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By

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Ashworth Explorations Limited #718 - 744 West Hastings Street Vancouver, B.C. V6C 1A5

November, 1990

### SUMMARY

Ashworth Explorations Limited carried out a field program, consisting of prospecting, rock, soil and stream sediment sampling on the Commander I-VII Claims for Goldbelt Mines Inc. during August 1990. The Commander Claims consist of seven mineral claims (136 units) located in the Liard Mining Division. The claims are situated 180 kilometres northwest of Stewart, B.C.

The claims are situated within the Stikine Arch at the western boundary of the Intermontane and Coast tectonic belts. The area is host to several porphyry copper-gold-silver deposits and more recently has been determined to host mesothermal and shear-hosted precious metal vein deposits.

The Commander I-VII claims cover an area of Eocene biotite granite and granodiorite with a small stock of Middle Jurassic diorite on the Commander V claim.

Results from the 1990 field program delineated four areas of interest. Three areas of soil anomalies were found where Barium in soils returned values up to 418 ppm Ba. A fourth area of interest delineated a rock anomaly situated at the central part of the Commander III claim where one grab sample returned 1462 ppm Cu and one float sample returned over 1000 ppm Mo.

A Phase I program at an estimated cost of \$90,000 is recommended. The program would consist of geological mapping, prospecting, rock and soil sampling.

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### 1. INTRODUCTION

This report was prepared at the request of Goldbelt Mines Inc. to evaluate and describe the results of a reconnaissance geological-geochemical survey completed on the Commander I-VII claims. The fieldwork was carried out between August 16-18 and August 23, 1990 by one of the authors, Mr. Fayz Yacoub, and three assistants. The purpose of the project was to locate and evaluate precious metal mineralization similar to that found elsewhere in the region. This report describes the results of the exploration program and makes recommendations for further work.

### 2. LOCATION, ACCESS, AND TOPOGRAPHY (Figure 1)

The Commander I-VII claims are located approximately 180 kilometres northwest of Stewart, B.C. and 35 kilometres northwest of the Galore Creek porphyry copper deposits (Figure 1).

The claims are located on the Liard Mining Division between latitude 57 14' - 57 23' and longitude 131 51' - 131 58' on NTS Mapsheets 104G/5 and 104G/4.

Access to the property was provided by helicopter from the Scud River airstrip which is located approximately 4 kilometres to the east.

Fixed wing aircraft fly charters from Smithers, Dease Lake and Telegraph creek to the Scud River airstrip and scheduled flights from Smithers to the Scud River airstrip via the Bronson Creek airstrip during the field season. The field personnel were dropped off and picked up from the property on a daily basis by helicopter based in the Scud River airstrip.

Topography on the Commander claims varies from valley bottoms to mountain ridges with abrupt elevation changes over relatively short distances. The following table describes claim elevation changes:



	Elevation	(feet	above	sea	level)
	From	n			<u>To</u>
I	500				5600
II	500				3500
III	500				2200
IV	400				2600
V	500				4600
VI	500				4500
VII	500				5300
	I II III IV V VI VII	Elevation       From       I     500       II     500       III     500       IV     400       V     500       VI     500       VII     500       VII     500	Elevation (feet       From       I     500       II     500       III     500       IV     400       V     500       VI     500       VII     500       VII     500	Elevation (feet above       From       I     500       II     500       III     500       IV     400       V     500       VI     500       VII     500       VII     500	Elevation (feet above sea       From       I     500       II     500       III     500       IV     400       V     500       VI     500       VII     500       VII     500

Below treeline (3500 feet), which includes a large portion of the claims, vegetation consists of hemlock, spruce and balsam with a dense undergrowth of alder, devils club and blueberry. Above treeline, slopes are either barren rock or covered with alpine grasses.

### 3. <u>CLAIM STATUS</u> (Figure 2)

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The Commander I-VII claims consist of seven mineral claims in the Liard Mining Division of British Columbia. The Commander I-V were staked in October of 1989 while Commander VI and VII were staked in July of 1990. The claims are owned by Goldbelt Mines Inc. of Vancouver, B.C.

Petinent claim data is as follows:

Claim Name	2	<u>Units</u>	Record No.	Record Date	Expiry Date
Commander	Ι	20	6555	Oct. 16/89	Oct. 16/90
Commander	II	20	6556	Oct. 16/89	Oct. 16/90
Commander	III	18	6557	Oct. 16/89	Oct. 16/90
Commander	IV	20	6558	Oct. 16/89	Oct. 16/90
Commander	V	20	6559	Oct. 16/89	Oct. 16/90
Commander	VI	20	7627	July 25/90	July 25/91
Commander	VII	20	7628	July 25/90	July 25/91

138 units

The total area covered by the Commander claims is approximately 3450 hectares.

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### 4. AREA HISTORY

The first recorded mineral exploration in the Telegraph Creek-Stikine River region was undertaken in 1861 when placer gold was discovered on the Stikine River just below Telegraph Creek. During the 1950's when emphasis had shifted from placer to lode deposits, companies such as the Hudson Bay Mining and Smelting Company and Kennco Explorations Limited carried out extensive exploration programs in search for porphyry copper deposits. As a result, the Galore Creek and Schaft Creek deposits were discovered.

The Galore Creek deposit is situated at the headwaters of Galore Creek where ten deposits occur in potassium altered Upper Triassic volcanic rocks and pipelike breccias adjacent to syenite porphyry dykes and stocks. Principal copper minerals present are chalcopyrite and bornite with lesser amounts of chalcocite, cuprite and native copper. The central zone which is centered on a steeply dipping breccia pipe has reserves estimated at 125 million tonnes grading 1.06% copper, 0.40 g/t gold and 7.7 g/t silver. During the summer of 1990 Mingold Resources operated a drill program to assess gold mineralization peripheral to the porphyry deposits. Results from this program have not been released yet.

### 5. **PROPERTY HISTORY**

There is no record of any previous work done in the area covered by the Commander I-VII claims.

### 6. **REGIONAL GEOLOGY**

The Commander I-VII claims lie within the Stikine Arch at the western boundary of the Intermontane and Coast tectonic belts.

The region is underlain by three major lithologic units: Paleozoic and Middle Triassic oceanic sediments; Upper Traissic island volcanics and sediments; and intrusive rock of varying ages and types. The oldest rocks are highly deformed Permian and older metamorphic rocks, Permian crystalline limestones and middle Triassic siltstone. This sequence is unconformably overlain by Upper Triassic volcanic and sedimentary rocks. Late Triassic rocks consist of augite andesite and basaltic andesite breccias, flows and tuffs interspersed with locally derived sandstones and siltstones. Intrusive rocks include Upper Triassic to Lower Jurassic syenitic stocks and dykes and Jurassic to Lower Cretaceous quartz diorite and granodiorite plutons of the Coast Plutonic Complex. A number of Eocene quartz monzonite and granodiorite stocks form small intrusions within or as satellites to the Coast Plutonic intrusives.

A recently updated geology map of the Galore Creek area (Logan et al, 1989) shows the Commander I-VII claims cover an area of Eocene biotite granite (Figure 3).

The Commander I claim covers an area of Eocene biotite granite and Quaternary glacial till and alluvium.

The Commander II claim also covers an area of biotite granite of Eocene age.

The Commander III claim has a circular central zone of Middle Jurassic diorite which is bounded by Eocene biotite granite.

Commander IV covers an area of Eocene biotite granite.

Commander V is located over a northeast-southwest trending geological contact between Eocene biotite granite and biotite granodiorite of similar age.

Both the Commander VI and VII cover an area of biotite granite of Eocene age.



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### 7. 1990 PROGRAM

### 7.1 Scope and Purpose

Fieldword from August 16 to August 23, 1990 was carried out on the Commander I-VII claims. Work consisted of prospecting, rock, silt and soil sampling. The purpose of the program was to assess the mineral potential of the area and to determine a geological model and strategy for future work.

### 7.2 Methods and Procedures

Contour soil lines were run on the Commander I, II and V claims where topography permitted. Samples were collected at 100 metre intervals with grub hoes and placed into labelled paper soil bags. Samples varied from well developed B horizon soil to talus fines.

Stream sediment samples were collected from running stream channels on all of the Commander claims.

Rock, grab and chip samples were collected from areas of alteration, shearing and rocks containing sulphide mineralization.

Claim	No. of Soil	No. of Silt	No. of Rock	<u>Total</u>
Commander I	15	8	0	23
Commander II	31	4	0	35
Commander III	0	11	2	13
Commander IV	0	5	0	5
Commander V	53	1	6	60
Commander VI	0	11	0	11
Commander VII	0	8	10	18

The type and number of samples collected are as follows:

A total of 18 rock, 48 silt and 99 soil samples were collected and sent to Vangeochem Lab Limited of Vancouver for analysis. All rock, soil and silt samples were analyzed for multi-element ICP and Au by fire assay.

### 8. **RESULTS**

### 8.1 Property Geology (Map 2)

The Commander I-VII claims cover an area of Middle Jurassic Suite of biotite hornblende granodiorite and Eocence Suite of Biotite granite.

### Middle Jurassic Suite-Biotite-Hornblende Granodiorite

Biotite-hornblende granodiorite is exposed within the area of Commander V. They form part of a large pluton of relatively uniform composition. The greater part of the body exposed within the study area is composed of light grey, medium-grained equigranular diorite to biotite-hornblende granodiorite, containing an average 40% plagioclase, 25% hornblende, 10% quartz, 20% K-feldspar and 5% biotite. Hornblende shows appreciable alteration and aggregate of secondary biotite, chlorite and granular epidote.

### Eocene - Biotite Granite

This unit represents the youngest plutonic suite exposed on the property - a large outcrop of Biotite pink granite exposed at the northeast corner of Commander II claim. Quartz, K-feldspar and plagioclase are the three essential constituents. Quartz is commonly course-grained and makes up to 50 percent of the rock, potassium feldspar 30 percent, and plagioclase 20 percent. Biotite is the only ferromagnesian consitutent, forming only a few percent of the rock.

### 8.2 Mineralization

A gossan zone has been located at the central east portion of the Commander VII claim (560 metres elevation). It is a buff to dark brown, sheared, weathered outcrop of altered granitic rock, containing quartz-sericite veinlets, fine-grained disseminated pyrite and heavily Fe02 stained, intense limonitic and hematitic alteration through most of the zone.

The altered granite within the gossan area has been cut by light grey aphanitic dyke, strike 36 degrees and dipping 82 degrees southeast. Due to the rugged terrain, the gossan zone was sampled using climbing techniques. (See Figure 6 for sample locations.)

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The most encouraging results are from sample COM/90 R-11 taken as a grab sample of fine-medium grained granodiorite, with moderate sericitic alteration, 1% pyrite and malachite staining. This sample returned a value of 1562 ppm Cu. Another sample COM/90 R-12 taken from a float altered granitic boulder with strong molybdenite, returned a value of >1000 ppm MO. The source of this float is best assumed to have originated from a shear zone located further upslope.

8.3 Rock Geochemistry (Map 1)

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The following rock sample results are considered significant.

Rock Sample No.	Value	Description
COM/90 R3	30 ppb Au	Panel sample (1.0 m x 1.0 m) of heavily Fe02 stained, siliceous altered quartz-sericite, 2- 3% fine-grained pyrite, intense limonitic and hematitic alteration in a gossan zone. Elevation 560 metres.
COM/90 R4	40 ppb Au	Panel sample $(1.0 \text{ m x } 1.0 \text{ m})$ taken from the same gossan area as in R3. Cavities filled with limonite, 2-3% disseminated Py. Elevation 550 metres.
COM/90 R5	30 ppb Au	Rusty, iron stained, altered quartz-sericite, intense limonitic and hematitic alteration, 2- 3% fine-grained pyrite. Panel sample. Elevation 550 metres.
COM/90 R8	30 ppb Au	Same as COM/90 R5. Panel sample (1.0 m x 1.0 m). Elevation 550 metres.
COM/90 R9	140 ppb Au	Quartz vein in granitic host, 25 centimetres wide, exposed for 15 metres, strike at 95 /54 NE. No sulphides. Chip sample across vein. Elevation 575 metres.
COM/90 R11	1462 ppm Cu	Grab; fine-medium grained, weathered granodiorite, moderate sericitic alteration, 1% pyrite, minor malachite.
COM/90 R12	>1000 Mo	Float sample of altered, friable granitic boulder with strong molybdenite, trace of pyrite.



### 8.6 Discussion of Results

Results from the 1990 rock sampling program delineated one area of interest situated at the central part of the Commander III claim where one grab sample returned 1462 ppm Cu and one float sample returned over 1000 ppm Mo.

Results from the soil sampling program delineated three areas of interest where Barium in soil returned values up to 418 ppm Ba. The first area is situated at the central part of Commander I claim. The second area is located at the central part of the Commander V claim. The third area is located at the west part of the Commander I claim.

### 9. <u>CONCLUSIONS</u>

- \* The Commander I-VII claims are situated in an area that is well-known for hosting precious metal and porphyry copper deposits, several of which occur in close proximity to the subject claims including the Galore Creek deposits, the Sphal Creek occurrence and the gold-silver bearing mineralized zones on the Trophy property.
- \* Property geology is favourable for hosting these types of deposits.
- \* The 1990 field program has outlined three soil anomaly areas where Barium in soils returned elevated values up to 418 ppm Barium, and one area of rock anomaly where grab and float samples returned values of 1462 ppm Cu and >1000 Mo.
- \* Not all the ground was covered during the 1990 field program and good potential exists for locating significant mineralization on the remainder of the claims.

Further exploration work is recommended.

### 10. RECOMMENDATIONS

### Phase I

- 1. Perform geological mapping and prospecting on the entire claims. Concentrate on locating the source of the Molybdenite float on the central part of the Commander III claim, along the intrusive contact.
- 2. Perform follow-up work on the three anomalous soil areas found during the 1990 field program. The work should consist of putting in fill-in contour lines (100 metres and 50 metres spacing) soil sampling should be performed to better define and extend the current anomalies.
- 3. Detailed mapping, prospecting and rock sampling should be performed on all areas which require follow-up work.
- 4. Contour soil sampling to locate unexposed areas of mineralization.

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### PROPOSED BUDGET

### COMMANDER I-VII CLAIMS

### PHASE I

# Geological Mapping, Prospecting, Soil and Stream Sediment Sampling (Project Geologist, 3 Geotechnicians - 14 field days)

Project Preparation	\$ 2,200	
Mob/Demob (includes transportation, freight,	12,500	
Field Crew		19,550
Field Costs		16,930
Helicopter Support @ \$650/hr x 10 hours		6,500
Lab Analysis:		
550 soil samples @ \$16/sample	\$ 8,800	
100 rock samples @ \$18/sample	1,800	
		10,600
Supervision and Report	10,200	
(including report writing, map plotting, drafting	ng,	
word processing, copying and binding)		
Sub-Total		\$ 78,480
Administration Costs @ 15%		11,772
TOTAL	\$ 90,252	
	SAY	<u>\$ 90,000</u>

Respectfully Submitted by:

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Fayz Yacoub, B.Sc., F.G.A.C. December 1990

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### LIST OF PERSONNEL

The following personnel were employed during the 1990 field program on the Commander I-VII Claims.

Fayz YacoubProject GeologistAndrew MolnarGeotechnicianThomas KovacsGeotechnicianCraig JohnsonGeotechnician

#### REFERENCES

Allen, D.G., Panteleyev, A., and Armstrong, A.T., 1976.
Galore Creek in Porphyry Deposits of the Canadian Cordillera. A.
Southerland Brown, Editor, Canadian Institute of Mining and Metallurgy.
Special volume 15, pages 402-414.

Brown, D.A. and Gunning, M.H., 1988. Geology of the Scud River Area, Northwestern British Columbia (104G/5, 6). British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1988, Paper 1989-1.

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Geological and Geochemical Report on the Mur Claims, Assessment Report.

Logan, J.M. and Koyanagi, V.M., 1988.

Geology and Mineral Deposit of the Galore Creek Area, Northwestern British Columbia. Geological Fieldwork 1988. Ministry of Energy, Mines and Petroleum Resources, Paper 1989-1.

Logan, J.M., Koyanagi, V.M., and Rhys, D., 1989.

Geology and Mineral Occurrences of the Galore Creek Area. Scale 1:50,000. Ministry of Energy, Mines and Petroleum Resources Openfile 1989-8.

### CERTIFICATE

I, FAYZ F. YACOUB, of 13031 - 64th Avenue, Surrey, British Columbia, V3W 1X8 do hereby declare:

- 1. That I am a graduate in Geology and Chemistry from Assuit University, Egypt (B.Sc. 1967), and Mining Exploration Geology of the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
- 2. I am a fellow in good standing with the Geological Association of Canada.
- 3. I have actively pursued my career as a geologist for the past seventeen years.
- 4. The information, opinions, and recommendations in this report are based on fieldwork carried out by myself, and on published and unpublished literature. I was present on the subject property on August 16-23, 1990.
- 5. I have no interest, direct or indirect, in the subject claims or the securities of Goldbelt Mines Inc.
- 6. I consent to the use of this report in a Prospectus of Statement of Material Facts for the purpose of private or public financing.

### ASHWORTH EXPLORATIONS LIMITED

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Fayz Yacoub, B.Sc., F.G.A.C. Dated at Vancouver, December 1990

### STATEMENT OF QUALIFICATIONS

I, Todd A. Faragher, of 9110 - 120th Street, Edmonton, Alberta, do hereby certify that:

- I. I am a graduate of the University of Alberta with a Bachelor of Science Degree in Geology, 1988.
- 2. I am a member in training with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 3. I have practised my profession as a geologist for three years in British Columbia.
- 4. The information, opinions and recommendations in this report are based on information provided to myself by Ashworth Explorations Limited of Vancouver, B.C.
- 5. I have no direct, indirect or contingent interest in the subject claims.
- 6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

Todd Faragby

Todd A. Faragher, B.Sc.

# APPENDIX A

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## ROCK SAMPLE DESCRIPTIONS

## THE ALPHA CLAIM GROUP

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## Rock Sample Descriptions

Sample No.	Description	Sample Width (cm)	
COM/90 R1	Panel Sample 1.0 m x 1.0 m heavily iron stained, siliceous altered (quartz-sericite with minor, fine-grained, disseminated pyrite, sample taken from gossan zone 40 metres x 60 metres on a cliff wall using climbing techniques. Elevation: 495 metres.	100	
COM/90 R2	Same as R1. Elevation: 560 metres.	100	
COM/90 R3	Same as R1. Elevation 560 metres. Panel sample $1.0 \text{ m} \times 1.0 \text{ m}$ , intense limonitic alteration.	100	
COM/90 R4	Panel; 1.0 m x 1.0 m taken from the same prominent gossan zone, cavities filled with limonite, hematite, 2-3% fine-grained disseminated pyrite. Elevation: 550 metres.	100	
COM/90 R5	Rusty, iron stained, altered quartz-sericite, intense limonitic and hematitic alteration, 2-3% pyrite. Panel sample; 1.0 m x 1.0 m. Elevation: 550 metres	100	
COM/90 R6	Same as R5. Elevation: 550 metres.	100	
COM/90 R7	Panel; 1.0 m x 1.0 m taken from the same gossan zon at elevation 550 metres, intense staining, limonite.	ne 100	
COM/90 R8	Same as R5. Panel sample.	100	
COM/90 R9	Quartz vein in granitic host, 25 cms wide, exposed for 15 metres, strike at 95 degrees/54 degrees NE. No sulphides, chip sample at elevation 575 metres.	25	
COM/90 R10	Chip sample across 1 metre of dark grey, aphanitic dyke, strike at 36 degrees, dipping 82 degrees SE.	100	
COM/90 R11	Grab; fine-medium grained, weathered granodiorite, moderate sericitic alteration, 1% pyrite, minor malachite.		
COM/90 R12	Float; granitic rock, moderate sericitic alteration, friable with strong Molybdenite, trace of pyrite.		
COM/90 R16	Chip over 20 centimetres of light brown hematitic sugary quartz vein, no obvious sulphides.	20	

Sample No.	Description	Sample Width (cm)
COM/90 R17	Chip; fine-grained granite, moderate argillic alteration hosting 5 cms sugary quartz vein. No sulphides.	30
COM/90 R18	Same as R17. Chip over 30 centimetres.	30
COM/90 R19	Fine-grained granite, intense argillic alteration, moderate silicification, no obvious sulphides. Chip over 1 metre.	100
COM/90 R20	Chip; altered granitic rock, intense argillic alteration, minor pyrite.	100
COM/90 R21	Same as R20.	

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## APPENDIX B

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## ANALYTICAL REPORTS



MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

# GEOCHEMICAL ANALYTICAL REPORT



CLIENT: ABHWORTH EXPLORATION LTD. ADDRESS: 718 - 744 W. Hastings St. : Vancouver, BC : V6C 1A5 DATE: NOV 05 1990

REPORT#: 900259B GA JOB#: 900259B

PROJECT#: 325 SAMPLES ARRIVED: AUG 17 1990 REPORT COMPLETED: NOV 05 1990 ANALYSED FOR: AU (FA/AAS) ICP INVOICE#: 900259B NA TOTAL SAMPLES: 10 SAMPLE TYPE: 10 ROCK REJECTS: SAVED

SAMPLES FROM: SMITHERS BC COPY SENT TO: ASHWORTH EXPLORATION LTD.

### PREPARED FOR: MR. FAYZ YACOUB

ANALYSED BY: VGC Staff

SIGNED:

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GENERAL REMARK: None

# VGC VANGEOCHEM LAB LIMITED

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

#### BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

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-5717

REPORT NUMBER: 900259B GA	JOB NUNBEI	R: 900259B	ASHWORTH EXPLORATION LTD.	PAGE 1 OF 1
SAMPLE 4	Au			
	ppb			
COH/90_R1	10			
CON/90 R2	20			
COK/90 R3	30			
CON/90 R4	40		:	
COH/90 R5	30			
COM/90 R6	10			
COM/90 R7	20			
CON/90 R8	30		. :	
COM/90 R9	140			
COM/90 R10	nð			
	410			
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DETECTION LIMIT 5 nd = none detected -- = not analysed is = insufficient sample



MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5 • (604) 251-5656 • FAX (604) 254-5717 BRANCH OFFICES PASADENA, NFLD. BATHURST, N.B MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

# GEOCHEMICAL ANALYTICAL REPORT

CLIENT: ASHWORTH EXPLORATION LTD.DATE: SEPT 14 1990ADDRESS: 718 - 744 W. Hastings St.DATE: SEPT 14 1990: Vancouver, BCREPORT#: 900413 GA: V6C 1A5JOB#: 900413

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PROJECT#: 325A SAMPLES ARRIVED: SEPT 07 1990 REPORT COMPLETED: SEPT 14 1990 ANALYSED FOR: AU (FA/AAS) ICP INVOICE#: 900413 NA TOTAL SAMPLES: 8 SAMPLE TYPE: 8 ROCK REJECTS: SAVED

SAMPLES FROM: SMITHERS BC COPY SENT TO: ASHWORTH EXPLORATION LTD.

PREPARED FOR: MR. FAYZ YACOUB

ANALYSED BY: VGC staff

SIGNED:

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GENERAL REMARK: None

# VGC VANGEOCHEM LAB LIMITED

#### MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5 ● (604) 251-5656

### ● (604) 251-5656 ● FAX (604) 254-5717

ASEVORTE RIPLORATION LTD.

### **BRANCH OFFICES**

PASADENA, NFLD BATHURST, N.B. MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

PAGE 1 OF 1

REPORT	NUMBER :	900413	G <b>h</b> J01	B NUNBBR:	900413
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COH/90	R11		1	)	
COH/90	R12		n	ł	
CON/90	R16		D	3	
CON/90	R17		Ð	1	
COK/90	R18		D	1	
COH/90	R19		Ð	1	
CON/90	R20		ħ	1	
CON/90	R21		5		

# GC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

# GEOCHEMICAL ANALYTICAL REPORT

CLIENT:	ASHWORTH EXPLORATION LTD.
ADDRESS:	718 - 744 W. Hastings St.
:	Vancouver, BC
:	V6C 1A5

DATE: NOV 06 1990

REPORT#: 900261A GA JOB#: 900261A

INVOICE#:	900261A NA
TOTAL SAMPLES:	5
SAMPLE TYPE:	5 SILT
<b>REJECTS:</b>	DISCARDED

PROJECT#: 325 SAMPLES ARRIVED: AUG 17 1990 REPORT COMPLETED: NOV 06 1990 ANALYSED FOR: AU ICP

> SAMPLES FROM: SMITHERS BC COPY SENT TO: ASHWORTH EXPLORATION LTD.

### PREPARED FOR: MR. FAYZ YACOUB

ANALYSED BY: VGC Staff

SIGNED:

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**GENERAL REMARK: None** 

# VGC VANGEOCHEM LAB LIMITED

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER	I: 900261A GA JOB	NUNBER: 9002614	ASHVORTH EXPLORATION LTD	. PAGE	1	OP	1
SAMPLE 1	Au						
,	ppb						
COH/90 S1	25						
CON/90 S2	15						
CON/90 S6	5						
CON/90 S7	15						
COM/98 S8	5						

DBTECTION LIMIT 5 nd = none detected -- = not analysed is = insufficient sample



MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5 • (604) 251-5656 • FAX (604) 254-5717 BRANCH OFFICES PASADENA, NFLD. BATHURST, N.B. MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

# GEOCHEMICAL ANALYTICAL REPORT

CLIENT:	ASHWORTH EXPLORATION LTD.	DATE:	SEPT 17	1990
ADDRESS:	718 - 744 W. Hastings St.			
:	Vancouver, BC	REPORT#:	900416	GA
:	V6C 1A5	JOB#:	900416	

PROJECT#:	325A	
SAMPLES ARRIVED:	SEPT 07	1990
REPORT COMPLETED:	SEPT 17	1990
ANALYSED FOR:	Au ICP	

INVOICE#: 900416 NA TOTAL SAMPLES: 46 SAMPLE TYPE: 46 SILT REJECTS: DISCARDED

SAMPLES FROM: SMITHERS BC COPY SENT TO: ASHWORTH EXPLORATION LTD.

### PREPARED FOR: MR. FAYZ YACOUB

ANALYSED BY: VGC Staff

SIGNED: Mymla

**GENERAL REMARK: None** 

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MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5 • (604) 251-5656 • FAX (604) 254-5717

BRANCH OFFICES PASADENA, NFLD. BATHURST, N.B. MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

REPORT	AUNBER: 900416	GA JOB NUNBER:	900416	ASEWORTH EXPLORATIO	H LTD.	PAGE	1	0F	2
SAMPLE	1	Au							
	•	nob							
COM/90	\$11	nd							
CON/90	\$12	5							
COK/90	\$13	25							
COX/90	514	18				-			
CON/90	s15	nd							
CON/90	\$16	nð							
COM/90	<b>S</b> 17	5			*				
CON/90	S18	5							
COH/98	\$19	ba							
COH/90	S20	nđ							
COH/90	s21	15							
COK/90	S22	ba							
CON/90	<b>\$23</b>	15							
CON/90	\$24	bđ							
CON/90	S26	5							
CON/90	\$27	15							
CON/SU	528	15							
CUN/98	\$29	20							
CON/30 CON/80	530	DC 15							
CON/ 50	221	13							
001/90	\$17	10							
CON/90	537	۰. ۲							
CON/98	\$34	30							
CON/90	\$35	10							
CON/90	S40	nd							
COK/90	\$41	۵ð							
COH/90	\$42	nd							
COK/90	\$43	5							
COM/90	\$44	nð							
COK/90	\$45	ba							
	· .								
COM/90	S16	nd							
CON/90	547	nd							
COK/90	\$18	nd							
COK/90	\$49	5							
CON/90	\$50	nd							
00¥ /64	*51	1.0							
CON/30	931 921	10							
CON/34	891 867	1U - 2							
COX/00	6C1	LU C							
CON/30	0.7 <b>1</b>	3							
DRABCAI	ON LINIT	ς							
nd = no	me detected	= not analysed	js = i	nsufficient sample					
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RBPORT	NUNBER:	900416	GA	JOB	NVNBER:	90041	1setorte	EXPLORATION	LTD.	PIGE	2	07	2	
SAMPLB	ŧ			Åa										
				qqy										
COH/90	\$55			25										
CON/90	556			20										
COH/90	\$57			5										
CON/90	566			10										
COH/90	\$67			15										
•														

CON/90 S68 CON/90 S69

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DETECTION LINIT 5

nd = none detected -- = not analysed is

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# GEOCHEMICAL ANALYTICAL REPORT

**CLIENT: ASHWORTH EXPLORATION LTD.** ADDRESS: 718 - 744 W. Hastings St. : Vancouver, BC : V6C 1A5 DATE: SEPT 20 1990

REPORT#: 900430 GA JOB#: 900430

PROJECT#: 325A SAMPLES ARRIVED: SEPT 10 1990 REPORT COMPLETED: SEPT 20 1990 ANALYSED FOR: AU ICP INVOICE#: 900430 NA TOTAL SAMPLES: 99 SAMPLE TYPE: 99 SOIL REJECTS: DISCARDED

SAMPLES FROM: SMITHERS BC COPY SENT TO: ASHWORTH EXPLORATION LTD.

### PREPARED FOR: MR. FAYZ YACOUB

ANALYSED BY: VGC Staff

SIGNED:

Kym 1 h

**GENERAL REMARK: None** 

# VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE -1988 TRIUMPH ST. -VANCOUVER, B.C. V5L 1K5 • (604) 251-5656 • FAX (604) 254-5717 BRANCH OFFICES PASADENA, NFLD. BATHURST, N.B. MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

REPORT NUMBER: 300430	GA JOB NURBER: 300430	ASSISTER EXPLORATION LTD.	PAGE 1 OF 3
fample #	<u>lu</u>		
	<b>pp</b> 0 25		
CUE/ 70 61 PAM/48 1.7	18		
COM/ 90 82 COM/ 98 13	10		
con/se is con/se is	25		
COH/90 L6	25		
COH/98 L7	25		
COH/98 L8	10		
COH/90 L9	25		
COH/90 L10	25		
COH/90 L12	BC		
COH/90 L13	15		
COH/90 L14	på.		
CON/90 L15	15		
CON/90 L16	nd		
COH/96 L17	10		
FOR/98 119	28		
	15		
	5		
COM/96 L22	25		
CON/90 L23	5		
COH/90 L24	5		
CON/90 L25	25		
COH/90 L26	ed.		
COH/90 L27	15		
COH/98 L28	nd		
CON/90 L29	20		
CON/98 L38	M		
CON/90 L31	ba		
COH/90 L32	ad		
COH/90 L33	20		
CON/98 1.34	15		
CON/98 135	1		
CON/44 L36	10		
CON/48 1.37	nd		
COH/90 L38	10		
COH/90 L39	20		
CON/90 641	21		
COH/90 L42	25		
CON/90 L43	20		
DETECTION LINIT	\$		
nd = none detected	= not analysed is	= insufficient sample	

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REPORT NUMBER: 900430 GA	JOB NUMBER: 500430	LINNOLTH SEPLORATION 179.	PAGE 2 OF 3
SAMPLE I	le		
	daa		
COH/90 644	10		
COM/90 145	N		
COH/90 L46	5		
COM/90 L115	28		
COM/90 L116	15		
COM/98 L117	25		
COM/90 L118	25		
CON/98 L119	20		
COH/90 L120	5		
CON/90 L121	15		
CON/94 L122	20		
COH/90 L123	10		
COH/90 L124	15		
COH/90 L125	ni		
COH/90 L126	5		
COM/90 L127	5		
COH/90 L128	10		
COH/90 L129	M		
COH/90 L130	15		
CON/90 L131	20		
COH/90 L132	M		
COH/SU LZUI	10		
CON/94 L202	N		
CUM/98 L/83	5		
CON/94 1244	10		
CON/88 1985			
CUA/39 6293	10 10		
CON/44 1241	12		
	24 24		
CON/ 30 1200 CON/ 90 1289	4 <b>4</b>		
	•		
CON/98 L218	5		
CON/90 1211	15		
COM/90 L212	25		
CGN/90 L213	5		
CON/90 L214	25		
	47		
CON/90 1215	15		
CON/90 L216	5		
CON/90 L217	ad		
CON/90 L218	10		
DETECTION LINIT	5		

ad = mone detected

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-- = not analysed

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MAIN OFFICE

-1988 TRIUMPH ST. -VANCOUVER, B.C. V5L 1K5 ● (604) 251-5656 • FAX (604) 254-5717

**BRANCH OFFICES** PASADENA, NFLD. BATHURST, N.B. MISSISSAUGA, ONT. RENO, NEVADA, U.S.A.

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REPORT	NUKBER: 900430 GA	JOB HUNBE	R: 900430	Terreti Er		LTD.		PAGR	3	0 <b>7</b>
SAMPLE	1	Δu								
		ppb								
COH/90	L219	<u></u> ''s								
COH/98	L220	10								
CON/98	L221	M								
CON/90	L222	nd								
CON/90	L223	nd								
COH/90	L224	15								
COH/90	L225	15								
COH/90	L226	15								
COH/98	L227	15								
CON/90	L228	5								
COH/90	L229	10								
CON/90	L230	20								
COH/90	L231	nd								
CON/90	L232	20								
CON/90	L302	10								
CON/98	L303	25								
COH/90	L384	nd								
CON/90	L305	5								
COH/90	L306	5								
CON/90	L307	15								
COH/90	L308	nd								
	EEPORT SAMPLE COM/96	EXPORT NUMBER: 900430 GL     SAMPLE #     COM/90 L220     COM/90 L221     COM/90 L222     COM/90 L223     COM/90 L224     COM/90 L225     COM/90 L225     COM/90 L226     COM/90 L227     COM/90 L228     COM/90 L229     COM/90 L230     COM/90 L231     COM/90 L232     COM/90 L303     COM/90 L303     COM/90 L304     COM/90 L305     COM/90 L307     COM/90 L308	EXPORT NUMBER: 900430 GA   JOB NUMBER     SAMPLE #   Au     ppb   COM/90 L220   10     COM/90 L220   10     COM/90 L221   nd     COM/90 L222   nd     COM/90 L223   nd     COM/90 L224   15     COM/90 L225   15     COM/90 L226   15     COM/90 L228   5     COM/90 L228   5     COM/90 L228   20     COM/90 L229   10     COM/90 L230   20     COM/90 L231   nd     COM/90 L232   20     COM/90 L303   25     COM/90 L304   nd     COM/90 L305   5     COM/90 L306   5     COM/90 L307   15	REPORT NUMBER: 900430 GA   JOB NUMBER: 900430     SAMPLE #   Au     ppb     COM/90 L219   5     COM/90 L220   16     COM/90 L221   nd     COM/90 L222   nd     COM/90 L223   nd     COM/90 L224   15     COM/90 L225   15     COM/90 L226   15     COM/90 L227   15     COM/90 L228   5     COM/90 L228   5     COM/90 L229   10     COM/90 L220   20     COM/90 L223   20     COM/90 L230   20     COM/90 L231   nd     COM/90 L302   10     COM/90 L303   25     COM/90 L304   nd     COM/90 L305   5     COM/90 L306   5     COM/90 L307   15     COM/90 L308   nd	ERFORT HUHBER: 900430 GA   JOB HUHBER: 900430   ASHORETH EI     SAMPLE #   Au     ppb   COM/90 L221   nd     COM/90 L221   nd   COM/90 L222   nd     COM/90 L222   nd   COM/90 L223   nd     COM/90 L223   nd   COM/90 L225   15     COM/90 L226   15   COM/90 L226   15     COM/90 L223   10   COM/90 L223   20     COM/90 L223   20   COM/90 L230   20     COM/90 L230   20   COM/90 L333   25     COM/90 L303   25   5   COM/90 L305     COM/90 L304   nd   cOM/90 L305   5     COM/90 L305   5   5   COM/90 L307     COM/90 L306   5   5   COM/90 L307	EXPORT HUMBER: 900430 GA     JOB HUMBER: 900430     Asurement of the second sec	REPORT WUMBER: 900430 GA   JOB WUMBER: 900430   ASUMATTH EXPLORATION LTD.     SAMPLE 1   Au   pp0     CON/90 L219   5     CON/90 L220   10     CON/90 L221   nd     CON/90 L222   nd     CON/90 L223   nd     CON/90 L224   15     CON/90 L225   15     CON/90 L226   5     CON/90 L227   15     CON/90 L228   5     CON/90 L229   10     CON/90 L321   nd     CON/90 L322   20     CON/90 L321   nd     CON/90 L303   25     CON/90 L303   25     CON/90 L303   5     CON/90 L305   5     CON/90 L306   5     CON/90 L307   15     CON/90 L308   nd	REPORT HUMBER: 900430 GA JOB HUMBER: 900430 ASUBORTH EXPLORATION LTD.   SAMPLE # ppb   COM/90 L215 5   COM/90 L221 nd   COM/90 L222 nd   COM/90 L223 nd   COM/90 L224 15   COM/90 L225 15   COM/90 L226 15   COM/90 L226 15   COM/90 L228 5   COM/90 L229 10   COM/90 L230 20   COM/90 L302 10   COM/90 L302 10   COM/90 L303 25   COM/90 L304 nd   COM/90 L305 5   COM/90 L307 15   COM/90 L308 nd	REPORT HUMBER:     900430     Lau     Page       SAMPLE #     Au     ppb       COM/90     L219     5       COM/90     L220     10       COM/90     L221     ad       COM/90     L222     nd       COM/90     L223     ad       COM/90     L224     15       COM/90     L225     15       COM/90     L228     5       COM/90     L223     10       COM/90     L223     20       COM/90     L230     20       COM/90     L231     md       COM/90     L302     10       COM/90     L303     25       COM/90     L303     25       COM/90     L303     25       COM/90     L304     ad       COM/90     L305     5       COM/90     L304     ad       COM/90     L304     ad       COM/90     L304     ad       COM/90     L304	REPORT HUMBER:     90430     GA     JOB HUMBER:     90430     ASUMARTH EXPLORATION LTD.     PAGE 3       SAMPLE #     ppb

VANGEOCHEM LAB LIMITED

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1630 Pandora Street, Vancouver, B.C. V5L 1L6 Ph:(604)251-5656 Fax:(604)254-5717

#### ICAP GEOCHEMICAL ANALYSIS

#### A .5 gram sample is digested with S ml of 3:1:2 HCl to HNOm to HgO at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Hg, Mn, Ma, P, Sn, Sr and W.

ANALYST: Mulh

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REPORT 8: 9002598 PA	ASHWORTH EI	PLORATI	ON LTD.			PROJE	CT: 325			DATI	E IN: AUG	i 17 1990	DA	ie out: !	SEPT 05	1990	ATTENTIO	l: MR. F.	AYZ YACOU	B		PAG	E 10F	t	
Sample Hame	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Hg	Ma	Ho	Na	Ni	P	Ph	56	Sn	Sr	U	U	Zn
	ppe	· 7	ppm	pps	ppe	L	ppe	ppa	ppa.	ppa	1	z	I	ppe	pp≜	I	p94	I	ppa	ppa	ppe	ppa	ppe	<b>p</b> p <b>e</b>	ppa
CON/90 R1	0.1	0.62	(3	15	<3	0.57	3.2	30	108	- 44	2.35	0.19	0.14	99	32	(0.01	32	0.10	84	15	28	58	<5	<3	- 14
CON/90 R2	0.1	1.18	(3	23	<3	0.72	(0.1	24	30	101	2.80	0.08	0.41	172	19	(0.01	- 41	0.12	36	<2	23	82	<b>&lt;</b> 5	(3	38
CON/90 R3	0.3	0.94	(3	29	<3	0.66	<b>(0.</b> I	35	77	132	4.13	0.27	0,45	218	19	0.01	49	0.15	58	(2	28	24	<5	<3	35
C0H790 R4	0.3	0.86	17	18	(3	0.76	4.6	32	42	52	1.90	0.23	0.15	117	31	(0.0)	38	0.11	85	10	24	45	6	<3	13
CON/90 R5	0.3	0.54	(3	27	<3	0.48	3.2	28	70	- O	2.04	0.24	0.15	78	41	(0.01	43	0.08	67	8	29	21	<5	(3	13
CON/90 R6	0.3	0.70	3	37	(3	0.49	0.8	16	34	46	2.04	0.64	0.10	106	22	(0.01	27	0.07	40	(2	17	19	(5	(3	12
CBN/90 R7	0.5	1.47	(3	26	<3	0.73	0.7	30	81	109	3.60	0.19	0.74	257	31	0.02	50	0.11	69	<2	29	37	<5	<3	66
C01/90 R8	0.1	1.30	5	16	<3	0.97	1.5	26	51	25	1.62	0.28	0.09	72	33	(0.01	40	0.10	69	21	17	41	7	(3	18
CON/90 R9	0.1	0.29	32	19	(3	0.05	0.2	16	186	31	0.87	0.34	0.15	213	36	(0.01	37	(0.01	73	19	15	ä	7	(3	14
CON/90 R10	0.1	0,30	25	12	(3	0.02	3.7	10	45	ā	0,26	0.12	(0,01	329	12	(0.01	24	(0.01	79	9	18	ä	6	(3	30
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	i	0.01	1	0.01	2	2	2	I	5	3	1
Naxious Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000
< - Less Than Hiniaua	) - Greater T	an Naxi	eue	is – Insu	ifficient	Sample	ns	- No Saep	le	ANOHALOUS	S RESULTS	i - Furth	er Anal	yses By	Alternat	e Nethod	s Sugges	teð.							

### 201 00 EF LAL LI.I.TEL 1630 Pandora Street, Vancouver, B.C. V5L 1L6 Ph: (604)251-5656 Fax: (604)254-5717

### ICAP GEOCHEMICAL ANALYSIS

### A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO<sub>2</sub> to H<sub>2</sub>O at 95 °C for 90 minutes and is diluted to 10 ml with water, This leach is partial for Al, Ba, Ca, Cr, Fe, K, Ng, Nn, Na, P, Sn, Sr and W.

ANALYST: Kulh

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REPORT 1: 900413 PA	ASHNORTH E	IPLORATI	ON LTD.			PROJE	CT) 325A			DAT	E IN: SEI	PT 07 19	90 DA	TE OUT:	OCT 05 1	990	ATTENTIO	N: NR. F	AYZ YACOU	19		PAG	E 1 OF	1		
Sample Name	Ág	A1	As	Ba	Bi	Ca	Cd	Co	Cr	Cu	fe	ĸ	Ng	ħa	Ho	Na	Ni	P	Pb	Sb	Sn	Sr	IJ	¥	Zn	
	ppe	I	- ppa	ppe	0 <b>9</b> €	X	pps.	ppa	ppa	ρ <b>ρ</b> ∎	7.	Z	I	205	DDA	1	ppe	1	004	008	ope	ODE	004	99 <b>4</b>	908	
CON/90 R11	7.0	0.13	<3	6	<3	0.16	3.2	1	73	1462	6.89	0.07	0.06	149	425	0.02	14	(0.01	93	1				(3	52	
CON/90 R12	0.5	0.21	(3	12	(3	0.10	1.5	6	174	52	0.79	(0.01	0.11	130	>1000	(0.01	5	(0.01	46	á	(2	1	(5	(3	18	
CON/90 R16	0.3	0.29	(3	18	(3	0.07	i.1	2	105	32	1.13	<0.0E	0.13	215	58	0.01	11	0.02	69	(2	4	5	(5	(3	24	
COM/90 R17	0.3	0.20	(3	16	(3	0.02	0.9	(1	173	1	0.78	<0.01	0.03	48	30	0.02	7	(0.91	51	(2	(2	4	(5	205	14	
CON/90 R18	0.1	0.32	(3	25	₹3	0.01	0.2	(1	69	6	0.72	<0.01	0.05	117	10	0.04	5	<0.01	27	(2	(2	5	<5	(3	13	
CON/90 R19	0.2	¢.18	· (3	It	(3	<0.0E	0.3	(1	99	4	0.47	<0.01	(0.01	12	6	(0,01	4	(0.01	23	<2	(2	3	<5	213	6	
COM/90 R20	0.2	0,44	(3	41	<3	<0.01	0.5	a	47	6	0.7B	(0.01	0.03	51	B	0.02	- 4	(0.01	52	<2	2	7	<5	B	13	
CON/90 R21	0.1	0.28	<3	30	(3	0.01	0.2	(1	106	6	0.57	(0.01	0.05	68	3	0.04	2	<0.01	23	<2	2	7	(5	<3	10	
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	t	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1	
Naxiaus Detection	50.0 ) - Frester T	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00 DESUD 7	10.00	10.00	20000	1000	10,00	20000	10.00	20000	2000	1000	10000	100	1000	20000	
z reas idea ultitude	A - DIEATEL I	New NAKI		12 - 1950	11112168	e oumbie	: R5 '	. NO 258bb	16	ARUNALUU:	S RESULT	s - rurs	ner Anzi	yses dy	RECEPTAL	r netnod	s augges	ceç.								

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#### 1630 Pandora Street, Vancouver, B.C. VSL 116 Ph: (604)251-5656 Fax: (604)254-5717

### ICAP GEOCHEMICAL ANALYSIS

#### A .5 gram sample is digested with 5 ml of 3:1:2 HEL to HHOs to H=Q at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr. Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

REPORT : 900261A PA	ASHWORTH E	EXPLORATI	ION LTD.			PROJE	CT: 325			DAT	E IN: AU	16 1 <b>7 199</b> 1	) DA	JE OUT: S	SEPT 11	1990	ATTENTIO	N: MR. F	AYZ YACOU	UÐ		PAG	E 1 OF	1	
Sample Name	Ag	Al	As	Ba	Bi	Ca	Cd	Co	Cr	£u	Fe	ĸ	Ma	fin	No	Na	Ni	P	Pb	Sb	Sn	Sr	U	N	Zn
	DDA	ĩ	ppe	0pe	ppe	1	ppe	po 🖷	ppe	00e	7.	2	2	00 <b>4</b>	DOM	1	ppa	z	<b>ppe</b>	99 <b>4</b>	<b>906</b>	<u>ope</u>	ppe	998	99 <b>4</b>
COM/90 51	<0.1	2.23	<3	130	(3	0.75	2.1	22	28	43	4.08	Q.18	1.16	655	12	<0.01	28	0.17	(2	(2	15	71	(5	(3	78
COM/90 S2	<0.1	0.65	<3	76	(3	0,87	0.4	8	31	26	1.88	0.13	0.36	223	4	(0.01	18	0.10	(2	<2	B	29	<b>(</b> 5	(3	28
COM/90 S6	(0.1	1.03	<3	90	<3	0.55	2.3	16	6B	27	6.45	0.19	0.49	423	1	<0.01	23	0.13	9	<2	12	31	<5	<3	53
COM/90 S7	<0.1	2.53	<3	212	(3	0.60	1.6	21	38	36	3.71	0.20	1.33	1059	8	(0.01	19	0.15	<2	<2	16	57	<5	<3	87
COM/90 58	(0.1	2.47	(3	199	(3	0.75	1.3	20	37	34	3.51	0.18	1.32	1016	7	<0.01	18	0.14	(2	<2	16	53	<5	<3	85
Ninimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	I	1	0,01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	i	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10,00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000
K - Less Than Minimum	) - Greater 1	Than Maxi	aus	is - Insu	ufficien	t Sample	: NS	- No Samp	ble	ANONALOU	S RESULT	'S - Furti	ter Anal	yses By i	Alternat	e Method	s Sugges	ted.							

#### VANDEQUIREMENTS AND A SHORE HED.

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1630 randora Street, Váncouver, B.C. V56 166 Ph: (604)251-5656 Fax: (604)254-5717

### ICAP GEOCHEMICAL ANALYSIS

### A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNUs to HzO at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST:	- Agulh
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REPORT 4: 900416 PA	ASHWORTH E	EXPLORATE	ON LTD.			PROJE	CT: 325/	h		DATE	E IN: SEI	PT 07 19	90 D/	NTE OUT:	OCT 05 1	990	ATTENTIO	I: MR. F	AYZ YACOU	B		PA6	E 1 OF	2	
Sample Name	Ag ope	Al I	Ås DD <b>e</b>	Ba aon	Bi Dog	Ca X	Cđ aon	Ce ace	Cr Ban	Cu	Fe	ĸ	Mg I	Nn 808	No	Ka T	Ni	f	Pb	Sb	Sa	Sr	ii Die	V	Zn
CON/90 S11	(0.1	1,12	(3)	179	(3	1.41	0.7	11	14	36	1 90	A 15	A 75	200	F5-	0 02	21	0 10	12	/2	рр <b>ч</b> 5	46	/5	/2	47
CON/90 S12	<b>A</b> 1	6 72		109	(7	1 47	0.6		21	20	1 66	6 12	A 40	303	2	A A3	51	0.10 A Ar	14	14		70	10	10	
	×,,	A 50	/2	22	/2	A 66	V.D + 4	۵ ۵	20	26	2.00	V112	V. 40	200	3	0.03	21	0.00		( <u>/</u>		33	(5	13	28
CON 30 313	0,3	0.30	(3	83	(3	V.07	1.4	,	35	23	2,34	V. 12	0.3/	236	4	0.04	20	0.08	6	(2	1	30	()	(3	26
CUN/70 514	(0.1	0.62	(3	33	(4	1.17	2.3	13	49	33	2.24	Q.17	0.43	309	3	0.05	$\pi$	9.08	18	<2	6	32	(5	(3	39
CUR/90 515	0.1	0.63	(3	103	(3	1.20	1.0	11	47	33	3.34	0.15	0.42	274	5	0.04	24	0.09	13	<2	5	33	<5	<3	32
CON/90 S16	0.2	0.59	(3	96	(3	1.16	0.9	9	30	28	2.38	0.14	0.41	245	4	0.03	22	0.09	4	(2	4	32	(5	(3	28
CON/90 S17	<0.1	1.29	(3	115	(3	0.62	0.2	11	39	26	2.50	0.09	0.74	486	5	0.03	23	0.09	10	()	6	39	- (5	(3	50
CON/90 S18	(0.1	0.64	(3	110	(3	1.33	0.5	8	27	30	2.15	0.14	0.49	268	3	6.03	16	0 07	5		ŝ	35	(5	3	30
001/90 519	(0.1	2.28	12	192	12	A 55	1.2	19	22	20	3 60	A 11	1 12	010	2	A A2	20	A 12	2	/3	6	52	75	12	25
CON/90 S20	<0.1	2.24	(3	154	(3	0.59	1.0	18	22	27	3.61	0.10	1.12	767	4	0.03	14	0.11	5	(2	ģ	52	<s< th=""><th>(3</th><th>63</th></s<>	(3	63
CON/00 CO1	(0.1		/3	66	(1)		• •			-											•	~~			
CON / 04 C22	1411	V.J1	13	00	13	4.14	4.4	11	07	39	7.0/	V.13	V. 34	332		V.V6		0.09	25	11	8	28	()	3	46
CUM/30 322	(0.1	0.70	3	172	G	1.12	0.6	8	- 27	28	1.72	0.13	0.47	268	3	0.03	18	0.07	5	(2	4	36	3	G	28
LUN/ 90 523	(V, J	0.66	(3	130	(3	0.43	0.3	5	11	12	2.10	0.06	0.44	332	1	0.04	6	0.09	18	(2	5	41	(5	(3	59
CON/90 S24	<0.1	0.64	<b>{3</b>	- 111	(3	0.48	0.6	6	8	28	1.50	0.07	0,30	219	3	0.02	5	0.09	4	<2	3	33	(5	<3	26
CON/90 S25	0. i	0.98	<3	91	(3	0.61	0.4	10	15	22	2.25	0.08	0.55	465	5	0.03	6	0.09	7	<2	6	52	<5	(3	34
CON/90 527	(0.1	1.03	(3	64	(3	0.61	(0.1	9	12	15	1.86	0.09	0.53	480	4	0.02	6	0.07	(2	<2	5	51	(5	(3	34
COK/90 528	(0.1	0.86	(3	56	(3	0.55	0.8	8	10	13	1.94	0.07	0.45	417	3	0.07	3	0.07	5	(2	5	45	(5	(3	31
CON/90 529	(0.1	0.53	(3	94	(3	1.07	1.1	12	66	34	4.89	0.16	0.38	283	6	0.05	21	0.10	20	0	5	32	(5	(3	37
C08/90 \$30	(0.1	0.67	0	115	(3	1.27	8.1	R	26	29	1 80	0.14	0.50	259	-	0.02	17	0 07	10	12	ŝ	36	75	13	28
CON/90 \$31	(0.1	2.12	<3	199	(3	0.81	0.9	22	21	42	4.43	0.14	1.26	779	7	0.04	11	0.15	8	(2	11	17	(5	(3	n
CON/90 532	(0.1	2.15	(3	199	(1	0.92	1.6	77	21	41	4 54	0.15	1 28	769	5	0.05	14	0.14	17	12	11	75	(5	(3	77
CON / 90 522	/6.1	2 37	12	214	/2	A 05	1.0	22	21	45	5 66	A 15	1 20	007	1	A 65	11	A 14	12	22		62	/5	13	79
CON730 333	/0.1	2.J/	10	217	(3	1 84	(6.1	2.3	21	7.5	3.00	0.10	1.30	0.07		0.03	11	0.07	13	20	1.5	33	/5	/2	21
CON/20 025	(0.1	V.04 A 53	13	115	13	1.00	1.0	12	41	20	4 00	V.14	0.90	207	- 1	0.02	13	A AC	22		7	33	(5	/3	32
CUN779 333	(0.1	V.J.3	10	74	(3	1.14	1.4	12	11	27	4,70	A.10	0.30	200		0.04	14	0.00	23				10		~
CUN/20 240	(0.1	V.63	(3	14	13	<b>0.</b> 00	(4.)	5	8	17	2.JV	V. V8	V. 30	<b>3</b> 91	þ	0.03	Q.	<b>4.</b> 08	14	1	3	33	(3	13	40
CON/90 541	(0.1	0.69	(3	79	(3	0.49	(0.1	8	9	16	1.95	0.07	0.38	367	8	0,02	a	0.08	3	<2	5	41	(5	<3	27
CON/90 \$42	(0.1	0.70	(3	83	(3	0,48	(0.1	8	8	16	2.42	0.07	0.39	387	9	0.02	(1	0.08	11	<2	5	39	<\$	<3	30
CON/90 \$43	<0.1	0.76	(3	86	(3	0.51	(0.1	8	10	17	1.85	0.07	0.43	405	8	0.02		0.08	2	<2	5	42	(5	<3	32
CON/90 544	(0.1	0.71	(3	61	(3	0.49	(0.1	7	9	16	2.01	0.07	0.40	386	6	0.02	(1	0.08	3	<2	5	40	<5	<3	28
COH/90 545	(0.1	0.79	(3	88	(3	0.47	0. t	9	9	17	3.61	0.08	0.44	518	1	0.04	a	0.08	18	<2	6	36	(5	<3	43
CON790 546	2A 1	1 55	/1	137	17	6 63	(6.)	12	26	19	7.72	0.09	0 77	668	20	0.07	11	0,09	4	(2	A	50	(5	(3	4R
CON 20 310	// 1	6 23	12	(14	(J) /2	1 13	76 1	10	20	20	4 10	A 15	6 44	200		6 67	10	6 68	ġ	10	, A	34	ö	ä	34
CON 100 210 397	V.L	V.QJ	(3	110	13	1.13	(01)	10	30	33	3 AF	0,10	V. 14	670		0.03	14	0.03	,	12	د ا	25	/<	17	24
UNI/3V 318	(0,1	V.63	(3	123	13	1.03	Q.1	5	28	23	2.00	V.12	V.43	201	3	V.V3		0.01	1	14			13	12	37
CON/90 549	(0.1	0.66	(3	120	(3	1.28	(0.1		Z	24	1.76	0.14	0.48	264	3	0.03	10	0.08	(2		3	30	13	13	21
CON/90 550	(0.1	2.81	(3	253	(3	0.80	0.6	20	31	35	3.80	0.13	1.30	1005	6	0.04	13	0.13	14	(2	11	70	()	(3	90
COH/90 S51	(0.1	2.96	(3	223	(3	0.80	0.2	22	31	50	4.54	0.13	1.54	1089	5	0.04	12	0.12	6	(2	12	71	(5	(3	91
CDM/90 SS2	(0.1	2.59	(3	235	(3	0.66	(0.1	19	24	29	3.79	0.12	1.30	1017	5	0.04	B	0.11	3	<2	10	66	₹5	(3	72
COM/90 \$53	(0.1	2.75	<3	156	(3	0.94	0.1	22	45	30	4.43	0.15	1.67	980	6	0.04	14	0.14	6	<2	12	78	(5	<3	85
CDK/90 \$54	(0.1	0.59	(3	95	<3	0.99	(0.1	12	39	26	4.36	0.15	0.40	269	5	0.04	6	0.07	11	<2	6	29	(5	<3	30
Hinimum Detection	Ô. 1	0.01	3	1	3	0.01	6.1	1	1	1	0.01	0.01	0.01	1	1	0.01	t	0.01	2	2	2	1	5	3	1
Marinum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000
< - Less Than Minimum	> - Greater T	'han Naxie	uo i	s - Ins	ufficien	t Sample	ns	- No Samp	le	ANONALOUS	RESULTS	5 - Furt	her Anal	yses By	Alternat	e Nethod	s Suggesl	ed.							

### VANGEOCHEM LAB LIMITED 1630 Pandora Street, Vancouver, B.C. V5L 1L6 Ph: (604)251-5656 Fax: (604)254-5717

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### ICAP GEOCHEMICAL ANALYSIS

### A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HHO<sub>2</sub> to H<sub>2</sub>O at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Ma, P, Sn, Sr and W.

ANALYST: lyndly

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REPORT 8: 900416 PA	ASHWORTH E	IPLORATI	ON LTD.			PROJE	CT: 325A			DATI	E IN: SE	PT 07 19	90 DA	TE OUT: I	OCT 05 1	990	ATTENTIO	€: MR. ₹/	AYZ YACOU	8		<b>PA</b> 6	E 2 OF	2	
Sample Name	Ag	<b>A</b> 1	As	Ba	Bi	Ca	Cđ	Co	Cr	Cu	Fe	K	Ħg	tla	No	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	1	ppe	ppa	ppa	1	ppe	ppe	ppe	ppe	X	X	X	ppe	ppe	I	ppe	z	<b>ppe</b>	ppe	ppa	ppe	ppe	ppe	ppe
CON/90 SS5	0.1	0.50	(3	93	(3	1.09	2.0	12	61	45	4,4B	0.17	0.34	257	4	0.02	31	0.10	28	16	6	31	(5	(3	32
COM/90 556	(0.1	0.59	(3	96	(3	0.47	(0.1	9	8	26	1.64	0.07	0.27	202	(1	0.02	(1	0.09	- 4	7	5	30	(5	<3	27
COM/90 S57	<0.1	0.77	<3	136	(3	0.49	1.1	11	10	30	1.90	0.09	0.39	270	4	0.02	(1	0.08	<2	5	6	35	<5	(3	39
CON/90 \$66	(0.1	0.49	<3	68	(3	0.48	1.7	11	7	24	4.45	0.12	0.21	230	(1	0.02	a	0.10	14	16	7	28	<5	<3	31
COH/90 \$67	<0.1	1.05	(3	131	<3	0.54	0.8	12	4	15	2.92	0.10	0.52	483	<1	0.03	(1	0.10	.(2	<2	7	55	<5	<3	43
CDH/90 568	<0.1	0.70	(3	84	(3	0.37	¢.8	7	α	5	1.64	0.07	0.39	395	A	0.02	(1	0.08	9	6	5	34	<5	(3	41
COM/90 569	(0.1	0.43	<3	58	(3	0.38	0.8	9	2	20	3.09	0.10	0.19	175	3	0.02	a	0.09	18	13	5	23	(5	<3	24
Ninimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	ł	1	0.01	1	0.01	2	2	2	1	5	3	1
Naxious Detection	50.0	10.00	2000	1000	1000	10,00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10,00	20000	10.00	20000	2000	1000	10000	100	1000	20000
< - Less Than Minimum	) - Greater T	han Haxi	eue -	is - Insu	Ifficient	: Sample	e ns	- No Samp	le	ANOPALOU	s result	5 - Furt	her Anal	yses By i	Alternat	e Hethod	s Sugges	ted.							

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### ICAP GEOCHEMICAL ANALYSIS

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A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HNO<sub>3</sub> to H<sub>2</sub>O at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

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REPORT #: 900430 PA	ASHWORTH E	IPLORATI	ON LTD.			PROJE	CT: 325A			DATE	E IN: SEP	PT 10 19	90 DA	TE OUT:	OCT 05 1	990	ATTENTION	l: HR. F	AYZ YACOL	18		PAG	E 1 OF	3	
Sample Name	Ag	A1	As	Ba	Bi	Ca	Cđ	Co	Cr	Cu	fe	K	Mg	Mn	No	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppe	7	ppe .	ppe	ppa	z	ppe	ppe	ppe	ppe	1	X	ž	ppe	ppa	ĩ	ppe	1	ppe	ppe	ppe	ppe	ppa	ppe	ppe
COM/90 L1	<0.1	2.61	<3	241	{3	0.62	2.8	31	<1	227	6.91	0.25	1.32	1022	3	0.03	14	0.14	<2	(2	16	54	<5	<3	79
COM/90 L2	<0.1	3.49	<3	- 418	<3	0.81	2.7	50	3	109	5.24	0.23	1.89	2033	(1	0.03	13	0.16	(2	<2	16	61	(5	(3	107
COH/90 L3	<0.1	3.02	<3	205	<3	0.43	2.8	24	2	79	4.82	0.18	1.38	1121	(1	0.02	8	0.10	(2	(2	15	43	(5	(3	81
COH/90 L4	0.2	2.88	<3	200	(3	0.40	2.8	28	17	60	4.54	0.16	1.33	2149	(1	0.02	10	0.20	(2	(2	13	40	(5	(3	82
CDN/90 L5	NS	NS	ns	NS	ns	AS	ns.	ns	ns	n5	กร	ns	ns	ns	ns	85	ns	ns	ns	ns	AS	ns	ns	ns	กร
COH/90 L6	0.2	1.61	(3	23	(3	0.04	1.4	7	10	8	1,28	0.02	0.10	54	4	0.01	(1	0.03	0	0	12.	11	(5	(3	33
CDH/90 L7	(0.1	3.06	(3	49	(3	0.23	1.2	ģ	0	12	1.99	0.06	0.67	419		0 02	ä	0 02	17	17	12	24	(5	(3	59
CON/90 L8	(0.1	2.20	3	31	1	0 06	1 7	10	10	11	2 72	0.00	0.17	102		0.02		0.02	15	12	15	12	/5	12	20
C0X/90 19	(0.1	1.98	(3	34	13	0.08	2 1		10	14	2 20	0.00	0.40	202		0.01		0.02	12	12	1.0	12	\J /s	(3	23
CON/90 L10	0.6	2.72	(3	32	(3	0.06	1.8	,	26	18	3.39	0.07	0.44	213		0.02	8	0.03	(2	<2	13	11	(5	(3	54 54
CON/90 112	2	4 47	12	20	12	0 06	1 0	ć	/1	22	5.04	A 12	0.40	226	/1	A A3	/1	A A2	12	12		,	/5	13	50
CON/90 112	/0.1	2 60	/2	50	13	0.00	1.7	11	27	23	1.04	V. 12	0.40	320		0.02	15	0.03	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		1/			13	30
CON/00 114	(0.1	3.00	13	50	()	V. 17	1.7	11		21	9.92	0.10	0.62	280		0.02	15	0.02	(2	<u>\</u>	13	17	(3	3	63
	(0.1	3.03	13	10	(3	V. 23	2.0	10		25	3.30	0.09	0.58	413	Q	0.02	G	0.06	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>(</u> 2	12	23	0	(3	53
CUN/30 L13	(0.1	2.64	(3	38	(3	0.0/	1.4	9	31	20	4.03	0.08	0.51	293	(1	0.02	10	0.03	<2	<2	13	13	(5	(3	53
COM/90 L16	<0.1	3.02	(3	49	(3	0.06	2.2	1	16	26	3.34	0.07	0.36	194	(1	0.02	(1	0.03	<2	<2	10	14	<5	(3	52
COM/90 L17	(0.1	1.87	(3	34	(3	0.07	1.5	8	15	13	2.99	0.06	0.27	154	11	0 02	(1	0.04	0	0	11	15	(5	(1	40
COM/90 L19	(0.1	3.14	13	89	(3	0.15	2 1	10	11	17	2 07	0.00	6 67	1676		A 02		0.04	12	12	14	40	/5	/2	65
CON/90 120	(0.1	2 70	(3	56	/2	0.15	1.2	10		1/	2.07	0.03	0.07	1010		0.02		0.00	12	12	14	10	/5	(3	40
COM/00 101	(0.1	4 22	10	17	(3)	0.03	1.2			17	3.00	0.00	0.33	370		0.02		0.00		12	14	17	13	13	
CON/ 79 L21	(0.1	9.32	(3		(3	0.23	2.1	16	Q Q	32	3.24	0.09	0.83	548	a a	0.02	0	0.08	(2	(2	14	22	()	(3	11
LUN790 L22	(0.1	4.05	<b>K</b> 3	Л	(3	0.23	2,4	15	a	25	3.72	0.09	0.80	744	a	0.02	a	0.0/	(2	<2	15	73	· (3	(3	22
CON/90 L23	(0.1	4.28	<3	191	<3	0.31	2.5	27	4	57	5.03	0.17	1.61	862	4	0.03	(1	0.09	(2	<2	19	33	(5	(3	100
CON/90 L24	(0.1	4.37	(3	11	(3	0.25	1.7	15	(1	25	4.20	0.12	0.99	406	(1	0.02	(1	0.06	(2	<2	18	37	(5	(3	68
COM/90 L25	(0.1	2.87	<3	73	(3	0.13	1.8	9	- 4	16	2.80	0.06	0.61	262	(1	0.01	(1	0.10	<2	<2	11	43	(5	(3	58
COM/90 L25	<0.1	2.49	(3	67	(3	0.05	2.0	8	<1	13	3.62	0.07	0.16	67	<1	0.01	(1	0.05	<2	<2	14	18	<5	<3	32
COH/90 L27	<b>&lt;0.</b> 1	2.94	<3	111	(3	0.32	2.5	20	0	25	4.59	0.14	1.10	553	(1	0.02	(1	0.07	<2	<2	14	41	<5	(3	74
COH/90 L28	(0.1	3.07	<3	69	(3	0.12	1.3	8	2	18	3.20	0.06	0.58	213	(1	0.01	(1	0.06	<2	<2	12	27	(5	<3	72
COK/90 L29	(0.1	4.57	(3	99	<3	0.22	2.3	14	4	23	4.69	0.12	0.84	388	(1	0.02	(1	0.06	<2	<2	17	38	<5	<3	53
COM/90 L30	<0.1	4.37	<3	59	(3	0.13	1.5	14		23	4.28	0.09	0.82	444	(1	0.02	(1	0.06	<2	<2	17	20	<5	(3	52
CDK/90 L31	<0.1	3.25	(3	39	(3	0.02	2.7	9	1>	17	4.67	0.09	0.31	111	(1	0.01	(1	0.07	<2	<2	17	14	<5	<3	29
COH/90 L32	<0.1	4.17	<3	70	(3	0.07	1.5	16	(1	18	4.73	0.11	0.65	864	a	0.02	(1	0.04	<2	<2	18	24	<5	<3	67
COH/90 L33	<0.1	4.05	<3	87	<3	0.20	1.5	16	a	22	4.42	0.12	0.99	478	(1	0.02	(1	0.07	<2	<2	17	29	<5	<3	94
CON/90 1.34	(0.1	3.31	(3	56	(3	0.07	1.5	10	(1	15	3.67	0.07	0.67	354	(1	0.02	(1	0.07	<2	<2	15	16	<5	<3	47
C08/90 135	(0.1	2.83	ä	51	(3	0.04	1.7	10	ä	15	3.31	0.07	0.43	241	ä	0.02	ä	0.03	(2	(2	15	23	(5	(3	44
CON/90 1 26	(1)	2 35	13	85	(1	0.15	1.6	16		22	2.09	0.06	0.74	269	ä	0.03	ä	0.05	ö	(2	17	28	(5	(3	58
CON/90 L37	<0.1	1.78	(3	79	(3	0.29	1.5	11	4	18	2.27	0.06	0.72	645	ä	0.02	(1	0.04	(2	<2	9	46	<5	(3	60
CON /00 1 30	/	1 54	/5		/8	A 37				~~	3 46	6 67	A 74	600	71	0 03	/1	A A0	13	17	۲	46	(5	(3	55
CUN/ 7V L30	<b>\V.1</b>	1.34	(3	117	(3	V. 3/	1.0	12	VI.	23	2.90	V.V/	V. 14	073		V.VZ		V. VU	14		,			/9	20
LUN/30 L39	(0.1	1.65	3	200	(3	0.49	2.1	15	4	34	2.75	0.10	0.94	844	q	0.02	g	0.08	(2	12	4	3/	(3	(3	00
CUR/90 L41	<0.1	1.65	<3	177	(3	0.48	1.3	14		23	2.63	0.10	0.87	838	(I	0.03	a	80.0	(2	(2	3	34	()	(3	28
CON/90 L42	<0.1	1.77	<3	147	(3	0.47	1.7	15	4	22	2.70	0.10	0.90	812	a	0.02	(1	0.08	(2	<2	10	57	(5	(3	62
Minimum Detection	0.1	0.01	3	1	3	0.01	0.1	1	i	1	0.01	0.01	0.01	1	1	0.01	i	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000
< - Less Than Hinimum	> - Greater T	han Maxir	ius i	s - Ins	ufficient	t Sample	ns	- No Samp	le	ANDMALOUS	RESULTS	5 - Furtl	her Anal	yses By i	Alternat	e Hethod	ls Suggest	ed.							

#### MACHEC 1 1 HE LA LI IT IT 3 1630 Pandora Street, Vancouver, B.C. V5L IL6 Ph: (604)251-5656 Fax: (604)254-5717

ANALYST: Mylh

### ICAP GEOCHEMICAL ANALYSIS

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A .5 gram sample is digested with 5 ml of 3:1:2 HCl to HMO\_ to H\_O at 95 °C for 90 minutes and is diluted to 10 ml with water, This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

REPORT #: 900430 PA	ASHWORTH &	EXPLORATI	ON LTD.			PROJI	ECT: 325A			DAT	'E IN: SE	PT 10 19	990 <b>D</b> i	NTE QUT: (	OCT 05 1	990	ATTENTIO	N: NR, F	AYZ YACOL	19		PAG	E 2.0F	3	
Sample Name	Ag ppm	AL Z	As ppa	Ba ggn	Bi ppe	Ca I	Cđ ppe	Co ope	Cr DD#	Cu ope	Fe X	ĸ	lig Z	Ha Dag	No	Na Z	Ni	P	Pb	Sb	5a	Sr	ئا 200	¥ 104	In
CON/90 L43	(0.1	5.04	(3	128	(3	0.29	2.4	20		30	3.37	0.09	0.93	904		0.02	17	0.04	()	12	19	29	(5	/2	μμ
CON/90 L44	(0.1	0.87	(3	37	(3	0.10	0.9	8	2	5	0.73	(0.01	0.05	57	ä	(0.01	5	0.04	ö	10	12	21	75		10
CON/90 L45	(0.1	2.38	(3	87	(3	0.45	2.1	14	7	31	2,96	0.10	0.95	R04	ä	0.07	13	0.06	17	6	12	52	25	(3	74
COX/90 L46	(0.1	1.42	(3	95	(3	0.64	2.0	16	, ,	14	2.65	0.10	0.78	740	ä	0.07	10	0.00	0		, i i	59	(5		63
COM/90 L115	(0.1	1.02	<3	33	(3	0.03	1.6	6	8	7	1.43	0.01	0.06	103		<0.01	2	0.02	(2)	(2	10	9	(5	(3	35
CON790 L116	(0.1	2.04	(3	52	(3	0.20	2,1	9	t4	14	2.80	0.06	0.43	296	a	0.01	11	0.04	10	0	14	21	(5	(3	53
CON/90 L117	(0.1	2.70	(3	54	(3	0.15	1.9	13	18	15	3.23	0.06	0.47	513	ä	0.01	14	0.07	17		15	19	65		RÓ
COM/90 L118	(0.1	2.87	(3	35	(3	0.15	2.0	8	ä	13	3.07	0.05	0.42	215	ä	0 01	5	0.02	12	0	15	19	6	(3	67
CON/90 L119	(0.1	2.75	(3	35	(3	0.0R	1.0	9	35	16	3 25	0 05	0.38	280		(0.01	17	0.00	12		12	12	/5	12	50
CON/90 L120	(0.1	2.33	(3	36	(3	0.10	2.0	10	4	12	3,21	0.05	0.22	259	5	0.01	3	0.03	{2	(2	16	16	<b>(5</b>	(3	63
COH/90 L121	(0.1	2.51	(3	54	(3	0.13	1.9	5	a	10	1.89	0.03	0.29	329	a	0.01	3	0.05	(2	0	12	21	(5	<3	64
COH/90 L122	<b>(0,1</b>	1.95	(3	45	(3	0.12	7.1	11	14	12	3.05	0.06	0.25	527		0.01	<u>ہ</u>	0.04	17	17	15	21	(5	(3	58
CON/90 L123	(0.1	2.41	(3	34	(3	0.08	1.9	6	ä	11	3.09	0.04	0.19	145	ä	(0.01	. a	0.04	1	0	15	14	(5		St
COH/90 L124	(0.1	1.15	(3	29	(3	0.05	1.4	7	5	9	1.34	(0.01	0.17	113	ä	(0.01	č1	0 04	17	0	12	11	(5	(3	45
COH/90 1125	(0.1	2.51	(3	29	(3	0.04	1.6	10	12	12	3.13	0.05	0.13	86	ä	<0.01	(1	0.02	(2	(2	18	10	(5	(3	41
CON/90 L126	<0.1	1.51	(3	31	(3	0.05	1.3	10	6	9	1.49	0.02	0,17	136	4	(0.01	1	0.03	0	(7	15	15	(5	(3	43
COM/90 L127	(0.1	1.25	(3	72	(3	0.07	1.2	2	a	6	0.73	(0.01	0.08	55	ä	(0.01	a	0.04	0	ö	10	25	(5	(3	54
CON/90 L128	(0.1	1.37	(3	52	(3	0.14	1.6	7	ä	9	1.78	0.04	0.35	308	ä	(0.01	ci	0.04	ö	ö	17	19	(5	(3	58
COH/90 L129	(0.1	0.31	7	28	(3	0.03	2.1	- d	5	6	0.64	(0.01	0.04	40	ä	(0.01	ä	0.05	13	3	6	12	(5	(3	63
COM/90 L130	(0.1	2.02	(3	37	(3	0.08	1.8	10	22	H	3,40	0.06	0.38	281	- A	0.01	11	0.04	(2	(2	12	14	(5	(3	67
COM/90 L131	(0.1	1.01	(3	49	(3	0.13	1.1	8	4	8	0.59	<0.01	0.08	35	49	(0.01	(1	0.04	10	(2	13	22	(5	G	56
COH/90 L132	(0,1	2.20	(3	34	(3	0.04	1.9	8	8	11	3.29	0.06	0.17	126	(1	0.01	a	0.02	0	(2	13	11	(5	(3	42
C8H/90 L201	(0.1	2.55	ä	36	(3	0.04	1.5	5	23	15	2.73	0.04	0.33	99	ä	(0.01	4	0.04	(2	12	12	13	(5	(3	44
COM/90 L202	(0,1	3.31	(3	55	(3	9.12	1.8	12	21	28	3.52	0.07	0.87	402	ä	0.02	23	0.02	(2	ä	17	20	(5	(3	92
CON/90 L203	0.2	3.57	(3	23	(3	<b>(0.0</b> ]	1.2	4	10	17	1.99	0.02	0.17	223	(i	(0.01	1	0.06	(2	(2	14	8	<5	(3	58
CON/90 L204	(0.1	3.28	(3	74	(3	0.21	2.3	13	23	25	3.70	0.09	0.72	497	<1	0.02	6	0.03	<2	(2	15	24	(5	(3	81
CDH/90 L205	(0.1	3.36	<3	37	<3	0.05	2.2	10	30	21	4.16	0.07	0.50	193	<1	0.01	19	0.04	<2	(2	16	11	<5	(3	69
C0H/90 L206	<b>{0.1</b>	2.21	(3	32	(3	0.02	1.2	9	22	16	2.21	0.03	0.37	142	(1	(0.01	4	0.05	<2	(2	12	12	<5	(3	59
COK/90 L207	0.1	5.18	(3	114	<3	0.61	2.2	30	15	39	5,40	0.18	1.44	1095	<1	0.03	14	0.12	<2	(2	21	45	<5	(3	120
COH/90 L208	(0.1	3.63	(3	153	(3	0.41	1.9	23	(1	20	3.62	0.13	1.67	475	(1	0.02	2	0.10	(2	(2	15	30	<5	(3	72
CDN/90 L209	(0.1	3.54	<3	50	(3	0.14	2.1	13	4	25	3.71	0.0B	0.74	370	a	0.01	2	0.05	<2	(2	16	20	(5	(3	94
COK/90 L210	(0.1	2.79	(3	57	(3	0.09	2.2	9	20	19	4.49	0.09	0.37	219	á	0,01	(1	0.06	<2	(2	17	14	(5	(3	78
COH/90 L211	0.1	5.11	(3	158	(3	0.47	2.5	28	8	31	4.90	0.17	1.85	666	ä	0.03	13	0.08	(2	(2	22	38	<5	(3	99
CON/90 L212	0.2	2.63	(3	88	(3	0.64	2.1	27	7	31	3.77	0.13	1.18	760	a	0.03	2	0.13	<2	(2	13	47	(5	(3	81
COM/90 L213	(0.1	3.77	(3	112	(3	0.61	2.5	28	10	35	4.39	0.16	1.33	797	ä	0.03	6	0.11	(2	(2	17	46	<\$	(3	88
CDN/90 L214	(0.1	3.44	(3	57	(3	0.12	1.9	15	1	19	4,79	0.11	0,63	400	(1	0.02	(1	0.05	(2	(2	18	19	(5	<3	54
CDN/90 1215	(0, 1	4.38	(3	115	G	0.32	2.5	23	, ,	33	6.40	0.16	0.96	551	a	0.02	0	0.11	(2	(2	25	32	(5	(3	112
CON/90 1215	(0, 1	4.35	3	129	ä	0.70	3.2	40	ė	57	5.85	0_20	1_46	1071	ä	0.07		0.12	ö	0	22	55	(5	(3	91
CON/90 L217	0.6	5.01	(3	71	(3	0.05	1.6	6	ä	22	2.41	0.05	0,45	272	ä	0.02	ä	0.10	<2	<2	18	14	(5	(3	66
Minimum Detection	<b>0.</b> i	0.01	3	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	[0.00	20000	2000	1000	10000	100	1000	20000

**Maximum Detection** ) - Greater Than Haviewe is - Techtfirient Cannin or - Wo Cannin AWAHALMHC DECHT TC - Funther Justices Bu Altonache Mohande Cumanted Z - Jace Than Miniana

1630 Pandora Street, Vancouver, B.C. VSL 1L6 Ph:(604)251-5656 Fax:(604)254-5717

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ANONALOUS RESULTS - Further Analyses by Alternate Nethods Suggested.

### ICAP GEOCHEMICAL ANALYSIS

A .3 gram sample is digested with 5 ml of 3:1:2 HCl to HMO, to H\_O at 95 °C for 90 minutes and is diluted to 10 ml with water. This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

																							<u> </u>	
REPORT \$: 900430 PA	ASHNORTH E	LPLORATIC	W LTD.			PROJE	ECT: 325A			PAT	E IN: SE	PT 10 19	90 BA	ITE OUT: (	ICT 09 19	390	ATTENTIO	I: NR.FA	YZ YACOUL	•		PAG	E 3 OF	3
Sample Hane	Aq.	ÁI.	As -	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	ĸ	Ng	Ħa	No	Na		7	Pb	Sb	Se	Sr	U	IJ
-	ppa	1	pps	epe -	ppa	1	ppa	ope.	<b>9</b> 94	<b>Pps</b>	1	1	Ì	ppa	ppe	1	996	1	9 <b>9</b> 6	000	<u>ppe</u>	<b>P96</b>	<b>PP4</b>	90 <b>8</b>
CON/90 L218	0.2	3.86	(3	69	(3	0.37	1.7	24	6	31	5.13	0.14	0.96	529	(1	0.02	11	0.05	(2	<u>`'(2</u>	19	34	(5	(3
CON/90 1219	<0. t	3.56	<3	<b>5</b> 9	(3	0.52	1.6	27	12	34	4.80	0.14	1.33	667	(1	0.02	12	0.04	(2	(2	16	47	(5	<3
CON/90 1220	(0.1	3.18	(3	79	(3	0.30	0.4	15	7	19	3.24	0.08	0.81	432	(1	0,01	5	0.06	{2	<2	14	27	(5	<3
COH/90 1221	{9.1	1.49	(3	64	(3	0.15	0.3	12	13	11	1.91	0.03	0.27	108	<1	0.01	(1	0.05	<2	<2	14	20	(5	<3
CON/90 L222	0.1	0.75	<3	41	(3	0.12	0.5	20	5	8	0.59	<b>{0.0</b> }	0.06	71	¢	0.01	4	0.01	27	3	17	25	<\$	<3
CON/90 L223	<0.1	2.67	(3	55	(3	0.23	6.8	13	4	16	3.53	0.08	0,59	616	a	0.02	(1	0.04	<2	(2	13	34	۲\$	(3
CON/90 1.224	<0.1	2.07	<3	100	(3	0.51	(0.1	16	7	23	2.81	0.10	0.81	787	4	0.02	3	0.07	(2	<2	11	54	<5	(3
CON/90 1225	0.2	1.28	<3	104	(3	0.34	0.9	16	12	11	2.03	0.07	0.73	1029	<1	0.02	1	0.04	<2	<2	11	47	<5	(3
CON/90 L226	<0.1	2.77	<3	119	(3	0.24	0.9	18	- 29	18	3.80	0.10	1.06	685	4	0.02	11	0.01	<2	<2	14	34	<5	(3
CGH/96 L227	(0.1	2.00	(3	272	(3	0.73	0.6	20	15	34	3,39	0.15	1.22	1196	<a>A</a>	0.03	i	9.19	<2	<2	12	67	<5	(3
COR/90 L228	(0.1	1.25	(3	169	(3	9,48	0.6	14	7	22	2.59	0.09	0.76	752	a	0.02	<li>di</li>	. 0.08	(2	<2	8	46	<5	<3
CBH/90 L229	<0.1	1.57	(3	229	<3	0.52	0.3	16	4	26	2.67	0.10	0.84	907	<1	0.02	(1	9.08	<2	<2	9	52	<5	<3
CUN/90 1230	<0.1	1.57	(3	121	(3	0.56	0.4	16	7	25	2.62	0.11	0.82	813	- <1	0.03	4	0.08	<2	<2	10	57	- (5	(3
CON/90 L231	<0.1	E.44	<3	106	(3	0.58	<0.L	15	6	19	2.19	0.10	0.76	750		0.03		0.08	(2	<2	10	50	<5	(3
CON/99 1232	(0.1	2.49	(3	156	<3	0.33	<b>(0.1</b>	20	7	27	3.05	0.09	0.81	1022	đ	0.02	đ	6.04	<2	<2	14	57	(5	(3
CON/98 1.302	0.2	2.25	(3	55	(3	<0.0L	<b>(0.</b> 1	5	2	11	2.26	0.04	0.30	453	α	0.02	a	0.02	<2	(2	9	10	<5	(a
COM/90 1303	5.4	2.14	{3	35	<3	0.04	1.2	3	1)	- 11	1.69	0.03	0.25	144		0.02	1)	9.05	107	(2	10	- 14	(5	- (3
CON/90 L304	9.1	1.14	(3	67	(3	0.20	0.2	8	(1	5	1.98	0.06	0.45	276		0.02		0.03	<2	<2	12	23	(5	<3
CON/90 1.305	<0.1	0.99	(3	30	(3	<0.01	(0.1	13	8	9	1.87	0.02	0.05	65	<1	<b>0.01</b>	(1	0,03	7	5	15	9	(5	(3
COH/90 1306	{0.1	2.18	<3	43	(3	0.03	<b>{0.</b> [	1	a	10	1.17	C.03	9.26	406	A.	0.01	(1	0.05	<2	(2	u	16	(5	(3
COK/90 L307	0.3	3.65	(3	32	(3	<0.01	0.8	6	2	15	4.72	0.09	0.30	229	a	0.02	a	0.05	<2	(2	16	9	(5	(3
CON/90 L308	0.1	4.12	(3	48	(3	<0.01	<b>(0.1</b>	5	a	11	3.02	0.06	0.31	349	a	0.02	(1	0.04	<2	<2	12	16	<5	(3
Rinious Setection	0.1	0.01	3	1	3	0.01	0.1	i	i	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3
Nazimen Detection	50.0	10.00	2000	1900	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	LQ.00	20000	10.00	20000	2000	1000	10000	199	1990

as - No Sample

C - Less Than Minimum

) - Greater Than Maximum is - Insufficient Sample

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APPENDIX C

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ANALYTICAL TECHNIQUES

# VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

October 19, 1990

TO:

- Mr. Fayz Yacoub ASHWORTH EXPLORATION LTD. 718 - 744 W. Hastings St. Vancouver, BC V6C 1A5
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6
- SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.
- 1. <u>Method of Sample Preparation</u>
  - (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
  - (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
  - (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. <u>Method of Extraction</u>

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Farenhiet to form a lead "button".

# VANGEOCHEM LAB LIMITED

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- (c) The gold is extracted by cupellation and parted with diluted nitric acid.
- (d) The gold beads are retained for subsequent measurement.
- 3. <u>Method</u> of <u>Detection</u>
  - (a) The gold beads are dissolved by boiling with concentrated aqua regia solution in hot water bath.
  - (b) The detection of gold was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.
- 4. Analysts

The analyses were supervised or determined by Mr. Raymond Chan or Mr. Conway Chun and his laboratory staff.

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Raymond Chan VANGEOCHEM LAB LIMITED

# VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

October 19, 1990

TO:

- Mr. Fayz Yacoub ASHWORTH EXPLORATION LTD. 718 - 744 W. Hastings St. Vancouver, BC V6C 1A5
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6
- SUBJECT: Analytical procedure used to determine hot acid soluble for 25 element scan by Inductively Coupled Plasma Spectrophotometry in geochemical silt and soil samples.
- 1. Method of Sample Preparation
  - (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" X 6", Kraft paper bags. Rock samples would be received in poly ore bags.
  - (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
  - (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2 <u>Method of Digestion</u>

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were digested with a 5 ml solution of HCl:HNO3:H2O in the ratio of 3:1:2 in a 95 degree Celsius water bath for 90 minutes.
- (c) The digested samples are then removed from the bath and bulked up to 10 ml total volume with demineralized water and thoroughly mixed.

# GC VANGEOCHEM LAB LIMITED

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### 3. <u>Method of Analyses</u>

The ICP analyses elements were determined by using a Jarrell-Ash ICAP model 9000 directly reading the spectrophotometric emissions. All major matrix and trace elements are interelement corrected. All data are subsequently stored onto disketts.

### 4 Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. Raymond Chan and his laboratory staff.

Raymond Chan VANGEOCHEM LAB LIMITED

## APPENDIX D

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## ITEMIZED COST STATEMENT

## THE COMMANDER I-VII CLAIMS

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### ITEMIZED COST STATEMENT

Field Crew: Project Geologist @ \$350/day x 5 days Prospector @ \$300/day x 5 days Two Geotechnicians @ \$250/day x 5 days	\$ 1,750 1,500 2,500	5,750
Field Costs: Food and Accommodation @ \$160/day x 20 mandays Communications @ \$75/day x 5 days Cargo/Sample Shipping/Expediting	\$ 3,200 375 675	4,250
Lab Analysis: 27 Rock Samples 43 Stream Sediment Samples (Aqua Regia/AA for Au & Multi-element I	.C.P.)	2,157
Helicopter Support:		3,277
Report: Data Compilation and Report Writing Drafting and Maps Word Processing, Copying, Binding	\$1,475 633 450	2,558
Sub-Total:		\$ 17,992
Administration and Supervision @ 15%		2,698
TOTAL:		\$ 20,690







![](_page_54_Figure_1.jpeg)

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