1991 GEOCHEMICAL REPORT

on the

ANA 2 CLAIM

Greenwood Mining Division
British Columbia

North Latitude 49°01'  West Longitude 119°03'

NTS 82E/3E

Prepared for

CROWN RESOURCES CORP.
Suite 100-200 Granville Street
Vancouver, B.C.
V6C 1S4

Prepared by

W. R. Kushner, B.Sc.
COAST MOUNTAIN GEOLOGICAL LTD.
P. O. Box 11604
1410-650 West Georgia Street
Vancouver, B.C.
V6B 4N9

July, 1991
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GEOLOGICAL BRANCH ASSESSMENT REPORT

21,541
1.0 INTRODUCTION

1.1 Summary
Crownex Resources (Canada) Ltd., a subsidiary of Crown Resources Corp. of Colorado, is the registered owner of the Ana 2 claim. This report describes the geochemical sampling survey conducted on the property during June, 1991.

1.2 Location & Access
Located approximately seven kilometres southeast of Bridesville along the Canada - U.S. boundary, the Ana 2 claim is accessed by the McCoy Creek gravel road south off of Highway 3 (Figure 1). The geographical coordinates for the centre of the property are 49°01' north latitude and 119°03' west longitude. The property is located on the eastern half of the N.T.S. map sheet 82E/3.

1.3 Physiography & Climate
Relief within the claim boundary is moderate and varies approximately 220 meters, from 1030 metres elevation on the eastern side to 1250 metres to the west. Larch and pine are the dominant vegetation with subordinate grasses and marsh reeds, typical of the dry interior climate.

The area is characterized by dry, hot summers and moderate winters with little snowcover.
1.4 Property Description

The Ana 2 claim, owned by Crownex Resources (Canada) Ltd., a subsidiary of Crown Resources Corp. of Colorado, consists of one 20 unit claim located in the Greenwood Mining Division of southern British Columbia (Figure 2). The following table summarizes pertinent claim data from records of the B.C. Ministry of Energy, Mines and Petroleum Resources:

<table>
<thead>
<tr>
<th>Claim</th>
<th>Record number</th>
<th>Size (units)</th>
<th>Expiry Date*</th>
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<tr>
<td>Ana 2</td>
<td>215378</td>
<td>20</td>
<td>21/Jul/92</td>
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</table>

* Pending acceptance of this report

1.5 Property History

Exploration and development in this area commenced around the turn of the century with the discovery of the McKinney Creek placer deposits and the mines of Camp McKinney. The McKinney Camp was one of the early lode producing areas in British Columbia with over $1,000,000 worth of gold recovered.

The Ana 2 claim has evidence of the many trenches, shafts and adits dug by prospectors dating back to the turn of the century; most are without any record of work however.

Recent significant results at the Buckhorn Mountain gold skarn deposits immediately to the south in Washington State led Crown Resources to examine ground to the north in Canada for similar
CROWN RESOURCES CORP.

ANA 2 PROPERTY
CLAIM MAP

GREENWOOD MINING DIVISION

COAST MOUNTAIN GEOLOGICAL LTD.

DRAWN BY: NTS DATE: FIGURE:
B.K. 02E/35 JULY, 1991 2

SCALE 1:50,000
500 0 500 1000 2000 METERS
geology. Crown Resources Ltd. acquired Terraquest Ltd. of Toronto to conduct a regional airborne magnetometer and VLF-EM survey in 1989 (Basil, 1989), and since then has conducted exploration programs in the area over favourable areas.

1.6 1991 Work Program
Work performed on the Ana 2 claim during June, 1991, consisted of extending the grid from the adjoining Ket 5 Group onto the Ana 2 claim, and running a soil line along the Canada - U.S. border. A total of 2 days were spent on the property, in which two prospectors collected 37 soil samples and 1 rock sample.

2.0 GEOLOGY & 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 serpentinized peridotite. Anarchist Group rocks occur throughout the Ana 2 claim, and are host to the historic Camp McKinney deposits. Similarly aged Kobau Group rocks consisting of amphibolite, greenschist, quartzite mica schist, greenstone and minor marble occur to the east of the claim.

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. Smaller Jurassic to Cretaceous age plugs of biotite granodiorite and granite belonging to the Okanagan Batholith occur to the northwest and northeast of the property.

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.

Camp McKinney gold bearing zones consist mainly of quartz veins in the Anarchist schists, generally paralleling the trend of the schistosity. Gold mineralization to the south of Camp McKinney is associated with shear zones within volcanics, and contain considerable amounts of ankeritic carbonates and abundant pyrite. Significant gold mineralization to the south of the Ana 2 property is related to skarn mineralization. The Buckhorn Mountain skarn system resulted from the Buckhorn Pluton (related to the Nelson Pluton) intruding a sequence of Anarchist Group equivalent rocks.

2.2 Property Geology
Easterly dipping greenstones, argillites, limestones and conglomerates of the Kobau (Anarchist?) Group are found outcropping on the property. Overlying rocks of the Eocene age Yellow Lake and Kitly Lake formations occur in the northwestern corner of the claim, and consist of mafic phonolite and trachyte to
Gold values shown in ppb Au.

Scale 1:5000

50 0 50 100 150 200 250 Meters

1991 GRID
See enlargement below

CROWN RESOURCES CORP.
ANA 2 PROPERTY
SAMPLE LOCATION
GREENWOOD MINING DIVISION

COAST MOUNTAIN GEOLOGICAL LTD.

DRAWN BY: B.K.
NTS: 92E/3E
DATE: JULY, 1991
FIGURE: 4
trachyandesite flows.

2.3 Geochemistry

Soil samples were taken from the 'B' soil horizon, 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 gold by the atomic absorption (AA) technique.

Of the 31 soil samples collected, one contained 35 ppb gold and six more contained levels of 10 ppb Au; the remaining 30 samples contained less than 5 ppb Au.

Rock chip samples were collected in plastic bags and also sent to Chemex. Samples were 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.

The rock sample, a limonitic siliceous breccia, contained 15 ppb Au and 44 ppm Cu. Nickel and chromium levels were elevated; the sample contained 141 ppm Ni and 106 ppm Cu. Table 2 is a
description of the rock sample, and sample locations are plotted on Figure 4. Complete sample descriptions are located in Appendix E.

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<th>Sample number</th>
<th>Rock type</th>
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<tr>
<td>A2/90 D5R</td>
<td>altered breccia</td>
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3.0 DISCUSSION and RECOMMENDATIONS

The results of the 1990 exploration program were inconclusive due to the cursory look at the property a small program such as this provides. Considering the inherent potential in the geology and the location of the property, further work to evaluate the gold potential of all of the property is recommended by a program of:

(a) extensive grid soil sampling
(b) grid magnetometry, and
(c) reconnaissance prospecting

Respectfully submitted,

Wm. R. Kushner, B.Sc.
APPENDIX A

STATEMENT OF QUALIFICATIONS
STATEMENT OF QUALIFICATIONS

I, WILLIAM R. KUSHNER, of P.O. Box 1, Station 'A', 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 1410-650 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 Coast Mountain Geological Ltd. on the Ana2 Property during June, 1991, 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 19th day of July, 1991.

William R. Kushner, B.Sc.
Geologist
APPENDIX B

STATEMENT OF EXPENDITURES
# STATEMENT OF EXPENDITURES

## PERSONNEL

Prospectors (D. Ridley, C. Ridley)  
4 mandays @ $225/day  

900.00

## ASSAYS

1 Rock Chip @ $14/sample  
37 soils @ $9/sample  

333.00

## MOB/DE-MOB 

100.00

## MISCELLANEOUS

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SUBTOTAL 1718.66

## REPORT AND DRAFTING 

450.00

## TOTAL

$2168.66
APPENDIX C
REFERENCES
REFERENCES


APPENDIX D

CERTIFICATE OF ANALYSIS
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<th>P (ppm)</th>
<th>Pb (ppm)</th>
<th>Sb (ppm)</th>
<th>Sc (ppm)</th>
<th>Sr (ppm)</th>
<th>Ti (ppm)</th>
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CERTIFICATION: [Signature]
C. RIDLEY
Rock Creek Soils
June 1991

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<td>5 - @ end of # - soil</td>
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<tr>
<td>5S - &quot; - silt</td>
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<tr>
<td>R - &quot; - rock</td>
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- In order following #
- Texture, depth, horizon, color,
  % coarse frags, shape of frags

(Soil)

- Texture, depth, width, color, org.
  Frac, mineral frac.,

(Rocks)

- Self-explanatory |

Bags + ribbon marked:

Claim Name: STN #: Type of Sample

Example:

A4/10+00E: S
FINA #2/13/91 Overcast & Cool
- Found Rock Mt. Forest Rd. Turned S
- Lodging on followed with Eek's Meadow
- Found F 31100N: Begin @ 49025E
  on fence line (tied into BDSP Grid)
  31100N:
  Still 49025E 6: p, m, c: 35 cm. BF tea
  Med breaks (same AE box w/e)

49050E: s: p, m, c: 40 cm. BF tea. med. bux.
  20-25% pub, ang + arg frag (2 data)

49075E: s: p, m, c: 15 cm. BF tea. med. bux.
  40-50% ang + pub arg frag (brecia)

49100E: s: p, m, c: 35 cm. BF tea. med bux.
  Crossed N/S trending fence line into
  pasture

49125E: s: p, m, c: 40 cm. BF tea. med. bux.
  25-30% ang. brecia frag

49150E: s: p, p, c: 10 cm. BF tea. med. bux.
  pub crop below green pale surface

49175E: s: p, m, c: 40 cm. BF tea. de bux.
  10-15% pub ang. frag (not origin)

49200E: s: p, m, c: 40 cm. BF tea. med. bux.
  50-60% ang. brecia frag

49225E: s: p, m, c: 10 cm. BF tea. med. bux.
  30-40% ang. brecia frag

49250E: s: p, m, c: 30 cm. BF tea. med. bux.
  30-40% ang. brecia frag

49275E: s: p, m, c: 30 cm. BF tea. de bux.
  30-40% ang. brecia frag

49300E: s: p, m, c: 30 cm. BF tea. med. bux.
  25-30% ang. brecia frag

49325E: s: p, m, c: 30 cm. BF tea. med. bux.
  50-60% pub ang. brecia frag

49350E: s: p, m, c: 30 cm. BF tea. med. bux.
  25-30% ang. brecia frag
49050 E: S: P: N.E.: 30 cm: Bt: horn: red
brown: 10% ang: frag (C. breccia)

49075 E: S: P: N.E.: 30 cm: Bt: horn: med
brown: 10-15% breccia frag

49075 E: S: P: N.E.: 15 cm: Bt: horn: med
brown: breccia pub: crop

49100 E: S: P: N.E.: 20 cm: Bt: horn: med
brown: breccia pub: crop


49250 E: S: P: N.E.: 20 cm: Bt: horn: med
brown: breccia pub: crop

49250 E: S: P: N.E.: 40 cm: Bt: horn: dr: breccia

49200 E: S: P: N.E.: 40 cm: Bt: horn: dr

49000 E: S: P: N.E.: 30 cm: Bt: horn: lt
med brown: 10-15% ang: frag
brown: breccia pub: crop

25 km from end of line to Rock Cut
Forest Rd.
June 13/91 Ana #2

Extending L 31 100 N to east

Begin @ L3 1100 N; 49 4000E

44.050' = 49 125 E breccia; possible thin limestone beds as there's occasional angular limestone float.

49 2000E limestone subcrop

49 455E fence end line on north bearing for 100m

L 31 200N; 49 455E; AZ/90DSR;

Subcrop (outcrop but poor exposure) of limonitic stained siliceous breccia, minor sericite alteration with green micas (mariposite or fuchsite)

Rare disseminated pyrite; subcrop found in road cut along N-S trending fence line; exposure =

10m: 10m x 1 meter wide

49 273E breccia seen to contain limestone layers; this may explain the previously mentioned limestone cobbles found near L3 1100N; 49 2000E?

49 170E limestone outcrop

49 000E road

Cham south to tie in line

95m hit L 31100 N; 49 000E

Take right turn from L3 1100N; 49E = L3 1100N; 49E