# ROCK GEOCHEMICAL RECONNAISSANCE ON THE EUREKA GROUP MINERAL CLAIMS

# N.T.S. 93A/7E CARIBOO MINING DIVISION

LATITUDE:

52° 18' NORTH

LONGITUDE:

120° 38' WEST

**OWNERS:** 

**ERIC SCHOLTES** 

R. CARSON

**OPERATORS:** 

J.M. ASHTON & ASSOCIATES LTD. Z O

KENNCO EXPLORATION (CANADA) KTB:

**AUTHOR:** 

J.M. ASHTON, P. ENG.

**SUBMITTED:** 

25 JUNE 1991

Prepared by:

J.M. Ashton & Associates Ltd.

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British Columbia

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# ROCK GEOCHEMICAL RECONNAISSANCE ON THE

#### **EUREKA GROUP MINERAL CLAIMS**

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#### **APPENDICES**

APPENDIX I ASSAY RESULTS

#### SECTION 1.0 - INTRODUCTION

The property has a history of sporadic and un-comprehensive exploration since its discovery and first staking by Mr. E. Scholtes in 1958.

Since that time work has been carried out by several explorationists including Helicon Exploration (1965-1966), Mr. Howard Travis (1969), Amax (1970), Rio Tinto (1972), Noranda Exploration (1974), Umex Inc. (1981-1982), Dome Exploration (1983-1984), Umex Inc. (1986), and Sirius Resource Corporation (1988-1989).

Interest in the property is presently focused on the following three features which may be geologically related:

1. Original work on the property up to 1972 (Rio Tinto et al) showed that chalcopyrite mineralization was found in a leucocratic phase of an alkalic style porphyry system over an area of 800 feet (244 m) by 4,000 feet (1,200 m). Copper values determined from results of surface trenches were found to range between 0.05% Cu and 0.44% Cu. This north striking zone was mapped as dipping about 45 degrees to the west.

A zone of propylitically altered rock containing pyrite, pyrrhotite, epidote, chlorite, carbonate and sericite extends as a halo for at least 2,000 feet (600 m) around the porphyry intrusion.

2. Geochemical and geostatistical work by Umex Inc. in 1981, 1982 showed that although gold-copper correlations for the entire population of samples could not be established, there was found a positive correlation between high copper values and high gold values. The copper average for anomalous gold values (average 500 ppb) was found to be 4,124.7 ppm (0.40%) copper. The conclusion drawn was that copper gold association

existed in the range of copper values between 1000 ppm (0.10%) and 6000 ppm (0.60%).

3. The drilling of six diamond drill holes by Sirius Resource Corporation in 1988 within a unit of volcanics on the eastern flanks of the porphyry intrusive estimated to be about 1,070 m (3,500 feet) easterly from the porphyry outcrop encountered significant gold values in all six holes. The best intercepts were from two holes, 0.117 ounces gold per ton across 14 feet (DDH SEP 88-05) and 0.321 ounces gold per ton across 4 feet (DDM SEP 88-06).

The gold is associated with a zone of intense hydrothermal alteration within a unit of bedded volcanic tuff. Alteration includes silicification and pyritization. Copper minerals are absent in this zone.

A major zone of east-west shearing appears to connect the porphyry copper system and gold in volcanics zone hence a genetic relationship may exist between the two deposits.

The purpose of this reconnaissance rock-geochemical survey was to sample portions of the zone of propylitization beginning near the vicinity of the leucocratic phase of the porphyry and extending outward across the alteration zone to its outer margins to determine whether a geochemically anomalous gold zone existed.

The rock sampling program was carried out by J.M. Ashton, P. Eng. on 7 September, 1990. He was accompanied for the greater part of the time by M. Zurowski of Kennco Explorations (Canada) Inc. Helicopter support was by Northern Mountain Helicopters Inc. of Williams Lake, British Columbia.

#### **SECTION 2.0 - LOCATION, ACCESS & PROPERTY**

The Eureka Claim Group (Ashton Copper-Gold Prospect) is located approximately 55 km (34 miles) east of Horsefly, British Columbia. Horsefly is 69 km east of Williams Lake, British Columbia. The central part of the claims overlie a high mountain ridge which strikes northwesterly. The lower east side edge of the claims at Cirque 2 is accessible by four wheel drive logging road from the McKay River logging area which connects to Horsefly along a good grade logging road at the confluence of the MacKay River and Horsefly River as shown in Figure 2.

This access is generally possible from mid June to early November depending on the severity of the previous winter.

At the time the work on the property was carried out, on 7 September 1990 it consisted of the following mineral claims:

However efficient access to the central part of the claims requires a helicopter.

Claim <u>Name</u>	<u>Units</u>	Record <u>Number</u>	Expiry <u>Date</u>
EM 1	16	3367	April 2, 1991
EM 2	10	3368	April 2, 1991
EM 4	3	3370	April 2, 1991
EN 1	1	30398	August 5, 1991
EN 2	1	30399	August 5, 1991
EN 3	1	30400	August 5, 1991
EN 4	1	30401	August 5, 1991
EN 5	1	30402	August 5, 1991
EN 6	1	30403	August 5, 1991
EN 14	1	30477	August 5, 1991
EN 28	1	30646	September 28, 1991
EN 29	1	30647	September 28, 1991

EN 104	1	30618	August 30, 1991
EN 105	1	30619	August 30, 1991
EN 106	1	30620	August 30, 1991
EN 107	1	30621	August 30, 1991
EN 109	1	30623	August 30, 1991
NS 1	1	3373	April 2, 1991
NS 2	1	3374	April 2, 1991
	_		
CS 55	1	48017	October 24, 1991
~~ ~ ~		10010	O-4-b 24 1001
CS 56	1	48018	October 24, 1991
CS 56 SF 1	1	48018 1688	May 30, 1991
	1 1 1		
SF 1	1 1 1 1	1688	May 30, 1991 May 30, 1991
SF 1 SF 2	1 1 1 1	1688 1689	May 30, 1991

#### **SECTION 3.0 - PHYSIOGRAPHY**

The physiography is mountainous with the mountain ridge trend extending in a northwest direction. Parallel drainages follow the mountain trend; the MacKay River on the east and McKusky Creek - Crooked Lake on the west side, both of which intercept the Horsefly River. The east side of the mountain range trend is variably precipitous to steep with several (at least 9) well defined cirques carved out of this side of the range that makes some sections impassable on foot whereas the west side of the range although in places moderately steep is not nearly as precipitous and can be accessed on foot. The mountain ridge crest elevations are all greater than 6,500 feet (1,980 m) with the highest point being Eureka Peak at 7,959 feet elevation (2,426 m) which is located between Cirques 1 and 2.

#### **SECTION 4.0 - GEOLOGY & MINERALIZATION**

The property is located within the Quesnel Trough near its eastern edge close to the contact with the Omineca Crystalline Belt.

The Quesnel Trough is formed of a volcanic and sedimentary series of rocks of Upper Triassic to Lower Jurassic age, known as the Nicola, Takla and Stuhini Groups and extends from the Canada-USA border at the 49th parallel to the 57th parallel of latitude.

Within the Quesnel Trough a linear array of intrusive stocks of acidic to basic composition are the locus of a series of eruptive centers. These stocks intrude their comagnatic extrusives.

The alkalic series of stocks host several porphyry copper deposits that are known for their significant precious metals content.

Locally the claims are located along a northwesterly striking ridge which is the axis of the Eureka Peak synclinorium. Here andesitic metavolcanics composed of augite-porphyry breccia, tuff breccia, dykes and sills, and argillaceous metasediments in the amphibolite, greenschist and sub-greenschist facies of metamorphism, are found intruded by a complex series of intermediate to basic intrusives.

At the area of interest between Cirques 2 and 3 a series of intrusives of probable Cretaceous age ranging from a leucocratic porphyry to ultrabasic rocks consisting of pyroxenes and fine grained dykes intrude the volcanic sedimentary sequence in a complex way.

Disseminated sulphides consisting of pyrrhotite, pyrite and chalcopyrite are commonly found in all rock types however the leucocratic phase of an intermediate porphyry intrusive which is believed to occupy an area 4,000 feet (1,200 m) long by up to 800 feet (240 m) wide between Cirques 2 and 3 has been reported to contain copper values of between 0.13% to 0.44% from outcrop sampling. At the time this work was done, in 1972, no evaluation for gold content was made.

One 630 foot horizontal drill hole from an adit which was driven to provide a safe drill site was drilled by Helicon Exploration in 1965 to test the downward extension of the mineralized zone found on surface. The target was never reached because of mechanical problems. However the entire core length from the adit collar was mineralized with chalcopyrite. The core was estimated to contain an average of about 0.10% copper for its entire length with a slight increase in grade at the distal end of the hole.

This leucocratic phase of porphyry intrusive and aureole of influence, particularly the zone of propylitization, are believed to be significant exploration targets for a large tonnage copper-gold style deposit.

#### **SECTION 5.0 - GEOCHEMICAL ANALYSIS**

#### 5.1 General

Rock samples obtained from two reconnaissance traverses were submitted to Acme Analytical Laboratories Ltd. for determination of their mineral content.

Three assay procedures were followed; multi-element ICP analyses for 30 elements followed by fire assaying for gold of both selected samples and any sample that showed greater than 1,000 ppm copper content by ICP analyses. As assay results did not show copper values greater than 1,000 ppm copper it was subsequently decided to proceed with gold determinations by the solvent extraction, atomic absorption procedure.

#### 5.2 ICP Analyses

Rock samples were prepared by pulverizing to 100% passing minus 200 mesh.

A 0.50 gram sample was digested with 3 ml of hot aqua regia in the ratio of 3-1-2, HCl-HNO<sub>3</sub>-H<sub>2</sub>O at 95° for one (1) hour followed by dilution of the sample to 10 ml with water. The diluted sample was aspirated by ICP (inductive coupled plasma) and the results printed in either percent or ppm. The digestion employed in the procedure is only partial for the elements Mn, Fe, Sr, Ca, P, La, Cr, Mg, Ba, Ti, B, W, and limited for Na, K, and Al. Au detection limit is 3 ppm.

#### 5.3 Fire Assay

Standard fire assay procedures were performed on a 1 assay ton sample size. Standard gravimetric procedures were used.

#### 5.4 Gold Analysis by Solvent Extraction

A 10 gram rock pulp sample was ignited at 600° for 4 hours followed by digestion with hot diluted aqua-regia. The solution obtained was extracted by Methyl Isobutyl Ketone (MIBK). Gold was determined in the MIBK extract by Atomic Absorption using graphite electrodes. Detection limit and resolution using this procedure is 1 ppb Au.

# SECTION 6.0 - GEOLOGICAL DESCRIPTION OF ROCKS

Rock Sample Identification	Geochemical Assay Copper ppm Geological Description	[Gold ppb]
C301	A medium to fine grained porphyritic rock with black augite phenocrysts, fine grained pyrite, estimate 1-2%, weak hydrothermal alteration	285, [2]
C302	A fine grained dark grey rock, probably volcanic, trace of pyrite, very weak hydrothermal alteration	487 [2]
C303	A coarse grained porphyritic rock, moderate sericitic alteration, traces of pyrite in fractures	39 [2]
C304 C305	A fine grained medium grey rock, volcanic, trace of pyrite, weak sericitic alteration	69 [1]
C306	A coarse grained augite porphyry with dark, bladed to stubby augite or hornblende phenocrysts, several percent disseminated pyrrhotite, weakly altered	259, [4]
C307	A medium grained porphyritic rock with 3-5% pyrrhotite, weak to moderate sericitic alteration	223, [100]

C308	Similar to C307 except with trace amount of pyrrhotite.	183, [6]
C309 C310	Porphyritic volcanic rock with hornblende phenocrysts, weakly pyritized and sericitized, some rusty fractures	110, [3]
C311 C312	A medium grained porphyritic rock with mafic phenocrysts, rusty fractures and weak alteration	177, [3]
C313	A medium grained porphyritic rock with trace of sulphides and weak alteration	106, [1]
C314	A medium grained porphyritic rock with many rusty fractures with pyrite	146, [3]
C315	A medium grained porphyritic rock with many rusty fractures containing pyrite. Also with weak disseminated pyrrhotite	178, [1]
C316	A medium grained porphyritic rock with some rusty fractures and a few pseudomorphs after pyrite, weak alteration	92, [3]
C317	A medium grained porphyritic rock with sulphides in fractures; some iridescent blue oxides, weak alteration	306, [1]

C318 C319 C320	A medium to coarse grained porphyritic rock with black augite or hornblende phenocrysts, rusty vugs, and rusty fracture coatings, weakly altered	236, [3]
C321 C322	A medium grained porphyritic rock shows hydrothermal bleaching, rusty fracture surfaces, with pin point rusty vugs, moderately sericitized	47, [1]
C323	A grey porphyritic rock with sparse medium grained phenocrysts, traces of pyrrhotite, weak alteration	441, [1]
C324	Same as C321 and C322	47, [6]

Rock Sample Identification	Geochemical Assay Copper ppm Geological Description	[Gold ppb]
C201	Fine grained dark speckled leucocratic intrusive rock, fractured, rusty coated fractures, 2-3% finely disseminated pyrite and chalcopyrite, moderate sericitization and silicification	510, [5]
C202	Same fine grained leucocratic intrusive rock as C201 with more bleaching, fractured, with rusty coated fractures, no visible sulphides, weak to moderate sericitization and silicification	92, [6]
C203	Transitional fine grained leucocratic intrusive, few rusty fractures weak alteration	247, [5]
C204	Fine grained transitional leucocratic intrusive, weakly porphyritic darker than C201, C202, C203; weak disseminated iron staining and iron oxide coatings on few fractures, weak alteration	85, [4]
C205	Medium grained dark porphyritic rock, probably volcanic. No visible sulphides, weak alteration	121, [2]
C206	Medium grained dark porphyritic rock, probably volcanic, contains sulphides 1-2% with bluish tinge weak alteration	317, [4]

AD01

(Adit Dump)

Porphyritic volcanic, weak epidote and chlorite alteration

weak propylitization

disseminated pyrite, estimate 5%

with traces of malachite

CU 860 ppm Au 0.001 oz/ton

AF01

(Adit, Float)

Porphyritic textured volcanic rock with weak sericitic

alteration, fractured, pyrite and chalcopyrite fracture fillings and disseminations, estimate 3-4% sulphides, calcite in veinlets and

fractures

CU 893 ppm AU 0.001 oz/ton

Geological descriptions of rock samples was provided by Mr. E. Olfert, F.G.A.C., P. Geol.

#### **SECTION 7.0 - RESULTS**

#### 7.1 General

Assay results of primary interest are copper and gold and their possible correlation.

Thirty-two (32) rock samples taken from both Cirque 2 and Cirque 3 were analyzed. Six (6) samples were taken from Cirque 2 and twenty-six (26) samples were taken from Cirque 3. Several samples taken from Cirque 3 were combined prior to assay because of their geological similarity.

One (1) sample, AD01, was taken from the drill hole adit dump. Sample AD01 may be representative of the material on the dump; and one (1) sample, AF01 thought to be float from above the adit was analyzed.

Samples taken from Cirques 2 and 3 were taken in such a manner as to traverse the zone of propylitization from the leucocratic phase of the intrusive.

#### 7.2 <u>Copper</u>

Excluding the float sample only, the thirty-three rock samples taken from Cirques 2 and 3 had a range of copper values between 39 ppm and 860 ppm. The arithmetic average was 177 ppm.

The range of copper value from 7 samples taken from Cirque 2 was between 85 ppm and 860 ppm. The average value was 319 ppm.

The range of copper values from 24 samples taken from Cirque 3 was between 39 ppm and 487 ppm. The average value was 143 ppm.

Previous work by UMEX Inc. in 1981 showed that geostatistically, copper values greater than 100 ppm are part of an anomalous population consisting of three population sets of which 70% of the samples analyzed were in the anomalous category.

In this case twenty-two (22) of thirty-one (31) samples taken are anomalous, or 71 percent of the samples taken.

#### 7.3 <u>Gold</u>

Only one (1) sample, C307, showed an anomalous gold value at 100 ppb. All other samples failed to assay a geochemically significant gold value.

#### 7.4 Copper-Gold Association

Of the samples taken, no discernable copper gold association was found other than a single sample.

#### **SECTION 8.0 - SUMMARY AND RECOMMENDATION**

Copper assays from rock samples taken in Cirque 2 at an average elevation of about 5,200 feet (1,585 m) above sea level from the zone of propylitization have higher copper values (average 319 ppm) than the samples similarly taken in Cirque 3 at an average elevation of 6,400 feet (1,950 m) which averaged 143 ppm copper.

The highest copper value obtained, at 860 ppm excluding the single float sample was from the adit dump in Cirque 2.

Only one (1) rock sample, C307, showed anomalous gold with an assay of 100 ppb. Its corresponding copper assay was 223 ppm. Of interest is that calcium (6.65%), magnesium (2.00%) and manganese (1,153 ppm) assays from this sample were the highest values obtained in the survey.

The higher average copper values found in that part of the zone of propylitization in Cirque 2, 1,200 feet below the zone where the lower values were obtained in Cirque 3 could be indicative that the central core zone of the leucocratic phase of the intrusive also improves significantly with depth in a corresponding manner. This hypothesis can only be tested by drilling to depth to the projected downward extension of the porphyry intrusive system.

However because the rock geochemical survey undertaken in this effort is of a reconnaissance nature it is recommended that several follow-up traverses of the propylitic zone by undertaken to further re-enforce this thesis prior to undertaking a drilling program to depth. In addition at least three induced polarization depth probes across the main mineralized

structure could provide valuable data as to the spatial sulphide content of the structure.

The intersection of the east-west shear zone with the porphyry system projected to depth would be a high priority drill target as this would test the copper zone and projected extension of the gold zone simultaneously.

What the relationship may be between the copper mineralizing event and gold mineralizing event is unknown at this time except that both appear to be mutually exclusive.

# **SECTION 9.0 - COST STATEMENT**

# 8.1 Summary

1.	Personnel	1,948.00
2.	Field Expense	1,750.40
3.	Room, Board, Local Expense	116.10
4.	Assay Cost	353.64
5.	Travel Expense	327.40
6.	Report Reproduction	75.00



TOTAL \$4,570.54

# 8.2 <u>Personnel</u>

1.	Trip Preparation, 6 Sept 1990 J.M. Ashton, P. Eng. ½ day @ \$400.00	200.00
2.	Rock Sampling, 7 Sept 1990 J.M. Ashton, P. Eng. 1 day @ \$400.00	400.00
3.	Geologist's Examination E. Olfert, F.G.A.C. 3 hrs @ \$40.00	120.00
4.	Report Preparation J.M. Ashton, P. Eng. 1½ days @ \$400.00/day	600.00
5.	Drafting E.B. Catapia, C. Tech 6 hrs @ \$43.00/hr	258.00
6.	Report Typing, Collation and Drawing Reproduction 9 hrs @ \$30.00/hr	270.00

7. Report Review J.D. Graham, P. Eng. 2 hrs @ \$50.00

100.00

TOTAL \$1,948.00

### 8.3 Field Expense

Helicopter, 7 Sept 1990
 Williams Lake - Property & Return 1,735.00

2. Sample bags

12.00

3. Flagging

3.40

TOTAL \$1,750.40

#### 8.4 Room, Board, Local Expense

1.	Hotel	48.60
2.	Meals	55.50
3.	Taxi	12.00

TOTAL \$116.10

#### 8.5 **Assay Cost**

1.	26 only rock sample preparations @ \$3.25	84.50
2.	24 only 30 Element ICP @ \$4.50	108.00
3.	2 gold analyses by fire assay @ \$9.00	18.00
4.	24 gold analyses by acid leach/AA @ \$5.00	120.00
	TOTAL	\$330.50
	GST	23.14
	TOTAL	\$353.64
Trave	el Expense	

#### 8.6

J.M. Ashton, 6 Sept 1990 Vancouver to Williams Lake \$327.40 and return airfare

#### **Report Reproduction** 8.7

\$75.00 Estimated

#### SECTION 10 - CERTIFICATION OF J.M. ASHTON, P. ENG.

- I, J.M. Ashton of Suite 1451 409 Granville Street, Vancouver, British Columbia hereby certify that:
- 1. I am a Consulting Engineer and principal in the Company.
- 2. I am a graduate of the University of British Columbia with a B.A.Sc. in Electrical Engineering (1966).
- 3. I am a member in good standing in the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4. I am a member of the Canadian Institute of Mining and Metallurgy.
- 5. I have practised as a mineral explorationist and consulting engineer since 1969.
- 6. This report was prepared by myself. I requested that J. Donald Graham,
  P. Eng. review the contents herein and certify the same if in
  concurrence.

J.M. Ashton, P. Eng.

Dated this 25th day of June, 1991 VANCOUVER, BRITISH COLUMBIA

#### SECTION 11 - CERTIFICATION OF J.D. GRAHAM, P. ENG.

- I, J. Donald Graham of 3962 West 37th Avenue, Vancouver, British Columbia, hereby certify that:
- 1. I am a graduate of the University of British Columbia with a B.A.Sc. in Geological Engineering (1962).
- 2. I am a graduate of the University of British Columbia with an M.A.Sc. in Mining Engineering (1964).
- 3. I am a Member of the Canadian Institute of Mining and Metallurgy.
- 4. I am a registered member, in good standing, of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 5. I am a Geological and Mining Engineer.
- 6. I have practised my professions since graduation to date.

7. Lagree with and enderse the contents of this report.

J. Donard Graham, P. Eng.

Dated this 25th day of June, 1991

VANCOUVER, BRITISH COLUMBIA

#### **SECTION 12.0 - REFERENCES**

Baldwin, A.B., 1972, Geologists Report on the Eureka Peak Copper Prospect, Cariboo Mining Division, Rio Tinto.

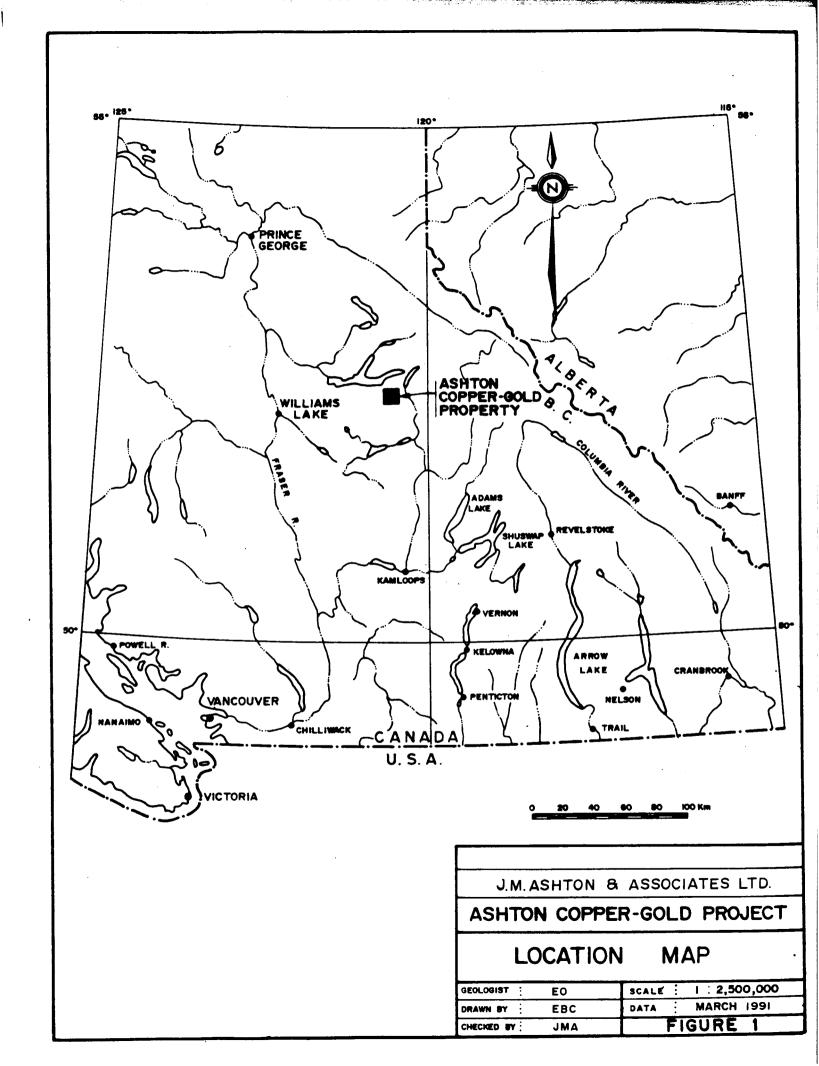
Bloodgood, M.A., 1987, Geology of the Triassic black phyllite in the Eureka Peak area, Central British Columbia. British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1986, Paper 1987-1, pp. 135-142.

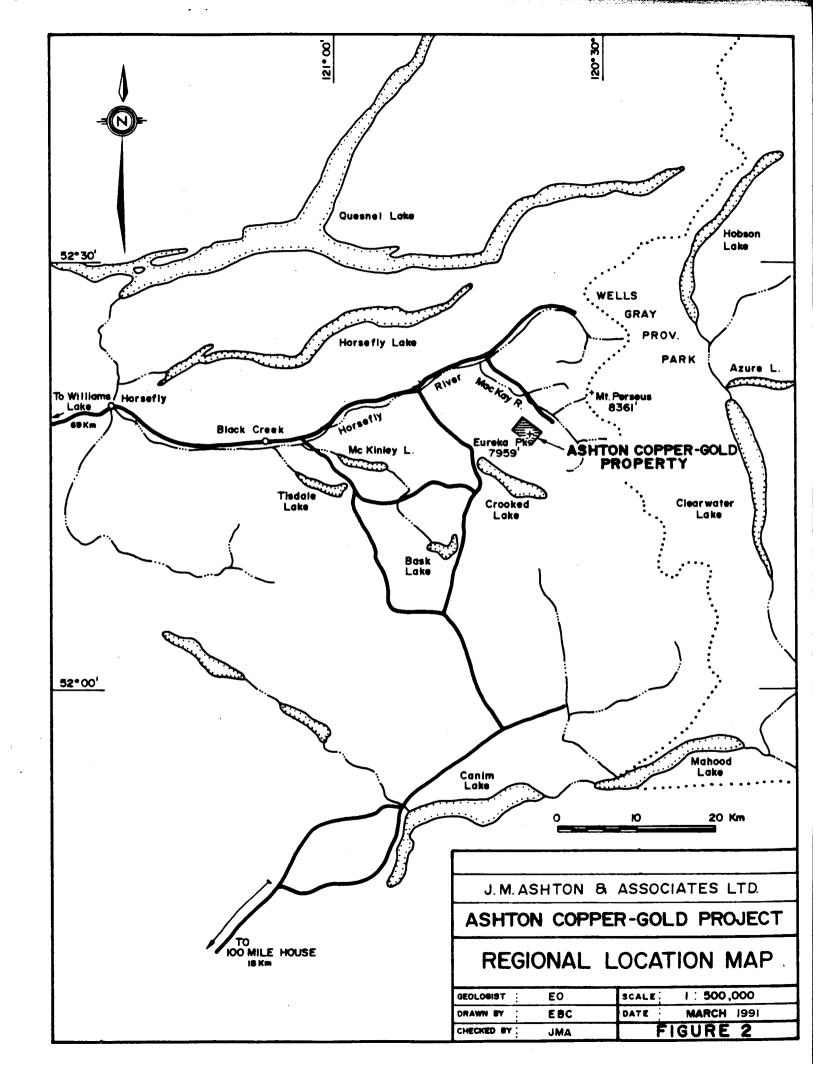
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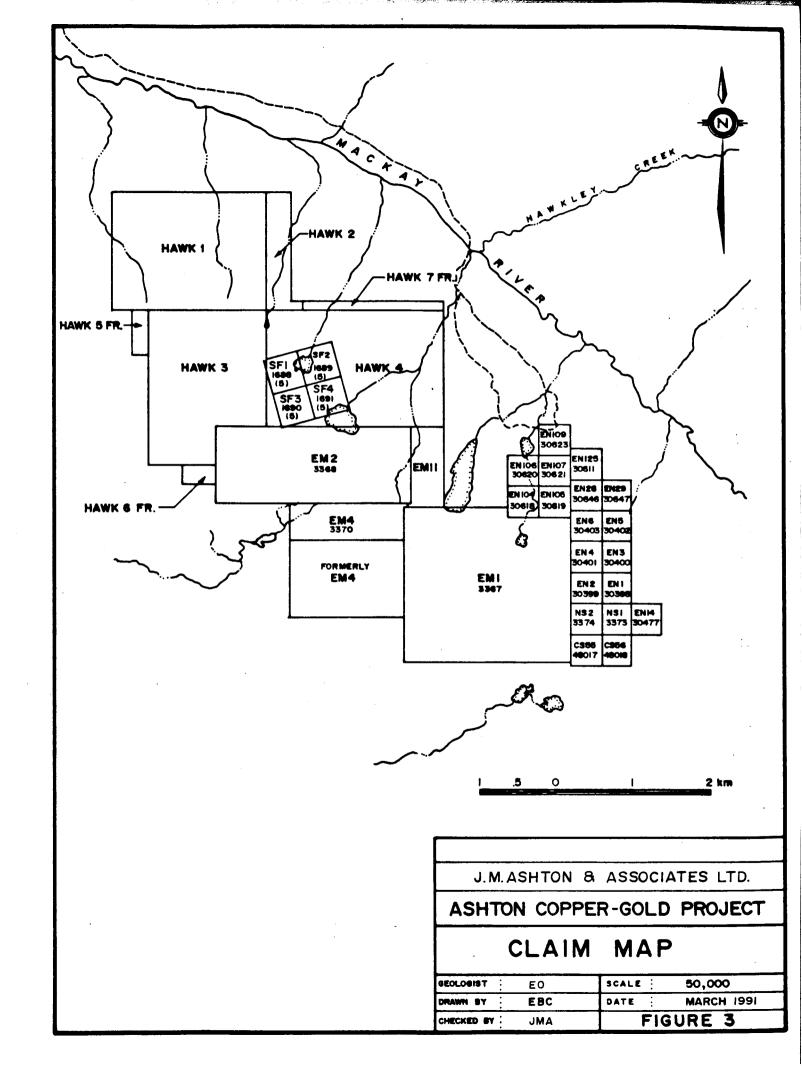
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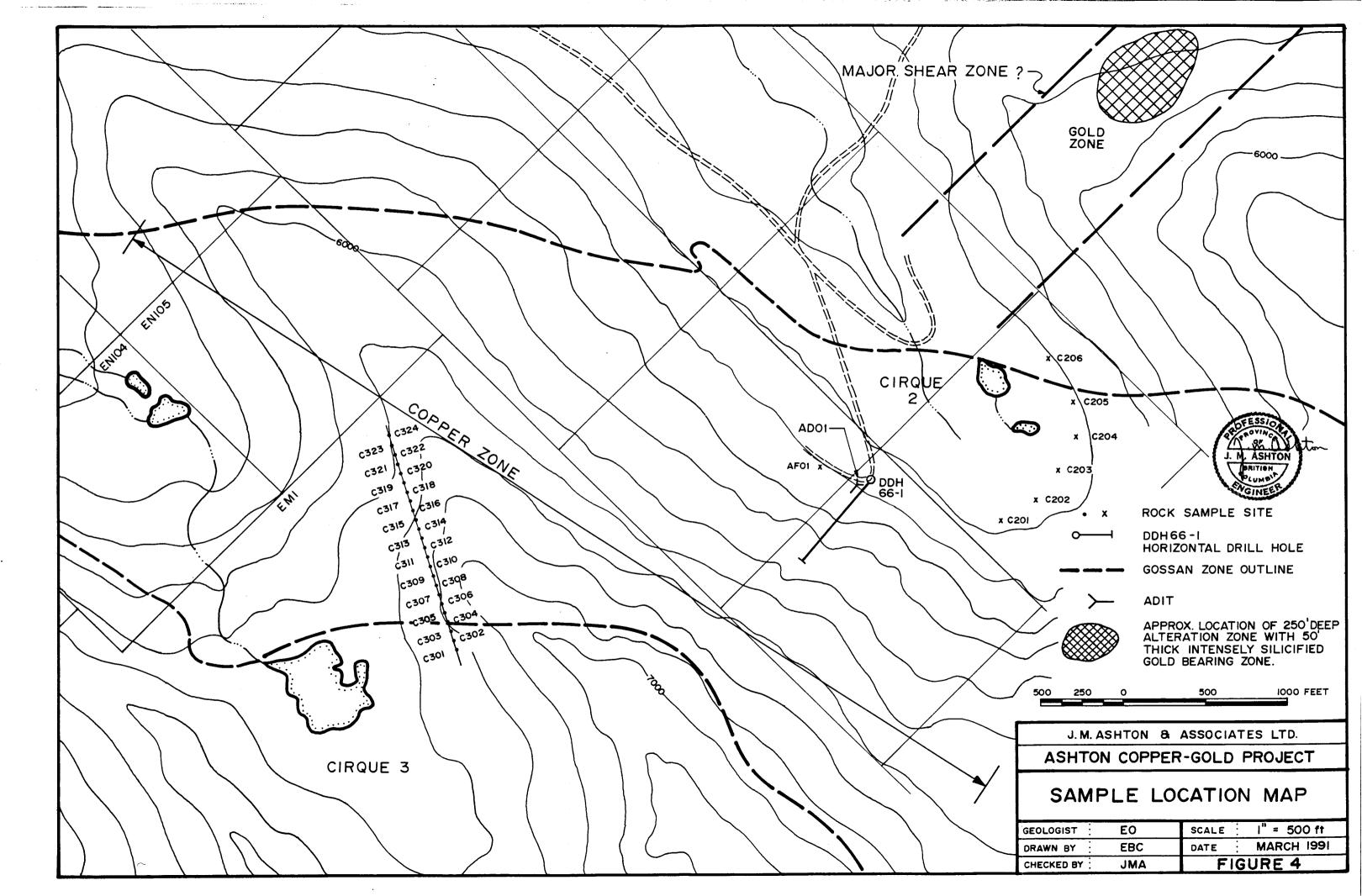
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**MAPS** 









# APPENDIX I ASSAY RESULTS

ACKE ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716

# GEOCHEMICAL/ASSAY CERTIFICATE

J.M. Ashton & Associates Ltd. PROJECT ASHTON CU-AU File # 91-1674 1451 - 409 Granville St., Vancouver BC V6C 1T2 Submitted by: J.M.ASHTON

Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	88	U	Au	Th	Sr	Cd	Sb	Вi	V	Ca	P	La	Cr	Mg	Ba	<b>71</b>	В	Αl	Na	K W Au**
	ppm	X	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	×	X	ppm	ppm	X	ppm	×	ppm	X	X	% ppm oz/t							
		040				40		433										25	4 04	400		• • •	2/			,	/7	07	22 4 004
AD01	2	860	3	9	. 4	19	22	133	2.38		>	ND	1	66		2	4	25	1.01	.122	3	14	.24	51	.14	3	.47	.03	.22 1 .001
AF01	1	893	2	6	.2	15	21	87	2.07	3	5	ND	1	69	.2	2	5	24	1.07	.165	2	5	. 13	33	. 15	2	.42	.03	.14 1 .001
B01	4	53	2	30	11	5	13	548	4.04	4	5	ND	1	7	2.1	2	2	4	.42	.007	2	15	1.21	26	.01	4	1.53	.03	.06 1 .001
B02	2	8	2	16	.1	3	1	81	.36	2	5	ND	1	3	.2	2	2	1	. 19	.026	2	5	.04	7	.01	2	. 16	.04	.04 1 .001
C701	10	232	6	17	.3	22	10	35	1.95	2	5	ND	1	39	.2	2	2	36	.52	.098	6	11	.04	76	.18	2	.27	.03	.13 1 .001
L01	1	28	2	101	.3	7	13	791	4.29	7	5	ND	1	46	2.2	2	. 2	66	2.02	.061	4	21	1.18	19	.25	5	1.93	.04	.04 1 .001
STANDARD C/AU-1	19	61	40	136	7.4	74	33	1067	4.01	42	19	8	37	52	17.0	18	18	56	.49	.095	38	57	.88	184	.09	36	1.93	.07	.16 12 .094

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HN03-H20 AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP 1S 3 PPM. - SAMPLE TYPE: ROCK AU\*\* BY FIRE ASSAY FROM 1 A.T. SAMPLE.



J.M. Ashton & Associates Ltd. PROJECT ASHTON CU-AU FILE # 91-1674 Page 2

ACRE AMALTTICAL																													ACRE ADMETTICAL
SAMPLE#	Мо		Pb	Zn	Ag	Ni	Co	Mn		As		Au	Th		Cd	Sb	Bi	٧	Ca			Cr	Mg		Τţ	8	AL	Na	K W
	bbm	ppm	ppm	ppm	bbu	ppm	ppm	ppm	*	ppm	ppm	ppm	ppm	bbm	ppm	ppm	ppm	bbw	X		bbw	ppm	X	ppm	*	ppm	X	X	% ppm
											_				92.2														
C201	1	510	3	8 🖔	.3	4	11		2.01	2		ND	5	45	.2	2	2	- 11		.034	6	3	.04	54	.05	6	.24	.04	.13
C202	1	92	5	3	.5	1	1	28	.93	2	5	ND	3	58	.2	3	2	15			3	1	.03	71	.08	3	.25	.03	.16 1
C203	1	247	5	7 🖔	.5	23	16	105	2.59	14	5	ND	4	31	.2	2	5	18	.28	.070	4	24	.20	66	.09	2	.42	.03	. 15 1
C204	1 1	85	4	8 🖔	.2	26	3	43	.34	. 2	5	ND	1	28	.2	2	2	31	.69	108	2	11	.10	53	.17	2	.26	.04	.08 1
C205	2	121	2	13	.2	14	9	143	2.11	6	5	ND	1	53	.2	2	2	23	.55	.105	2	40	.44	60	.12	3	.72	.03	.14
C206	1	317	2	19	.2	180	37	299	3.46	22	5	ND	1	10	1.4	2	2	16	.43	.073	2	162	1.31	77	.09	2	1.22	.01	.15 1
C301	ءَ ا	285	11	10	.2	17	19		1.99	7.	5	ND	i	87	.2	5	~	31		.172	- <del>-</del> -	15	.37		.14		.78	.07	.25 1
C302	5	487	Ŕ	8	.3	63	89		5.08	*	í	ND	•	54	2.5	5	7	24		128	2	16	.19		.15	2	.63	.04	.19 1
C303	5	39		25	.8	3	4		2.51	3	,		- 1	25	12 7 3 3 6	2	5	36		111	2	28	.87		.16	7	.99	.04	.25 1
	-		0	44	.0	_	14			7	2	ND	- :	45	2	2	2	23			2		.44			2	.72	.03	.23 1
C304/C305	'	69	7	- 11 %		26	14	177	1.99		,	ND	1	45	.2	2	2	23	.64	.110	2	40	.44	"	.13	2	.12	.03	.23
-704	۱		_			45		401	~ ~.		_					_	_												
C306	11	259	8	13	.1	12	23			2	. >	ND	1	79	.9	2	3	34	.82	100	4	11		141	200000000000000000000000000000000000000	4	.85	.05	.48 1
C307	1	223	7	148	.6	28		1153		2	5	ND	1	193	4.3	8	2		6.65		2		2.00	31	.06		2.04	.04	.09 1
C308	1	183	5	22	.4	24	20			3	5	ND	1	93	.8	2	2	46	1.18		2	33	.87	32	. 19		1.22	.05	.14
C309/C310	1	110	3	19	.3	20	16	275	3.21	2	5	ND	1		1.4	2	2	40		.147	2	65	1.02		. 14	2 '	1.35	.03	.62 1
C311/C312	2	177	3	6	.3	16	10	115	2.38	2	5	ND	1	39	.2	2	2	23	.58	117	2	38	.28	117	. 13	4	.58	.03	.30
	į			8																									
C313	1	106	2	28	.2	15	12	356	1.90	3	5	ND	1	159	.2	2	2	32	1.44	.119	2	32	.73	34	.14	2 '	1.21	.04	.08 1
C314	1 1	146	2	8 🖔	.2	8	6	139	2.67	2	5	ND	1	84	.3	2	2	26	.69	. 123	2	41	.39	102	.13	2	.69	.04	.30 1
C315	1	178	4	7	.2	29	29	109		2	5	ND	1	42	.2	2	2	20		.121	2	23	.29		.11	2	.58	.02	.28 1
C316	2	92	2	13 🖁	2	15	8	347		9	5	ND	1	88	3	2	2	50		.125	2	93	.82	43	.22	2 '	1.00	.04	.10 1
C317	1	306	7	20	.3	27	15	298		. 2	5	ND	i		2.1	2	2	42		.126	5		1.02		.17		1.54	.05	.74 1
0317		200	•						4.50		•	ND	•	30		-	-	72			-	•	1.02	122		7	1.54	.03	
C318/C319/C320	1	236	4	16	.4	34	23	225	7 00	4	5	ND	•	59	1 4	2	2	28	.71	114	2	59	.62	94	. 16	3	.84	.03	.37 1
			7	10	• • • • • • • • • • • • • • • • • • • •	77	23			3	,		- 1	52	1.6	2	2				7	74				,			6000000000
C321/C322		47	′	70	٠٤	20	20		1.76		2	ND	- !		.2	2	2	21		.148	7	4 E7	.14		.12	4	.45	.03	.24 1
C323	!	441	2	30	.5	29	20	216		5	2	ND	1	16	1.9	2	2	26		. 135	2	53	.70		.17	2	.85	.02	.24
C324	2	47		3 %	5	_2	_1		1.43		. 5	ND	_1	28	2	. 2	2	39		.058	-2	20	.18	123	.23	2	.52	.02	.37 1
STANDARD C	19	61	40	136	7.4	74	33	1067	4.01	42	19	8	37	52	17.0	18	18	56	.49	.095	38	57	.88	184	.09	36 1	1.93	.07	.16 12

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE (604) 253-3158 FAX (604) 253-1716

# **GEOCHEMICAL ANALYSIS CERTIFICATE**

J.M. Ashton & Associates Ltd. PROJECT ASHTON CU-AU FILE # 91-1674R
1451 - 409 Granville St., Vancouver BC V6C 172

	SAMPLE#	AU*
		ppb
	C201	5
1	C202	6
	C203	5
1	C204	4
1	C205	2
	C206	4
	C301	
ı	C302	2 2 2
	C303	2
	C304/C305	1
,	C306	4
ì	C307	100
	C308	6
•	C309/C310	3 3
1	C311/C312	3
1	C313	1
	C314	3
1	C315	3 1
	C316	3 1
	C317	1
	C318/C319/C320	3
I	C321/C322	1
	C323	1
	C324	6
	STANDARD AU-R	460

- SAMPLE TYPE: ROCK PULP AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED:

JUN 18 1,991

DATE REPORT MAILED: June 21/91

.D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE (604) 253-3158 FAX (604) 253-1716

# **GEOCHEMICAL ANALYSIS CERTIFICATE**

J.M. Ashton & Associates Ltd. PROJECT ASHTON CU-AU FILE # 91-1674R 1451 - 409 Granville St., Vancouver BC V6C 1T2

C201 5 C202 6 C203 5	
C202 6	
C202 5	
C204 4	
C205 2	
C206 4	
C301 2	
C302 2 C303 2	
C303 2	
C304/C305 1	
C306 4	
C307 100	
C308 6	
C309/C310 3	
C311/C312 3	
C313 1	
C314 3	
C315 1	
C316 3 C317 1	
C317 1	
C318/C319/C320 3	
C321/C322 1	
C323 1	
C324 6	
STANDARD AU-R 460	

- SAMPLE TYPE: ROCK PULP AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 18 1/991 DATE REPORT MAILED: June 21/91

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