

**Assessment Report**

**For The**

**2000 Diamond Drilling Programme**

**On The**

**CR Mineral Property**

Omineca Mining Division

NTS 93L/7W  
Latitude 54° 17' N  
Longitude 126° 50' W

Owned By: John Wesley Moll  
Work By: John Wesley Moll

Report By: W.R. Bulmer, F.G.A.C  
July 2001

**GEOLOGICAL SURVEY BRANCH**  
**ASSESSMENT REPORT**

26,578

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## 1.0 Summary

This report documents expenditures by Mr. Moll of \$ 8,732 on the CR property between Aug. 26, 2000 and Sept. 4, 2000 under Work Permit No. SMI-2000 -0200225 -135

A diamond drill was set up at two locations approximately 46 m apart, some 170 metres NW of the LCP for the CR1, CR2, CR3 & CR4 block of claims.

DDH CR00#1 is located about 6 m SSW of DDH 98CR#2. It was drilled at an azimuth of 250° at an angle of -60° for 33.8 metres.

DDH CR00#2 is located about 24 m SSW of DDH 98CR#1. It was drilled at an azimuth of 120° at an angle of -60° for 17.4 metres.

DDH CR00#1 & 2 are exploration holes to determine presence & continuity of Cu mineralisation picked up in holes drilled previously in 1998 & 1999 (see AR 25950 & 26294).

Both holes revealed a mineralised porphyritic and altered granitic material, often vuggy in nature. Subsequent assays showed elevated values of Cu, Au and Zn.

## 2.0 Introduction

### 2.1 Location, Access and Physiography<sup>1</sup>

The CR mineral claims are situated 15 km SW of Houston, British Columbia at latitude 54° 17' N and longitude 128° 50' W in NTS map area 93L7W (Fig. 1).

Access to the property is via a logging road that skirts the west side of Mount Morice about 15 Km south of Houston. A subsidiary road winds eastward up the mountain and is useful in accessing the middle of the claim area

Elevations within the area range from 2200 metres in the eastern area of the claims which is the bottom of the Morice River valley, to over 5000 metres elevation in the west. The DDH are near the 3200 metre level.

Bedrock exposure is poor to non-existent in the valley bottom but increases with elevation.

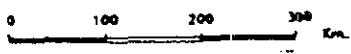
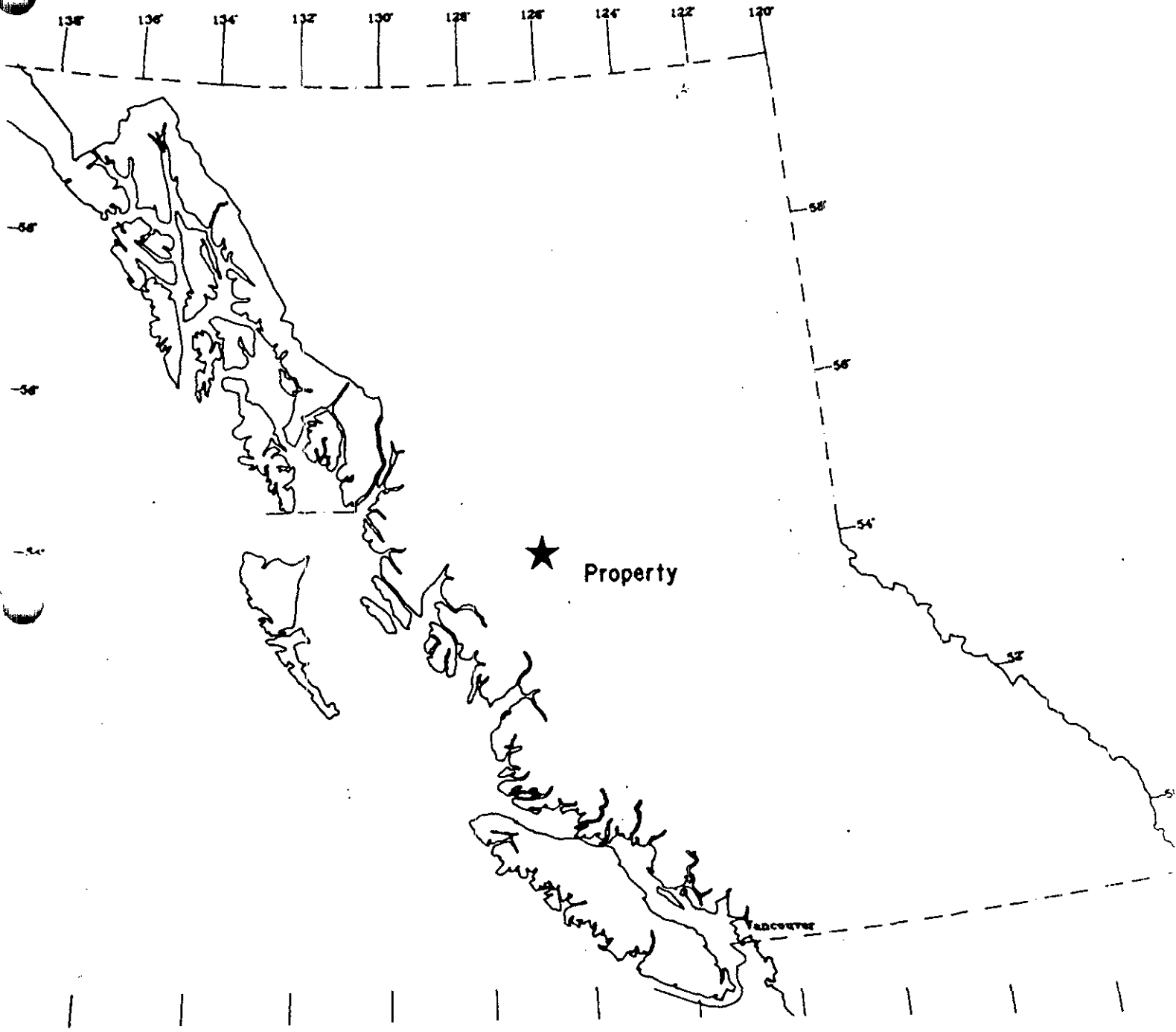
### 2.2 Claim Ownership

The CR mineral property consists of four claims owned by John Wesley Moll of Houston, B.C. The current claim status is summarised in Table 1.

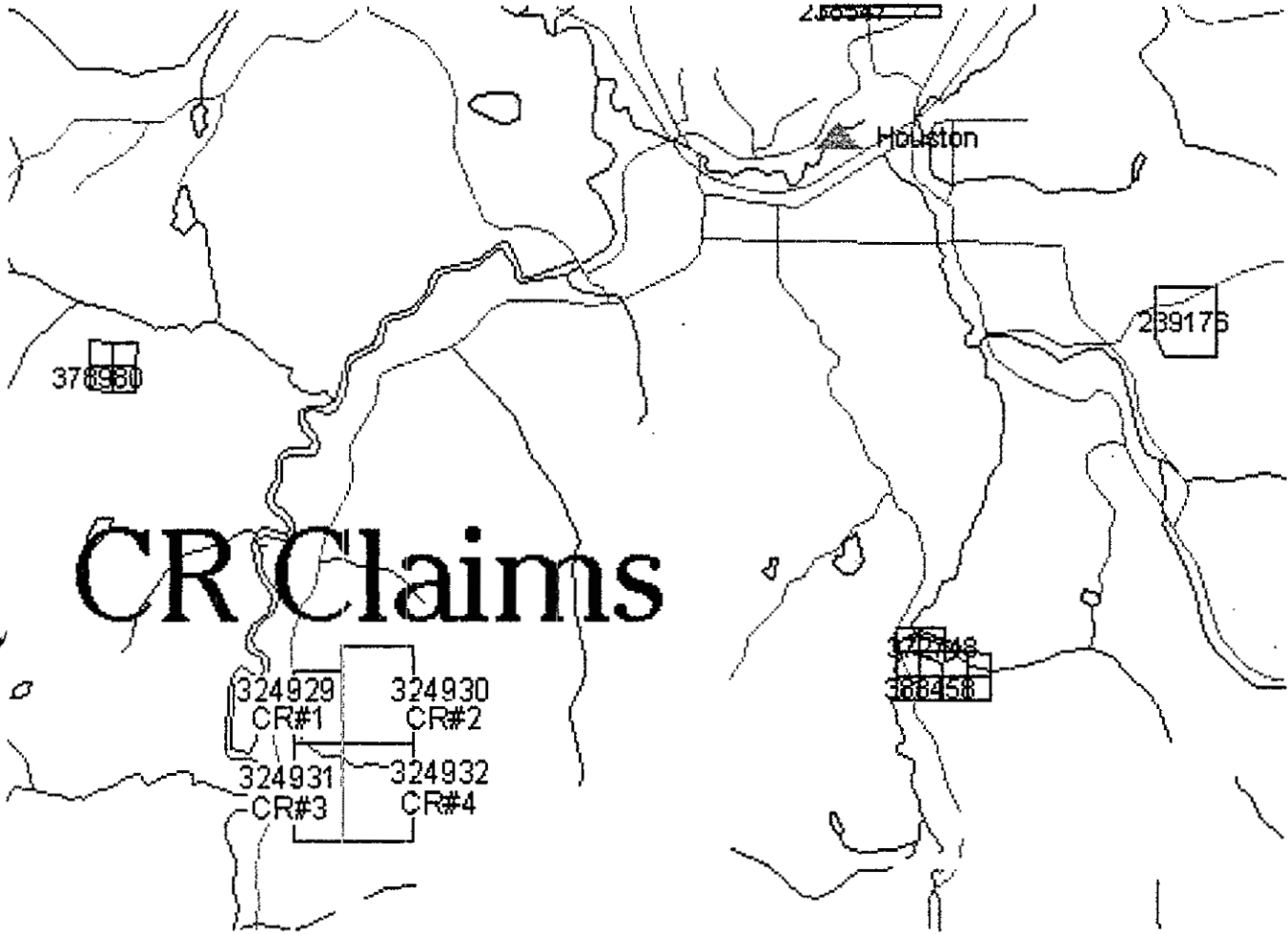
**Table 1 - Claim Status**

<b>Claim</b>	<b>Tenure No.</b>	<b>Units</b>	<b>Expiry Date*</b>
CR #1	324929	6	April 28, 2002
CR #2	324930	12	April 28, 2003
CR #3	324931	8	April 28, 2003
CR #4	324932	12	April 28, 2002

\*pending acceptance of this report



# Claim Map 93L 7W (Part)



Scale:  
1: 200,000

From "The Map Place" Ministry Of Mines Enhanced by W.R. Bulmer

Figure 2

### **2.3 History**

Mineral showings contained within the area of the present CR claims were originally staked in the early 1930's by R.J. Douglas of Houston. These claims, called the Croesus and Sholto, were underlain by mineralised granodiorite, alaskite and limestone. Assays gave .3 per cent copper "more than a trace of gold and silver" on the Croesus, and .03 oz./ton Au, 1.8 oz./ton Ag & 4.9% Cu in the limestone. on the Sholto.<sup>2</sup> More recently the property has been held by Amax (1966), Falconbridge (1970), and City Services (1977). Surveys and work done by these companies ranged from geophysical (IP, EM), geochemical (soil), geological, with trenching and diamond drilling to test anomalous areas.

In 1994 Cominco optioned the property from Mr. Moll and conducted an I.P./Resistivity survey over a grid that underlies the current claim group. Although high chargeabilities were recognised, they were attributed to pyrite in basalt tuffs. Readings indicated the presence of "two discreet rock units", however only one unit was named; basalt tuff. In 1998 and 1999 Moll drilled four holes, two in each year (AR 25950 & 26294). The holes were exploration holes that indicated the presence of elevated values of copper, a little silver & gold.

### **2.4 Purpose**

The purpose of the 2000 diamond drilling programme on the CR mineral claim was to follow up results from the 1999 & 1998 drill programmes.

<sup>2</sup>Report of the Minister of Mines, 1930 pg A 142-3.



### **3.0 Geology**

#### **3.1 Regional Geology<sup>3</sup>**

The property lies in a NE trending graben, to the east of a west bounding fault which extends from the Berg deposit (70 km to the SW) to the Bell-Granisle deposits (85 km to the NE).

#### **3.2 Property Geology**

Property geology as described by Jackisch (1994), and as shown on geology maps produced by Cominco (1994), indicate that the claim area is essentially underlain by "a thick section of Jurassic, Hazelton Formation basalt tuffs and flows intruded by an Eocene Nanika quartz monzonite plug. The western part of the property is largely covered by overburden except for two small pits with Nanika quartz stock and a poorly exposed breccia".

### **4.0 2000 Diamond Drilling Programme**

An X-ray diamond drill was set up on bedrock at two locations about 46 m apart, each hole close to a hole drilled in 1998. The locations are near two outcrops of granitic bedrock about 170 metres from the LCP.

DDH CR00#1 was drilled at an azimuth of 250° at a dip of -60° to a depth of 33.8m. It is about 6m SSW from DDH CR98#2 drilled in 1998. DDH CR00#2 was drilled at azimuth 120° at dip of -60° to a depth of 17.4m. It is about 24m SSW from DDH CR98#1 drilled in 1998.

The core was placed in core boxes and logged in Smithers by the author. The log is included as Appendix 1a & b of this report .

Three core samples were sent for assay from each hole. DDH CR00#1 samples were 5.2m to 7.3m, 15.8m to 17.9m & 31.5m to 33.8m. DDH CR00#2 samples were 5.6m to 9.6m, 9.6m to 12.8m & 16.8m to 17.4m. Samples were sent to ALS Chemex Labs in Vancouver where they underwent the 32 element ICP package, and AA for gold.

Assay reports are included in Appendix 2, Values shown in the drill log opposite core geology..

<sup>3</sup> Ingo Jackisch, 1994

## **5.0 Results and Discussion**

### **5.1 Lithology**

The lithology is generally restricted to an altered granitic rock that is rich in sulphides and possesses a peculiar "vuggy" appearance. Xenoliths of an intermediate material are visible. An intermediate "dioritic" sill previously referred to as an andesitic intrusive cuts CR00#2 in two locations, 0-5.75m & 12.8 to 16.5m. No intermediate sill was encountered in CR00#1.

### **5.2 Stratigraphy**

The peculiar vuggy nature of the granitic material would suggest a high level granite plug or thick sill. The gaseous nature of the unit points to conditions that, in any event, were of a low pressure regime.

### **5.3 Structure**

#### **5.31 Primary**

The granitic material was characteristically pock-marked with gas holes or vugs that invariably contained crystals of pyrite. The vugs persisted over the length of both holes. The presence of the vugs points to degassing, generally a high-level or low pressure environment. Over all the granitic unit was medium-grained, but when "clean" section was observed, free from fractures, chloritisation, etc. the unit was seen to be porphyritic in nature; akin to a quartz-feldspar porphyry.

#### **5.32 Fractures & Breccias**

Two sets of fractures were observed, a set ~30-45 deg to the core axis and another set trending 0-10 deg. The fractures are not numerous, and show a characteristic bleaching of the host material between them. Fractures are commonly coated with iron sulphides. Breccias do not occur as in previous holes. Foliation of the granite is evident in hole #1 from 9m - 17m & gives granite more intermediate look in hole #1 @ 15 - 16.5m. The vuggy sections invariably contain elevated amounts of ccp and pyrite/chalcopyrite intergrowths with possible chalcocite. Aside from these minor fractures and breccias no significant structural breaks were observed

#### **5.33 Veining**

Quartz veining was minor. Hole #2 contained a thin vuggy qtz vein at 11.3m. Crystalline pyrite was often associated with some veining, particularly where the fractures were not completely "healed", ie. vuggy in appearance.

### **5.4 Alteration**

Chloritisation of the granitic material was not prevalent, but when observed imparted a greenish tinge to the rock. Saussitaurised spars was common.

### **5.4 Mineralisation**

Mineralisation is confined to pyrite, and to a lesser extent chalcopyrite. Other mineralogy may include chalcocite. The sulphides were in abundance within the vugs and fracture zones, (up to ~ 10%), although as a rule the sulphides are throughout the host as small blebs and crystals averaging between 2 & 5%.

## 6.0 Interpretation & Recommendations

The diamond drill holes appear to intersect the upper level (gaseous phase) of a granitic intrusion. The gases were probably sulphide rich resulting in precipitation of sulphides in the gas holes or vugs. This would suggest that the granitic body as a whole had a high sulphide content, but "gassing off" has concentrated the sulphides at the top. The porphyritic nature of the rock suggests it took a long time to cool, strengthening the possibility that a zoning of Cu, Zn and Pb may exist elsewhere.

Although somewhat elevated, the Au assays did not match the much higher values recovered the previous year. Discrepancies may be due to lab differences (two different labs used).

Hole #2 showed Au values to be consistently higher (50-100 ppb) than hole #1 (<50 ppb). Silver values were also a little higher (5 - 10ppm) vs 1-5 in hole #1. Cu was consistently higher in Hole 1, a reflection of the higher amt of visible Cu mineralisation (malachite). Hole # 2 showed marginally higher amounts of Pb & Zn.

Given the similar type of lithology and values found in holes drilled during the 1998-2000 seasons, it may be of value to drill exploratory holes few hundred metres distant.

## Table 2

### Statement Of Expenditures

1.	Diamond Drilling	
	167 feet @ \$26.00 per foot	\$4342.00
	mobe and demobe - 112 hrs @ \$20.00/hr	\$2,240.00
	COPCO Drill	
	2 days @ \$30.0/day	\$ 60.00
2.	Transportation	
	4 X 4 Truck	
	9 days @ \$50.00/day	\$ 450.00
	A.T.V	
	3 days @ 50.00/day	\$ 150.00
3.	Core Sample Prep (Splitting)	
	8hrs @ \$20.00/hrs	\$ 160.00
4.	Logging Core & Report	
	2 days @ \$300.00/day	\$ 600.00
5.	Assays	\$ 100.00
6.	Board 3 people 3days	
	2 " 6 "	
	21 man days @\$30/day/man	\$ 630.00
	TOTAL	\$ 8732.00

## STATEMENT OF QUALIFICATION

I, W.R. Bulmer of Smithers B.C. do hereby certify that:

1. I am a geologist residing at 8420 Kroeker Rd, Smithers, B.C.
2. I am a graduate of the University of Western Ontario with a Bachelor of Science Degree in Honours Geology 1976, and a graduate of Cambrian College of Applied Arts and Technology with a Technology Diploma in Geological Technology in 1973.
3. I have practised my profession as a geologist for twenty-eight years in the fields of mineral exploration, project management and mineral deposit research. From 1971 until the present I have been engaged in mineral exploration in Ontario, Labrador, Newfoundland, Yukon Territory and British Columbia.
4. I was elected a Fellow of the Geological Association of Canada in 1983.
5. I personally examined the core from the programme described in this report.
6. I have no personal interest nor do I stand to gain anything financially from the CR mineral claim.

*W.R. Bulmer*

W.R. Bulmer, B.Sc., F.G.A.C

## References

Jackisch I. 1994. Assessment Report 23698, I.P./Resistivity Survey on the Crow Raven Property  
Report of the Minister of Mines, 1930

Bulmer, W.R. 1999 Assessment Report 25950, 1998 Diamond Drilling Programme on the CR  
Mineral Property

Bulmer, W.R. 2000 Assessment Report 26294, 1999 Diamond Drilling Programme on the CR  
Mineral Property

**Appendix 1a & b**





Metres	Section	G old (ppb)			S I L V E R			C O P P E R			Lead		Zinc			
		<20	20-50	50-100	<1 ppm	1-5	5-10	100-500	500-1000	>1000	<50	>50	100-500	500-1000	>1000	
0-17.4	Summary	Vuggy light grey xenolithic granite, cut by intermediate "dioritic" sill? Granite tends to intermediate phase and altered where fractures are intense. Sulphides present in minor amounts as blebs and hairline fracture fillings.														
0 - 5.75		Intermediate "sill"? - dioritic looking rusty, broken, subporphyritic spars < 1mm, subparallel to core axis														
	5.2 - 5.75	chill zone? next to granite contact														
5.75 - 12.8		vuggy light grey xenolithic granite xenoliths .5cm, lt gry resembles partially digested portions of intermed. unit. blebs & hairline fractures of sulphides ccp relatively abund to 11.5 m frct ~ 60														
	11.3	vuggy qtz vn ~60 to core axis														
12.8 - 16.5		Intermediate "sill" as above highly altered, due to abundant rust fractures, drk grn colour, alteration due to abundant rusty fractures as first 5 m														
	13.7															
	15 - 16.5	unit becomes more siliceous, is foliated ~60, few thin(2mm) qv ~ 30 unit looks granodioritic														
16.5 - 17.4		Granite more pnk hue, spars saussaurtised, chlorite throughout where fractured alteration intense as above														
17.4		EOH														

**Appendix 2**



# ALS Chemex

Aurora Laboratory Services Ltd.  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: MOLL, J.W.

BOX 1182  
 HOUSTON, BC  
 VOJ 1Z0

A0116821

Comments: ATTN: WES J. MOLL

**CERTIFICATE**

**A0116821**

(EHW) - MOLL, J.W.

Project:  
 P.O.#:

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 22-MAY-2001.

## SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
205	7	Geochem ring to approx 150 mesh
226	7	0-3 Kg crush and split
3202	7	Rock - save entire reject
229	7	ICP - AQ Digestion charge

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Au-AA23	4	Au-AA23 : Au ppb: Fuse 30 grams	FA-AAS	5	10000
Ag-ICP41	7	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	7	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	7	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	7	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	7	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	7	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	7	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	7	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	7	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	7	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	7	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	7	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	7	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	7	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	7	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	7	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	7	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	7	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	7	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	7	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	7	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	7	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	7	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	7	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	7	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	7	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	7	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	7	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	7	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	7	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	7	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	7	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	7	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	7	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



# ALS Chemex

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 212 Brooksbank Ave., North Vancouver  
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 PHONE: 604-984-0221 FAX: 604-984-0218

To: MOLL, J.W.

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Project:  
 Comments: ATTN: WES J. MOLL

Page Number : 1-A  
 Total Pages : 1  
 Certificate Date: 22-MAY-2001  
 Invoice No. : I0116821  
 P.O. Number :  
 Account : EHW

## CERTIFICATE OF ANALYSIS A0116821

SAMPLE	PREP CODE	Au ppb FA+AA	Ag ppm	Al %	As ppm	B 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 %
1-16757	205 226	15	< 0.2	0.79	8	< 10	60	2.5	< 2	1.60	< 0.5	8	66	52	3.38	< 10	< 1	0.10	10	0.51
1-16758	205 226	-----	3.6	0.48	6	< 10	60	< 0.5	8	0.55	1.0	6	47	2160	2.54	< 10	< 1	0.30	< 10	0.09
1-16759	205 226	-----	2.8	0.38	6	< 10	70	< 0.5	6	0.79	0.5	6	54	1510	1.94	< 10	< 1	0.27	< 10	0.08
1-16760	205 226	25	2.2	0.45	8	< 10	60	< 0.5	10	1.25	2.5	1	49	1430	1.89	< 10	< 1	0.29	< 10	0.11
1-16761	205 226	100	4.4	0.34	12	< 10	90	< 0.5	2	0.08	3.5	3	55	684	1.95	< 10	< 1	0.29	< 10	0.04
1-16762	205 226	55	5.0	0.39	20	< 10	150	< 0.5	6	0.24	6.0	4	53	1730	1.68	< 10	< 1	0.28	< 10	0.11
1-16763	205 226	-----	< 0.2	1.03	4	< 10	170	0.5	8	2.18	< 0.5	13	14	24	3.29	< 10	< 1	0.30	10	1.05

CERTIFICATION:



# ALS Chemex

Aurora Laboratory Services Ltd.  
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 212 Brooksbank Ave., North Vancouver  
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Page Number :1-8  
 Total Pages :1  
 Certificate Date: 22-MAY-2001  
 Invoice No. : I0116821  
 P.O. Number :  
 Account : EHW

Project :  
 Comments: ATTN: WES J. MOLL

## CERTIFICATE OF ANALYSIS A0116821

SAMPLE	PREP CODE	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
1-16757	205 226	775	< 1	0.07	25	2000	2	0.01	< 2	6	16	0.36	< 10	< 10	123	< 10	99
1-16758	205 226	500	8	< 0.01	7	550	12	1.94	< 2	< 1	11	< 0.01	< 10	< 10	3	< 10	314
1-16759	205 226	440	7	< 0.01	7	510	38	1.63	< 2	< 1	29	< 0.01	< 10	< 10	2	< 10	194
1-16760	205 226	690	12	< 0.01	6	560	24	1.44	< 2	< 1	26	< 0.01	< 10	< 10	3	< 10	548
1-16761	205 226	30	4	< 0.01	5	490	56	1.24	< 2	< 1	6	< 0.01	< 10	< 10	3	< 10	706
1-16762	205 226	135	5	< 0.01	5	510	46	1.02	< 2	< 1	20	< 0.01	< 10	< 10	2	< 10	1030
1-16763	205 226	1160	< 1	0.01	17	910	< 2	0.01	< 2	6	163	< 0.01	< 10	< 10	17	< 10	74

CERTIFICATION: