.80	< 0.5	21	142	111	3.75	< 10	< 1	0.17	< 10	1.03	245
90 CM 171 R	205 294	< 5	0.4	0.28	< 5	60	< 0.5	< 2	>15.00	< 0.5	3	17	1	0.34	< 10	< 1	< 0.01	< 10	6.10	450
90 CM 172 R	205 294	< 5	< 0.2	1.06	5	50	< 0.5	4	>15.00	< 0.5	15	125	22	1.27	< 10	< 1	0.03	< 10	1.56	645
90 CM 173 R	205 294	< 5	< 0.2	0.31	< 5	10	< 0.5	< 2	>15.00	< 0.5	3	3	< 1	0.21	< 10	< 1	< 0.01	< 10	0.81	245
90 CM 174 R	205 294	< 5	< 0.2	0.77	5	20	< 0.5	< 2	1.79	< 0.5	29	92	151	3.60	< 10	< 1	0.05	< 10	0.40	140
90 CM 175 R	205 294	< 5	< 0.2	0.28	5	970	< 0.5	< 2	0.08	< 0.5	1	348	10	0.97	< 10	< 1	0.09	< 10	0.13	65
90 CM 176 R	205 294	< 5	0.6	0.53	10	1540	< 0.5	4	0.06	< 0.5	2	310	15	1.46	< 10	< 1	0.16	10	0.31	65
90 CM 177 R	205 294	15	1.2	0.71	< 5	2490	< 0.5	< 2	0.05	< 0.5	1	365	7	1.89	< 10	< 1	0.45	< 10	0.16	35
90 CM 178 R	205 294	< 5	0.6	0.12	25	2830	< 0.5	< 2	0.02	< 0.5	< 1	309	33	4.25	< 10	< 1	< 0.01	< 10	0.01	85
90 CM 179 R	205 294	5	< 0.2	2.36	20	290	< 0.5	4	1.02	< 0.5	13	127	174	6.62	< 10	< 1	0.47	20	1.32	290
90 CM 180 R	205 294	< 5	< 0.2	2.22	15	130	< 0.5	< 2	0.61	< 0.5	4	108	91	7.61	< 10	< 1	0.24	20	1.39	320
90 CM 181 R	205 294	< 5	< 0.2	1.20	25	80	< 0.5	4	0.07	< 0.5	1	273	64	6.82	< 10	< 1	0.14	< 10	0.91	225
90 CM 182 R	205 294	15	< 0.2	0.58	5	80	< 0.5	< 2	0.01	< 0.5	< 1	112	< 1	0.42	< 10	< 1	0.36	20	0.03	25
90 CM 183 R	205 294	< 5	< 0.2	3.16	15	300	< 0.5	< 2	3.59	< 0.5	28	447	60	4.63	< 10	< 1	0.83	10	4.35	790
90 CM 184 R	205 294	15	< 0.2	2.53	15	250	< 0.5	2	0.44	< 0.5	19	69	126	6.10	< 10	< 1	0.43	10	1.20	400
90 CM 185 R	205 294	< 5	< 0.2	3.12	< 5	180	< 0.5	< 2	0.17	< 0.5	18	116	40	5.30	< 10	< 1	0.20	< 10	2.08	355
90 CM 186 R	205 294	< 5	< 0.2	3.31	10	120	< 0.5	2	0.30	< 0.5	18	194	118	6.80	< 10	< 1	0.09	10	2.30	415
90 CM 187 R	205 294	< 5	< 0.2	3.68	40	200	< 0.5	< 2	0.12	< 0.5	19	132	57	6.36	< 10	< 1	0.19	10	2.42	465

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CERTIFICATION :



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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BRITISH COLUMBIA, CANADA V7J-2C1

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I. .ROWN RESOURCE CORPORATION

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DENVER, COLORADO  
80202

Project : MIDWAY

Comments: ATTN: CHRIS HERALD CC: J. SHANNON

\*\*Page No. 1-B

Tot. Pages: 1

Date : 31-MAY-90

Invoice # : I-9015923

P.O. # : NONE

## CERTIFICATE OF ANALYSIS A9015923

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
90 CM 151 R	205 294	1	0.01	175	340	2	< 5	5	229	< 0.01	< 10	< 10	29	10	18
90 CM 152 R	205 294	2	0.02	207	370	< 2	< 5	7	231	< 0.01	< 10	< 10	39	10	16
90 CM 153 R	205 294	5	< 0.01	7	160	14	< 5	< 1	9	< 0.01	< 10	< 10	2	< 10	1990
90 CM 154 R	205 294	1	0.03	4	840	8	< 5	3	115	0.10	< 10	< 10	38	10	50
90 CM 155 R	205 294	2	0.09	43	280	< 2	< 5	9	25	0.23	< 10	< 10	116	< 10	42
90 CM 156 R	205 294	1	0.06	241	170	< 2	< 5	3	195	0.08	10	10	34	< 10	162
90 CM 157 R	205 294	< 1	< 0.01	8	180	< 2	5	1	653	0.04	10	10	8	< 10	4
90 CM 158 R	205 294	2	0.01	6	380	< 2	< 5	2	24	< 0.01	< 10	< 10	49	< 10	78
90 CM 159 R	205 294	4	0.02	23	550	< 2	< 5	5	14	< 0.01	< 10	< 10	71	10	98
90 CM 160 R	205 294	< 1	0.07	29	620	< 2	< 5	11	19	0.26	< 10	< 10	163	10	120
90 CM 161 R	205 294	< 1	0.06	30	590	< 2	< 5	11	33	0.27	< 10	< 10	186	10	102
90 CM 162 R	205 294	< 1	0.19	37	770	< 2	< 5	21	14	0.30	< 10	< 10	277	20	90
90 CM 163 R	205 294	< 1	< 0.01	12	160	< 2	< 5	1	9	< 0.01	< 10	< 10	24	< 10	32
90 CM 164 R	205 294	1	< 0.01	6	840	< 2	< 5	1	7	< 0.01	< 10	10	50	< 10	8
90 CM 165 R	205 294	1	0.01	6	160	2	< 5	1	8	< 0.01	< 10	10	30	< 10	6
90 CM 166 R	205 294	< 1	0.03	23	690	< 2	< 5	2	32	0.11	< 10	< 10	35	< 10	26
90 CM 167 R	205 294	2	0.02	10	240	< 2	< 5	11	45	0.12	< 10	< 10	72	10	22
90 CM 168 R	205 294	1	0.02	17	240	< 2	< 5	12	75	0.16	< 10	10	76	10	16
90 CM 169 R	205 294	< 1	< 0.01	5	580	< 2	< 5	1	265	0.01	10	< 10	8	< 10	26
90 CM 170 R	205 294	2	0.13	58	980	< 2	< 5	6	20	0.59	< 10	10	82	10	44
90 CM 171 R	205 294	< 1	< 0.01	3	410	< 2	5	1	443	< 0.01	< 10	< 10	5	< 10	4
90 CM 172 R	205 294	< 1	0.10	110	370	< 2	5	3	682	0.09	< 10	< 10	29	< 10	20
90 CM 173 R	205 294	< 1	< 0.01	1	310	< 2	5	1	1115	0.01	< 10	< 10	5	< 10	4
90 CM 174 R	205 294	1	0.08	110	980	< 2	< 5	3	41	0.72	< 10	< 10	45	10	32
90 CM 175 R	205 294	1	0.01	5	50	< 2	< 5	1	15	< 0.01	< 10	< 10	10	< 10	6
90 CM 176 R	205 294	3	0.02	10	70	< 2	< 5	3	18	< 0.01	< 10	< 10	46	< 10	22
90 CM 177 R	205 294	< 1	0.02	6	70	4	< 5	4	33	< 0.01	< 10	< 10	32	< 10	14
90 CM 178 R	205 294	4	< 0.01	6	530	< 2	< 5	1	19	< 0.01	< 10	< 10	25	< 10	20
90 CM 179 R	205 294	14	0.03	46	520	10	< 5	4	35	0.34	< 10	< 10	116	20	52
90 CM 180 R	205 294	3	0.07	14	290	< 2	< 5	7	30	0.25	< 10	< 10	177	20	78
90 CM 181 R	205 294	10	0.01	4	190	4	< 5	3	3	0.09	< 10	< 10	85	< 10	46
90 CM 182 R	205 294	11	0.09	< 1	40	22	< 5	< 1	11	< 0.01	< 10	< 10	3	< 10	4
90 CM 183 R	205 294	2	0.19	146	1780	< 2	< 5	14	234	0.27	< 10	< 10	141	< 10	56
90 CM 184 R	205 294	3	0.03	20	1070	4	< 5	3	17	0.15	< 10	< 10	48	20	92
90 CM 185 R	205 294	1	0.02	48	490	< 2	< 5	5	55	0.04	< 10	< 10	77	10	150
90 CM 186 R	205 294	5	0.03	30	480	< 2	< 5	5	35	0.06	< 10	< 10	91	20	158
90 CM 187 R	205 294	1	0.02	48	450	< 2	< 5	6	9	0.02	< 10	< 10	87	20	184

HET / Group

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CERTIFICATION :



# Chemex Labs Ltd.

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Project : MIDWAY  
Comments : ATTN: CHRIS HERALD CC: J. SHANNON CC: R. MILLER

## CERTIFICATE OF ANALYSIS A9016313

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
90 CM 188 R	205 294	< 5	< 0.2	2.66	< 5	20	< 0.5	2	6.04	< 0.5	37	530	39	3.99	< 10	< 1	0.05	< 10	3.73	515
90 CM 189 R	205 294	< 5	< 0.2	1.36	< 5	20	< 0.5	2	8.84	< 0.5	23	321	56	2.48	< 10	< 1	0.04	< 10	1.95	635
90 CM 190 R	205 294	< 5	< 0.2	2.72	< 5	40	< 0.5	< 2	2.61	< 0.5	38	125	49	8.01	< 10	< 1	0.11	< 10	2.26	995
90 CM 191 R	205 294	< 5	< 0.2	3.33	< 5	70	< 0.5	< 2	5.16	< 0.5	39	63	57	8.14	< 10	< 1	0.28	< 10	3.11	1210
90 CM 192 R	205 294	5	< 0.2	3.22	< 5	50	< 0.5	< 2	2.63	< 0.5	44	72	53	8.40	< 10	< 1	0.30	< 10	2.80	1060
90 CM 193 R	205 294	< 5	< 0.2	3.59	< 5	120	< 0.5	< 2	0.89	< 0.5	21	20	30	8.54	20	< 1	0.39	50	2.57	1615
90 CM 194 R	205 294	10	0.2	0.16	15	1530	< 0.5	< 2	0.05	< 0.5	1	159	11	0.62	< 10	< 1	0.05	< 10	0.05	40
90 CM 195 R	205 294	5	< 0.2	0.34	< 5	240	< 0.5	< 2	0.07	< 0.5	1	165	6	0.64	< 10	< 1	0.10	< 10	0.12	95
90 CM 196 R	205 294	< 5	< 0.2	3.46	< 5	50	< 0.5	< 2	4.70	< 0.5	34	94	35	6.81	< 10	< 1	0.11	< 10	2.19	1060
90 CM 197 R	205 294	< 5	< 0.2	3.98	< 5	30	< 0.5	< 2	5.96	< 0.5	46	417	27	6.25	< 10	< 1	0.04	< 10	5.03	995
90 CM 198 R	205 294	< 5	< 0.2	1.45	< 5	40	< 0.5	< 2	8.94	< 0.5	25	133	23	3.86	< 10	1	0.36	< 10	2.21	985
90 CM 199 R	205 294	< 5	< 0.2	1.14	< 5	40	< 0.5	< 2	3.19	< 0.5	21	236	36	2.86	< 10	< 1	0.11	< 10	1.30	475
90 CM 200 R	205 294	< 5	< 0.2	3.03	25	300	< 0.5	< 2	2.12	< 0.5	33	28	56	7.53	< 10	< 1	0.24	10	2.41	935
90 CM 201 R	205 294	< 5	< 0.2	0.02	5	10	< 0.5	< 2	>15.00	< 0.5	2	< 1	< 1	0.06	< 10	1	< 0.01	< 10	0.10	55
90 CM 202 R	205 294	5	< 0.2	0.05	< 5	10	< 0.5	< 2	>15.00	< 0.5	2	< 1	< 1	0.08	< 10	< 1	< 0.01	< 10	0.13	75
90 CM 203 R	205 294	< 5	< 0.2	1.90	< 5	410	< 0.5	< 2	1.28	< 0.5	16	274	39	2.29	< 10	< 1	0.76	10	1.71	285
90 CM 204 R	205 294	5	< 0.2	3.24	10	10	< 0.5	2	2.74	< 0.5	13	80	13	0.72	< 10	< 1	0.04	< 10	1.55	200
90 CM 205 R	205 294	< 5	< 0.2	2.11	< 5	80	< 0.5	< 2	0.59	< 0.5	12	97	28	2.64	< 10	< 1	0.70	20	0.81	495
90 CM 206 R	205 294	10	< 0.2	3.30	5	130	0.5	< 2	0.19	< 0.5	18	137	20	4.11	10	< 1	1.12	50	1.16	610
90 CM 207 R	205 294	< 5	< 0.2	2.78	< 5	130	< 0.5	< 2	1.61	< 0.5	12	92	25	3.13	10	< 1	0.89	30	1.01	645
90 CM 208 R	205 294	< 5	< 0.2	0.07	< 5	< 10	< 0.5	< 2	0.06	< 0.5	< 1	167	< 1	0.49	< 10	< 1	0.01	< 10	0.03	380
90 CM 209 R	205 294	< 5	< 0.2	2.01	< 5	60	< 0.5	< 2	3.62	0.5	39	97	58	7.95	< 10	< 1	0.51	< 10	1.78	560
90 CM 210 R	205 294	< 5	< 0.2	1.69	< 5	100	< 0.5	< 2	3.10	< 0.5	33	99	28	7.77	< 10	< 1	0.75	< 10	1.54	755
90 CM 211 R	205 294	< 5	< 0.2	2.25	5	10	< 0.5	< 2	1.88	< 0.5	25	36	78	5.10	< 10	< 1	0.11	< 10	1.32	420
90 CM 212 R	205 294	< 5	< 0.2	1.69	< 5	20	< 0.5	< 2	5.34	< 0.5	22	10	26	8.03	< 10	< 1	0.10	< 10	1.44	1335
90 CM 213 R	205 294	< 5	< 0.2	1.80	5	70	< 0.5	< 2	2.80	< 0.5	21	96	41	3.74	< 10	< 1	0.44	< 10	1.37	360
90 CM 214 R	205 294	< 5	< 0.2	3.46	< 5	50	< 0.5	< 2	2.40	< 0.5	21	97	42	3.11	< 10	< 1	0.03	< 10	2.65	555
90 CM 215 R	205 294	< 5	< 0.2	1.96	< 5	110	< 0.5	< 2	1.03	< 0.5	8	45	8	2.68	< 10	< 1	0.30	10	0.88	495
90 CM 216 R	205 294	10	< 0.2	0.20	< 5	20	< 0.5	< 2	0.06	1.5	2	110	77	0.58	< 10	< 1	0.03	< 10	0.09	70
90 CM 217 R	205 294	< 5	0.2	0.85	5	60	< 0.5	2	0.02	< 0.5	< 1	160	12	2.48	< 10	< 1	0.44	20	0.36	130
90 CM 218 R	205 294	< 5	0.8	2.69	10	180	0.5	< 2	1.76	< 0.5	11	24	18	3.31	20	< 1	0.27	170	0.86	640
90 CM 219 R	205 294	< 5	0.8	3.88	5	700	2.0	< 2	1.95	< 0.5	16	46	58	3.66	20	< 1	0.79	200	1.49	630
90 CM 220 R	205 294	< 5	< 0.2	2.05	< 5	40	< 0.5	< 2	0.12	0.5	16	73	19	3.78	10	< 1	0.28	40	1.09	625
90 CM 221 R	205 294	15	< 0.2	1.58	< 5	80	< 0.5	< 2	0.76	< 0.5	14	106	5	2.72	10	< 1	0.30	50	0.98	645
90 CM 222 R	205 294	< 5	< 0.2	1.87	< 5	80	< 0.5	< 2	0.77	< 0.5	12	80	10	3.36	10	< 1	0.26	40	1.05	690
90 CM 223 R	205 294	< 5	< 0.2	1.98	< 5	50	< 0.5	< 2	2.42	< 0.5	13	105	29	2.74	< 10	< 1	0.77	10	0.88	775
90 CM 224 R	205 294	< 5	< 0.2	1.54	< 5	30	< 0.5	< 2	0.28	< 0.5	12	104	42	2.95	< 10	< 1	0.06	10	1.33	485
90 CM 225 R	205 294	< 5	< 0.2	0.88	< 5	980	< 0.5	< 2	0.20	0.5	3	387	9	3.60	< 10	< 1	0.10	10	0.23	115
90 CM 226 R	205 294	475	< 0.2	1.73	< 5	350	< 0.5	< 2	0.90	< 0.5	9	82	67	>15.00	10	< 1	0.33	10	0.39	545
90 CM 227 R	205 294	< 5	< 0.2	4.14	10	920	< 0.5	< 2	2.19	< 0.5	11	67	13	>15.00	10	< 1	1.28	20	1.05	475

KET 1 Group

CERTIFICATION :



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## CERTIFICATE OF ANALYSIS A9016313

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
90 CM 188 R	205 294	< 1	0.07	272	640	2	< 5	3	184	0.61	< 10	< 10	69	< 10	44
90 CM 189 R	205 294	< 1	0.02	129	250	< 2	5	4	367	0.21	< 10	< 10	48	< 10	26
90 CM 190 R	205 294	< 1	0.10	58	1050	6	< 5	11	70	0.99	< 10	< 10	161	< 10	110
90 CM 191 R	205 294	< 1	0.16	32	1010	< 2	< 5	14	185	0.36	< 10	< 10	185	10	102
90 CM 192 R	205 294	1	0.06	42	1160	2	< 5	14	126	1.09	< 10	< 10	182	10	106
90 CM 193 R	205 294	1	0.07	11	2540	< 2	< 5	9	30	0.11	< 10	< 10	72	< 10	144
90 CM 194 R	205 294	10	< 0.01	4	720	8	< 5	1	31	0.01	< 10	< 10	73	< 10	8
90 CM 195 R	205 294	3	0.01	2	150	4	< 5	< 1	5	< 0.01	< 10	< 10	22	< 10	8
90 CM 196 R	205 294	1	0.01	47	1320	< 2	5	6	102	0.13	< 10	< 10	104	10	92
90 CM 197 R	205 294	< 1	0.10	225	890	< 2	< 5	14	182	0.49	< 10	< 10	140	< 10	72
90 CM 198 R	205 294	< 1	< 0.01	109	520	< 2	5	8	178	0.01	< 10	< 10	63	10	38
90 CM 199 R	205 294	< 1	0.02	115	570	2	< 5	2	154	0.39	< 10	< 10	66	< 10	24
90 CM 200 R	205 294	1	0.08	23	1820	4	< 5	7	83	0.77	< 10	< 10	141	20	106
90 CM 201 R	205 294	< 1	< 0.01	< 1	< 10	< 2	5	< 1	674	< 0.01	< 10	< 10	1	< 10	< 2
90 CM 202 R	205 294	< 1	< 0.01	< 1	10	< 2	< 5	< 1	485	< 0.01	< 10	< 10	2	< 10	< 2
90 CM 203 R	205 294	< 1	0.13	51	1350	6	< 5	5	70	0.24	< 10	< 10	68	< 10	32
90 CM 204 R	205 294	< 1	0.20	54	30	< 2	< 5	2	57	0.02	< 10	< 10	16	< 10	10
90 CM 205 R	205 294	< 1	0.06	23	260	22	< 5	2	28	0.11	< 10	< 10	27	< 10	70
90 CM 206 R	205 294	< 1	0.09	34	310	8	< 5	6	18	0.13	< 10	< 10	51	< 10	82
90 CM 207 R	205 294	< 1	0.12	27	320	14	< 5	5	58	0.16	< 10	< 10	40	< 10	64
90 CM 208 R	205 294	< 1	< 0.01	3	200	< 2	< 5	< 1	1	< 0.01	< 10	< 10	2	< 10	2
90 CM 209 R	205 294	< 1	0.16	37	1180	6	< 5	21	52	0.81	< 10	< 10	213	20	84
90 CM 210 R	205 294	< 1	0.15	38	1200	6	5	12	84	0.84	< 10	< 10	219	10	86
90 CM 211 R	205 294	< 1	0.16	20	2050	4	< 5	10	33	0.31	< 10	< 10	123	< 10	78
90 CM 212 R	205 294	< 1	0.13	4	3130	4	5	9	60	0.33	< 10	< 10	74	20	106
90 CM 213 R	205 294	< 1	0.24	38	1150	12	< 5	10	41	0.42	< 10	< 10	124	< 10	52
90 CM 214 R	205 294	< 1	0.32	40	150	8	< 5	16	52	0.13	< 10	< 10	144	< 10	28
90 CM 215 R	205 294	< 1	0.19	4	760	2	< 5	5	59	0.17	< 10	< 10	77	< 10	44
90 CM 216 R	205 294	15	< 0.01	21	90	4	< 5	< 1	3	0.01	< 10	< 10	158	< 10	176
90 CM 217 R	205 294	< 1	0.01	2	260	10	< 5	1	9	0.02	< 10	< 10	20	< 10	22
90 CM 218 R	205 294	< 1	0.69	8	2190	24	5	4	1050	0.29	< 10	< 10	79	< 10	80
90 CM 219 R	205 294	< 1	1.89	20	3010	42	< 5	4	1270	0.27	< 10	< 10	107	< 10	90
90 CM 220 R	205 294	< 1	0.02	27	380	26	< 5	3	15	0.04	< 10	< 10	32	< 10	70
90 CM 221 R	205 294	< 1	0.07	30	440	8	< 5	7	19	0.06	< 10	< 10	62	< 10	52
90 CM 222 R	205 294	< 1	0.03	30	470	6	< 5	4	30	0.02	< 10	< 10	50	< 10	78
90 CM 223 R	205 294	1	0.07	26	510	16	< 5	5	90	0.18	< 10	< 10	54	< 10	82
90 CM 224 R	205 294	< 1	0.01	45	420	12	< 5	5	17	0.03	< 10	< 10	36	< 10	64
90 CM 225 R	205 294	1	0.01	9	640	12	< 5	1	48	0.02	< 10	< 10	32	< 10	16
90 CM 226 R	205 294	10	0.05	10	1720	< 2	< 5	4	27	0.11	< 10	< 10	202	10	52
90 CM 227 R	205 294	< 1	0.09	6	6100	< 2	< 5	11	123	0.23	< 10	< 10	110	30	128

← KET / Group

CERTIFICATION : B. Coughlin



# Chemex Labs Ltd.

Analytical Chemists - Geologists - Registered Assayers  
 212 BROOKSBANK AVE. SUITE 100 VANCOUVER  
 BRITISH COLUMBIA, CANADA V7J-2C1  
 PHONE (604) 271-1111

ANALYTICAL CHEMISTS LTD.

820 16TH ST., STE. 415  
 DENVER, COLORADO  
 80202

Total Pa  
 Date 15-JUN-90  
 Invoice #: I-9016590  
 P.O. # : NONE

Project: MILWAY  
 Comments: ATTN: CHRIS HERALD CC: J. SHANNON QC: R. MILLER

## CERTIFICATE OF ANALYSIS A9016590

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
90CM 11SS	201 202	< 5	< 0.2	1.05	25	120	< 0.5	< 2	0.83	< 0.5	5	22	29	1.49	< 10	< 1	0.13	40	0.40	505
90CM 12SS	201 202	< 5	< 0.2	1.22	10	100	< 0.5	< 2	0.63	< 0.5	4	25	43	1.59	10	< 1	0.16	40	0.38	205
90CM 13SS	201 202	< 5	< 0.2	0.77	10	180	< 0.5	< 2	14.30	< 0.5	4	61	19	1.21	< 10	< 1	0.12	< 10	0.81	270
90CM 14SS	201 202	< 5	< 0.2	0.48	5	150	< 0.5	< 2	>15.00	< 0.5	3	18	24	0.79	< 10	< 1	0.08	< 10	0.67	255
90CM 15SS	201 202	< 5	< 0.2	0.93	< 5	170	< 0.5	< 2	2.65	< 0.5	4	17	30	1.22	< 10	< 1	0.13	10	0.34	490
90CM 16SS	201 202	< 5	< 0.2	0.78	10	180	< 0.5	< 2	10.70	< 0.5	4	26	20	1.18	< 10	< 1	0.11	< 10	0.43	305
90CM 17SS	201 202	< 5	< 0.2	0.70	5	170	< 0.5	< 2	10.30	< 0.5	4	32	19	1.47	< 10	< 1	0.10	< 10	0.41	290
90CM 18SS	201 202	10	< 0.2	0.83	5	260	< 0.5	< 2	8.05	< 0.5	6	55	15	1.76	< 10	< 1	0.12	< 10	0.50	250
90CM 19SS	201 202	< 5	< 0.2	0.91	10	70	< 0.5	< 2	0.70	< 0.5	5	39	32	2.29	< 10	< 1	0.08	30	0.38	230
90CM 20SS	201 202	< 5	< 0.2	0.90	< 5	80	< 0.5	< 2	0.84	< 0.5	5	40	13	2.17	< 10	< 1	0.09	20	0.39	225

CERTIFICATION : B. Coughlin





# Chemex Labs Ltd.

Analytical Chemists • Geologists • Registered Assayers  
111 BROOKSBANK AVE. NORTH VANCOUVER  
BRITISH COLUMBIA CANADA V7J-1C1

PHONE (604) 271-2227

PROJECT DESCRIPTION

820 16TH ST., STE. 415  
DENVER, COLORADO  
80202

Project: MIDWAY

Comments: ATTN: CHRIS HERALD CC: J SHANNON CC: R MILLER

Sample No. B  
Tot. P.  
Date 15-JUN-90  
Invoice #: I-9016590  
P.O. #: NONE

## CERTIFICATE OF ANALYSIS A9016590

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm
90CM 11SS	201 202	< 1	0.07	15	820	16	< 5	2	293	0.07	< 10	< 10	42	< 10	46
90CM 12SS	201 202	< 1	0.06	11	440	4	< 5	2	328	0.09	< 10	< 10	38	< 10	36
90CM 13SS	201 202	< 1	0.05	18	730	2	< 5	2	780	0.05	< 10	< 10	32	< 10	36
90CM 14SS	201 202	< 1	0.04	18	820	4	< 5	1	897	0.03	< 10	< 10	22	< 10	34
90CM 15SS	201 202	< 1	0.03	14	1180	4	< 5	2	205	0.05	< 10	< 10	29	< 10	54
90CM 16SS	201 202	< 1	0.03	26	930	6	< 5	2	279	0.04	< 10	< 10	29	< 10	48
90CM 17SS	201 202	< 1	0.02	26	1110	6	< 5	2	280	0.05	< 10	< 10	44	< 10	46
90CM 18SS	201 202	< 1	0.02	27	1240	12	< 5	2	234	0.08	< 10	< 10	43	< 10	38
90CM 19SS	201 202	< 1	0.02	20	600	8	< 5	2	58	0.12	< 10	< 10	61	10	38
90CM 20SS	201 202	< 1	0.02	21	610	< 2	< 5	2	64	0.11	< 10	< 10	58	< 10	38

CERTIFICATION :

*B. Cagli*

**APPENDIX E**  
**ROCK SAMPLE DESCRIPTIONS**

Sampler R.E.M.  
 Date Sept. 91

Property Midway ket 1-3

NTS \_\_\_\_\_

SAMPLE NO.	Sample Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS				
		Rock Type	Alteration	Mineralization		PPb	Au			
90cm155n	C	Argillite	Silic	Feox FeS	Minor greenstone schist	40				
90cm156n	C	Banded Marble		Feox FeS	argillite partings	5				
90cm157n	C	cr. blk Marble				<5				
90cm158n	C	hornfels	mylonitic	tr. pyrite		5				
90cm159n	C	hornfels		tr. pyrite	flat shearing	25				
90cm160n	C	Siltstone	Silic	tr. pyrite	epx?	<5				
90cm161n	C	Siltstone	Skarn?	tr. pyrite	hornfelsic, v. fine epx and garnet? skarn	30				
90cm162n	C	hornfels	Skarn?	Feox FeS	abundant actinolite along contact/divide	10				
90cm163n	C	mylonite			greenstone?	<5				
90cm164n	C	mylonite		tr. pyrite	greenstone?	10				
90cm165n	C	mylonite		tr. pyrite	greenstone?	10				
90cm166n	C	banded hornfels	Silic	tr <sup>+</sup> pyritic		<5				
90cm167n	C	marble								
90cm167n	C	Skarn	Skarn	tr. pyrite	v. fine x-line garnet / epidote	10				
90cm168n	C	dolomite? Skarn	Skarn	tr. pyrite	v. fine x-line garnet / epidote, sheared?	5				
90cm169n	C	dolomite	wkly Sanded			<5				

C-CHIP 6-GRAB F-FLOAT

Sampler K.E.M.

Date Sept 91

Property Midway ket 1-3

NTS \_\_\_\_\_

SAMPLE NO.	Sample Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS				
		Rock Type	Alteration	Mineralization		Au				
90cm 170r	C	Mylonite	Silic	trPo, trpy		5				
40cm 171r	C	banded Marble	Skarn		vufn xlline spx banded	<5				
90cm 172r	C	Marble				<5				
40cm 173r	C	Cr. Xlline Marble	v wkly Skarned			<5				
90cm 174r	C	Greenstone	Silic	abund pyrite		<5				
90cm 175r	C	chert		Feox FeS	minor Bx, v wk ribbon structure	<5				
90cm 176r	C	siltstone		Feox FeS	highly fract.	<5				
90cm 177r	C	chert		mod. pyrite		15				
90cm 178r	C	chert		Feox FeS		5				
90cm 182r	±	qtzite		Feox	bx, sheared, slickensided	15				
90cm 183r	C	Greenstone		tr. py, fo, & mag		<5				
90cm 184r	C	hornfels		Feox		15				

C-CHIP 6-GRAB F-FLOAT

Sampler KEM

Date Sept. 91

Property Midway Ketl-3

NTS

SAMPLE NO.	Sample Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS			
		Rock Type	Alteration	Mineralization		Ppb Au			
90cm 203R	C	Meta diorite	blech'd	Tr py		<5			
90cm 20412	C	Andesite?		Tr py	minor dioritic texture	5			
90cm 20512	C	gltz			sheared argillite parting; N 80° E - 1/2° N	<5			
90cm 20612	C	Argillite			w/ minor gltze beds?	10			
90cm 207R	C	Argillite/ gltze			wkly Mylonitic.	<5			
90cm 20812	C	gltze	blech'd			<5			
90cm 20912	C	Siltstone		Tr. Po? Py? Mag	Calcite, epidote, act? v. white x-cutting	<5			
90cm 21012	C	Siltstone			abundant epidote	<5			
90cm 211R	C	Andesite		Mag.		<5			
90cm 21212	C	Shaley limestone	wk skarn	med. Mag		<5			
90cm 213R	C	grn. stone		tr py	Calcite un.	<5			
90cm 21412	C	grn stone		tr py		<5			
90cm 21512	C	grn stone		tr py	in contact w/ fine grained diorite	<5			
90cm 21612	C	blk Arg.		MNO & minor py	x-cutting, pb vns	10			
90cm 21712	C	gltze		Feox		<5			

C-CHIP 6-GRAB F-FLOAT

Sampler R.E.M

Date Sept 91

Property Midway Ket 1-3

NTS \_\_\_\_\_

SAMPLE NO.	DESCRIPTION				ADDITIONAL OBSERVATIONS	ASSAYS			
	Sample Width	Rock Type	Alteration	Mineralization		RPb	AW		
90cm 218R	F?	Volc?		tr mag		<5			
90cm 219R	C	h'blade Porphyry		tr+mag		<5			
90cm 220R	C	Mylonite		Feox		<5			
90cm 221R	C	grn stone		tr. py. & Feox		15			
90cm 222R	C	grn stone		tr py & Feox		<5			
90cm 223R	C	grn stone		tr py & Feox		<5			
90cm 224R	C	qtzite		Feox		<5			

C-CHIP G-GRAB F-FLOAT

**APPENDIX F**  
**SAMPLING AND ANALYSIS PROCEDURES**

### SOIL SAMPLING and PREPARATION

The soil grid was measured using hip chains and topo-fill thread. It was not slope corrected. A mattock was used to dig a hole in the soil at each station; soil samples were taken from the 'B' soil horizon (approximately 10 - 15 centimetres deep) unless otherwise stated. The samples were collected in kraft gusseted paper bags and sent to Chemex Labs of North Vancouver, B.C., for analysis. At Chemex, the samples were oven dried at 60°C and sieved to minus 80 mesh.

### ROCK SAMPLING and PREPARATION

Rock samples were chipped from bedrock, except in cases where the sample is identified as a float sample. In all cases, the rocks sampled were done as 'grab' samples. The rock chips were collected in plastic bags and also sent to Chemex Labs, where they were crushed to 3/16 of an inch. A 250 gram specimen was split out and pulverized to 99% minus 100 mesh using a ring mill pulverizer.

### ANALYSIS

The following pages from Chemex Labs Ltd., describe the procedures performed by the lab to analyze the rock samples.





# Chemex Labs Ltd.

*Analytical Chemists*
*Geochemists*
*Registered Assayers*

 212 Brooksbank Ave.  
 North Vancouver, B.C.  
 Canada V7J 2C1

Phone: (604) 984-0221

Telex: 04-352597

Fax: (604) 984-0218

## 32-Element Geochemistry Package (32-ICP)

### Inductively-Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES)

A prepared sample (0.5g) is digested with concentrated nitric and aqua regia acids at medium heat for two hours. The acid solution is diluted to 25ml with demineralized water, mixed and analyzed using a Jarrell Ash 1100 plasma spectrometer after calibration with proper standards. The analytical results are corrected for spectral inter-element interferences.

Chemex Codes	Element	Detection Limit	Upper Limit
921	* Aluminum	0.01 %	15 %
922	Silver	0.2 ppm	0.02 %
923	Arsenic	5 ppm	1 %
924	* Barium	10 ppm	1 %
925	* Beryllium	0.5 ppm	0.01 %
926	Bismuth	2 ppm	1 %
927	* Calcium	0.01 %	15 %
928	Cadmium	0.5 ppm	0.01 %
929	Cobalt	1 ppm	1 %
930	* Chromium	1 ppm	1 %
931	Copper	1 ppm	1 %
932	Iron	0.01 %	15 %
933	* Gallium	10 ppm	1 %
934	* Potassium	0.01 %	10 %
935	* Lanthanum	10 ppm	1 %
936	* Magnesium	0.01 %	15 %
937	Manganese	5 ppm	1 %
938	Molybdenum	1 ppm	1 %
939	* Sodium	0.01 %	5 %
940	Nickel	1 ppm	1 %
941	Phosphorus	10 ppm	1 %
942	Lead	2 ppm	1 %
943	Antimony	5 ppm	1 %
944	* Strontium	1 ppm	1 %
945	* Titanium	0.01 %	5 %
946	* Thallium	10 ppm	1 %
947	Uranium	10 ppm	1 %
948	Vanadium	1 ppm	1 %
949	* Tungsten	10 ppm	1 %
950	Zinc	2 ppm	1 %
951	Mercury	1 ppm	1 %
958	Scandium	1 ppm	1 %

\* Elements for which the digestion is possibly incomplete.



# Chemex Labs Ltd.

*Analytical Chemists**Geochemists**Registered Assayers*

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North Vancouver, B.C.  
Canada V7J 2C1

Phone: (604) 984-0221

Telex: 04-352597

Fax: (604) 984-0218

Au Fire Assay - AA finish (oz/T) : Chemex Code 998

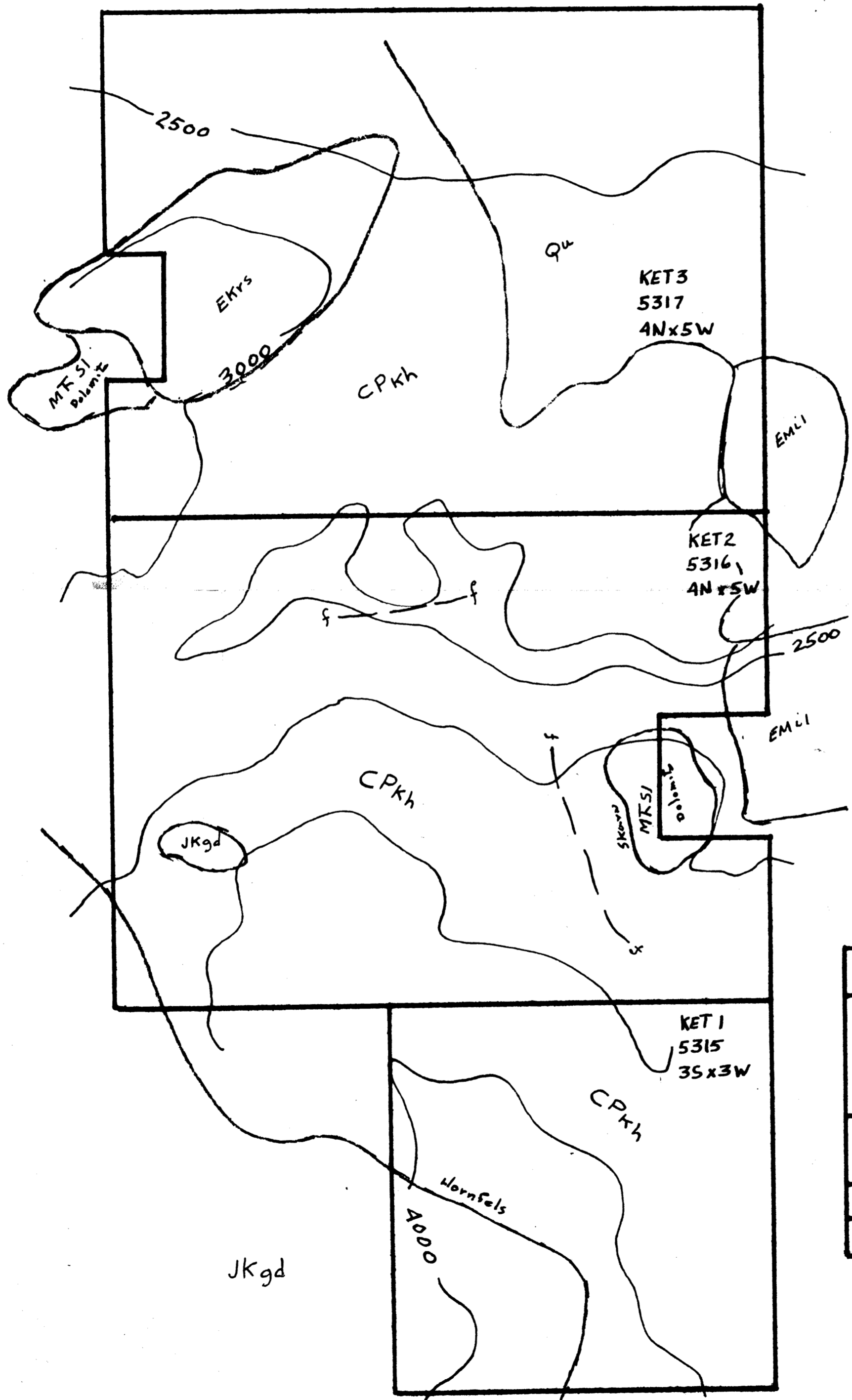
Gold analysis is carried out by standard fire assay techniques. In the sample preparation stage the screens are checked for metallics which, if present, are assayed separately and calculated into the results obtained from the pulp assay.

A 1.0 assay ton sample is fused with a neutral flux inquarted with 2 mg of Au-free silver and then cupelled.

Silver beads for AA finish are digested for 1/2 hour in 1 ml HNO<sub>3</sub>, then 3 ml HCl is added and digested for 1 hour. The samples are cooled and made to a volume of 10 ml, homogenized and run on the AAS with background correction.

Detection Limit - 0.001 oz/T

Upper Limit - 20 oz/T



**LITHOLOGY**

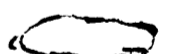
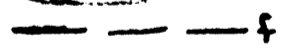
Qu - Quaternary, unconsolidated sediments; till

**TERTIARY**  
**Eocene**  
 EMLI - MARRON Fm.  
 Intrusive rocks  
 EKrs - KETTLE RIVER Fm.

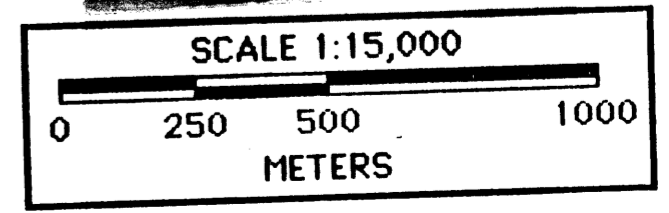
**JURASSIC and/or CRETACEOUS**  
 JKgd - NELSON INTRUSIONS  
 Gneiss

**TRIASSIC?**  
 MTSI - BROOKLYN Fm.  
 Sandstone, Congl.,  
 Marble, dolomite,  
 Shale

**CARBONIFEROUS or PERMIAN**  
 CPkh - KNOB HILL GROUP  
 Chert, greenstone, amphibolite,  
 Mica, Limestone, quartzite

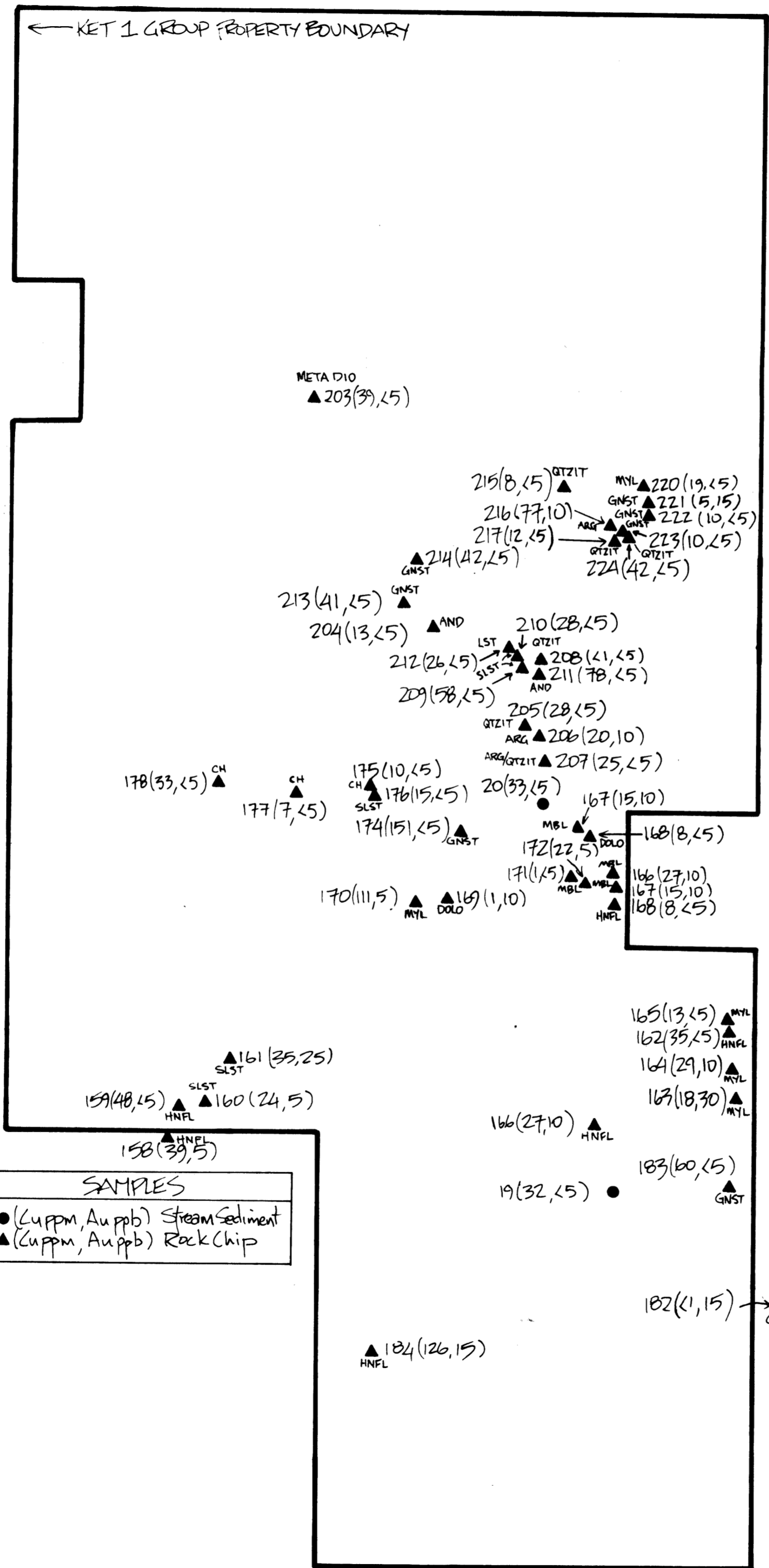
APPROX. GEOLOGIC CONTACTS   
 FAULT TRACE 

<b>CROWN RESOURCES</b>	
<b>GENERAL GEOLOGY</b> KET 1, KET 2, KET 3	
FIGURE 2	
SOURCE: Map 1500A Greenwood - LEECH Mts. R. Miller Field notes	
NTS No.	82E/2,3 REM
SCALE	1:15,000



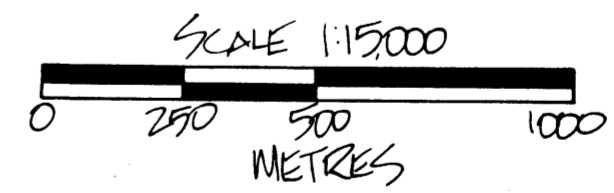
GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

21,005



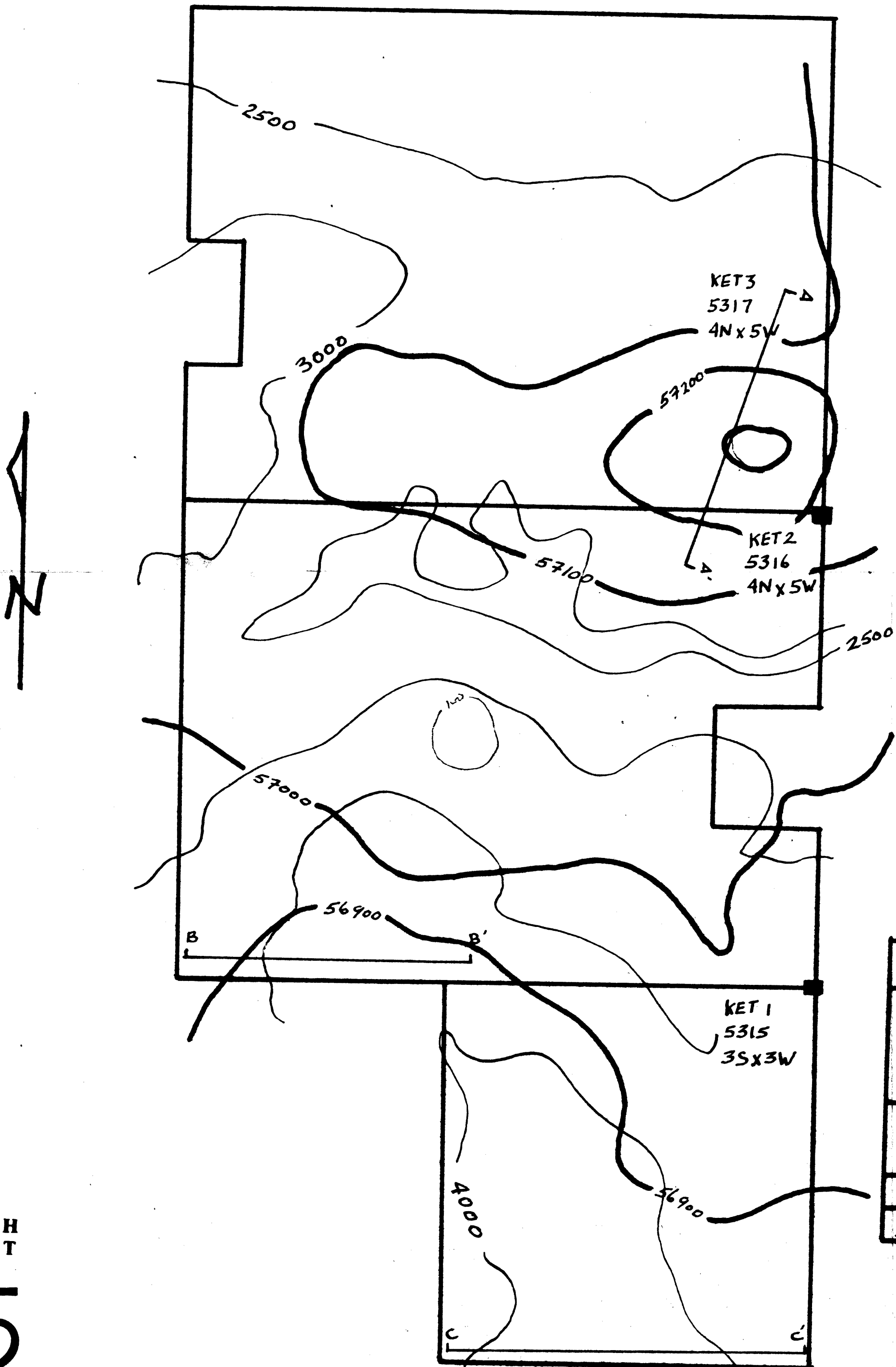
GEOLOGIC DESCRIPTION ABBREVIATIONS	
HBL	HORNBLLENDE
DIO	DIORITE
QTZIT	QUARTZITE
MYL	MYLONITE
GNST	GREENSTONE
ARG	ARGILLITE
AND	ANDESITE
LST	LIMESTONE
SLST	SILTSTONE
CH	CHERT
MBL	MARBLE
DOLO	DOLOMITE
HNFL	HORNFELS
PORPH	PORPHYRY
VOLC	VOLCANIC

SAMPLES	
●	(Cu ppm, Au ppb) Stream Sediment
▲	(Cu ppm, Au ppb) Rock Chip




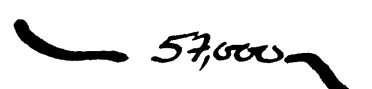
CROWN RESOURCES CORP.			
KET 1 GROUP GEOCHEMISTRY VALUE MAP GREENWOOD MINING DIV.			
COAST MOUNTAIN GEOLOGICAL LTD.			
DRAWN: B.K.	NTS 82E/ZW	DATE OCTOBER 91	FIGURE 2

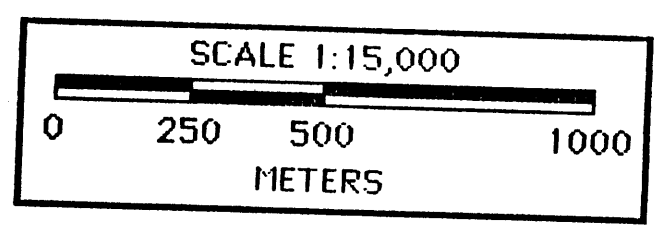
A.R. 21005

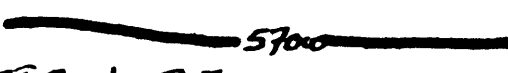


**LEGEND**

GROUND MAG. LINES 

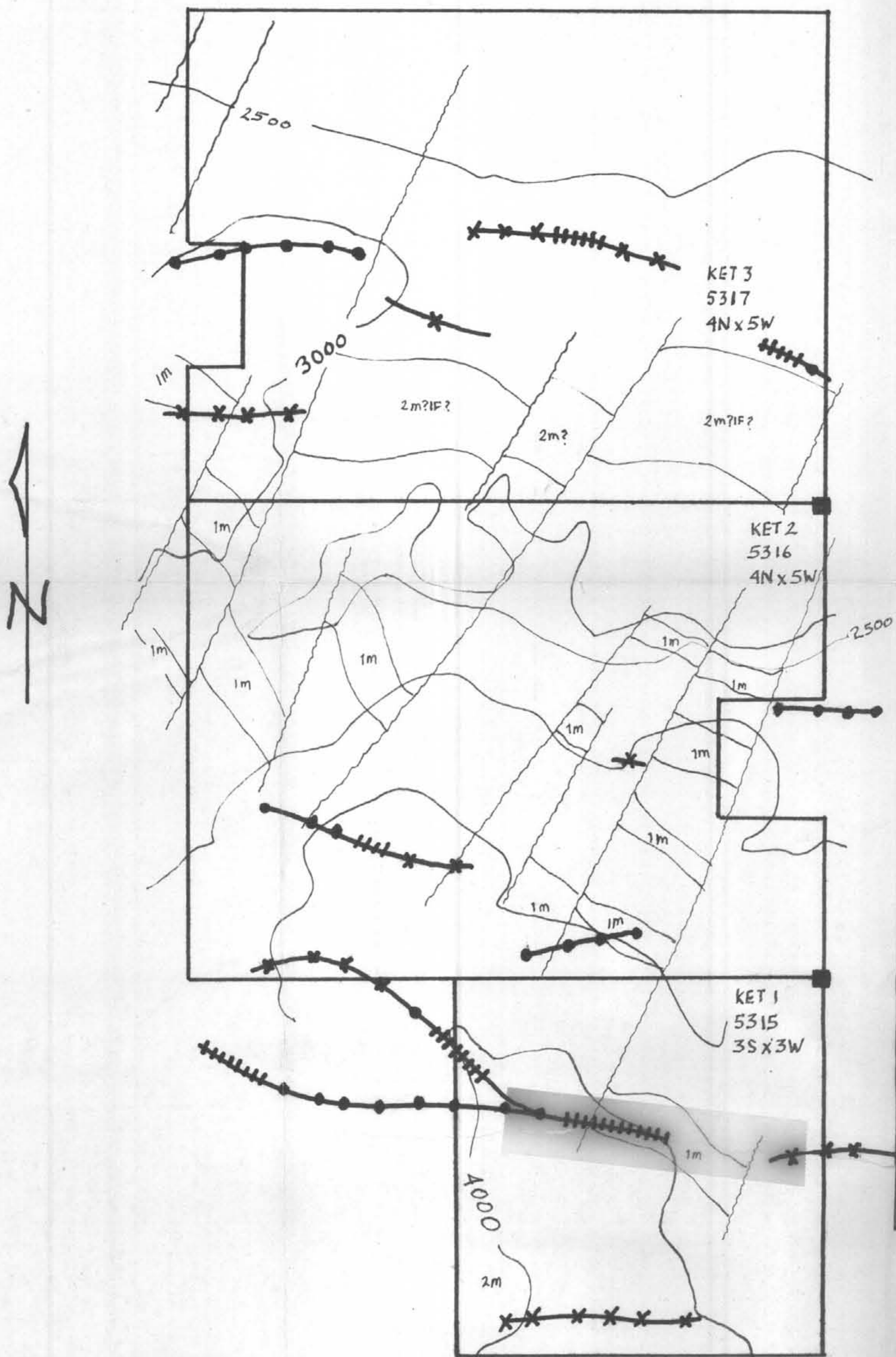
AIR MAG.  57,000 gammas



CROWN RESOURCES	
AIRBORNE MAGNETIC DATA IN GAMMAS  5700 FOR - KET1, KET2, KET3	
SOURCE: Terraquest's 1989 Airborne Magnetic & VLF-EM Survey For Crown Resources. FIGURE 9	
NTS No:	82E/2,3
SCALE	1:15,000
DATE	JAN. 1991

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,005



### LITHOLOGY

MIDDLE JURASSIC

2m Magnetic Unit

CARBONIFEROUS

1m Magnetic Unit  
1F Iron Formation

### LEGEND

### INTERPRETATION

Outline of contact at depth Contact

Fault

VLF-EM Conductor Axes

Normal Quadrature

Reverse Quadrature

Total Field Only

SCALE 1:15,000

0 250 500 1000  
METERS

### CROWN RESOURCES

AIRBORNE MAGNETIC & VLF-EM  
INTERPRETATION - 1989  
KET 1, KET 2, KET 3

Source: Terraquest's 1989 Airborne  
Magnetic & VLF-EM Survey For  
Crown Resources. FIGURE 10

N.T.S. NO. 82E/2,3 REM

SCALE: 1 = 15,000 DATE: JAN. 1991

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,005