Geological Evaluation Report

for

Donnex Resources Inc.

Golden Dawn Explorations Ltd.

on the

LEADER A MINERAL CLAIM

Fort Steele Mining Division

N.T.S. 82F 9E

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,011

August 17, 1983 Vancouver, B.C. L. Sookochoff, P.Eng. Consulting Geologist

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SOOKOCHOFF CONSULTANTS INC. 311 - 409 Granville St. Vancouver, B. C. V6C 1T2

#### SUMMARY

RE: LEADER A CLAIM, FT. STEELE M.D.

The writer's report dated August 17, 1983 covers development and pertinent facts prior to the following exploration work. Much work has been done since that report with encouraging results. The following is a brief description of the development work which has taken place after August 17, 1983. The exploration work was carried out by Trans-Arctic Explorations Ltd.

- A 20 lb. bulk sample was analyzed for Fe, CaO, Al203, Si02, S, Au (see certificate #001-A dated September 28, 1983), at the request of Messers Mandry and Reid of Cominco in Trail, B. C. The results show that the ore is very clean and lends itself readily to smelting without penalties. Cominco would possibly even run the ore free to obtain the silica for flux.
- A grid was established and a detailed VLF EM survey was conducted.
- Approximately one-half mile of road was constructed to the site.
- An area of 80 feet wide and 400 feet long was logged to facilitate side casting of overburden during the stripping program.
- 400 feet of stripping directly over the vein was completed.
   The vein is up to five feet wide.
- Channel sampling was conducted over the 400 feet of freshly exposed vein. Samples were cut across the vein at six inch intervals, and bulked into six foot sections of veins for a total of 68 samples over the length of the vein. Rock from the footwall and hanging wall was also included in the samples.
- One bulk sample of random vein material was shipped to Cominco. This entire sample was then crushed to -80 mesh, split and mixed six times. The remaining sample was then riffled into eight samples and sent for assay. The sample returned from .15 oz. Au per ton to .31 oz. Au per ton. These samples

were rerun in Vancouver at Chemex Labs and returned an average of .252 oz. Au per ton.

- After completion of road building, bulk sampling, and channel sampling, the cat was winterized and the camp was closed for the season. Samples were then taken to Chemex Labs in Vancouver for analysis. The results (see enclosed assay certificate #s 001-A & 002A) which were received 10 days later showed such a strong consistency of significant gold values along strike that the camp was re-opened and another 400 feet of vein was stripped before the program was again suspended due to snow conditions. Additional chip sampling was done over a portion of the 400 feet of newly exposed section. Results are pending.

This property has never been explored by drilling and offers an excellent potential for the development of sufficient tonnages of material grading better than .25 oz. Au per ton to establish an economic mining operation.

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Laurence Sookochoff, P.Eng.

## Geological Evaluation Report

on the

#### LEADER A MINERAL CLAIM

#### PART A

# SUMMARY

The Leader A mineral claim is located 30 km west of Cranbrook and within five km west of Perry Creek where placer gold was located in 1896 and where up to 20 foot wide gold quartz veins within fissures occur hosted by the Creston formation of Proterezoic age.

A gold bearing quartz vein on the Leader A claim can be traced for 2000 feet and varies from six inches to three feet wide. The vein is indicated to occur in the Kitchener formation which consists predominantly of impure magnesian limestone, argillite and calcerous quartzite. A porphyritic granite occurs within 200 feet of the vein with a fault contact zone to the Creston formation in the immediate vicinity.

The quartz vein is bounded on the hanging wall by a gouge zone with an adjacent sheared brownish weathering quartz carbonate rock. The foot wall rocks are quartzitic sediments.

The vein has been developed by a dozen or more open cuts, a shaft 55 feet deep and an adit 127 feet long. Sample results on the vein structure range from 0.02 to 4.80 oz Au/ton; silver from 0.30 oz to 57.5 oz; lead from 1.5 to 69.5% and copper from 6.8 to 10%.

In 1963 Mr. Chamberlain P.Eng. reports sample averaging 0.40 oz Au across 1.4 feet in the adit zone including a six inch sample assaying slightly more than one ounce per ton. Based on limited sampling, he calculated reserve tonnages of 730 tons of probable ore and 1720 tons of possible ore grading 0.41 oz Au/ton with values in lead and silver.

In 1983 the writer obtained a chip sample from an open cut north of the adit zone which assayed 0.598 oz Au/ton across 1.9 feet.

#### CONCLUSIONS

The Leader A claim covers a known 2000 foot long fissure zone hosting a quartz vein up to three feet wide and assaying up to 4.80 oz Au per ton with silver and lead values.

Although the specific geology of the specific vein area is masked by metamorphism, the mineralized zone appears related to a volcano-sedimentary contact. Should this be the case the gold bearing quartz zones would only be limited to the extent of the flows with potential extensive gold values in the 0.1 to 0.2 oz per ton range in addition to more limited high grade values which in this case up to 4.80 oz Au/ton are indicated.

In addition to the known zone parallel or associated gold bearing zones would be commonly present.

Thus with the known lateral extent of the quartz vein with the significant contained gold values in a favorable geological environment for mineral continuity horizontally and vertically and in a general placer gold area the gold bearing quartz structure on the Leader A mineral claim should be systematically explored to delineate economic gold bearing zones.

## RECOMMENDATIONS

It is recommended that a localized exploration program over the known and indicated extension of the gold bearing quartz vein be carried out. The exploration program would consist of geochemical and geophysical surveys followed by trenching, mapping and sampling. Prime anomalous areas would be covered by an I.P. survey whereupon diamond drilling would be carried out to delineate gold bearing minepal zones.

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Laurence Sookochoff, P.Eng. Consulting Geologist

August-17, 1983 Vancouver, B.C.

## Geological Evaluation Report

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#### LEADER A MINERAL CLAIM

#### PART B

#### INTRODUCTION

Upon the request of officials of Donnex Resources Inc. and Golden Dawn Explorations Ltd., the writer prepared the following evaluation report on the geological potential of developing economic zones of gold-silver-lead mineralization on the quartz vein within the confines of the Leader A mineral claim.

Information for this report was obtained from pertinent publications as cited under bibliography and from a property examination carried out by the writer on June 14, 1983.

#### PROPERTY

The property is comprised of one located mineral claim of which the particulars are as follows:

Claim Name Recording Date Record No. Expiry Date

Leader A July 12, 1983 1834 July 12, 1984

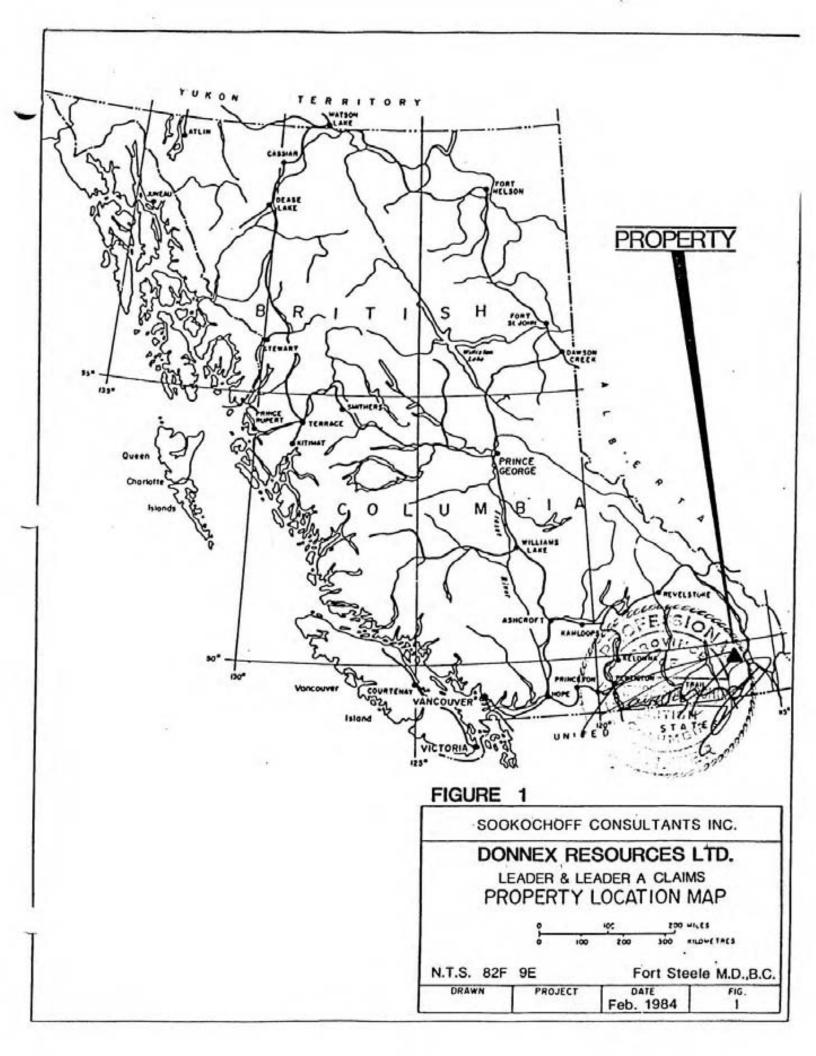
Because of the acquisition of four old two post claims - which were enveloped by a unit block - by the nine unit Leader A claim, the effective area of the property consists of approximately 85 hectares covering the former two post claims and a separate area of approximately 20 hectares to the east.

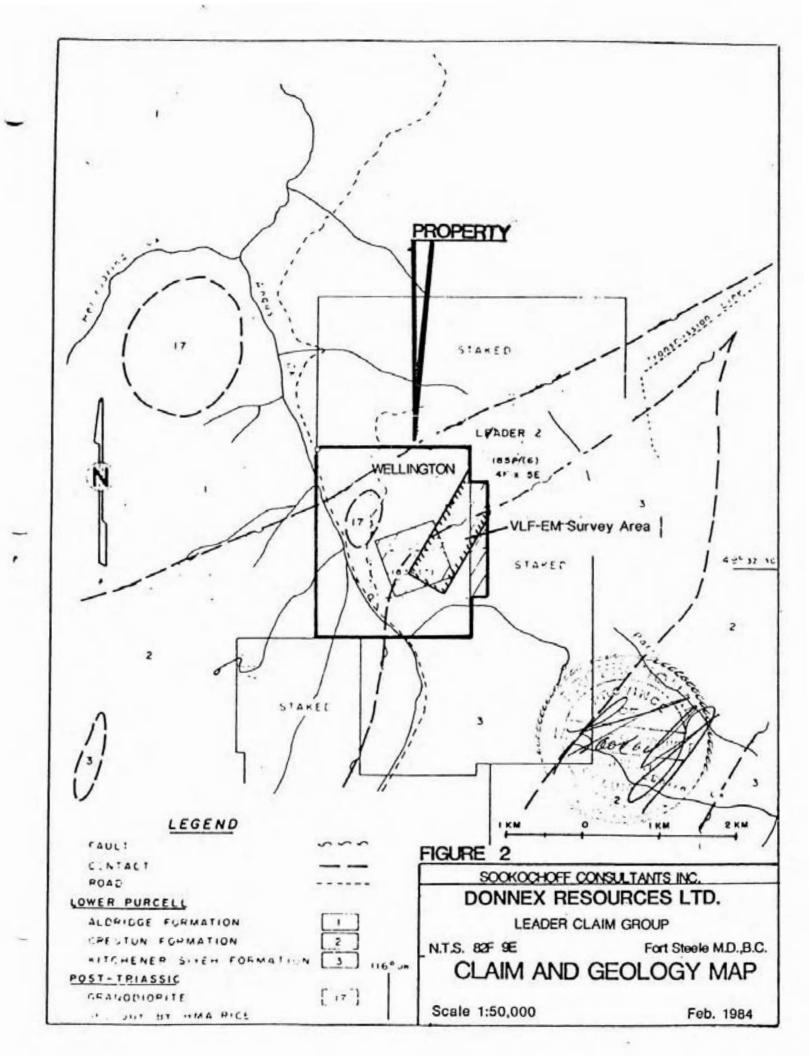
Any legal aspects pertaining to the claims are beyond the scope of this report.

#### LOCATION AND ACCESS

The property is located 30 km west of Cranbrook on Angus Creek and between Hellroaring Creek to the west and Perry Creek to the east.

Access from Cranbrook is for 20 km north along Highway 95-A thence 15 km along an all weather secondary road to the west and paralleling St. Mary's River. A main logging road crosses St. Marys River to the south and east to the Angus Creek road along which the LCP is located.





#### TIMBER AND TOPOGRAPHY

The claim is within the Moyie Range of the Purcell Mountains and is on the western facing slopes of the Angus Creek valley. The gentle to moderate partially logged slopes cover elevations ranging from 1675 meters at the southwest to 1950 meters at the northeast of the main block. Elevations of up to 2135 meters occur on the separate block to the east.

# WATER AND POWER

Water would be available from the adjacent Angus Creek for most of the snow free surface exploration period which may last up to eight months.

Should an underground operation be established, work may be performed throughout the year.

Diesel electric power would be required for all phases of the exploration and devlopment program.

A commercial power line is eight km to the north.

#### HISTORY

The history of the property area stems from the production of gold from the placers of the Wild Horse River tributaries to the east of the Perry Creek placers within five km to the southeast.

In 1893 it was reported that Wild Horse River yielded over six million dollars in placer gold but little prospecting for gold in hard rock has been done up to that date.

The showings covered by the Leader A claim were probably discovered at the time when many claims were located on Perry Creek, a creek five km to the southeast of the property. The Perry Creek claims were originally located in 1896 by prospectors in search of placer gold which had been worked with much success on the same creek.

In Memoir 76 (1915) the property is referred to as the Mascot and Eclipse and by this time most of the present work indicated on the property to the present time had been done.

In 1955 the property is referred to as the Leader and held by Harold Bennet of Cranbrook under the name of Old Glory.

The Leader A claim was staked in 1983 upon the expiration of four former two post Leader claims covering the quartz vein.

#### REGIONAL GEOLOGY

The general geological setting of the area is of the Proterozoic Lower Purcell Group which is divided into three Formations. In the Hellroaring Creek - Angus Creek - Perry Creek area the Creston and Kitchener Formation predominate and are lenticularly northeasterly trending, commonly in a fault contact and bounded to the north and south by the Aldridge Formation.

The basal Aldridge Formation - the oldest formation known to occur in the area - is composed mainly of grey to brownish grey, rusty weathering argillite and argillaceous quartzite.

The Creston formation is transitional from the Aldridge formation embraces that succession of and argillaceous quartzites which is included between the dark rusty weathering, argillaceous quartzites of Aldridge formation and the thin bedded calcerous rocks of the upper Kitchener formation. In general, the Creston formation consists of argillaceous quartzites, purer quartzites and argillites whose beds average about one foot in thickness. Narrow beds, pods, and lenses of calcerous rocks occur in the upper part of the formation. These are more numerous toward the top of the Creston and where they are abundant, the strata are considered to belong to the overlying Kitchener formation.

The <u>Creston formation</u> is host to gold quartz veins on Perry Creek, a northeasterly flowing tributary of the St. Marys River with the confluence 13 km northwest of Cranbrook. The deposits occur in the argillaceous quartzites which are well bedded in beds "2 inches to 2 feet" in thickness, the latter separates by thin beds of metargillites.

The deposits occur as true fissure veins averaging about "8 feet" with some as wide as "20 feet". They can be traced for long distances along strike. The gold values occur as native in the outcrops and with pyrite at depth.

The Kitchener Formation consists predominantly of impure, magnesium limestone, argillite and calcerous quartzite. Limestone and calcerous rocks compose the bulk of the formation and serve to distinguish it from the underlying formations. The upper part is generally argillaceous. Due to the formation containing easily deformed rocks, great stretches of it have been altered to chlorite and talc-carbonate schist.

Stocks and/or plugs of Mesozoic intrusive rocks are indicated throughout the area.

# STRUCTURE

The general structure of the area is of a broad, northerly striking anticline exposing the core of the Proterozoic rocks with younger rocks to the west and east. The regional St. Mary's fault trends east northeast to the north of the property area and creates a fault contact with the Aldridge and younger formations.

Faults extending from the south generally terminate or trend into the St. Mary's fault and commonly indicate contacts between the Creston and Kitchener formations.

One of the fault contacts referred to as the Sawmill Creek Fault determines a Creston-Kitchener formation contact which trends through the Leader A claim. The St. Mary's fault is within two km north.

## PROPERTY GEOLOGY

The Sawmill fault with a north northeast strike and which is a fault contact for the Creston-Kitchener formations is covered by the Leader A claim, however is northwest and north of the workings. A small stock of porhyritic granite intrudes the sediments immediately north of the workings. The granite contains large idiomorphic crystals of orthoclase in an isometric ground mass of plagioclase, quartz and hornblende.

The workings which consist of a dozen or more open cuts, a shaft 55 feet deep with short drifts at the bottom and an adit 127 feet long, are on a mineralized quartz vein which follows a strong fissure with varying strike from nearly north-south to north 30-35. The dip varies from 68 to 80 east. South of the adit, which is located 850 feet south of and 135 feet below the most northerly and highest workings and 650 feet south of the shaft, the overburden masks the vein continuity to the lowest workings. To the north of the adit the fissure is occupied by a continuous quartz vein varying from about one to two feet wide and averaging one and one-half feet.

## MINERALIZATION

The vein varies from a few inches to three feet wide and can be traced along a length of 2,000 feet.

The vein is composed of white, banded quartz containing galena, pyrite and locally chalcopyrite with tungston reported in the adit.

On the hanging wall of the vein is up to one foot of gouge with an adjacent several feet of a sheared, brownish-weathering, quartz-carbonate rock. The foot-wall, rocks are grey to greenish grey, quartzitic sediments to which are locally banded parallel with the strike of the vein-fissure.

The enclosing rocks are moderately metamorphosed thus masking their original texture. The metamorphism is attributed to a stock-shaped body of granite outcropping 200 feet or more below the vein exposures.

The first reported results were in the 1915 Minister of Mines REport and were as follows:

Ħ	Sample	Gold	Silver	Lead	Copper	
		Ozs.	Ozs.	1	*	
1.		0.04	2.2	10.3		
2.		0.16	0.6			
3.		0.10	6.1	57.8		
4.		0.24	3.4		1.2	
5.		0.11	6.8	49.4		
6.		2.00	4.17	39.50		
7 .	(Dump)	4.80	2.34		4.12	
8.		2.20	4.69	32.11		=

Additional-reported assays from Memoir 76 are reported as follows with no definite location stated.

"No	Description	Gold	Silver	Lead	Copper
		0z	Oz	Per Cent	Per Cent
1.	Fifth open-cut south of shaft; sample across 18 inches	0.02	2.0	5.0	•••
2.	Same cut; selected galena	0.12	4.0	41.2	• • • •
3.	Third out south of shaft; sample across 15 inches	0.186	3.0	•••	<b>:::</b>
4.	First cut south of shaft; sample across 14 inches	0.2	2.0	14.6	1.4
5.	Same cut; selected sample	0.46	23.2	36.6	10.0
6.	Average of first-class ore-dump from shaft containing 10 tons of ore	0.34	3.1	8.9	•••
7.	Selected galena from shaft	0.02	10.6	69.6	"

In a 1963 report Chamberlain states that the quartz vein varies from six inches to 30 inches wide. A sampling program included the adit area where a vein 1.4 feet wide averaged (weighted) 0.40 oz Au/ton. The average included a six inch footwall section of slightly more than an ounce of gold per ton; a central 0.4 foot silicified gangue zone of a trace gold and a 0.5 foot hanging wall zone with 0.04 oz Au/ton.

Chamberlain calculated a tonnage reserve based on limited samples from the vein. His reserve figures are as follows:

Type Reserve	Tons	oz Au	oz Ag	% Pb
Proven ore	0	12177224	0.720	10000000
Probable ore	730	0.41	2.51	2.85
Possible ore	1720	0.41	2.62	4.09

In the writer's property examination samples of the vein returned as follows:

Location	Width (feet)	% Cu	% Pb	oz Ag/ton	oz Au/ton
Open cut #4 (Quartz vein)	1.1	1.38	7.56	.52	.285
Open cut #4 (wall rock)	-	-	-	-	.001
Open cut #7	1.9	.19	12.10	10.56	.598
Twin Open cut #8 (foot wall)	4.0	-	-	.16	.006
Dump # 10 qtz w/malachi (adit dump)	Grab te-limonite	, -	-	-	.438
Dump #10 (qtz w/galena adit dump)	Grab	.07	13.05	2.19	.051

## RECOMMENDED EXPLORATION PROGRAM

It is recommended that exploration of the Leader quartz vein should be initially explored by:

- A localized geochemical survey along the known exposure and indicated strike of the vein to locate the sites of most significant gold mineralization.
- A VLF-EM survey over the same area to locate extensions of the vein.
- 3) Trenching of the vein at regular intervals and/or at indicated anomalous sites as determined from 1) and 2) to determine tenor and consistency of lateral mineralization.
- 4) An I.P. survey over the more significantly mineralized zones to determine the extent and tenor of mineralization vertically.
- 5) Diamond drilling of prime anomalous zones to develop the indicated mineral zones.

A recce geochemical and VLF-EM survey should be carried out over the balance of the property to locate potential parallel or associated gold bearing structures.

Respected

A LANCE SOCKOOL AND

Laurence Sockocheff, P. Eng. Consulting Geologist

August 17, 1983 Vancouver, B.C.

# BIBLIOGRAPHY

CHAMBERLAIN, V.R. - Geological Report, Ursus Prospect, 1963 Marysville District September 1963. Assessment Report No. 661

RICE, H.M.A. - Nelson Map-Area East Half, British 1966 Columbia, G.S.C. Memoir 228, p 70-71

SCHOFIELD, S.J. - Geology of Cranbrook Area, 1915 British Columbia

# MINISTER OF MINES REPORTS

1915 - p 113 1932 - p 162 1950 - p 155

# CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist with the firm of Pan-American Consultants Ltd. of 1406-1055 West Georgia Street, Vancouver, B.C.

## I further certify that:

- I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- I have been practising my profession for the past seventeen years.
- 3. I am registered with the Association of Professional Engineers of British Columbia.
- 4. The information for this report was obtained from sources as cited under bibliography and from a property examination made on June 14, 1983.
- 5. Neither I or Pan-American has direct or indirect interest in the property described herein.

Laurence Scokechoff, P.Eng. Consulting Geologist

August 17, 1983 Vancouver, B.C.

# AFFIDAVIT OF COSTS

The geological examination and sampling program was carried out from June, 1983 to April, 1984.

Property examination, research and report preparation and drafting	\$1,469.58
Assaying Costs: 1st Phase channel sampling of vein	1,011.75
2nd Phase channel sampling of vein	337.50
680 kg custom bulk sampling	500.00
Total cost	\$3,318.83

Respectfully submitted

Richard R. Simpson

PHYSICAL	(Trenches, open cuts, adits, pits, shafts, reclamation, and construction of	roads and trails)
0.	(Give details as required by section 13 of regulations.)	COST
Kood.	biulding, up grading, trenching	
.strippin	9 \$ logging att traveled areas	*
2 MEN	9 \$ logging att traveled areas.	8,4000
	1 /4 tax truck @ 90 1 day (inc. oil & 9	95)3,780**
. 2 MENT.	Room & Board 42 days @ 791 /day	2,940
	caterpillar bulldozer 336. bu 2.65%	21,840
*****		
	TOTAL PHYSICA	36,960



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TO : TRANS ARCTIC EXPLORATIONS LTD.

ATTN: RICHARD SIMPSON

1807-1450 WEST GEORGIA STREET

VANCCUVER. B.C.

V6G 2T8

CERT. # : A8315987-001-A

> INVCICE # : 18315987 DATE 4-NCV-83 :

P.O. # : NONE

ATTN: R. SIMPSON

Sample	Prep	Ag FA	AU FA				
description	code	OZ/T	oz/T			22.0	-1-17/1/15
01	207	0.80	0-116				
CZ	207	0.43	0.166				
03	207	0.81	0.112				
04	207	0.70	0.124		~-		
05	207	0.69	0.070				
06	207	2.17	0.154				
07	207	0.80	0.200				
0.8	207	0.66	0.240				
09	207	0.68	0.178				
10	207	1.02	0.082		~-		
11	207	0.95	0.292				
12	207	1.28	0.214				
13	207	1.74	0.262				
- 14	207	1.74	0.318				
15	207	0.52	0.204				
16	207	0.18	0.088				
17	207	0.38	0.158				
13	207	1.08	0.684				
19	207	1.48	0.380				
20	207	1.46	0.162				
21	207	1.31	0.148				
22	207	1.02	0.236		~-		
23	207	1.07	0.172				
24	207	1.49	0.130				
25	207	2.65	0.148				
27	207	2.80	0.464				
23	207	3.11	0.376				
29	207	1.21	0.252				
30	207	1.57	0.290				
31	207	1.82	0.478				
32	207	1.09	0.250				
33	207	2.01	0.246				
34	207	1.16	0.102				
35	207	0.25	0.070			(	
36	207	0.31	0.038				
37	207	0.94	0.142				
38	207	2.28	0.312	910			
39	207	6.45	0.312	500	1220		
- 40	207	3.87	0.230		0		
41	207	1.06	0.118		17711		

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VANCOUVER. B.C.

V6G 2T8

: A8315987-0C2-A CERT. #

INVCICE # : 18315987 4-NCV-83

DATE : NONE P.C. #

ATTN: R. SIMPSON

	ALIN: K. SIMPS	UN					
		Prep	Ag FA	Au FA			
		code	OZ/T	oz/T			
	42	207	0.26	0.060	 	 	
	43	207	0.19	0.032	 	 ~-	
	44	207	0.43	0.030	 	 	
	45	207	1.86	0.162	 	 	
	46	207	1.95	0.128	 	 	
	47	207	0.43	0.068	 	 	
	48	207	0.56	0.038	 	 ~-	
	49	207	0.18	0.004	 	 ~-	
	50	207	0.35	0.032	 	 	
	51	207	0.52	0.040	 	 	_
	52	207	0.65	0.270	 	 	
	53	207	1.11	0.392	 	 	
	54	207	0.67	0.088	 	 	
-	55	207	1.51	0.128	 	 	
	56	207	0.81	0.054	 	 	
	57	207	1.05	0.192	 	 	
	58	207	0.01	0.052	 	 	
	59	207	0.03	0.012	 	 	
	60	207	0.01	<0.003	 	 	
	61	207	0.02	<0.003	 	 ~-	
-	62	207	0.06	0.003	 	 	
	63	207	0.05	0.006	 	 	
	64	207	0.06	0.003	 	 	
	65	207	0-24	0.005	 	 	
	66	207	2.00	0.200	 	 ~-	
	67	207	2.44	0.178	 	 	
	68	207	1.48	0.244	 	 	
	COM #1	207	1.37	0.252	 	 	
	OLD TRENCH BLAST		0.15	0.006	 	 	
	ZORA	207	0.06	0.003	 	 	
	PC #1	207	0.14	<0.003	 	 	



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ATTN: RICHARD SIMPSON

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V6G 2T8

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CERT. #

: A8314598-001-A

INVOICE # : 18314598

DATE P.C. # : 28-SEP-83 : NONE

								_
Sample	Prep F	e total	CaO	A1203	SiO2 fus	S 2	Au FA	
description	code	*	×	z	X	(Leco)	oz/T	
BULK SAMPLE	207	2.42	0.11	0.96	88.34	0.43	0.240	

Province of British Columbia

