

LOG NO: Feb 28/91 RD.
ACTION:
FILE NO:

1990 Summary Report  
on the

Ket 20 Group

(Ket 11, Ket 12, Ket 20, and Ket 21 Claims)

Greenwood Mining Division  
British Columbia

North Latitude 49 03' West Longitude 119 41'  
NTS 82E/3

LOG NO: OCT 11 1991 RD.
ACTION:
FILE NO:

Prepared for

Crown Resources Corp  
Seventh Street Plaza  
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Denver, Colorado 80202  
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Prepared by

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&

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February 1991

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,001**

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## 1.1 INTRODUCTION

### 1.2 Summary

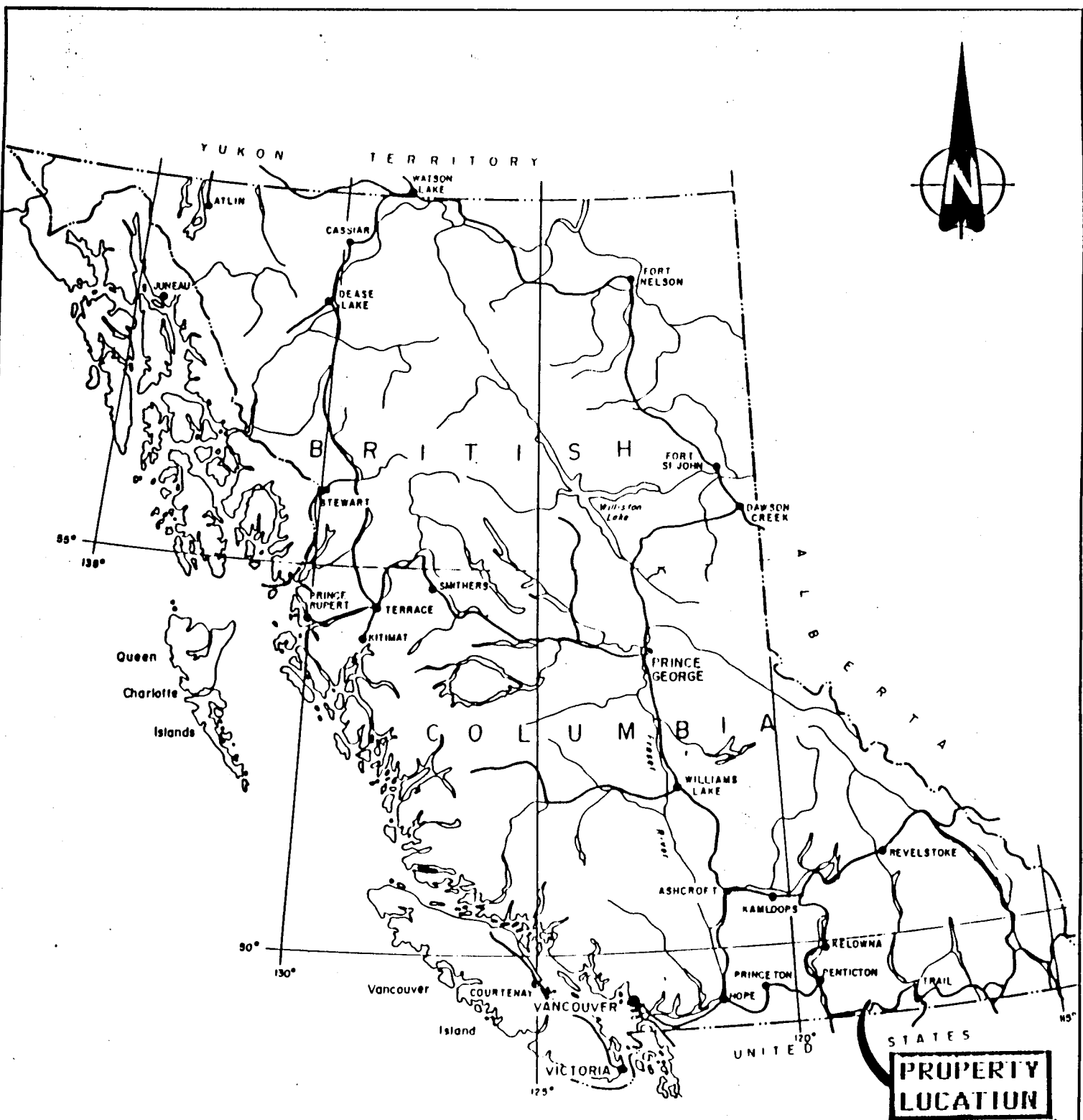
The 1990 exploration program on the Ket 20 group (Ket 11, Ket 12, Ket 20 and Ket 21 claims) was conducted between June and November 1990.

Crown Resources' 1989 Terraquest airborne geophysical survey data was reviewed for three types of anomalies. They included total field magnetic highs, VLF-EM conductors, and fault traces. These anomalies were identified and located on surface. Ground orientated investigation consisted of visual (megascopic) geologic interpretation, reconnaissance and fixed line magnetometry, and rock chip sampling.

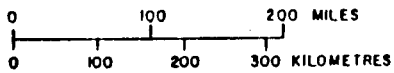
Data collected during the 1990 work program was closely reviewed for geologic evidence related to gold enriched skarns similar to Buckhorn Mountain in Washington State.

### 1.2 Location and Access

The Ket 20 group lies north of Highway #3 from the summit of the Anarchist Pass, approximately 14 kilometers east of Osoyoos (Figure 1). The approximate location of the center of the Ket 20 group is north latitude  $49^{\circ}03'$  and west longitude  $119^{\circ}41'$ . The claims are located in the south central part of NTS 82E/3 Osoyoos map sheet. Access to the Ket 20 group is provided by secondary roads off of



<b>CROWN RESOURCES CORP.</b>			
<b>KET 20 GROUP</b>			
<b>PROPERTY LOCATION MAP</b>			
GREENWOOD MINING DIVISION			
<b>COAST MOUNTAIN GEOLOGICAL LTD.</b>			
DRAWN BY: B.K.	NTS: 02E/3E	DATE: FEBRUARY, 1991	FIGURE: 1



Highway #3. Internal access to the individual claims is via farm and bush roads.

### 1.3 Physiography and Climate

Two small hills rising from a high plain provide a local relief of approximately 260 meters from an elevation of 1100 meters in the Ket 11 claim at a McKinney Creek tributary, to 1360 meters to the summit of the westerly hill in Ket 12.

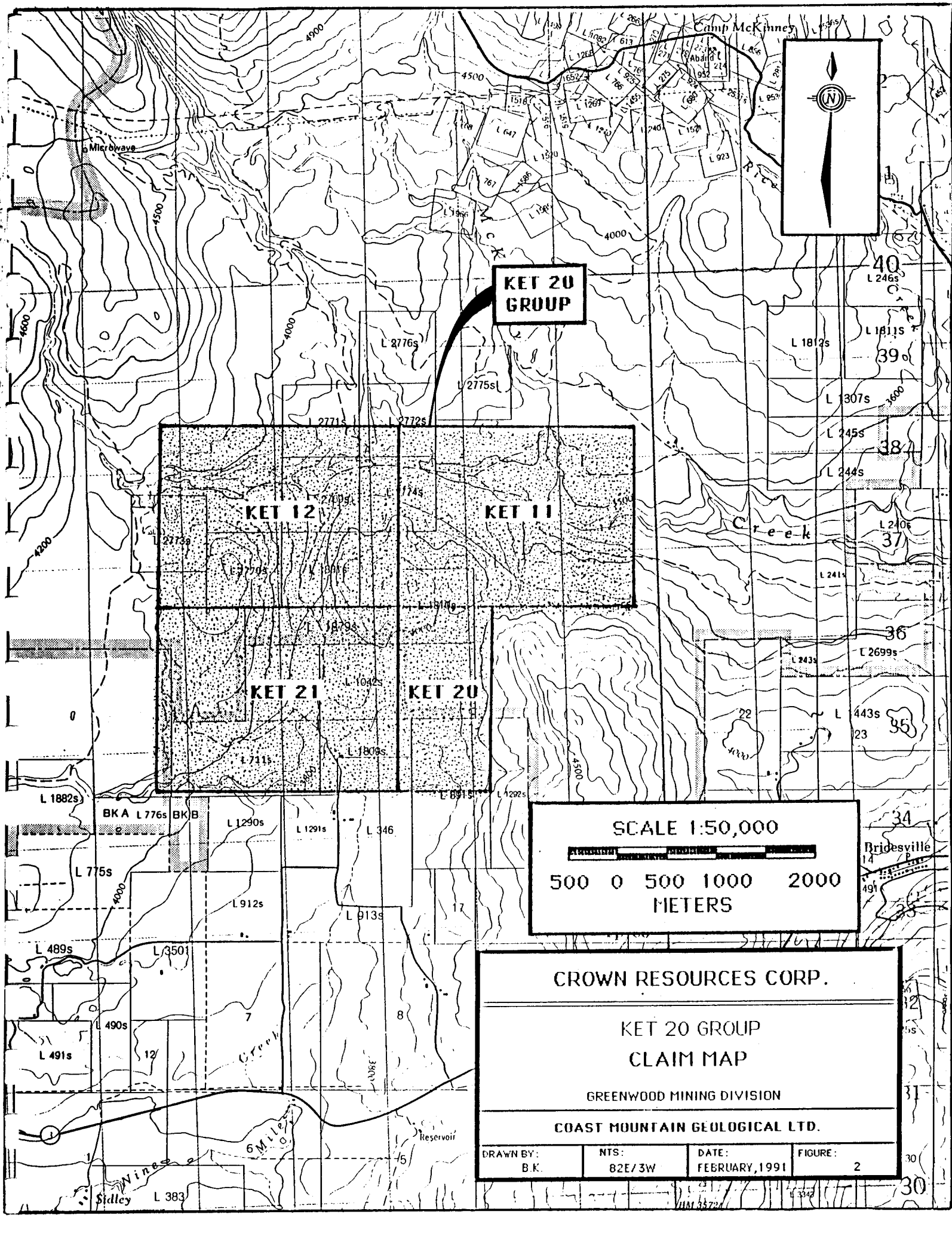
The high plains area is covered by natural grasses and pine trees while the upper parts of the hills are covered with pine, larch, poplar, and minor birch. Marsh grasses, alders and willows are found in the drainages and marsh lands that lie on the northern edge of the claim grouping.

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

### 1.4 Property Description

The Ket 20 group is located within the Greenwood Mining Division of southern British Columbia and is comprised of 4 claims totalling 68 units (Figure 2).

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



**KET 20 GROUP**

**KET 12**      **KET 11**  
**KET 21**      **KET 20**

**SCALE 1:50,000**

500 0 500 1000 2000  
**METERS**

**CROWN RESOURCES CORP.**

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**KET 20 GROUP  
CLAIM MAP**

---

**GREENWOOD MINING DIVISION**

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**COAST MOUNTAIN GEOLOGICAL LTD.**

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<b>DRAWN BY:</b> B.K.	<b>NTS:</b> 82E/3W	<b>DATE:</b> FEBRUARY, 1991	<b>FIGURE:</b> 2
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Sidley L 383

30  
30

Table 1 summarizes the pertinent claim data.

Table 1: Claim Status-Ket 20 Group

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Expiry Date*</u>
Ket 11	5325	20	03/12/91
Ket 12	5326	20	03/12/91
Ket 20	5328	8	10/12/91
Ket 21	5329	20	10/12/91

\* Pending acceptance of this report.

### 1.5 Property History

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).

Anarchist Chrome lies one<sup>?</sup> kilometre south of the Ket 20 group. McKinney Camp and Dayton Camp, both gold camps, lie six kilometers north and four kilometers east respectively of the Ket 20 group.

Very few prospects were noted while completing the reconnaissance program on this claim group.

No production appears to have been reported from the claim group and the nearest recorded production has come from McKinney Camp and Dayton Camp to the north and east of the Ket 20 claim group.

#### 1.6 1990 Work Program

Twelve field days were spent on the claim group following up and locating on surface the air magnetic and conductor anomalies developed in the 1989 Terraquest airborne geophysical program. Approximately 4 kilometers of fixed line ground magnetics were run over favourable geologic targets. A total of 32 rock chip samples and 9 stream sediment samples were collected as geology dictated.



## 2.0 GEOLOGY, GEOCHEMISTRY AND GEOCHEMISTRY

### 2.1 Regional Geology

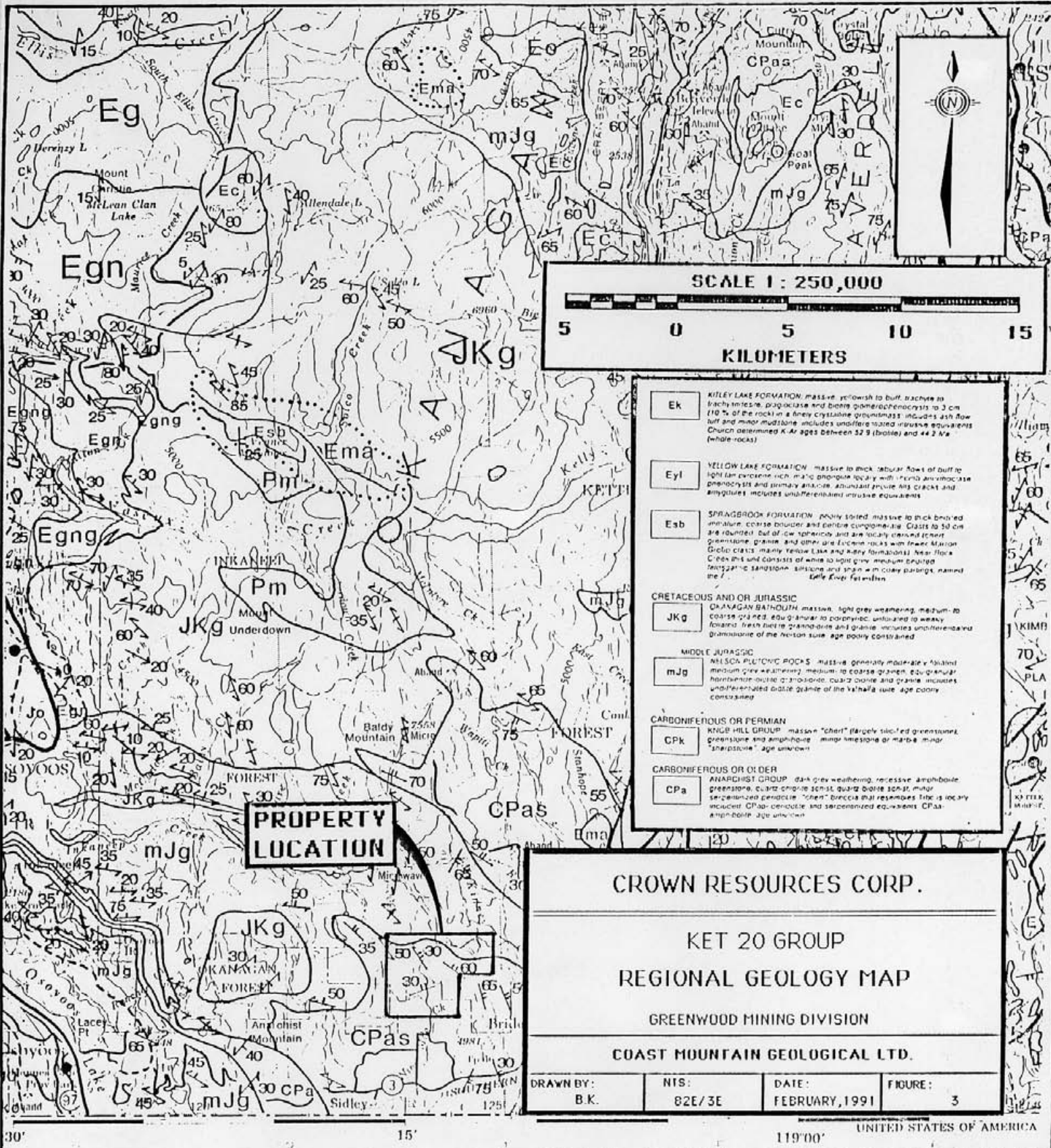
The oldest rocks in the survey area are Carboniferous in age or older, belonging to the Anarchist Group (Figure 3). They are comprised of amphibolite, greenstone, quartz-chlorite schist, quartz-biotite schist and minor serpentized peridotite. They occur throughout the Ket 20 group. The majority of the intrusive rocks in the area are Middle Jurassic age Nelson Plutonic rocks. These rocks are comprised of massive hornblende-biotite granodiorite, quartz diorite, diorite and granite. Overlying rocks of Eocene age occur regionally and consist of flows and coarse unconsolidated sediments. Pleistocene period glacial deposits occur at higher elevations, and fluvio-glacial deposits are the most extensive feature in the valleys.

### 2.2 Property Geology

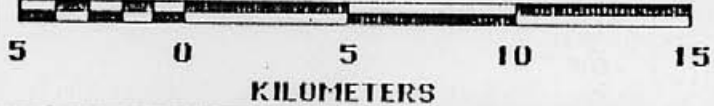
Greenstones, quartzites and minor marble cap the easterly hill in Ket 12, while greenstones, massive serpentinites and propylitic diorite(?) make up the bulk of the outcrops of the westerly hill in Ket 12 (Figure 4). Approximately 80% of the Ket 20 group is covered with unconsolidated glacial sediments.

### 2.3 Structure

Mylonites with a northwest orientation were observed in the



SCALE 1 : 250,000



- Ek** KILEY LAKE FORMATION massive yellowish to buff, traces of biotite, quartz, plagioclase and biotite gneiss; porphyrocytic to 3 cm (10% of the rock) in a fine crystalline groundmass; includes ash flow tuff and minor mudstone; includes unfoliated massive equivalents. Church determined K-Ar ages between 32.9 (bottle) and 44.2 Ma (whole-rock)
- Eyl** YELLOW LAKE FORMATION massive to thick tabular flows of buff to light tan coarse-grained mafic gneiss; locally with hornblende amphibole porphyrocytic and primary anisole; abundant primary air cracks and ampulites; includes unfoliated massive equivalents
- Esb** SPRINGBROOK FORMATION poorly sorted, massive to thick bedded immature, coarse grained and pelitic conglomerate. Grains to 30 cm are rounded, but of low sphericity and are locally derived from gneiss, granite and other igneous rocks with fewer mafic clasts; mainly yellow lake and mafic formations; near flow Creek and consists of white to light grey medium grained felsitic sandstone, siltstone and thin wavy claystone, named the L. Lake River Formation
- CRETACEOUS AND OR JURASSIC**
- JKg** DANAVAGAN BATHOLITH massive, light grey weathering, medium to coarse grained, equigranular to porphyrocytic; unfoliated to weakly foliated; fresh fault to granodiorite and granite; includes unfoliated massive equivalents of the Nelson suite; age poorly constrained
- MIDDLE JURASSIC**
- mJg** MELISA PLUTONIC ROCKS massive, generally moderately foliated medium grey weathering, medium to coarse grained, equigranular hornblende gneiss to monzonite, quartz diorite and granite; includes unfoliated massive equivalents of the Valhalla suite; age poorly constrained
- CARBONIFEROUS OR PERMIAN**
- CPk** KNIGB HILL GROUP massive "chert" (largely silicified greenstone), greenstone and amphibole minor limestone or marble minor "shrapstone"; age unknown
- CARBONIFEROUS OR OLDER**
- CPa** ANARCHIST GROUP dark grey weathering, massive amphibole gneiss, quartz gneiss, quartz diorite gneiss, mafic sericitized gneiss; "chert" breccia that resembles tuff is locally included; CPaP: pelitic and sericitized equivalents; CPaA: amphibole; age unknown

**PROPERTY LOCATION**

**CROWN RESOURCES CORP.**

**KET 20 GROUP  
REGIONAL GEOLOGY MAP**

**GREENWOOD MINING DIVISION**

**COAST MOUNTAIN GEOLOGICAL LTD.**

<b>DRAWN BY:</b> B.K.	<b>NIS:</b> 82E/3E	<b>DATE:</b> FEBRUARY, 1991	<b>FIGURE:</b> 3
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119°00' UNITED STATES OF AMERICA

quartzite outcropping on the easterly hill in Ket 12. A north-south fault is suggested for the area between the two hills due to the difference in the two lithologies. Other structures noted were minor in nature. Due to the heavy glacial cover no continuous folding and faulting could be traced.

#### **2.4 Mineralization and Associated Alteration**

Localized areas of disseminated euhedral pyrite are found in greenstones. Stringers and clots of anhedral magnetite are strongly associated with serpentinite. Pyrite was found closely associated with quartz stringers and silicious replacement beds near intrusive contacts. Minor pyrrhotite, usually with magnetite, was observed in the greenstone in close proximity to epidote and calcite. Traces of pyrite(?) were found in the propylitically altered granodiorite of the west hill in the Ket 12 claim.

#### **2.5 Geochemistry**

Stream sediment samples were collected from active parts of major streams and soil samples were taken from the 'B' soil horizon. 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 millilitres 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.

No significant gold values were obtained from the rock chip samples on the Ket 20 group (Figure 5). Anomalous nickel, chrome and bismuth are associated with serpentinites and, because of the favourable geochemical relationship, pulps from these samples will be analyzed for platinum group minerals.

## 2.6 Geophysics

An EG & G Geometrics model G-846 magnetometer, (Unimag II) 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.

Lines, totalling 4.0 kilometres, of magnetometer survey 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.

Known magnetic highs in the Ket 20 group, specifically in the area of the west hill in Ket 12, appear to be related to magnetite bearing serpentinites (Figures 6-10). The ground magnetic anomaly of interest is associated with the easterly hill in Ket 12, where calc silicate skarn and marble beds are in close proximity to the magnetic high in an altered, epidote-calcite bearing greenstone. Known magnetic anomalies indicate potential for sulphide bearing bodies in a metasediment contact relationship like that which exists on the east hill of the Ket 20 group. Ground responses both from the magnetite bearing serpentinite and the magnetite bearing greenstone reach local values in excess of 58000 gammas. Sulphides, mainly pyrite, were observed in the northeast magnetic low area of the Ket 12 east hill.

### 3.0 Discussion

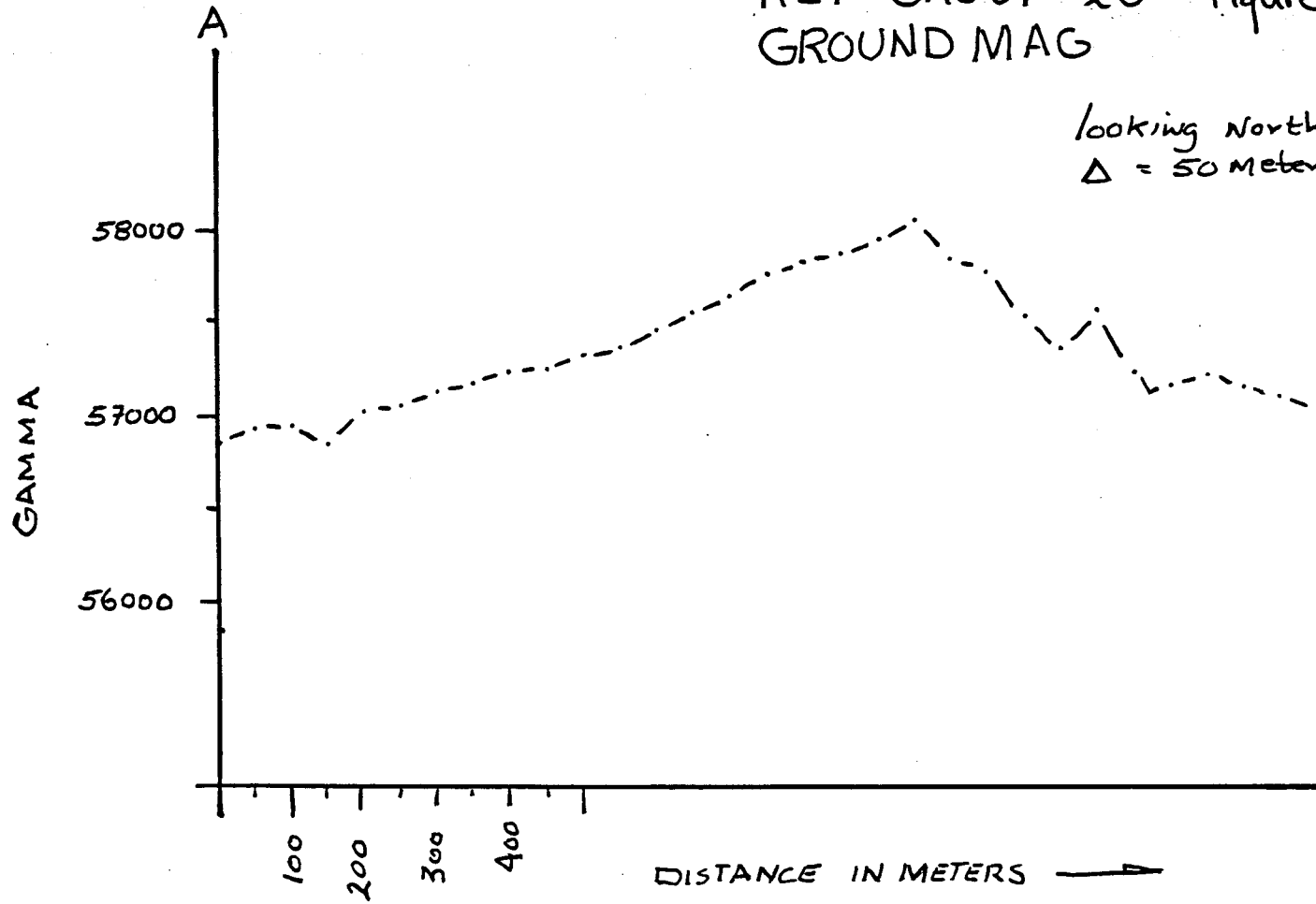
Skarned metasediments were observed on the Ket 20 group in close relationship to the magnetic highs. It is postulated that more favourable limey host rocks lie at depth under the greenstone cap of the east hill, providing a favourable geologic target for a precious metal skarn. It is therefore recommended that this property be retained and a detailed exploration program be put in place for the 1991 exploration season.

To fully investigate the overall economic potential of the nickel-rich magnetite-bearing serpentinites, existing pulps related to serpentinite samples that have shown anomalous bismuth, should be

KET GROUP 20 Figure 7  
GROUND MAG

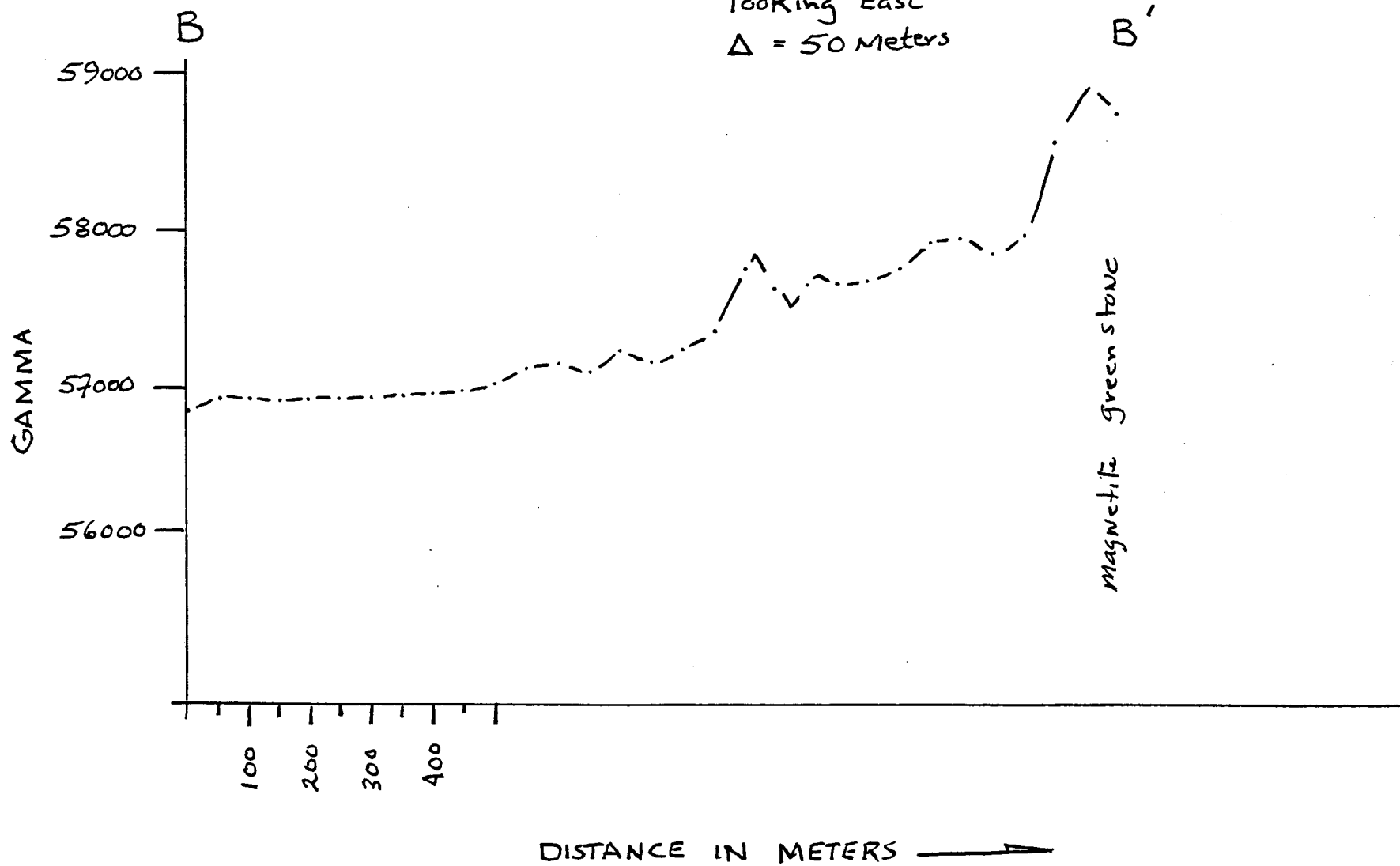
A'

looking North  
 $\Delta = 50$  meters



KET 20 GROUP Figure 8  
GROUND MAG

looking East  
 $\Delta = 50$  Meters

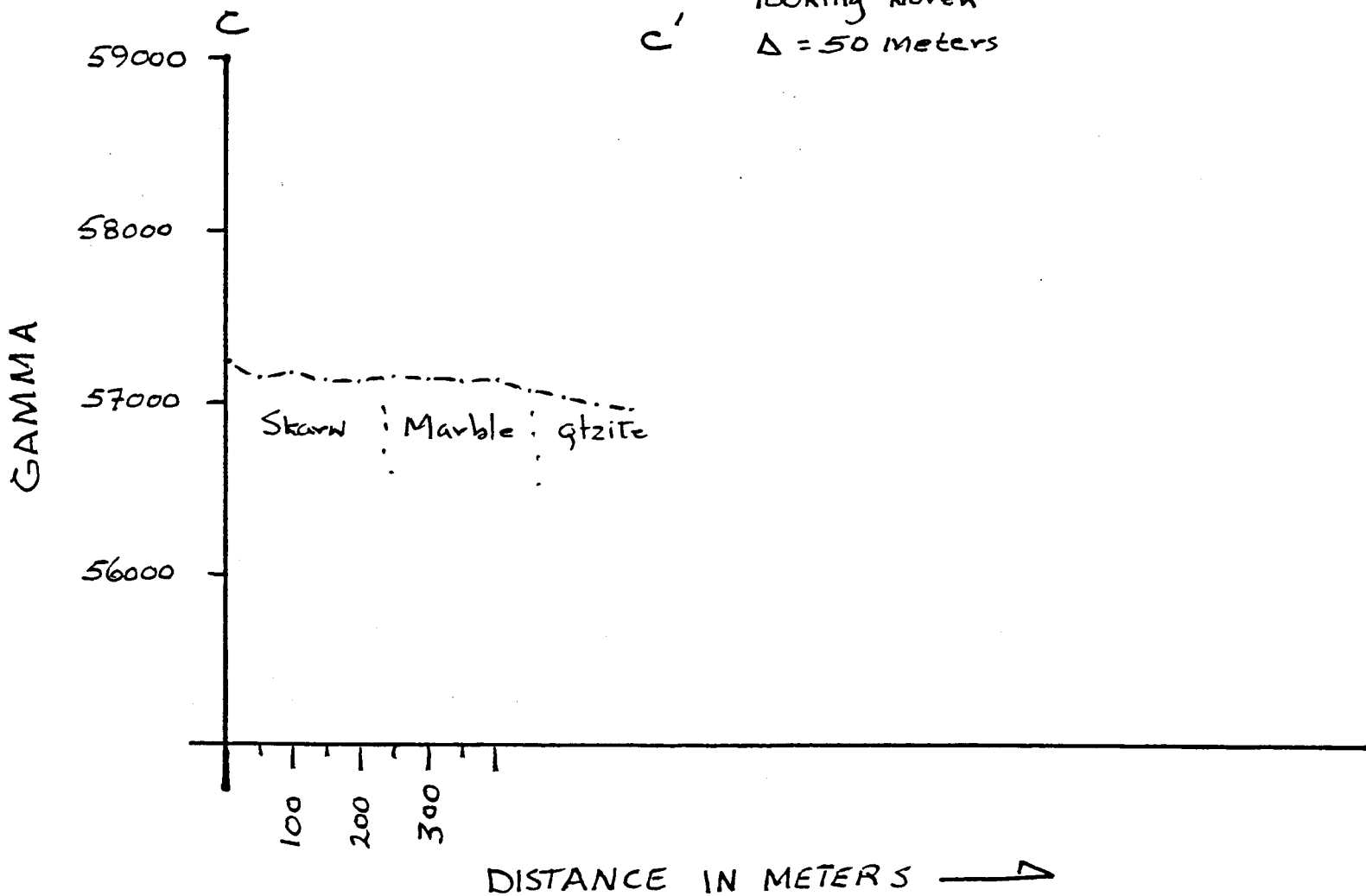


KET20 GROUP

Figure 9

GROUND MAG

C' looking North  
 $\Delta = 50$  meters





run for platinum group minerals.

#### 4.0 RECOMMENDATIONS

Detailed reconnaissance, rock chip sampling and geologic mapping, followed by gridding, soil sampling and ground magnetometry should be conducted over the east hill on the Ket 12 claim to fully evaluate the skarn that is present. The object of the detailed program would be to find anomalous gold values if in fact this is a precious metal skarn system.

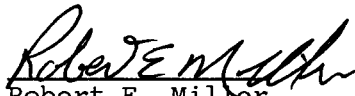
**APPENDIX A**  
**STATEMENT OF QUALIFICATIONS**

**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 25<sup>th</sup> day of February, 1991.

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

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

### STATEMENT OF EXPENDITURES

Rock Sample Assays 32 samples @ \$11.00/sample	\$336.00
Stream Sediment Sample Assays 6 samples @ \$8.00/sample	\$51.00
Magnetometer Survey 4.0 km @ \$125/km	\$500.00
Vehicle 3 days @ \$75.00/day	\$225.00
Senior Geologist 3 days @ \$400/day	\$1200.00
Geologist 3 days @ \$285/day	\$855.00
Geotechnician 3 days @ \$250/day	\$750.00
Geotechnician 3 days @ \$250/day	\$750.00
Room and Board 12 days @ \$120/day	\$1440.00
Miscellaneous (Shipping, Field Expendables, etc.)	\$75.00
<b>Subtotal:</b>	<b>\$6182.00</b>
Management Fee (13.5%)	\$834.57
Report and Drafting	\$500.00
<b>TOTAL:</b>	<b>\$7516.57</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: 604-984-0221

CROWN RESOURCE CORPORATION

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 DENVER, COLORADO  
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Page No. : 1-A  
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 Comments: ATTN:CHRIS HERALD CC:J.SHANNON OF:BOB MILLER

## CERTIFICATE OF ANALYSIS A9017363

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Au FA oz/T	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 %
90 CM 307R	205 294	< 5	-----	< 0.2	0.68	5	120	< 0.5	< 2	0.27	< 0.5	6	214	59	1.78	< 10	< 1	0.19	< 10	0.36
90 CM 308R	205 294	< 5	-----	< 0.2	0.23	10	20	< 0.5	< 2	0.30	< 0.5	4	158	52	1.50	< 10	< 1	0.04	< 10	0.13
90 CM 309R	205 294	< 5	-----	< 0.2	0.07	10	< 10	< 0.5	10	9.99	< 0.5	1	6	2	0.10	< 10	< 1	< 0.01	< 10	1.15
90 CM 310R	205 294	< 5	-----	< 0.2	1.76	30	170	0.5	< 2	1.41	< 0.5	24	63	39	7.61	< 10	< 1	0.75	< 10	1.32
90 CM 311R	205 294	< 5	-----	0.4	0.24	< 5	< 10	< 0.5	< 2	0.27	< 0.5	4	186	16	0.75	< 10	< 1	< 0.01	< 10	0.23
90 CM 312R	205 294	< 5	-----	< 0.2	0.99	30	20	< 0.5	< 2	0.76	< 0.5	14	99	105	3.02	< 10	6	0.04	10	0.76
90 CM 313R	205 294	15	-----	0.2	0.32	5	30	< 0.5	< 2	0.06	< 0.5	1	36	9	1.00	< 10	1	0.17	10	0.04
90 CM 314R	205 294	< 5	-----	< 0.2	2.19	25	10	< 0.5	4	1.53	< 0.5	22	243	14	2.78	< 10	< 1	0.06	< 10	1.85
90 CM 315R	205 294	15	-----	< 0.2	1.68	< 5	120	< 0.5	< 2	0.79	< 0.5	9	63	10	1.83	< 10	< 1	0.34	< 10	1.16
90 CM 316R	205 294	10	-----	< 0.2	1.98	20	120	0.5	2	0.25	< 0.5	15	140	20	3.27	< 10	< 1	0.88	20	1.13
90 CM 317R	205 294	< 5	-----	< 0.2	0.16	< 5	< 10	< 0.5	< 2	0.15	< 0.5	65	1165	3	4.01	< 10	< 1	< 0.01	< 10	>15.00
90 CM 318R	205 294	< 5	-----	< 0.2	1.69	5	830	< 0.5	2	0.07	< 0.5	6	221	30	2.80	< 10	< 1	1.03	< 10	1.16
90 CM 319R	205 294	< 5	-----	< 0.2	0.95	15	30	< 0.5	< 2	0.55	< 0.5	6	123	31	2.11	< 10	< 1	0.04	10	0.80
90 CM 320R	205 294	10	-----	< 0.2	2.84	45	40	0.5	< 2	1.26	< 0.5	25	129	88	4.21	< 10	< 1	0.61	< 10	2.17
90 CM 321R	205 294	2370	-----	16.2	0.16	55	10	< 0.5	< 2	0.07	41.5	1	224	92	2.91	< 10	< 1	0.02	< 10	0.06
90 CM 322R	205 294	40	-----	< 0.2	0.92	< 5	70	< 0.5	< 2	0.26	2.5	5	97	8	1.58	< 10	< 1	0.47	20	0.38
90 CM 323R	205 294	< 5	-----	< 0.2	2.00	50	400	0.5	4	1.38	11.5	12	56	29	3.69	10	< 1	1.10	20	1.22
90 CM 324R	205 294	140	-----	20.8	0.07	40	< 10	< 0.5	4	0.01	>100.0	20	165	270	3.76	< 10	< 1	< 0.01	< 10	0.01
90 CM 325R	205 294	>10000	0.912	104.0	0.07	5	< 10	< 0.5	2	0.05	7.0	1	173	8	1.16	< 10	< 1	0.01	< 10	0.01
90 CM 326R	205 294	125	-----	0.2	1.69	20	170	0.5	4	0.96	1.5	11	68	20	3.47	< 10	< 1	0.47	10	0.92
90 CM 327R	205 294	110	-----	0.4	1.18	< 5	70	< 0.5	4	0.53	< 0.5	8	67	28	2.30	< 10	< 1	0.30	10	0.64
90 CM 328R	205 294	9700	-----	55.0	0.07	< 5	< 10	< 0.5	8	0.03	< 0.5	1	271	5	0.57	< 10	< 1	< 0.01	< 10	0.03

CERTIFICATION:

*B. Coughlin*



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

CROWN RESOURCE CORPORATION

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## CERTIFICATE OF ANALYSIS A9017363

SAMPLE DESCRIPTION	PREP CODE	Mn ppm	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 307R	205 294	170	2	0.02	24	500	12	< 5	1	15	0.09	< 10	< 10	37	< 10	34
90 CM 308R	205 294	55	14	0.02	11	1190	2	< 5	1	10	0.03	< 10	< 10	116	< 10	14
90 CM 309R	205 294	245	< 1	< 0.01	1	430	< 2	10	< 1	256	< 0.01	10	< 10	2	< 10	2
90 CM 310R	205 294	725	2	0.06	26	1380	< 2	< 5	6	23	0.44	< 10	< 10	171	< 10	108
90 CM 311R	205 294	200	< 1	< 0.01	17	110	134	< 5	1	5	0.02	< 10	< 10	10	< 10	112
90 CM 312R	205 294	1035	3	0.08	38	1030	14	< 5	5	14	0.20	10	< 10	37	< 10	34
90 CM 313R	205 294	65	1	0.03	2	240	166	< 5	< 1	6	0.02	< 10	< 10	4	< 10	40
90 CM 314R	205 294	495	1	0.07	114	330	6	< 5	8	43	0.32	< 10	< 10	64	< 10	40
90 CM 315R	205 294	490	< 1	0.04	6	780	2	< 5	1	70	0.14	< 10	< 10	34	< 10	52
90 CM 316R	205 294	405	< 1	0.05	40	330	4	< 5	2	20	0.15	< 10	< 10	30	< 10	72
90 CM 317R	205 294	630	< 1	< 0.01	1380	< 10	< 2	< 5	3	13	< 0.01	< 10	< 10	10	< 10	16
90 CM 318R	205 294	440	1	0.02	25	210	4	< 5	5	4	0.16	< 10	< 10	63	< 10	58
90 CM 319R	205 294	360	< 1	0.03	30	600	4	< 5	2	23	0.26	< 10	< 10	31	< 10	24
90 CM 320R	205 294	950	< 1	0.03	61	1580	42	< 5	4	43	0.24	< 10	< 10	64	< 10	82
90 CM 321R	205 294	90	3	< 0.01	7	80	>10000	5	< 1	8	< 0.01	< 10	< 10	6	< 10	918
90 CM 322R	205 294	275	< 1	0.03	3	660	754	< 5	1	13	0.04	< 10	< 10	16	< 10	168
90 CM 323R	205 294	585	< 1	0.04	5	1180	394	5	3	51	0.18	< 10	< 10	64	< 10	230
90 CM 324R	205 294	40	1	< 0.01	7	100	>10000	5	< 1	1	< 0.01	< 10	< 10	< 1	< 10	>10000
90 CM 325R	205 294	75	8	< 0.01	2	90	324	< 5	< 1	3	< 0.01	< 10	< 10	2	< 10	94
90 CM 326R	205 294	560	1	0.08	2	1600	98	< 5	4	45	0.12	< 10	< 10	53	< 10	90
90 CM 327R	205 294	385	1	0.03	2	1110	26	< 5	1	29	0.03	< 10	< 10	23	< 10	48
90 CM 328R	205 294	60	1	< 0.01	4	50	394	< 5	< 1	1	< 0.01	< 10	< 10	1	< 10	4

CERTIFICATION: B. Coughlin



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

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## CROWN RESOURCE CORPORATION

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

Project: MIDWAY

Comments: ATTN: CHRIS HERALD CC: 1 SHANNON AND MILLER

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Date 15-JUL-90  
Invoice # I-9018082  
P.O. #

### CERTIFICATE OF ANALYSIS A9018082

SAMPLE DESCRIPTION	PKEP 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 120R	205 294	95	13.2	0.40	5	60	<0.5	6	3.75	5.0	3	231	10	1.42	<10	<1	0.19	<10	0.16	405
90CM 130R	205 294	10	0.8	0.8	5	90	<0.5	4	2.75	<0.5	4	68	19	2.07	<10	<1	0.18	10	0.30	405
90CM 131R	205 294	<5	<0.2	0.05	5	220	<0.5	4	>15.00	<0.5	2	12	2	0.27	<10	<1	0.01	10	0.16	265
90CM 132R	205 294	<5	<0.2	3.02	<5	380	0.5	6	2.53	<0.5	14	38	40	3.96	20	<1	1.00	200	1.31	495
90CM 133R	205 294	<5	<0.2	1.74	<5	930	<0.5	6	2.20	<0.5	18	126	84	3.98	<10	<1	0.70	10	1.58	535
90CM 134R	205 294	70	0.4	0.42	<5	20	<0.5	<2	1.41	0.5	<1	40	14	0.28	<10	<1	0.38	<10	0.02	405
90CM 135R	205 294	<5	<0.2	0.44	5	130	<0.5	4	4.17	<0.5	5	131	54	3.28	<10	<1	0.10	<10	1.29	935
90CM 136R	205 294	<5	<0.2	1.13	<5	460	<0.5	6	1.98	<0.5	21	134	195	4.35	<10	<1	0.10	10	0.79	685
90CM 137R	205 294	<5	<0.2	3.09	5	980	<0.5	<2	9.26	<0.5	20	213	5	3.49	<10	<1	0.61	<10	2.95	920
90CM 138R	205 294	10	0.6	0.67	<5	750	<0.5	2	0.58	<0.5	5	91	31	1.65	<10	<1	0.24	10	0.29	205
90CM 139R	205 294	<5	<0.2	1.75	<5	130	<0.5	6	1.53	<0.5	16	188	18	5.57	<10	<1	0.49	10	1.65	505
90CM 140R	205 294	<5	<0.2	2.23	<5	120	<0.5	6	1.71	<0.5	22	79	12	6.33	<10	<1	0.63	<10	1.65	725
90CM 141R	205 294	<5	<0.2	0.56	5	40	<0.5	118	0.39	<0.5	35	1005	<1	3.98	<10	<1	0.06	<10	13.75	510
90CM 142R	205 294	<5	<0.2	0.39	5	<10	<0.5	280	0.13	<0.5	47	1360	2	4.95	<10	<1	<0.01	<10	>15.00	835
90CM 143R	205 294	<5	<0.2	1.19	5	180	<0.5	4	4.55	<0.5	13	33	256	3.63	<10	<1	0.51	<10	1.13	1210
90CM 144R	205 294	10	<0.2	0.35	20	780	<0.5	2	0.29	<0.5	4	246	41	1.41	<10	<1	0.13	<10	0.32	80
90CM 145R	205 294	15	0.4	0.78	100	360	<0.5	2	5.62	<0.5	11	131	117	4.61	<10	<1	0.21	<10	0.37	1040
90CM 146R	205 294	165	0.6	2.95	115	310	<0.5	6	1.52	7.5	46	157	271	8.01	<10	<1	0.36	30	1.13	580
90CM 147R	205 294	40	<0.2	1.71	110	590	<0.5	<2	0.52	0.5	13	153	255	8.62	<10	<1	0.17	10	0.19	155
90CM 148R	205 294	<5	<0.2	0.47	25	190	0.5	2	2.41	<0.5	12	117	25	2.42	<10	<1	0.12	<10	0.56	555
90CM 149R	205 294	<5	<0.2	0.20	145	30	<0.5	94	2.74	<0.5	49	520	10	4.08	<10	<1	<0.01	<10	13.05	765
90CM 150R	205 294	<5	<0.2	0.18	30	40	<0.5	116	3.22	<0.5	43	482	8	3.99	<10	<1	<0.01	<10	14.05	900
90CM 151R	205 294	10	<0.2	0.72	<5	480	<0.5	2	0.17	<0.5	7	148	52	2.05	<10	<1	0.13	10	0.77	275
90CM 152R	205 294	70	<0.2	0.99	640	260	<0.5	<2	7.31	0.5	43	246	10	6.58	<10	<1	0.27	<10	1.49	2140
90CM 153R	205 294	25	<0.2	2.00	30	1020	<0.5	<2	11.20	<0.5	20	27	9	4.83	<10	<1	0.49	<10	0.97	1105
90CM 154R	205 294	125	0.4	1.05	10	360	<0.5	<2	0.41	<0.5	<1	64	27	13.15	<10	<1	0.53	10	0.43	195
90CM 155R	205 294	5	<0.2	2.67	15	1460	<0.5	<2	1.57	<0.5	30	13	63	6.00	<10	<1	1.57	10	1.90	445
90CM 156R	205 294	20	<0.2	1.41	150	530	<0.5	<2	1.32	<0.5	4	15	87	5.19	<10	<1	0.33	40	0.64	525
90CM 157R	205 294	10	<0.2	0.85	5	270	<0.5	<2	7.38	<0.5	21	6	43	8.01	<10	<1	0.40	<10	1.43	2010
90CM 158R	205 294	<5	<0.2	1.55	<5	220	<0.5	<2	5.48	<0.5	19	16	19	8.94	<10	<1	0.40	<10	1.13	1815
90CM 160R	205 294	<5	<0.2	4.05	<5	110	<0.5	<2	2.18	<0.5	30	41	36	8.45	<10	<1	0.20	20	3.43	2170
90CM 161R	205 294	<5	<0.2	2.44	<5	60	<0.5	<2	4.21	<0.5	27	104	63	7.99	<10	<1	0.16	<10	1.94	1010
90CM 162R	205 294	<5	<0.2	3.05	15	150	<0.5	<2	3.38	<0.5	23	221	17	6.33	<10	<1	0.14	<10	3.58	1165
90CM 163R	205 294	<5	<0.2	0.08	<5	110	<0.5	4	>15.00	0.5	1	11	3	0.26	<10	<1	0.01	<10	0.23	150
90CM 164R	205 294	<5	<0.2	0.06	5	210	<0.5	6	>15.00	2.0	<1	1	22	0.31	<10	<1	0.02	<10	3.04	115
90CM 165R	205 294	5	0.4	2.74	10	>10000	1.0	14	0.99	2.0	18	73	36	1.36	10	<1	0.16	10	0.33	360

CERTIFICATION :

*B. Coughlin*



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## CROWN RESOURCE CORPORATION

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DENVER, COLORADO  
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Project: MIDWAY

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

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Date: 15-JUL-90  
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### CERTIFICATE OF ANALYSIS A9018082

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
90CM 329R	205 294	1060	0.01	1	260	1715	10	1	266	< 0.01	< 10	< 10	< 1	< 10	704
90CM 330R	205 294	1250	0.02	2	770	92	10	1	216	< 0.01	< 10	< 10	< 1	< 10	52
90CM 331R	205 294	14	0.01	3	< 10	22	< 5	< 1	1300	< 0.01	< 10	< 10	< 1	< 10	14
90CM 332R	205 294	13	1.44	20	4850	72	< 5	2	873	0.22	10	< 10	103	< 10	76
90CM 333R	205 294	5	0.07	59	1920	48	< 5	10	116	0.40	< 10	< 10	156	< 10	64
90CM 334R	205 294	< 1	0.05	1	100	36	< 5	< 1	91	< 0.01	< 10	< 10	< 1	< 10	6
90CM 335R	205 294	8	0.01	13	380	16	< 5	1	207	0.01	< 10	< 10	56	< 10	14
90CM 336R	205 294	5	0.07	75	2440	10	< 5	6	52	0.27	< 10	< 10	113	< 10	44
90CM 337R	205 294	< 1	0.10	67	1000	6	< 5	7	150	0.41	< 10	< 10	124	< 10	72
90CM 338R	205 294	< 1	< 0.01	19	220	6	< 5	2	15	< 0.01	< 10	< 10	11	< 10	34
90CM 339R	205 294	< 1	0.09	21	2480	10	< 5	8	19	0.25	< 10	< 10	81	< 10	74
90CM 340R	205 294	< 1	0.09	24	1690	4	< 5	8	53	0.51	< 10	< 10	101	< 10	88
90CM 341R	205 294	< 1	0.01	1175	40	8	5	4	28	0.03	< 10	< 10	20	< 10	26
90CM 342R	205 294	< 1	< 0.01	1690	< 10	8	5	4	3	< 0.01	< 10	< 10	18	< 10	22
90CM 343R	205 294	1	0.05	38	1510	4	< 5	4	205	< 0.01	< 10	< 10	33	< 10	60
90CM 344R	205 294	4	< 0.01	51	1590	6	< 5	1	33	< 0.01	< 10	< 10	44	< 10	84
90CM 345R	205 294	4	0.01	113	2040	10	5	5	80	< 0.01	< 10	< 10	36	< 10	262
90CM 346R	205 294	7	0.01	406	1980	8	5	7	52	< 0.01	< 10	< 10	72	< 10	584
90CM 347R	205 294	9	0.01	188	4160	8	5	4	68	< 0.01	< 10	< 10	60	< 10	632
90CM 348R	205 294	2	0.02	40	660	4	< 5	3	34	< 0.01	< 10	< 10	14	< 10	38
90CM 349R	205 294	2	< 0.01	1355	< 10	6	5	5	274	< 0.01	< 10	< 10	9	< 10	18
90CM 350R	205 294	1	< 0.01	1380	< 10	< 2	< 5	5	315	< 0.01	< 10	< 10	6	< 10	14
90CM 351R	205 294	1	< 0.01	77	600	2	5	2	14	< 0.01	< 10	< 10	24	< 10	68
90CM 352R	205 294	1	0.01	414	2090	2	5	8	202	< 0.01	< 10	< 10	32	< 10	162
90CM 353R	205 294	< 1	0.01	29	3030	102	15	6	402	0.02	< 10	< 10	53	< 10	116
90CM 354R	205 294	13	0.09	13	1120	42	10	3	187	0.12	< 10	< 10	129	< 10	54
90CM 355R	205 294	1	0.12	40	1890	4	< 5	8	37	0.39	< 10	< 10	256	< 10	102
90CM 356R	205 294	4	0.06	4	1570	4	5	6	32	0.09	< 10	< 10	5	< 10	68
90CM 357R	205 294	< 1	0.01	6	3760	2	< 5	13	195	< 0.01	< 10	< 10	29	< 10	92
90CM 358R	205 294	< 1	0.02	6	3060	6	< 5	10	133	< 0.01	< 10	< 10	26	< 10	98
90CM 36GR	205 294	< 1	0.01	22	1300	8	< 5	15	71	0.92	< 10	< 10	138	< 10	114
90CM 361R	205 294	< 1	0.03	53	1040	2	< 5	11	105	0.64	< 10	< 10	144	< 10	88
90CM 362R	205 294	< 1	0.02	144	1230	8	< 5	13	82	0.06	< 10	< 10	115	< 10	78
90CM 363R	205 294	< 1	< 0.01	5	30	< 2	< 5	1	270	< 0.01	< 10	< 10	2	< 10	4
90CM 364R	205 294	< 1	< 0.01	5	50	58	10	1	201	< 0.01	< 10	< 10	< 1	< 10	104
90CM 365R	205 294	1	0.02	7	160	514	< 5	5	119	< 0.01	< 10	< 10	89	< 10	264

CERTIFICATION:

*B. Coughlin*



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TO: CROWN RESOURCE CORPORATION

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

Page Number: 1-A  
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Invoice Date: 21-AUG-90  
Invoice No.: I-9020807  
P.O. Number:

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

## CERTIFICATE OF ANALYSIS A9020807

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
			FA+AA	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
90CM 524R	205	294	< 5	0.2	0.47	5	30	< 0.5	< 2	0.05	< 0.5	1	77	11	1.29	< 10	< 1	0.10	10	0.28	60
90CM 525R	205	294	5	0.6	0.68	10	70	< 0.5	< 2	0.03	< 0.5	15	319	38	3.43	< 10	< 1	0.37	10	0.29	30
90CM 526R	205	294	10	< 0.2	0.54	< 5	60	< 0.5	< 2	11.45	0.5	21	82	24	7.06	20	1	0.14	< 10	0.93	2590
90CM 527R	205	294	< 5	< 0.2	0.26	< 5	20	< 0.5	< 2	0.14	< 0.5	82	1910	5	5.25	< 10	< 1	< 0.01	< 10	>15.00	760
90CM 528R	205	294	< 5	< 0.2	0.10	< 5	10	< 0.5	< 2	0.12	< 0.5	70	702	8	4.12	< 10	< 1	< 0.01	< 10	13.00	920
90CM 529R	205	294	< 5	< 0.2	0.19	< 5	< 10	< 0.5	< 2	0.02	< 0.5	60	752	1	3.96	< 10	< 1	< 0.01	< 10	12.55	325
90CM 530R	205	294	< 5	< 0.2	0.17	< 5	< 10	< 0.5	< 2	0.20	< 0.5	56	840	4	3.68	< 10	< 1	< 0.01	< 10	11.95	490
90CM 531R	205	294	< 5	0.8	1.09	5	130	< 0.5	4	0.28	< 0.5	3	50	28	2.12	< 10	< 1	0.17	< 10	0.81	220
90CM 532R	205	294	< 5	0.2	0.50	10	10	< 0.5	< 2	0.12	< 0.5	13	127	8	1.16	< 10	< 1	0.03	< 10	0.39	225
90CM 533R	205	294	< 5	0.4	3.18	5	370	< 0.5	< 2	1.14	< 0.5	14	55	10	5.93	10	2	1.25	20	2.12	880
90CM 534R	205	294	< 5	< 0.2	2.04	< 5	130	< 0.5	< 2	1.24	< 0.5	19	88	17	3.59	< 10	< 1	0.31	20	1.48	495

CERTIFICATION:

*B. Caglin*



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To: CROWN RESOURCE CORPORATION

820 16TH ST., STE. 415  
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P.O. Number:

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

## CERTIFICATE OF ANALYSIS A9020807

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
90CM 524R	205 294	< 1	0.01	11	250	< 2	< 5	< 1	5	< 0.01	< 10	< 10	12	< 10	16
90CM 525R	205 294	7	0.05	106	260	2	< 5	2	15	< 0.01	< 10	< 10	25	< 10	12
90CM 526R	205 294	< 1	0.01	13	460	< 2	5	6	97	< 0.01	< 10	< 10	45	< 10	112
90CM 527R	205 294	< 1	< 0.01	1445	< 10	8	< 5	4	3	< 0.01	10	< 10	15	< 10	48
90CM 528R	205 294	< 1	< 0.01	1395	40	6	5	3	3	< 0.01	10	< 10	5	< 10	26
90CM 529R	205 294	< 1	< 0.01	1310	< 10	< 2	5	4	< 1	< 0.01	10	< 10	14	< 10	24
90CM 530R	205 294	< 1	< 0.01	1195	< 10	2	5	4	6	< 0.01	10	< 10	12	< 10	22
90CM 531R	205 294	< 1	0.04	22	620	36	< 5	< 1	36	0.09	< 10	< 10	19	< 10	44
90CM 532R	205 294	< 1	0.01	19	380	2	< 5	5	2	0.06	< 10	< 10	17	< 10	18
90CM 533R	205 294	< 1	0.07	7	1000	< 2	5	4	60	0.40	< 10	< 10	173	< 10	88
90CM 534R	205 294	2	0.11	8	870	4	5	6	49	0.33	< 10	< 10	76	< 10	70

CERTIFICATION: B. Campbell

a9017364				Au	Ag	Al	As	Ba	Re	Bi
				1	2	3	4	5	6	7
1	90	CM	21SS	25.	1.0	0.52	<5.	40.	<0.5	2.
2	90	CM	22SS	465.	<0.2	1.63	<5.	160.	<0.5	4.
3	90	CM	23SS	180.	<0.2	0.71	<5.	60.	<0.5	2.
4	90	CM	24SS	120.	<0.2	0.80	<5.	60.	<0.5	<2.
5	90	CM	25SS	<5.	0.4	2.78	<5.	220.	0.5	4.
6	90	CM	26SS	10.	<0.2	1.50	5.	100.	<0.5	<2.
7	90	CM	27SS	10.	<0.2	1.10	<5.	100.	<0.5	2.
8	90	CM	28SS	10.	<0.2	1.80	<5.	130.	<0.5	4.
9	90	CM	29SS	40.	<0.2	0.80	<5.	70.	<0.5	<2.

a9017364				Ca	Cd	Co	Cr	Cu	Fe	Ga
				8	9	10	11	12	13	14
1	90	CM	21SS	0.58	1.5	9.	69.	54.	2.43	<10.
2	90	CM	22SS	0.42	<0.5	15.	33.	15.	2.55	10.
3	90	CM	23SS	0.50	<0.5	9.	79.	7.	2.17	<10.
4	90	CM	24SS	0.56	<0.5	9.	62.	7.	1.81	<10.
5	90	CM	25SS	1.13	0.5	14.	51.	118.	2.59	10.
6	90	CM	26SS	0.57	<0.5	12.	70.	19.	2.79	10.
7	90	CM	27SS	1.16	<0.5	10.	35.	69.	1.44	<10.
8	90	CM	28SS	0.52	<0.5	8.	32.	15.	2.83	10.
9	90	CM	29SS	0.61	<0.5	9.	23.	7.	1.40	<10.

a9017364				Hg	K	La	Mg	Mn	Mo	Na
				15	16	17	18	19	20	21
1	90	CM	21SS	<1.	0.05	30.	0.43	280.	<1.	0.01
2	90	CM	22SS	<1.	0.28	30.	0.57	460.	<1.	0.02
3	90	CM	23SS	<1.	0.08	30.	0.41	240.	<1.	0.01
4	90	CM	24SS	<1.	0.09	40.	0.41	240.	<1.	0.02
5	90	CM	25SS	<1.	0.21	60.	0.59	355.	<1.	0.03
6	90	CM	26SS	<1.	0.14	40.	0.43	525.	2.	0.02
7	90	CM	27SS	<1.	0.14	20.	0.47	320.	<1.	0.03
8	90	CM	28SS	<1.	0.16	30.	0.37	380.	2.	0.02
9	90	CM	29SS	<1.	0.07	30.	0.27	325.	1.	0.02

a9017364				Ni	P	Pb	Sb	Sc	Sr	Ti
				22	23	24	25	26	27	28
1	90	CM	21SS	27.	900.	118.	<5.	1.	56.	0.09
2	90	CM	22SS	23.	1580.	8.	<5.	2.	67.	0.15
3	90	CM	23SS	31.	1620.	16.	<5.	2.	61.	0.11
4	90	CM	24SS	28.	1760.	6.	<5.	2.	68.	0.12
5	90	CM	25SS	148.	940.	8.	<5.	4.	96.	0.12
6	90	CM	26SS	37.	1050.	10.	<5.	3.	75.	0.14
7	90	CM	27SS	119.	960.	10.	<5.	2.	101.	0.09
8	90	CM	28SS	22.	1330.	12.	<5.	2.	68.	0.11
9	90	CM	29SS	11.	1170.	2.	<5.	2.	77.	0.12

a9017364				Tl	U	V	W	Zn
				29	30	31	32	33
1	90	CM	21SS	<10.	<10.	53.	<10.	216.
2	90	CM	22SS	<10.	<10.	57.	<10.	66.
3	90	CM	23SS	<10.	<10.	54.	<10.	32.
4	90	CM	24SS	<10.	<10.	46.	<10.	28.
5	90	CM	25SS	<10.	10.	47.	<10.	84.
6	90	CM	26SS	<10.	<10.	61.	<10.	40.
7	90	CM	27SS	<10.	<10.	34.	<10.	44.
8	90	CM	28SS	<10.	<10.	62.	<10.	52.
9	90	CM	29SS	<10.	<10.	33.	<10.	20.



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

Sampler REM  
Date Sept. 91Property Midway Ket 11, 12, 20, 21

NTS \_\_\_\_\_

SAMPLE NO.	Sample Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS			
		Rock Type	Alteration	Mineralization		FPB Au			
90cm 307n	C	g <sub>2</sub> ite		tr. py & po?	Sheared	<5			
90cm 308n	C	g <sub>2</sub> ite		tr py mo?		<5			
90cm 309n	C	dolomite	wkly skarned		actinolite, garnet?	<5			
90cm 310n	C	Siltstone	wkly skarned	tr. mag	Epidote, actinolite, garnet?	<5			
90cm 311n	C	g <sub>2</sub> VN gru. stone		tr py	Sungay	<5			
90cm 312n	C	Schist.		Feox.		<5			
90cm 313n	C	Rhyolite	blech'd	tr <sup>+</sup> py		15			
90cm 314n	C	gru. stone	chloritic			<5			
90cm 315n	C	diorite	propylitic	tr py	Epidote, calcite	15			
90cm 316n	C	Schist		tr <sup>+</sup> mag	in contact w/ phyllitic gru. stone?	10			
90cm 317n	C	Serpentine		abund mag.	Nickel or chrome mica?	<5			
90cm 318n	C	Gneiss		Feox	biotite / g <sub>2</sub> gneiss	<5			
90cm 319n	C	g <sub>2</sub> ite	argillitic	Feox, tr py		<5			
90cm 320n	C	gru. stone	chloritic	tr py, minor mag		10			

C-CHIP G-GRAB F-FLOAT

Sampler R.E.M.

Date Sept. 91

Property MichWay ket 11, 12, 20, 21

NTS \_\_\_\_\_

SAMPLE NO.	Sample Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS				
		Rock Type	Alteration	Mineralization		PPb	Aw			
90cm 339R	C	grn Stone		tr mag		<5				
90cm 340R	C	grn Stone	Propylitic	abundant mag	Epidote, calcite, tr sulfides	<5				
90cm 341R	F? C	Serpent.		tr py abun mag	Ni mica?					
90cm 342R	F? C	Serpent.		tr py abun mag	Ni mica?					
90cm 527R	C	Mafic Int.?	Serpentinized	tr py	poss Fe sulfide	<5				
90cm 528R	C	Serpent		tr py tr mag	" " "	<5				
90cm 529R	C	Serpent		tr py tr mag	" " "	<5				
90cm 530R	C	Serpent		tr py tr mag	" " "	<5				
90cm 531R	C	gneiss	phyllitic	tr py	leucocratic	<5				
90cm 532R	C	grn Stone			strong qtz veining	<5				
90cm 533R	C	gneiss			abundant biotite	<5				
90cm 534R	C	grn Stone		tr py tr po.	weakly propylitic	<5				

C-CHIP 6-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*

212 Brooksbank Ave.  
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

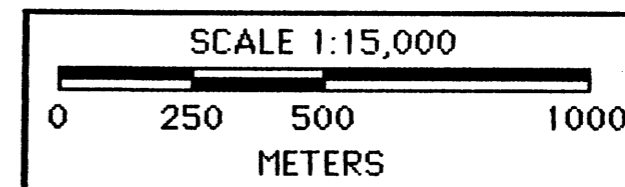
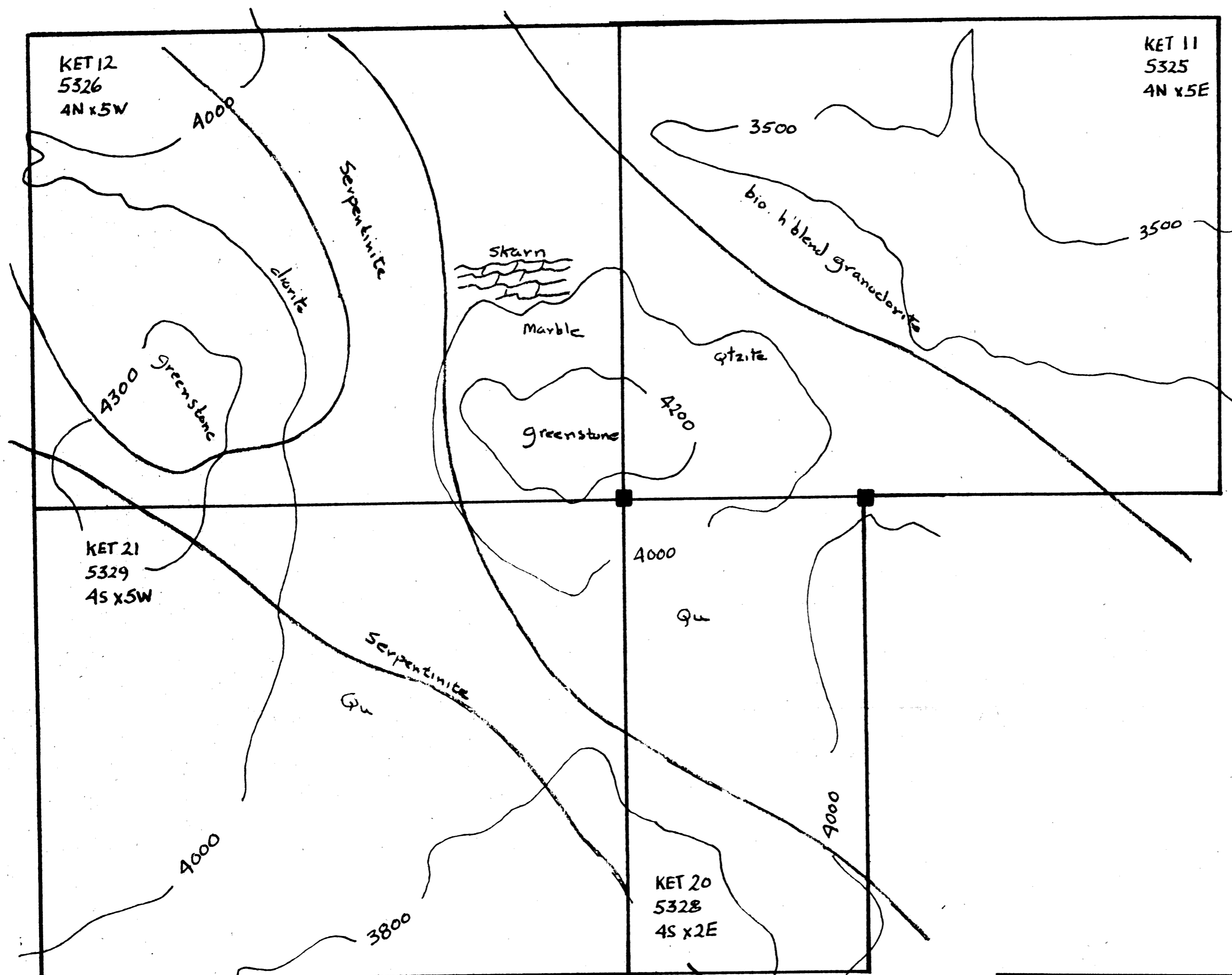
Gold analysis is carried out by standard fire assay techniques. In the sample preparation stage the screens are checked for metallics which, if present, are assayed separately and calculated into the results obtained from the pulp assay.

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



LEGEND

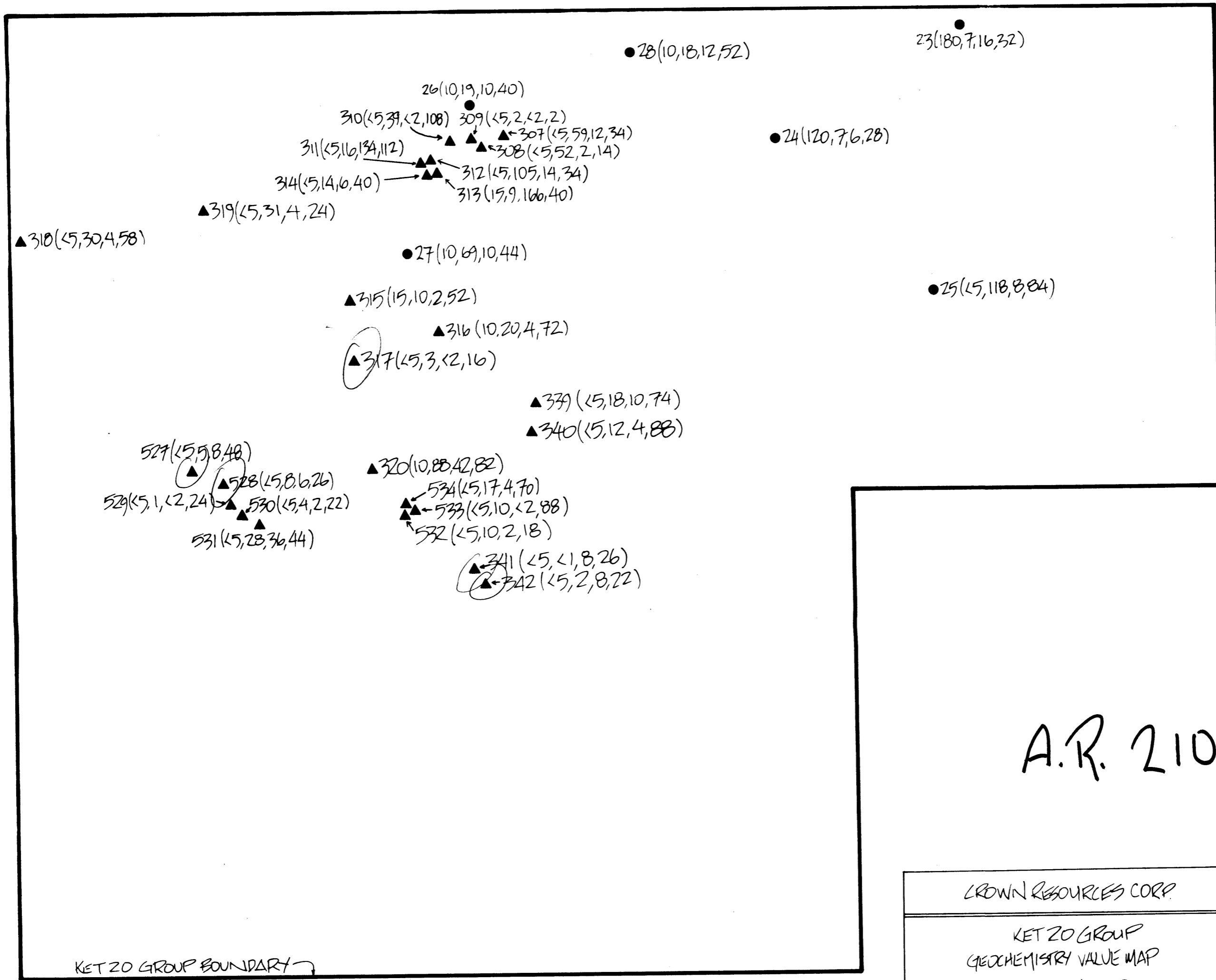
Projected Geologic Contact

CROWN RESOURCES	
KET 20 GROUP GENERAL GEOLOGY MAP	
FIGURE 4	
NTS No.	82E/3
SCALE	1:15,000
REM	JAN 1991

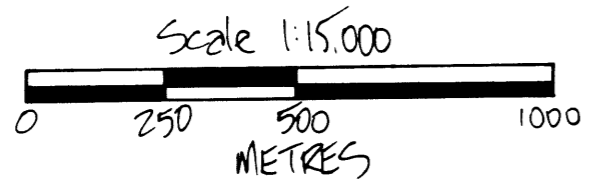
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,001



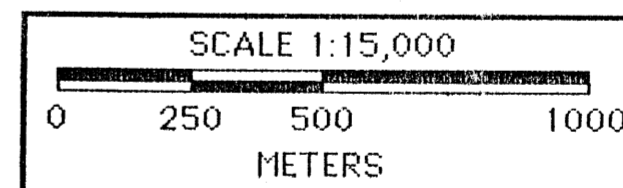
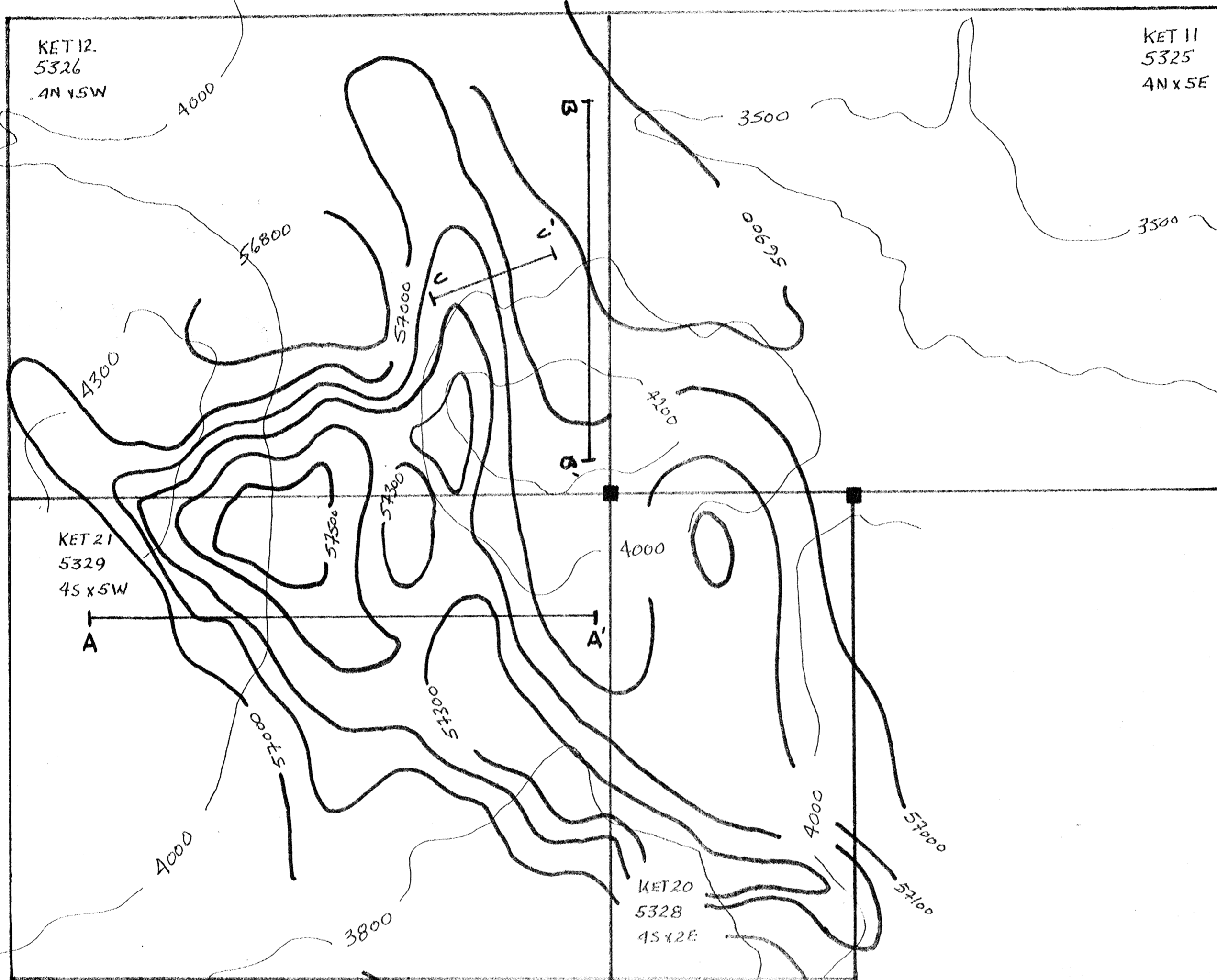


A.R. 21001



● 27 (Au ppb, Cu ppm, Pb ppm, Zn ppm) - Stream sediment sample  
 ▲ 339 (Au ppb, Cu ppm, Pb ppm, Zn ppm) - Rock chip sample

CROWN RESOURCES CORP.			
KET 20 GROUP GEOCHEMISTRY VALUE MAP GREENWOOD MINING DIV.			
COAST MOUNTAIN GEOLOGICAL LTD.			
DRAWN BY B.K.	NTS 02E/3E	DATE SEPTEMBER 11	FIGURE 5a



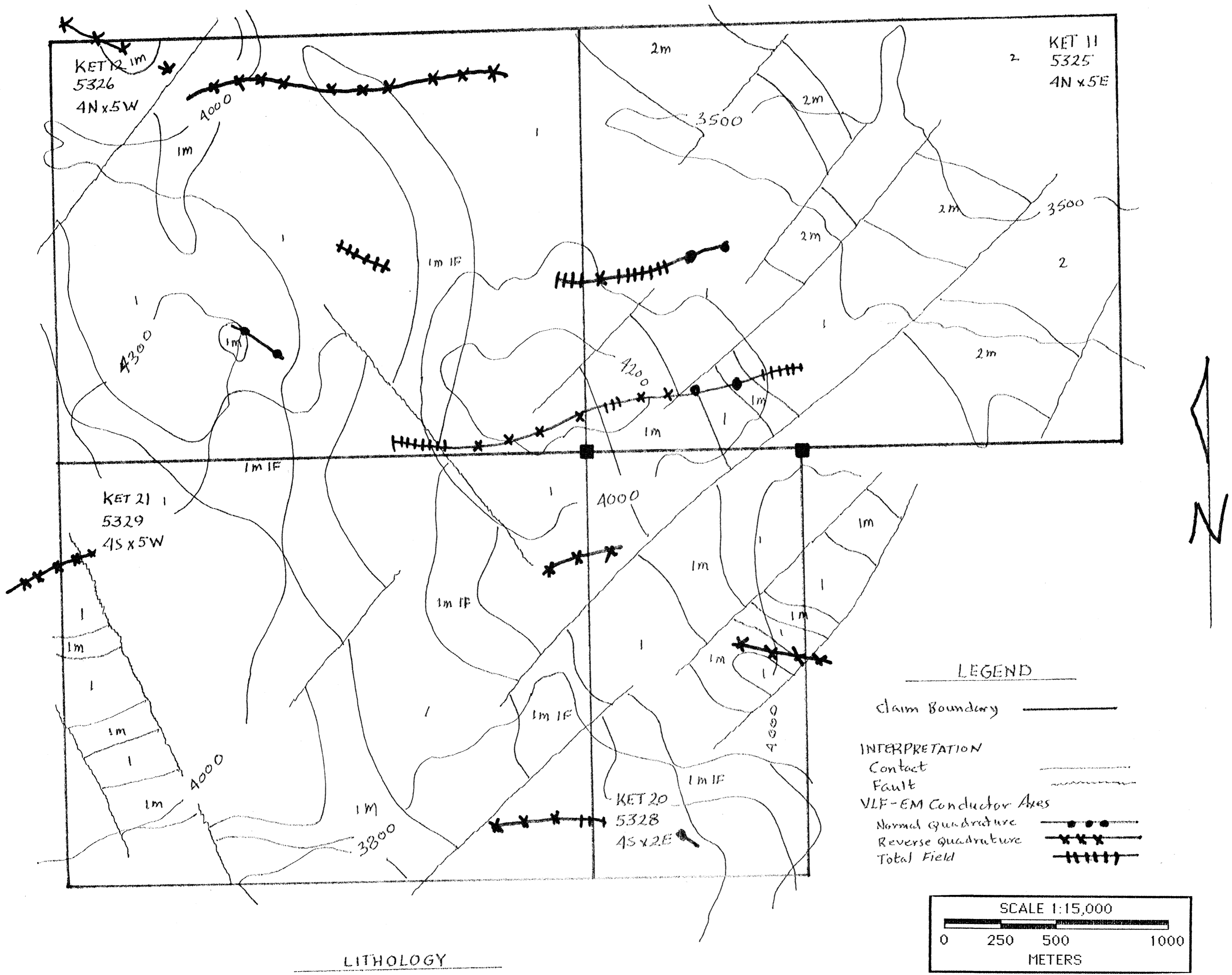
LEGEND

CONTOURS  
 Topography ——— 4000 ——— Feet  
 Air Mag ——— 57000 ——— gamma  
 GROUND MAG. LOCATION A ——— A'

CROWN RESOURCES	
KET 20 GROUP	
FIXED LINE GROUND MAGNETICS LOCATION	
Figure 6	
NTS. NO	82E/3
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	REM JAN. 1991

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LITHOLOGY

EOCENE

- 4m Magnetic unit
- 4 Yellow and Kitley Lakes Formation

CRETACEOUS & JURASSIC

- 3m Magnetic Unit
- 3 Okanagan Batholith Granodiorite & Granite

MIDDLE JURASSIC

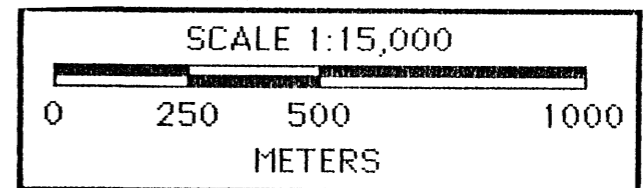
- 2m Magnetic unit
- 2 Nelson Plutonic rocks Granodiorite

CARBONIFEROUS - ANARCHIST GROUP

- 1m Magnetic unit
- 1 Amphibolite, Greenstone, schist
- IF Iron Formation

LEGEND

- Claim Boundary
- INTERPRETATION
- Contact
- Fault
- VLF-EM Conductor Axes
- Normal quadrature
- Reverse quadrature
- Total Field



CROWN RESOURCES	
KET 20 GROUP	
INTERPRETATION - TERRAQUEST 1989	
AIRBORNE MAGNETICS & VLF-EM	
Figure 10	
NTS No.	82E/3
SCALE	1:15000
	REM JAN 1991

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