

87-124-15810

2/88

ASSESSMENT REPORT

FOR

Trenching and geochemical
WORK CONDUCTED

ON THE

SONGBIRD CLAIM GROUP

Parksville Area, Vancouver Island

Map # 92 F / 1E

1986

49° 12.5'

124° 12.5'

FOR

Operator:

CARBEN ENERGY INC.

822 - 837 West Hastings Street

Vancouver, B.C.

V6C 2V9

FILMED

Owner:

Eureka Resources Inc.
BY

ASH & ASSOCIATES

Mining Consultants

811 - 543 Granville Street

Vancouver, B.C.

V6C 1X8

Wayne M. Ash, P.Eng.

March 15, 1987

SUB-RECORDER
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VANCOUVER, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,810

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SUMMARY

The object of the 1986 exploration program was to trench the strike projections of good-grade gold mineralization uncovered in the 1960's, and to confirm or disprove potential gold anomalies found earlier in soil samples.

The main gold-bearing structure was found to die rapidly along strike and the overburden increased in depth beyond that which could be trenched by mechanical backhoe. The follow-up geochem work showed that the "anomaly" contoured in an earlier program was simply a "lucky" grab and that no anomaly really existed.

INTRODUCTION

Between 1963 and 1980 several exploration programs were conducted on the Songbird claim group. Diamond drilling and trenching had established the occurrence of strong gold values over wide widths in a silicified zone, called the "Lily" showing, on the Songbird #2 claim. Nothing had been done to test the potential extensions along strike.

In 1983, an EM geophysical program indicated that the "Lily" showing was situated along a fault or fracture zone approximately on, and paralleling, the contact between andesite and argillite sequences. The geophysics traced the shear or fault zone for 2,000 metres (open at both ends). Also, much of the Songbird claim group was geochemically sampled and assayed for gold and silver. Two gold anomalies showed up.

In 1986, a program of trenching and fill-in soil sampling was proposed. Some \$30,000 was outlined for the first phase, to include backhoe trenching, trench sampling, assaying and a small fill-in geochemical program.

Between December 10th and December 24th 1986 the above work was conducted. The following report describes the program and results encountered.

LOCATION

The Songbird claim group located at the headwaters of Nanoose Creek, some 14.5 km south-southwest of Parksville on eastern Vancouver Island, on NTS map sheet 92F/1 (NE), latitude 49° 14', longitude 124° 14' West, UTM coordinates 410,000 E, 5,452,000 North.

Access to the property is by the Island Highway, to a take-off road, a distance of some 4 km northwest of Nanoose base, thence 1.75 kms along a good gravel road to an iron gate across the access road, and finally 8 km by fairly steep gravel road to the "Lily" showing. A gate controlling access is located at Craig Creek and is operated by MacMillan Bloedel. A four-wheel drive vehicle is recommended for the last 5 kms due to the rather steep grades but the road can be negotiated by two-wheel vehicle in dry weather.

PHYSIOGRAPHY

The claims are situated on a moderately inclined hillside and range in elevation from 160 to 750 metres above sea level. The area probably receives 40 to 60 inches (up to 150 cms) of precipitation, almost all of which falls in the form of rain. The claim group is accessible throughout the year except, perhaps, for very brief periods of snowfall in the winter.

The property was logged, probably in the early 1960's. The second-growth tree cover consists of both conifer and deciduous trees.

The bush is rather difficult to traverse due to the heavy undergrowth.

PROPERTY

The property consists of four claims (48 units total). It is situated within Blocks 142, 568 and 593, Nanoose Land District (including access). As MacMillan Bloedel holds the surface rights and tree farm license, a license fee must be paid to MacMillan Bloedel, the specific amount dependent upon the potential disruption to the logging potential, caused by the exploration work.

HISTORY

The main ("Lily") showing was probably discovered in the early 1960's during logging operations.

The chronology of the work programmes done on the Songbird property, notably in the "Lily" showing are as follows:

- 1963-66: Gunnex Limited; regional mapping, geochemical stream sediments and soil sampling, airborne geophysics and ground follow-up.
- 1978-80: Invex Resources Ltd.; geological mapping, geochemical survey, hand-trenching, chip sampling, drilling (14 short "plugger" holes).
- 1981: Youngman Oil and Gas Ltd.; soil geochemical survey.
- 1983-84: Eureka Resources Inc.; geological mapping, soil sampling, VLF-EM, trenching, diamond drilling.

ECONOMIC ASSESSMENT

The country rock consists of intercollated volcanic and sedimentary rocks of the Myra Formation, and as such, could host volcanogenic massive sulphide mineral deposits similar to those being exploited by Westmin. However, there is scant outcrop on the property and the prime showing is a gold-bearing siliceous zone grading over 0.10 oz Au/ton over a width of some 30 feet (10 metres wide).

It was the hope of Carben Energy Inc. that the trenching of the strike projection of the "Lily" showing would encounter gold mineralization over greater widths, lengths and/or grades. It was hoped that, with a grade in excess of 0.10/ton across the widths mentioned above, that adequate mineral reserves could be proven up to warrant an open pit heap leach operations.

Mineralization in the "Lily" showing consists of localized silification and quartz veining in a fractured zone trending north-northwest and dipping 60° to 65° to the west. Iron sulfides and malachite are highly visible in the section.

The country rocks consist of intercalated volcanic and sedimentary rocks of the Myra Formation. In the "Lily" showing, the mineralized zone is confined to the sedimentary sequence of chert and argillite. The sedimentary rocks are highly fractured in contrast to the massive andesite to the west and the siliceous volcanic rocks to the east.

Previous geophysical work suggested that the mineral zone was located within the steeply-dipping fault or shear zone which could be traced for some 2,000 metres in a north-northeast direction by VLF-EM geophysics.

OBJECT OF PRESENT WORK

The objects of the present program were to:

- a) extend, if possible, the mineralized zone by trenching at intervals along the projected strike extensions;
- b) geologically map and sample the bedrock where encountered in trenching;
- c) geochemically re-sample areas previously shown to indicate anomalous grade values in soils, to confirm/disprove the existence of such anomalies.

WORK PROGRAM CONDUCTED

Trenching

A total of ten trenches (of total 350 lineal metres) were excavated along a projected strike length of 1,150 metres. The trenching was done by a Caterpillar 235 Backhoe, with a maximum depth reach of 18 feet (5.5 metres). In most of the trenches, the chert-argillite zone was exposed, more commonly, with its contact with the andesite.

Chip samples were taken along the entire length of the trenches with variable sample length, depending on noticeable geological variations. A total of 35 samples were collected from the trenches.

The main limiting factor in the trenching was the depth of the overburden which in most places precluded further advance of excavation. The overburden, composed of glacial deposits, is as much as six metres thick near the Lily showing.

Results of Trenching Study

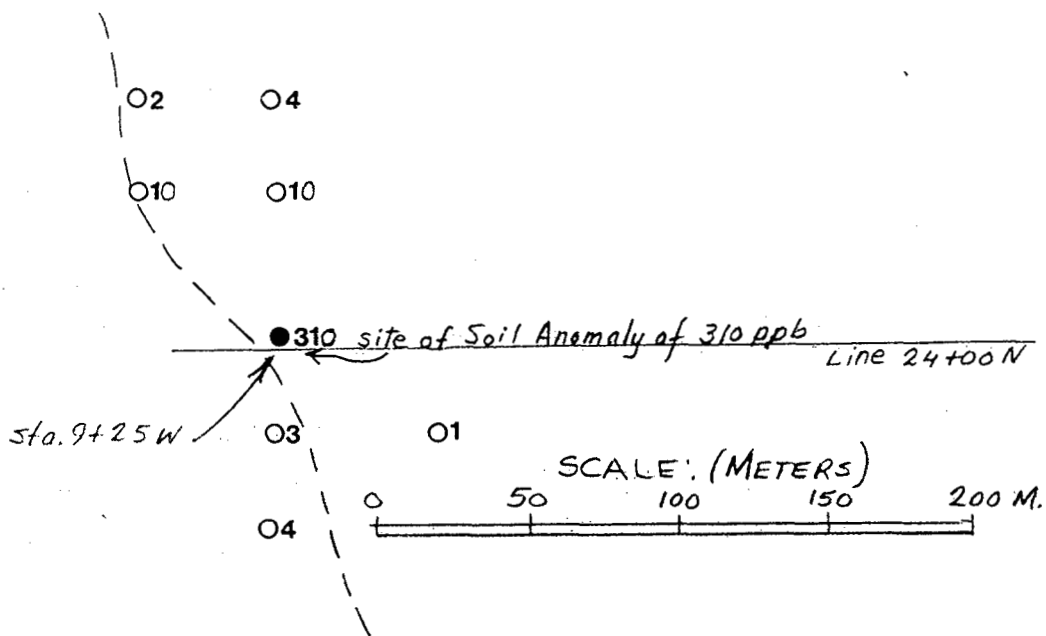
The distribution of gold in the sections exposed in the trenches at the "Lily" showing site is shown on Figure 5.

It is apparent that the length of mineralization of the "Lily" showing does not exceed 60 metres. The argillite in T-10 is slightly silicified. No indication of silicification or mineralization was observed in T-2 and T-9.

No mineralization of any type was observed in the other trenches beyond the "Lily" showing.

GEOCHEMICAL FOLLOW-UP

The single-point geochemical soil anomaly in Songbird No. 1 parcel is located on a side of a cliff exposing finely laminated volcanic rocks overlain by massive basalt. No soil is development on the surface and only rock fragments and highly organic or lunic material is available for sample. The results of the follow-up work is shown below.



CONCLUSION

- 1) The recent trenching and rock sampling in the Songbird No. 2 parcel proved that the mineralized outcrop at the "Lily" showing does not extend more than 60 metres along its north-northwest strike. Previous diamond drilling at the site in 1984 did not reveal significant gold and silver mineralization at depth. It is apparent therefore that mineralization at the "Lily" showing is very localized and does not constitute a mineral deposit with economic potential.
- 2) The single-point geochemical anomaly in the Songbird No. 1 parcel is a fluke and a suspect. Analytical or typographical error can be speculated at present.
- 3) Because of the presence of thick transported overburden in many parts of the property, some geochemical data obtained from earlier soil sampling may not be valid.

Transported overburden is effective in concealing bedrock mineralization. The geochemical "lows" in the soil survey may not reflect the true bedrock composition in places where the transported overburden is thick and barren. There is therefore a strong probability of missing significant bedrock anomalies.

At the present state of work, however, all soil anomalies can be considered as valid and have to be relocated and resampled for verification.

- 4) The volcanic and sedimentary sequence occurring at the Lily showing is repeated in other parts of the property. The sedimentary sequence appears to be favourable for gold and silver mineralization. There is therefore some potential that gold and silver mineralization may be present elsewhere in the property.

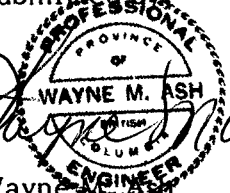
RECOMMENDATIONS

- 1) No additional work is warranted at the "Lily" showing site to prove its economic potential. Further study at the mineralized outcrop will be purely academic.
- 2) The potential of the entire property, to this point, has not been fully assessed. In particular, the problem relating to the transported overburden and the possible concealment of bedrock mineralization was ignored in the past.

Detection of concealed mineralization required unconventional approach in terms of sampling and analytical designs and interpretive techniques.

- 3) The repetitive occurrence of favourable host rocks provides encouragements for possible new mineral deposit discoveries in the property. The favourable geological formations extends beyond the property boundary, and it is only logical to extend any new work programme into the surrounding areas of the property. However, the property was optioned by Carben Energy Inc. on the strength of the Lily showing. In keeping with the company's policy to acquire only property with better than gross-roots potential, it is recommended that Carben Energy Ltd. drop its option on the property.

March 15, 1987

Submitted by

Wayne M. Ash

The seal is circular with the text "PROFESSIONAL ENGINEER" around the perimeter and "PROVINCE OF BRITISH COLUMBIA" in the center. The name "WAYNE M. ASH" is stamped across the seal, and a handwritten signature is written over it.

COST STATEMENT

Labour:

Site Geologist:		
V. Austria, December 10-22, 1986		\$ 3,000.00
Property inspection, project preparation, work inspection, report preparation:		
W. Ash:		
Dec/86 - 2 days at \$350	\$ 700.00	
Mar/87 - 2.5 days at \$350	875.00	
G. Krueckl:		
Jun/86 - 1 day at \$350	350.00	
Dec/86 - 1 day at \$350	350.00	
	<u>2,275.00</u>	2,275.00

Excavation: (C & J Green)

Mob and demob	350.00	
Excavate: 45 hrs at \$70	3,150.00	
	<u>3,500.00</u>	3,500.00

Assaying:

30 rock samples @ \$12.75	382.50	
13 geochem samples at \$6.75	87.25	
	<u>469.75</u>	469.75

License & Permit:

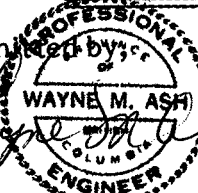
MacMillan Bloedell		3,400.00
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Other:

Truck rental	485.66	
Food and accommodation	576.07	
Field supplies	83.94	
Gas and oil	22.60	
Ferry	76.00	
Maps	10.70	
Sample bags	29.96	
Xeroxing	16.80	
Phone	2.70	
Typing	85.00	
Report binding	8.00	
Miscellaneous	9.25	
	<u>1,406.68</u>	

TOTAL

\$14,051.43


Submitted by:

 Wayne M. Ash
 ENGINEER
 COLUMBIA, B.C.


CERTIFICATE OF QUALIFICATIONS

I, Wayne M. Ash, P. Eng., of 401 - 1765 Duchess Street, West Vancouver, British Columbia, do hereby certify as follows:

1. I am a graduate of the Haileybury School of Mines (Ontario, 1965) and Michigan Technological University (Michigan, B. Sc. Mining Engineering, 1969).
2. I have been directly associated with the mining industry for the past twenty-six years and have been a member of the Association of Professional Engineers of British Columbia since 1971 (Registration No. 7940).
3. I have no interest, either directly or indirectly in the property or securities of Carben Energy Inc. and do not expect to gain such interest in the future.
4. I inspected the property in 1986 and have supervised all sampling work.
5. I hereby grant permission to Carben Energy Inc. to use this report, or any portion of it, for any legal purposes normal to the business of the firm, so long as the portions used do not materially deviate from the intent of this report, as set out in the whole.

Dated at Vancouver, B.C., this 15th day of March, 1987.


Wayne M. Ash, P. Eng.



The seal is circular with a double-line border. The outer ring contains the text "PROFESSIONAL ENGINEER" at the top and "BRITISH COLUMBIA" at the bottom. The inner circle contains the text "PROVINCE OF" at the top, "WAYNE M. ASH" in the center, and "P. ENG." at the bottom.

APPENDIX I

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE: 251-1011

DATE RECEIVED: DEC 24 1986

DATE REPORT MAILED: *Jan 7/87...*

ASSAY CERTIFICATE

SAMPLE TYPE: ROCK CHIPS AU# 10 GRAM REGULAR ASSAY

ASSAYER: *D. Toy* DEAN TOYE. CERTIFIED B.C. ASSAYER.

ASH & ASSOCIATES FILE # 86-4075A

PAGE 1

SAMPLE#	Ag OZ/T	Au OZ/T
T1-01	.01	.001
T1-02	.01	.001
T1-03	.86	.112
T1-04	.14	.019
T1-05	.03	.007
T1-06	.03	.003
T1-07	.90	.111
T1-08	.05	.001
T2-01	.02	.001
T2-02	.02	.001
T3-01	.01	.001
T3-02	.01	.001
T3-03	.01	.001
T5-01	.01	.001
T5-02	.01	.001
T5-03	.05	.001
T6-01	.01	.001
T6-02	.01	.001
T6-03	.01	.001
T7-01	.01	.001
T7-02	.01	.001
T7-03	.01	.001
T8-01	.01	.001
T8-02	.01	.002
T8-03	.01	.001
T9-01	.01	.001
T10-01	.03	.002
T10-02	.01	.001
T10-03	.03	.001
S60-1	.01	.001

*Carbon Energy
Sungbird*

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: DEC 24 1986

DATE REPORT MAILED: *Jan. 7/87.....*

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOILS -BOMESH AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: *D. Toy*...DEAN TOYE. CERTIFIED B.C. ASSAYER.

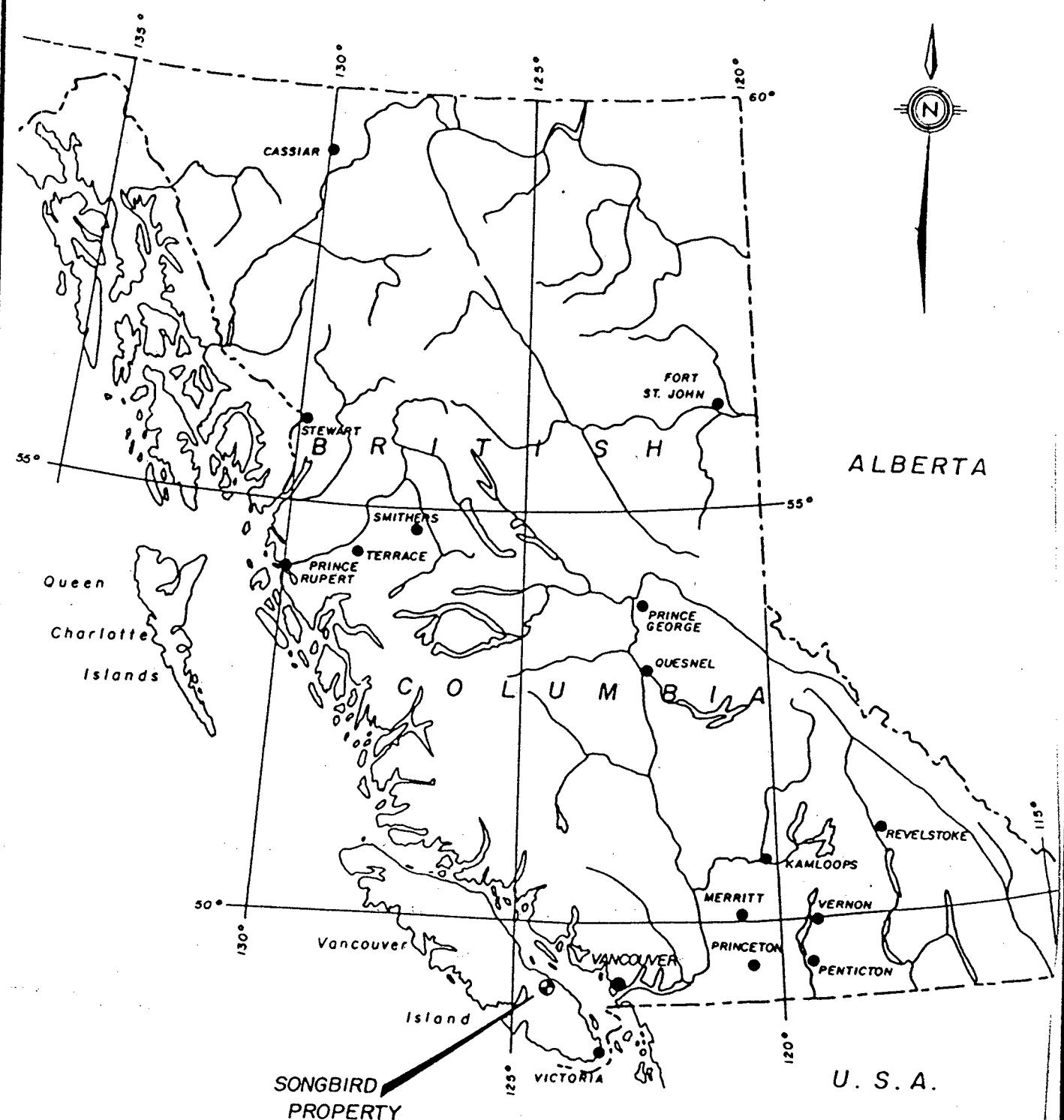
ASH & ASSOCIATES

FILE # 86-4075

PAGE 1

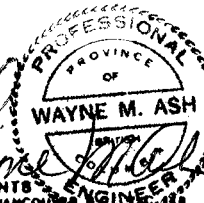
SAMPLE#	Ag PPM	Au* PPB
SB-1	.4	30
SB-2	.4	10
SB-3	.5	10
SB-4	.2	2
SB-5	.3	4
SB-6	.3	3
SB-7	.1	4
SB-8	.3	1
SB-9	4.0	9
T2-1A	.4	3
T2-1B	.2	6
T2-2A	.4	1
T2-2B	.1	3
STD C/AU-S	7.0	52

*Carbon Energy
Songbird*



ASH & ASSOCIATES

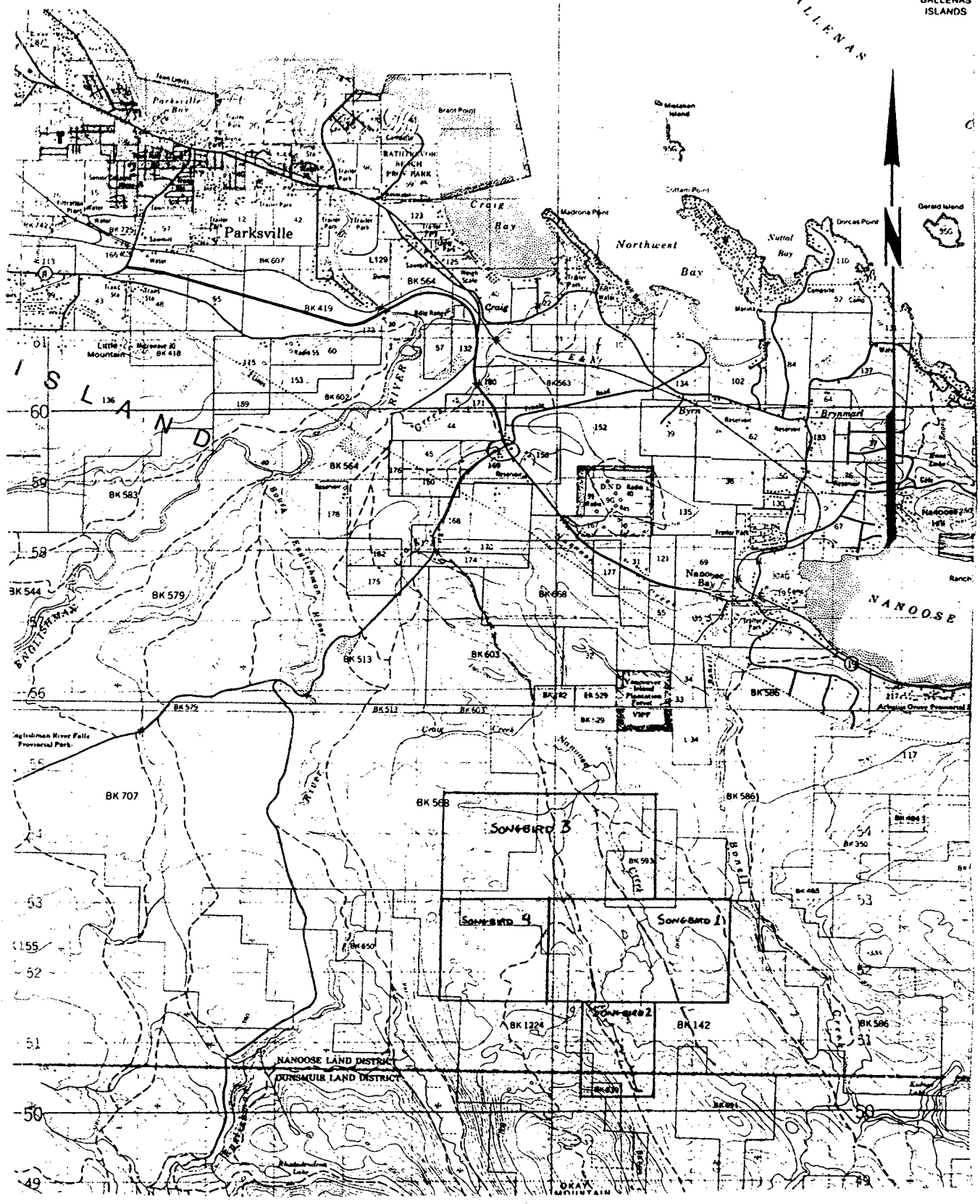
APPROVED:
 MINING CONSULTANTS & ENGINEER
 611-643 GRANVILLE ST., VANCOUVER, B.C. V6C 2K6



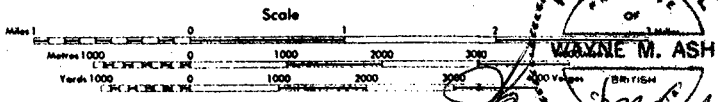
CLIENT	CARBEN ENERGY INC.		
PROPERTY	SONGBIRD		
BRITISH COLUMBIA LOCATION MAP			
SCALE:	1 cm. = 87 km.	DATE	ORC. NO.
		OR	1

ALLENAS

BALLENAS ISLANDS



PARKSVILLE
BRITISH COLUMBIA



ASH & ASSOCIATES

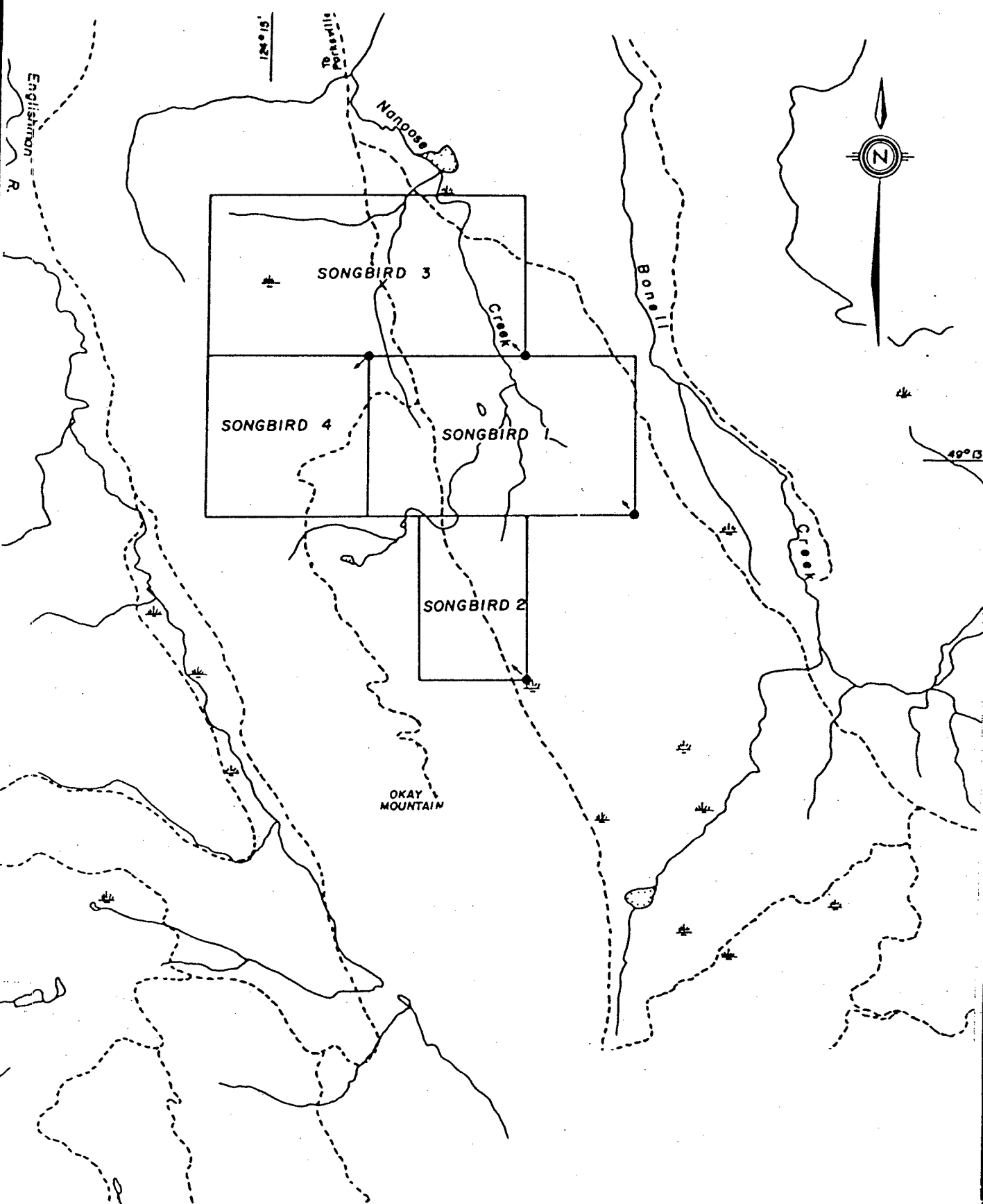
APPROVED
MINING CONSULTANTS
811-643 GRANVILLE ST. VANCOUVER B.C. V6Z 2K8



CARBEN ENERGY INC.
SONGBIRD

GENERAL CLAIMS LOCATION

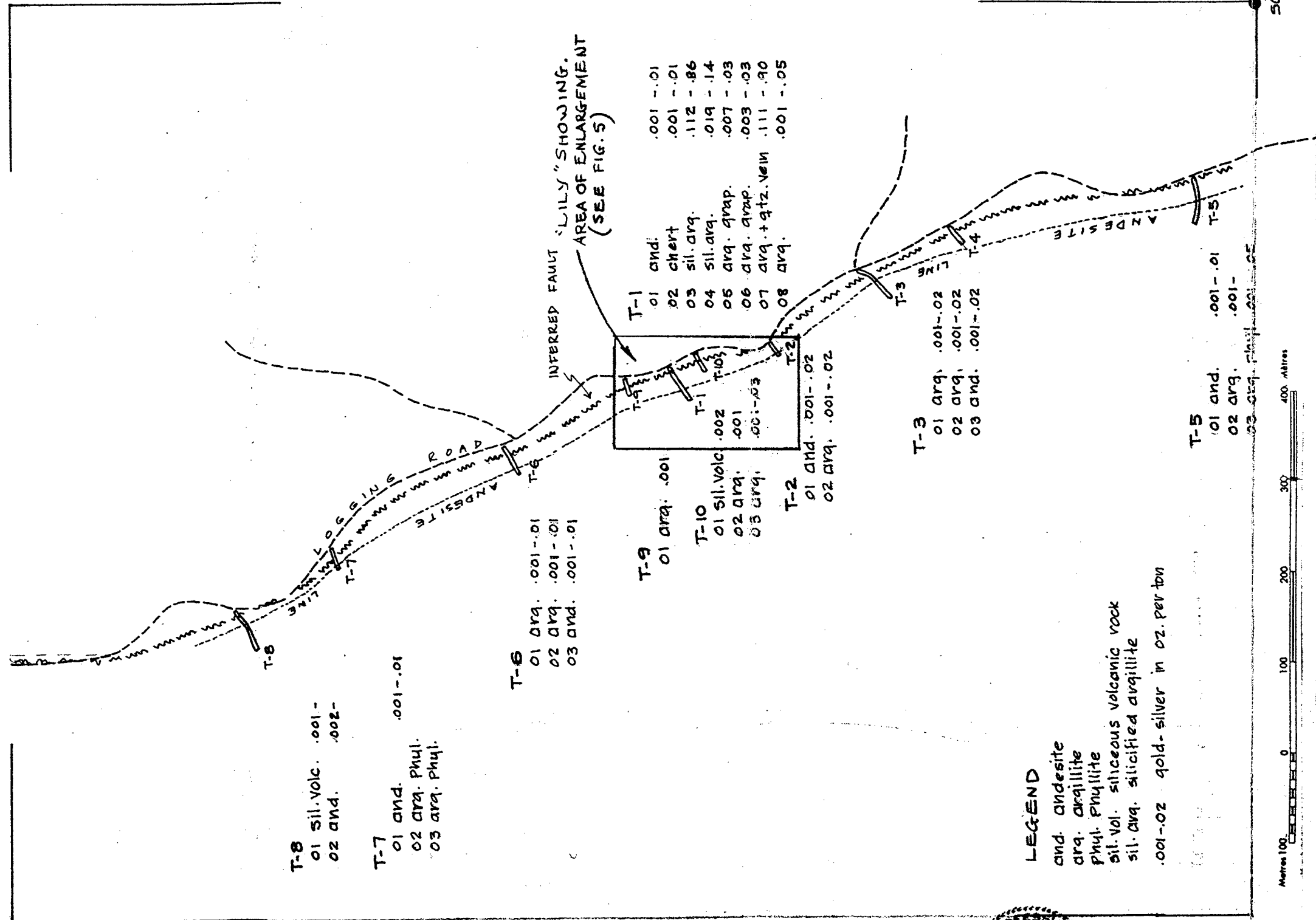
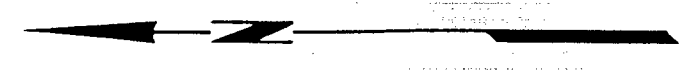
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		DR	@@2



PROFESSIONAL
 ENGINEER
 OF
 BRITISH COLUMBIA
 WAYNE M. ASH
Wayne M. Ash

ASH & ASSOCIATES
 MINING CONSULTANTS
 811-843 GRANVILLE ST., VANCOUVER, B.C., V6C 1R8

CLIENT	CARBEN ENERGY INC.		
PROPERTY	SONGBIRD		
MINERAL CLAIM MAP (92F/1)			
SCALE	1:50,000	DATE	ORG. NO.
		DR	3



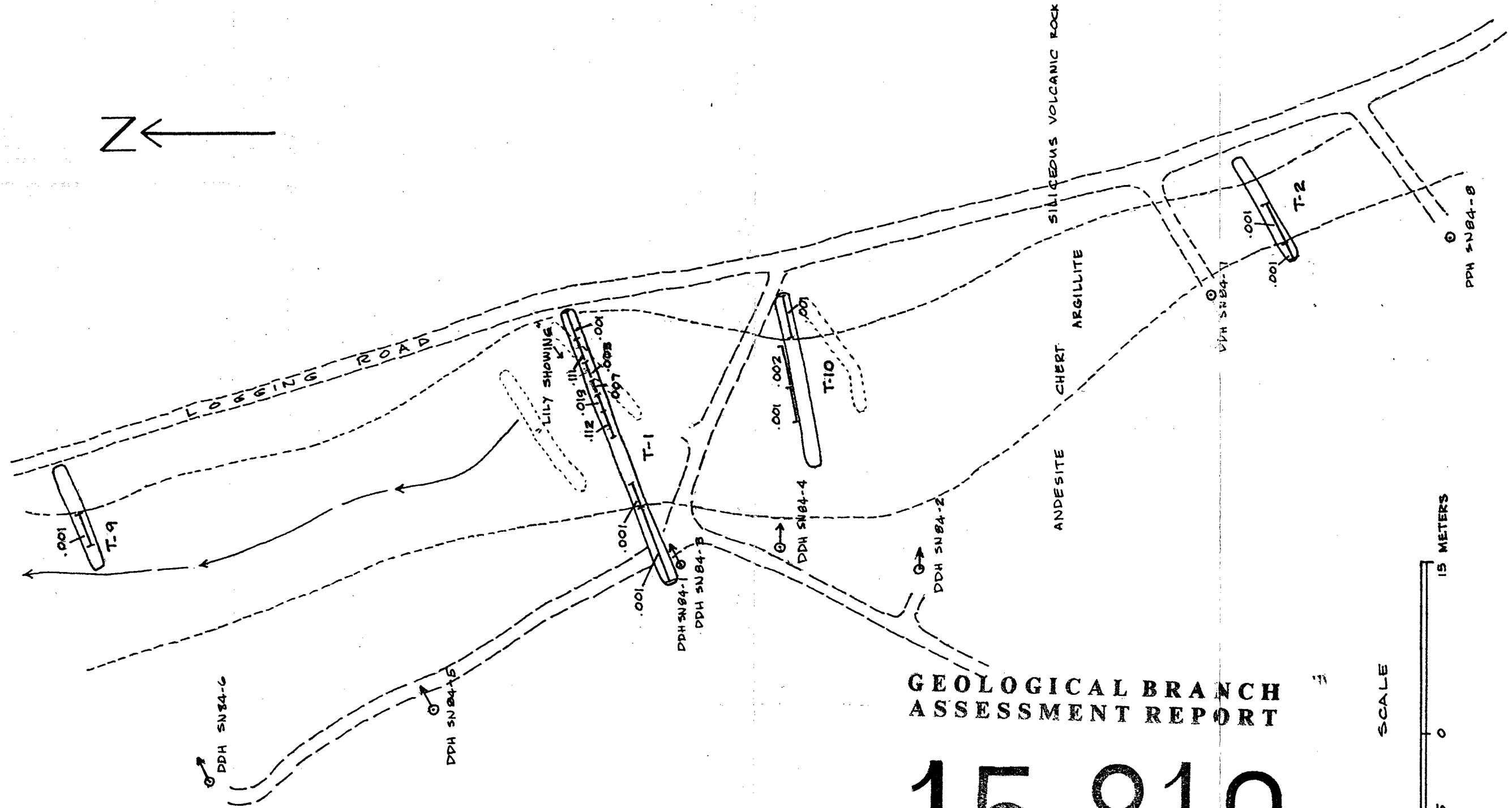
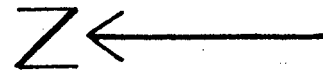
15,810

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

**PROFESSIONAL
OF
WAYNE M. ASH**
ASH & ASSOCIATES Mining Consultants
811 - 5th Avenue West, Vancouver, B.C.
V6C 1X8 PH (604) 682-5211

REVISIONS			
No	Date	Drn. By	Appr. By
1			
2			
3			
4			

TITLE SONGBIRD #2 CLAIM GROUP				
TRENCH LOCATIONS & ASSAYS WITH RESPECT TO CLAIM BOUNDARIES				
CLIENT CARBEN ENERGY INC.				
SCALE AS SHOWN	DRN BY	APPR BY	DATE	DRNG NO 4



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,810

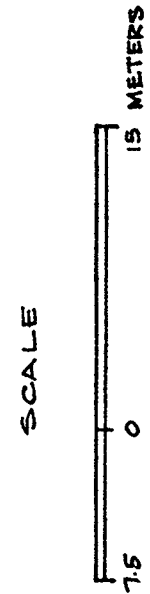


FIGURE 1

PROFESSIONAL
ENGINEER
OF
BRITISH COLUMBIA
RAYNE M. ASH
ASH & ASSOCIATES Mining Consultants
811 - 543 Granville Street, Vancouver, B.C.
V6C 1K8 PH (604) 271-2222

REVISIONS			
No	Date	Drn by	Appr by
1			
2			
3			
4			

TITLE SONGBIRD 2 C AIM GROUP TRENCHES IN AREA OF MAIN SHOWING (LILY SHOWING)				
CLIENT CARBEN ENERGY INC.				
SCALE AS SHOWN	DRN BY	APPR BY	DATE	DRWG NO 5