

# GEOLOGICAL, GEOCHEMCIAL

# RADIOMETRIC AND DRILLING REPORT LUMBY AREA, B.C.

TAI 1 - 7 CLAIMS

"THE INFORMATION CONTAINED HEREIN HAS BEEN ACQUIRED BY VIRTUE OF THE ATOMIC ENERGY CONTROL REPULATIONS PURSUANT TO THE ATOMIC THEORY CONTROL ACT THIS INFOR-MATION IS NOT TO BE RELEASED WITHOUT THE PERMISSION OF THE ORIGINATOR."

GEOLOGICAL, GEOCHEMCIAL

RADIOMETRIC AND DRILLING REPORT LUMBY AREA, B.C.

TAI 1 - 7 CLAIMS

Claims: TAI 1-6 (213-218) TAI 7 (488) Claim Drilled: TAI 78-3 - Claim 3 TAI 78-1 - Claim 5 TAI 78-2 - Claim 7 MINING DIVISION: VERNON NTS Location: 82L/2W Latitude and Longitude: 50°09'N., 118°51'W. Owner of Claims: E & B EXPLORATIONS LTD Operator: E & B EXPLORATIONS LTD Contractor: CAN-LAKE EXPLORATIONS LTD Can-Lake Project Number: 1003-010 Writers: R. CANN, B.Sc.

J. LUND, M.Sc., P.ng. (BRITISH COLUMBIA)

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### SUMMARY

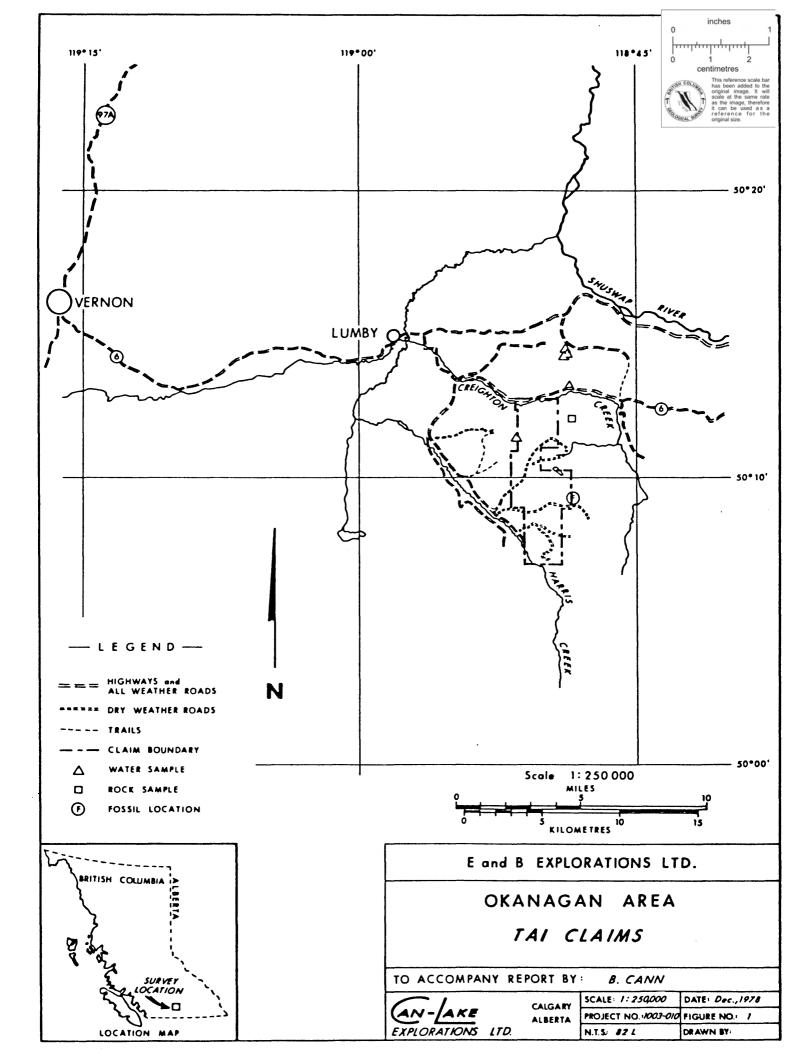
The TAI 1 - 7 claims are located 325 kilometers ENE of Vancouver in the Vernon Mining Division.

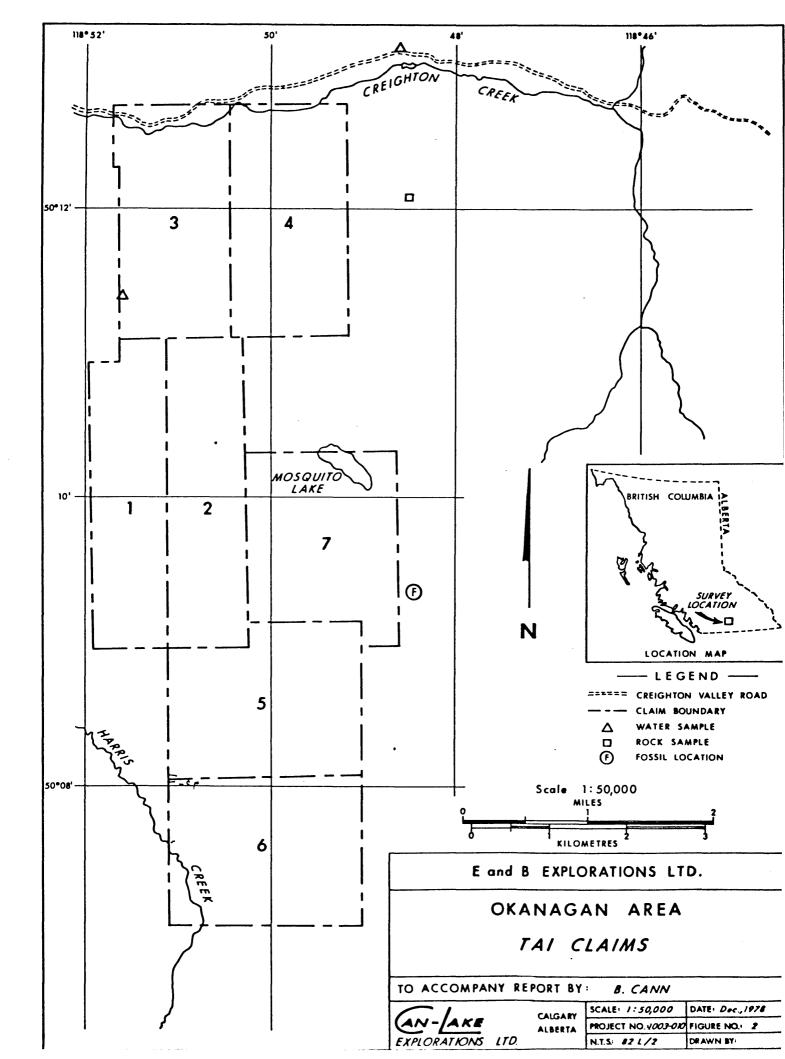
The central and northern part of the claims are underlain by Eocene rhyolite flows and tuffs. South of these Eocene sandstones, conglomerates and siltstones occur. In the south these rocks overlie a basement of Upper Jurassic or Cretaceous granitic rocks and Precambrian gneissic rocks. Andesitic and basaltic flows occur locally within the Eocene units.

Geochemical rock sampling and radiometric prospecting found background uranium values in all rock types.

Drilling of Eocene sediments and tuffs found no uranium mineralization or enrichment.

Since no uranium enrichment or indication of possible uranium mineralization was found, no further work is recommended on the claims.





#### INTRODUCTION

The Tai Claims were staked in December 1976, and June 1978, to cover an area of Eocene acid volcanics in south-central British Columbia. These volcanics were thought to have been a possible source for uranium, that under the right conditions would be enriched in underlying sediments. Uranium mineralization in a somewhat similar setting has been found at the Sherwood Mine in Washington.

Reconnaissance mapping, silt, water, soil sampling and radiometric prospecting were carried out on the property by Dolmage Campbell and Associates (1975) Ltd., in September and October 1977. No geochemical or radiometric anomalies were found (Jones, 1977).

This report describes follow-up mapping, radiometric prospecting, geochemical sampling and results of 293 meters of diamond drilling. Work was conducted as part of the Okanagan Project. A statement of expenses is enclosed as Appendix A.

### LOCATION AND ACCESS

Tai l to 7 are located in the Vernon Mining Division at latitude  $50^{\circ}$  09', longitude 118° 51'; in NTS 82 L/2 (Figure 1).

They are situated approximately 325 kilometers ENE of Vancouver, British Columbia.

Access is good to most of the claims due to numerous logging roads in the area. The north end of the claims is accessible via the Creighton Valley road which turns south from Highway 6, one kilometer east of Lumby. South and central parts of the claim can be reached via the Harris Creek logging road which turns south from the Creighton Valley road six kilometers from Highway 6. Mosquito Lake and Home Creek logging roads, which turn off the Harris Creek road provide further access.

#### TOPOGRAPHY AND VEGETATION

The Tai claims are located in the Okanagan Highland. This plateaulike region has been cut at the north end of the claims by the east-west trending Creighton Creek Vally and at the south end of the claims by the south-east trending Harris Creek Valley. Relief is approximately 900 meters with valley floors at around 650 meters elevation.

Slopes are steep along the main valleys. North facing slopes are heavily forested with first and second growth cedar. South facing slopes are generally faily open pine forests.

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## PROPERTY

The property consists of seven claims (Tai 1 - 7; Figure 2) totalling 128 units, recorded as follows:

Claim Name	Units	Record Number	Staking Date	Recording Date	Mining Division
Tai l	16	213	December 19, 1976	January 18, 1977	Vernon
Tai 2	16	214	December 19, 1976	January 18, 1977	Vernon
Tai 3	18	215	December 21, 1976	January 18, 1977	Vernon
Tai 4	18	216	December 21, 1976	January 18, 1977	Vernon
Tai 5	20	217	December 23, 1976	January 18, 1977	Vernon
Tai 6	20	218	December 23, 1976	January 18, 1977	Vernon
Tai 7	20	488	June 18, 1978	July 11, 1978	Vernon

Tai 1 - 6 are held in trust for E & B Explorations Ltd. by R. S. Adamson. Tai 7 is owned by E & B Explorations Ltd.

#### HISTORY

Little mineral exploration has occurred in this area. A small amount of placer gold was recovered during the 1930's from Recent and Miocene gravels occurring along Harris Creek below where it is joined by Nicklen Creek. (B. C. Minister of Mines, 1936).

Four kilometers north of the Tai claims a large mass of radioactive pegmatite occurs within Monashee gneissis. Spotty radioactivity is associated with monazite in quartz, giving a reported assay of 0.069% THO2, 0.044% U<sub>3</sub>O<sub>8</sub>. (McCammon, 1971).

On the Vidler Arkose claims immediately to the west of the Tai group, uranium has been reported in Eocene sediments. These sediments were drilled between 1974 to 1977 with no further mineralization being discovered.

In 1976 the Geological Survey of Canada sampled this area as part of their reconnaissance program (September, Energy, Mines and Resources, 1977). They obtained a slightly anomalous water sample draining the south area of Tai 1.

In 1977, a reconnaissance mapping, radiometric prospecting, and geochemical sampling program was carried out by Dolmage Campbell and Associates (1975) Ltd. (Jones, 1977). They found no anomalous areas.

## FIELD WORK

Mapping and prospecting were carried out by a geologist and assistant intermittently during the months of May and June, 1978.

Geology and geochemical samples were plotted on 1'' = 1/4 mile air photographs and later transferred to a 1:10,000 scale topographic base map.

Radiometric readings were taken using a McPhar TV-1A Spectrometer.

Twenty-three rock samples were taken for geochemical analysis to try and determine the suitability of various rock types as a source for uranium. Three silt and eight water samples were also taken.

Two-hundred and ninety three meters of NQ diamond drilling were completed on August by Herb Allen Drilling, Merrit. Drill core is stored at each drill hole site. composition, but is still badly weathered.

In the west central section of Tai 5 and at the bottom of DDH Tai 78-1 a weakly foliated, dioritic intrusive with local K-feldspar flooding is exposed. It is probably that this rock is related to the syenite and quartz monzonite with the steeply dipping foliation perhaps related to faulting along Harris Creek.

## 4. Kettle River Formation - Eocene

Much of the Tai group is underlain by acid flows and tuffs. To the south, especially on Tai 5, sandstones and siltstones become predominant. Volcanic rocks are resistant to erosion forming highlands and prominent cliffs, whereas the sediments weather recessively forming lowlands and valleys, and being exposed only in road cuts and drill core.

During mapping, these rocks were divided into seven units as described below.

a) Andesite Flows (Unit 4) Red to purple, and locally green flows occur on the Mosquito Lake road due west of the south-west corner of Tai 1, and in outcrop and drill core at the north end of Tai 3. These flows often contain biotite phenocrysts and stubbly feldpar phenocrysts. Locally the flows are amygdaloidal, the vesicules containing phenocryst or celadonite. Also, associated with these flows are andesitic tuffs which heave into these plates, and an agglomerate containing vesicular andesitic fragments.

Radiometric readings are around 2800 cpm.

b) <u>Rhyolite Tuffs</u> (Unit 5) Medium to fine-grained, cream to pale grey tuffs occur mainly at the north end of the Tai group. They consist dominantly of 1 - 2 mm orthoclase crystals and biotite grains. Pyrcene and quartz occur in lesser amounts.

Generally, the tuffs are well sorted and massive, however, bedding has been observed locally. Lithic clasts occur at isolated locations.

Unit 5A is coarse-grained, bleached sandstone. It is generally poorly sorted with angular clasts. Laterally the unit probably grades into Unit 7.

Unit 5B is a poorly sorted pebble conglomerate. The angular clasts are mainly rhyolite flow.

Spectrometer readings over this unit range from 2800 to 4500 cpm.

c) <u>Rhyolite Flows</u> (Unit 6) These rocks are typically light grey to green-grey in color, and porphyritic. Phenocrysts are 1 - 2 mm orthoclase crystals, 1 - 2 mm hornblende laths, 1 mm biotite grains and locally 1 - 2 mm rounded quartz grains. The matrix is aphanitic, glassy grey and was used as the main criteria for distinguishing flows

from dense tuffs. In the south-east corner of Tai 4 a pumaceous texture was observed.

Flow banding and autobrecciation are common. The latter produces a flow breccia consisting of subrounded lightly bleached rhyolite fragments in a rhyolite flow matrix.

Radiometric readings range from 2000 to 5500 cpm.

d) <u>Lithic Sandstone, Conglomerate</u> (Unit 7) On Tai 6, coarse grained, arkosic sandstone occurs interbedded with syenite cobble conglomerate. Syenitic fragments (occasionally greater than 1 meter across) are the predominant clast type, however, granites, gneisses and basalts also occur. Clasts are generally subangular and appear to be derived mainly from Unit 3, described above. The matrix is a poorly sorted, coarse-grained wacke or lithic sandstone.

Sandstones are tan-colored, medium to coarse-grained, moderately well sorted and locally carbonaceous. In drill core laminations dip at approximately 45°.

In DDH Tai 78-1, conglomerate becomes the dominant rock type towards the basement.

Spectrometer readings range from 1700 to 3500 cpm.

e) <u>Arkosic Sandstone, Fossiferous Siltstone</u> (Unit 8) On Tai 7 the predominant sediment is thinly interbedded carbonaceous siltstone, sandstone and thin coal seams. In DDH Tai 78-2, this sequence is a minimum of 100 meters thick. Fossil leaves were collected from this unit and three were identified by Dr. G. Rouse at the University of British Columbia. They are:

		Comments
i)	Platanophyllum Whitney:	Index species for Eocene of Western N. America

ii) of Glyptostrobus U. Cretaceous - Oligocene

iii) Dryophyllum (Fagaceae -)

These indicate an Eocene age for the sediments. As well as forming local basins, these sediments occur as small channels in Unit 5 and Unit 10.

Where exposed on roadcuts, sediments of this unit are weathered to a soft, friable rock. Interbedded with the above sediments is a poorly consolidated lahar (Unit 8A) consisting of large blocks of Unit 10 in a silty matrix.

Radiometric readings range from 3,000 to 5,000 cpm.

f) Trachyandesite (?) Unit 9) Interbedding with Unit 10 and in

part overlying Unit 8 are yellow-green to olive colored flows which are often highly vesicular. Vesicles are commonly lined with agate or opal. Dykes of this unit have been observed cutting Unit 10. Less commonly the flows are dense black basalt.

g) <u>"Pitchstone" Breccia"</u> (Unit 9) This flow breccia consists of grey to black, angular, glassy rhyolitic fragments in a matrix which varies from fine, glassy dust to glassy rhyolite. Locally this breccia can be observed to grade into highly fractured, massive pitchstone.

Agglomerate, consisting of large, angular, grey to red vesicular andesite fragments occurs throughout the unit.

The breccia is highly resistant to erosion forming "knobbly" textured cliffs, ridges and hoodoos.

Spectrometer readings over this unit range from 2500 to 4000 cpm.

5. Basalt - Miocene (Unit 11)

Immediately east of the Tai group, flat lying, columnar jointed, basalt appears. The base of the basalt is at about 5200 feet (1,600 meters) elevation. No sediments were observed underlying the basalt.

## SAMPLING AND PROSPECTING RESULTS

#### GEOCHEMISTRY

Twenty-three rock samples, three silt samples and eight water samples were taken for geochemical analysis. Locations of samples are shown on Figure 3.

Samples were sent to Vangeochem Lab Ltd., North Vancouver. An outline of their analytical method and the results are given in Appendix B.

A summary of rock geochemistry is given below:

Map Unit	Lithology	Number of Samples	Range (ppm)	Mean (ppm)
11	Basalt	0	-	-
10	Pitchstone breccia	1	-	0.28
9	Andesite	0	_	-
8	Sandstone, siltstone congl.	5	0.42 - 1.45	0.74
7	Sandstone, conglomerate	4	0.46 - 1.24	0.69
6	Rhyolite flow	7	0.06 - 1.15	0.60
5	Rhyolite tuff	3	0.2 - 0.8	0.49
4	Andesite	0	-	
3	Syenite, quartz monz.	3	0.22 - 2.02	0.87
2	Volcanics, limestone	0	-	-
1	Gneiss	0	-	-

## DRILLING

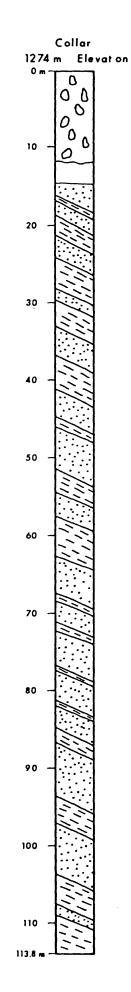
Three NQ diamond drill holes (TAI78-1, 2, 3,) totalling 293 meters were drilled on the Tai group to test for uranium mineralization on sediments. Location of drill holes is shown on Figure 3. Complete drill logs are in Appendix C (in pocket). Radiometric logs gave no response above background and are enclosed as Appendix D (in pocket).

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Drill logs are summarized in Figures 4, 5, 6.

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ASSAYS



LITHOLOGY

OVERBURDEN

## VESICULAR BASALT

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THINLY INTERLAMINATED, CARBONACEOUS MUDSTONE, SILTSTONE, SANDSTONE, MINOR CLAYSTONE

> FIGURE 5 D.D.H. TAI 78-2 SUMMARY

ASSAYS

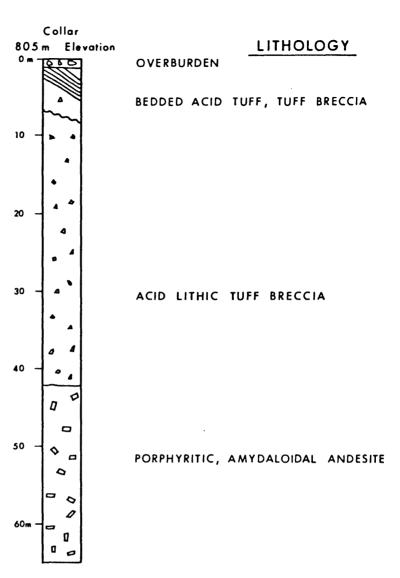


FIGURE 6 D.D.H. TAI 78-3 SUMMARY

### CONCLUSIONS

In the south part of the claim group, Precambrian Monashee gneisses and Upper Jurassic or Cretaceous syenite and quartz monzonite form the basement. Overlying and/or in fault contact with these basement rocks are local andesite flows and more extensive Eocene sandstones and conglomerates. Interbedded sandstones and siltstones occur in deep, probable fault controlled basins.

Further north Eocene rhyolite flows and flow breccias become predominant. These are probable partially time equivalent to the sediments and partially overlying.

At the north end of the property rhyolitic tuffs locally containing sediment filled stream channels are dominant. In some areas these lie directly on andesitic flows of probably Eccene age.

All rocks have low to average uranium contents. The highest uranium content is in syenite.

No radiometric anomalies were found.

Drilling of sediments at the south end of the group and through tuffs at the north end of the group found no indication of uranium mineralization or enrichment, even in coal horizons.

The geological setting necessary for uranium enrichment does not occur in this are probably due to any or all of the following reasons:

- a) low uranium content of rhyolites
- b) how the uranium occurs in the rhyolites (leachability)
- c) low porosity of acidic rocks

## RECOMMENDATIONS

Due to lack of any indication of uranium enrichment, no further work can be recommended on the property.

It is recommended the property be allowed to lapse.

## STATEMENT OF QUALIFICATIONS

I, Robert M. Cann, of the City of Vancouver, British Columbia, do hereby certify that:

- 1. I am a graduate of the University of British Columbia in Geological Sciences, 1976.
- 2. I am presently a graduate student in geology at the University of British Columbia.
- 3. I am a member of the Geological Association of Canada and the Canadian Institute of Mining and Metallurgy.
- 4. I have practiced my profession since 1976.

Dated at Vancouver, British Columbia, this day of

Robert M. Cann

#### REFERENCES

British Columbia Minister of Mines 1936: Annual Report of the British Columbia Minister of Mines, p. D43.

Department of Energy, Mines and Resources (and British Columbia Ministry of Mines and Petroleum Resources 1977): Regional Stream Sediment and Water Geochemical Reconnaissance Data, Southeastern British Columbia, O.F. 416

Jones, A. G. 1959: Vernon Map-area, British Columbia, Geological Survey of Canada; Mem. 296

Jones, H. M. 1977: A Geological-Geochemical-Radiometric Report on the Tai No. 1 - 6 Claims. Private report for E & B Explorations Ltd.

Little, H. W. 1957: Kettle River (East Half), Geological Survey of Canada, Map 6-1957

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1961: Kettle River (West Half), Geological Survey of Canada, Map 15-1961

McCammon, J. W. 1971: Report on Spar Claims. Geology, Exploration and Mining in British Columbia, British Columbia Minister of Mines and Petroleum Resources, pp. 431-432 APPENDIX A

STATEMENT OF EXPENSES

# STATEMENT OF EXPENDITURES

l. Wages:				
a) Fie	1d			
	Project Geologist			
	June - 30 days @ \$250/day	\$	7,500.	
	July - 31 days		7,750	
	August-20 days		5,000	
	October-2 days		500	\$ 20,750
	Assistant		· · · _ · _	
	June - 28 days @ \$100/day	\$	2,800	
	July - 31 days		3,100	
	August-18 days		1,800	7,700
	•			
b) Of				
	Senior Geologist June - 2 days @ \$225/day	\$	450	
	July - 1 day	Ş	225	
	Oct - 1 day		225	900
2. Food a	nd Accommodation:			
	June - 60 field days @\$33/d	ay\$	1,980	
	July - 62 field days		2,046	
	August-38 field days		1,254	
	October-2 field days	<del>ار ان میرور.</del> 	66	5,346
3. Transp	portation:			
	1 GMC 4x4 Jimmy (including			
	fuel) @ \$42/day			
	June - 30 days	\$	1,260	
	July - 31 days		1,302	
-	August-20 days		840	
	Airplane Fees		70.20	
	-		180.40	
			100 05	

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106.65

3,759.25

# 4. Instrument Rental:

1 Spe	cti	come	eter @	\$10/day			
June		30	days	\$	300		
July	-	31	days		310		
Aug.	-	20	days		200	\$	810

Accessories(Altimete	r,	
Compass, Transit, et	.c.)	
at \$10/day	\$	
June - 30 days	300	
July 31 days	310	
August -20 days	200	810

Camp (eq	quipment and			
accessor	ies only @ \$16,	/		
man/day	in field)			
June -	58 days	<u>\$</u>	928	928

# 5. Drilling:

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Hole No. 1:		
Harris Creek- 373 ft.(	113	m
NQ drilling @ \$18/ft	\$	6,714.
Moving from Winfield to	c	
Holė # 1 - 36 man hrs	e	
\$15/hr	\$	540.
Living Expenses for 2		
days @\$\$60/day	\$	120.
Living expenses for l		
day standby - 16 man		
hours @ \$15/stand by	\$	240.
20 mud bags @ \$7/ bag	\$	140.
l bag Tannex @ \$22/bag	\$-	22.
2 hours cat time @\$30/		
hour	<u>\$</u>	60

7,836

Hole No. 2 Harris Creek - 374 ft. (114m) NQ drilling @ \$18/ft \$ 6,732.

# ...2

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# 7. Geochemistry:

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23	rock samples	@ \$4/sample	\$	92		
8	water samples	s @ \$3/sample	\$	24		
3	silt samples	@ \$3.85/samp	le	11.55		
17	core samples	@ \$11/sample		187	\$	314.55
Supplier, shipping	equipment, ad	ccessories,	<u>\$</u>	309.75		309.75
	eous, cost of on, maps etc.	report	\$	500	\$	500.
		Total:			\$65	,254.55

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## - APPENDIX B

# GEOCHEMICAL SAMPLE PREPARATION AND ASSAYS

- (b) The wet samples were dried in a ventilated oven over-night.
- (c) The dried soil or silt samples were sifted by a shaking machine with an 80-mesh stainless steel sieve. The plus 80-mesh fraction material's were rejected and the minus 80-mesh fraction materials were transferred into a coin envelope for analyses later.

(d) The dried rock samples were crushed and pulverized by using a jaw crusher and a disc mill to minus 100-mesh. The pulverized samples were stored in a 4"x6" paper bags later analyses.



In our routine uranium analysis we use 0.50 grams of material digested in 10 ml of 4N HNO<sub>2</sub>. However, I would like to propose the following procedure to analyse the E & B uranium samples. This procedure would give lower detection limit and the solvent extraction would eliminate some metals which may be interfering with the analysis.

Procedure: Uranium Analysis

- 1. 1.00 gram of sample
- 2, 10 ml of 6N HNO,

-1--- ---

- 3. 2 ml aliquot and 2 ml ethyl acetate extraction
- 4. Burned to ashes and high temperature fusion
- 5. Fluorimetric analysis

Due to the few extra steps and chemicals required for the procedure we would like to charge \$3.50/analysis. The routine uranium is \$2.75/analysis.

Please let me know if you approve the above method,

My kindest regards.

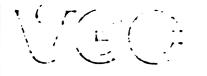
Yours very truly,

Convey Chose

CC:mb

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VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA V7P 2S3 you willing

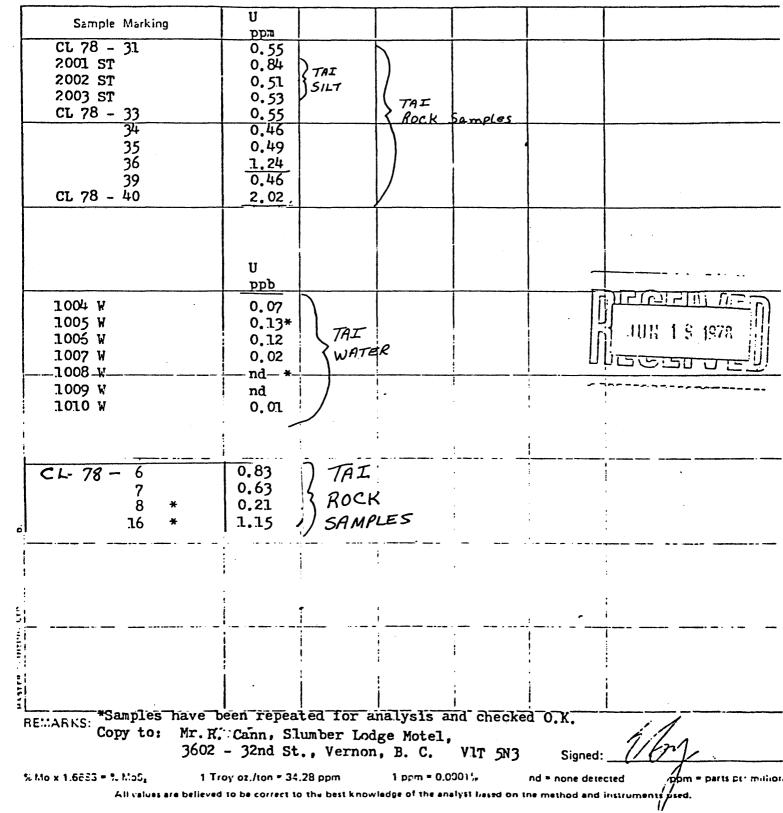
TELEPHONE: 005-5211 ANEA CODE: 664

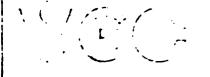
Telex: 04-352578

• Specialising in Trace Elements Analyses •

# **Certificate of Geochemical Analyses**

-IN ACCOUNT WITH-78 38 006 of 1 Report No: Page 1 June 14, 1978 E & B Explorations Ltd., Samples Arrived: 3015 Shell Center, 400-4th Ave. S.W., Report Completed: June 16, 1978 Calgary, Alberta T2P 0J4 For Project: R. Cann Attention: Analyst: S.C. Job # 78-060 Invoice # 1954





VARGEBUREN LABEID. 1521 FEMPERTON AVE., NORTH VANCOUVER, B.C., CANADA V7P 2S3

.... TELEPHONE: SEC 5211 AREA CODE: CD4

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• Specialising in Trace Elements Analyses •

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# Certificate of Geochemical Analyses

-IN ACCOUNT WITH-E & B Explorations Ltd. 3015 Shell Center, 400, 4th Ave. S.W. Calgary, Alberta, T2P 0J4 Attention:

Report No:	78 38 008 Page 1	.of ]
Samples Arrived:	July 4, 1978	
Report Completed:	July 7, 1978	
For Project:	Okanagan	
Analyst:	SC.	
Invoice #2004	Job #78094	

Sample Marking	U ppm					
CL - 78 - 42 R 46 47 49 50 58	0.38 0.06 0.73 0.42 0.80	TAI	SAMPL	ES		
50 CL - 78 - 62 Water samples	0.60 0.41 U ppb					
1011 W 1012 W 1020 W	0.12 0.60 0.12	TAI WATER				
Sample Marking	U ppm					
CL - 78 - 67 R 69 71	0.22 0.28 0.70	TAI	SAMPL	ES		
75 CL - 78 - 76 R	0.60 0.21		·			
	-				; ; ; ; ;	
REMARKS:	Green copy t	Vernon,	вС		Signed	l'Alen.
% Mo x 1.6683 = % MoSz	1 Troy oz./10n = 34.2	8 ppm	1 ppm = 0.0	001%	nd = none dete	cted ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

