Report of
Diamond Drilling
of
Commodore Vein
Wayside, et al. Claims
Wayside Property
Bridge River Mining District
Lillooet Mining Division
British Columbia

NTS 92J 50 degrees 55 minutes North Latitude 122 degrees 50 minutes West Longitude

Work by:
Freedom Resources Ltd.,
920-470 Granville Street,
Vancouver, B. C., V6C 1V5

On claims owned by:
Carpenter Lake Resources Ltd.,
801-700 West Pender Street,
Vancouver, B. C., V6C 1G8

Project supervision:
 R.H. Seraphim Engineering Ltd.,
 316-470 Granville Street,
 Vancouver, B. C., V6C 1V5

Report prepared by:
Erik Ostensoe, geologist

Revised:

November 30, 1984

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#### INTRODUCTION

The Wayside property of Carpenter Lake Resources Ltd. is located 3 km north of Gold Bridge in the Bridge River Mining District, 175 km north of Vancouver, British Columbia (Figure 1). It is near the east side of the Coast Mountains physiographic province of the Cordillera and forms part of a gold mining "camp" that extends northerly from the Pioneer and Bralorne deposits and includes the Congress and Minto mines and numerous prospects.

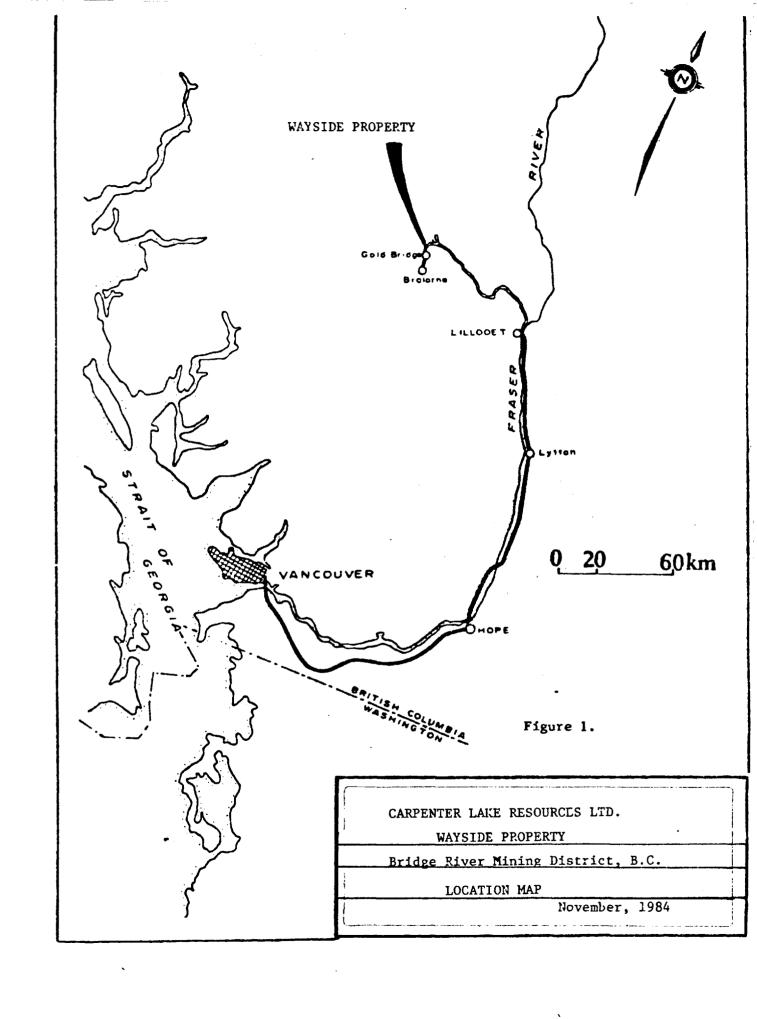
The Wayside property is comprised of one mineral lease, 30 reverted crown granted claims and 4 located claims. The provincial highway from Lillooet to Gold Bridge crosses the property and a network of mining and logging roads provides easy access to most parts of the claims. Southernmost parts of the claims are covered by Carpenter Lake reservoir.

The Wayside mine was developed in several periods of activity between 1933 and the mid-1950s. Mine workings include several adits and an internal inclined shaft that is now flooded. At least 43,000 tons of ore have been extracted and more than 5300 ounces of gold recovered.

Dawson Range Mines Ltd. and its successor company, Carpenter Lake Resources Ltd., have explored the mine area since 1971. That work has included diamond drilling and bulldozer trenching, geochemical surveys and partial rehabilitation of the shaft. Several short diamond drill holes explored parts of the Commodore vein located west of the main Wayside vein and several long drill holes were directed to the area beneath the deepest mine workings. A volcanogenic massive sulphide environment with copper and zinc mineral values, located 1 km west of the gold mine, was explored by several drill holes.

Freedom Resources Ltd., a Vancouver-based "junior" mining company, obtained an option to purchase the Wayside property in mid-1983 and engaged R.H. Seraphim Engineering Ltd. to complete a review of data and to manage further exploration.

A geochemical soil survey of 282 "A" horizon soil samples was completed during September, 1983 and three holes with total length 111.5 metres were drilled by Aspen Drilling Limited of Merritt, B.C. during December 1983. Cost of diamond drilling was \$16,786.



#### DIAMOND DRILLING OF COMMODORE VEIN

The purpose of the December, 1983 diamond drilling program was to confirm that substantial amounts of gold are present in the Commodore vein south of the Commodore adit. Diamond drilling and bulldozer work in 1975 and 1979 is reported to have located gold at the bedrock surface and in several shallow drill holes, including a 3 foot intercept that assayed 19.615 ounces gold per ton. Precise information concerning the earlier work is lacking.

Geologic core log summaries are included as Appendix 1 of this report. Diamond drill hole locations are plotted on Figure 2. Figure 3 is a vertical section through the 1983 drill holes.

Drill hole 83-B-1 was collared a few metres east of the assumed projection of the Commodore vein and was directed westerly (270 degrees) with inclination -55 degrees. The vein zone, intersected from 9.14 to 11.28 metres, was comprised of a mixture of vein quartz, albite(?), and leucogranite without much sulphide mineralization. Core recovery was poor.

Drill hole 83-B-2 was collared 30 metres east of the Commodore vein with direction 240 degrees and inclination -55 degrees. The vein, intersected between 29.72 and 31.39 metres, was comprised of siliceous granite, vein quartz, and albite. Traces of arsenopyrite and between 1 and 2% pyrite occur throughout the structure. The vein was underlain by 0.3 metres of fine grained, grey rhyolite and beneath that unit by a strongly brecciated mixture of augite diorite and siliceous gouge.

Drill hole 83-B-3 was collared from the same site as hole 83-B-2 with direction 225 degrees and inclination -75 degrees. The vein, intersected between 37.49 and 40.54 metres, was comprised of vein quartz, albite, carbonate alteration and narrow graphitic shear planes.

Drill core and sludge samples were submitted to Chemex Labs Ltd. of North Vancouver, B. C. and assayed for gold contents (Appendix 2). Sample details and assays are summarized in Table 1.

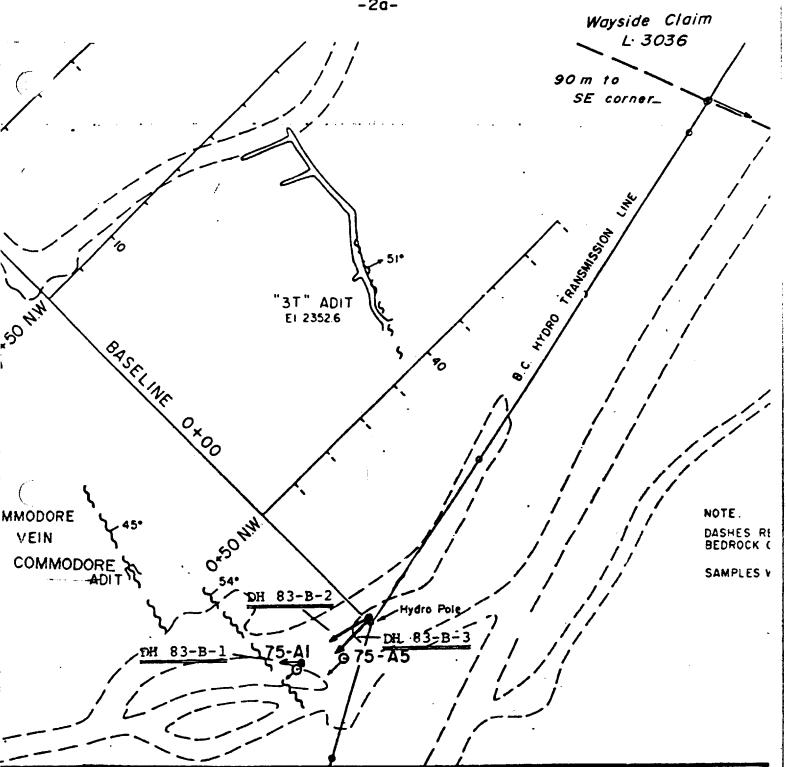


Figure 2 SKETCH SHOWING APPROXIMATE LOCATIONS OF DECEMBER 1983 DRILL HOLES, WAYSIDE PROPERTY, GOLD BRIDGE, B. C.

S.A.O.

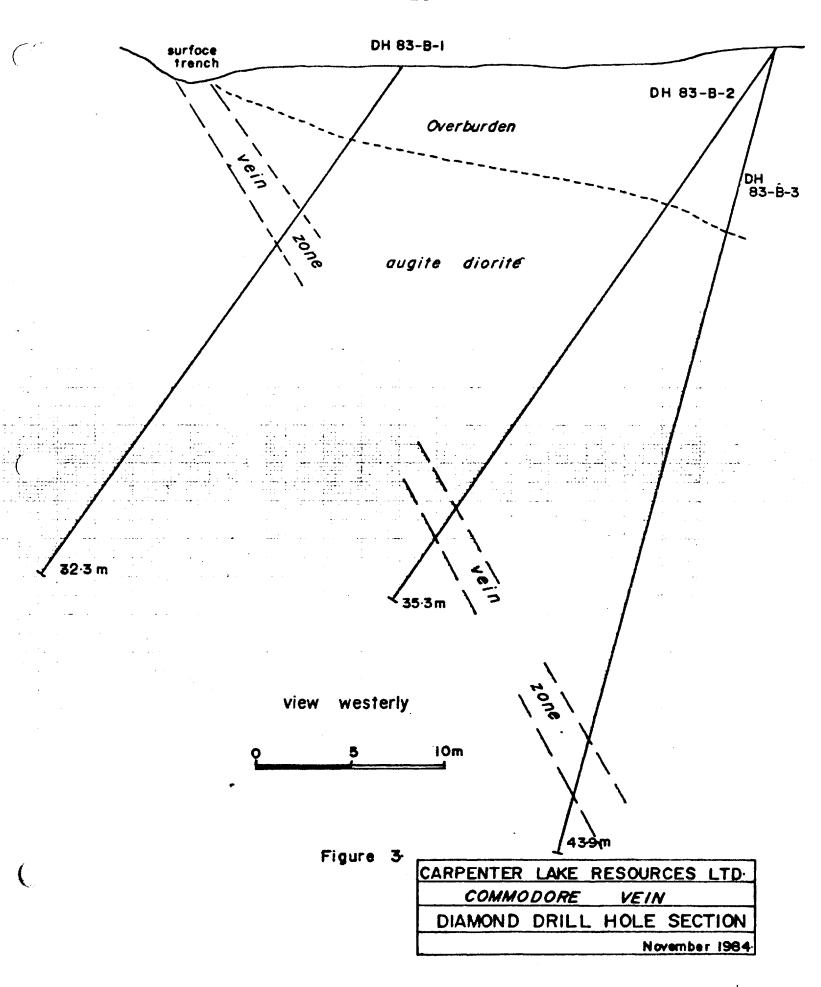


TABLE 1. ASSAYS

SAMPLE NO		TO (metres)	WIDTH	GOLD	SILVER per ton)	REC.	
Drill Hole 83							
45279	9.14	10.50	1.36	.005	. 01	33	
45280	10.50	11.28		<.003	.01	80	
45281	27.73	28.95	1.22	.003	.04	100	
Drill Hole 83							
45282	29.72		0.76			66	
45283	30.48	31.39	0.91	.010	.13	66	
Sludge Samples							
Drill Hole 83							
1	29.56	30.78	1.22	.064	.18		
2 3	30.78	32.31	1.52	.014	.12		
	32.31	33.83	1.52	.012	.05		
4	33.83	35.35	1.52	.003	. 01		
Drill Hole 83							
45284	37.49	38.40	0.91	<.003	. 01	90	
45285	38.40	38.71	0.31	<.003	.02	60	
45286	38.71	39.01		<.003	.01	80	
45287	39.01	39.32		.018	.01	100	
45288	39.32	40.54	1.22	<.003	.01	95	
Sludge Samp							
Drill Hole 83							
1	32.31	33.83	1.52	<.003	.02		
2	33.83	34.44	0.61	<.003	.01		
3 4	34.44	34.75	0.31	<.003	.02		
4	34.75	35.35	0.60	<.003	. 01		
5 6	35.35	36.88	1.53	<.003	.01		
6	36.88	38.40	1.52	<.003	.02		
7	38.40	38.71	0.31	.016	.06		
8	38.71	39.01	0.30	.016	.06		
9	39.01	39.32	0.31	.022	.04		
10	39.32	40.54	1.22	<.003	.04		
11	40.54	42.06	1.52	<.003	.02		
12	42.06	42.97	0.91	<.003	.01		

# STATEMENT OF EXPENDITURES

R.H. Seraphim Engineering Ltd. and Erik Ostensoe - preliminary studies, planning, supervision, travel,	4 0 103 10
reporting	\$ 8,183.18
Aspen Drilling Ltd mobilization and all drilling costs	7,086.00
Goldbridge Hotel - accommodation and meals	566.84
Dicks Mechanical Contracting - trucking, mechanic	366.00
Chemex Labs Ltd assaying	584.50
Total expenditures	\$16,786.52

### STATEMENT OF QUALIFICATIONS

I, Erik A. Ostensoe, of Vancouver, British Columbia, state as follows:

- 1. That I am a 1960 graduate in geology from the University of British Columbia and I have practiced as an exploration geologist for more than 24 years
- That I am a member of the Geological Association of Canada, the Canadian Institute of Mining and Metallurgy, and the Association of Exploration Geochemists
- 3. That I participated in planning and execution of a drilling program to explore parts of the Wayside property and I am the author of the accompanying report entitled Report of Diamond Drilling of Commodore Vein, Wayside, et al. claims, Wayside Property, Bridge River Mining District, Lillooet Mining Division, British Columbia
- 4. That I personally supervised the work reported on herein and examined, geologically logged and sampled the core and sludges that were obtained
- 5. That I have no ownership interest in the Wayside mineral claims, or in the securities of Freedom Resources Ltd. or Carpenter Lake Resources Ltd.

Vancouver, B. C. November 30, 1984.

Frik A. Ostensoe

## APPENDIX 1. GEOLOGIC CORE LOGS

Drill Hole 83-B-1

Collar location: Commodore vein, 60 metres south 60 degrees east of portal of Commodore adit, near collar of D.H. 75-A-1

Bearing - due West

Inclination - -55 degrees

Length - 32.3 metres

Core size - BQ

Core recovery - 94.4%

Begun: December 15, 1983 Completed: December 16, 1983

Logged and sampled by E. Ostensoe

From (met	To res)	Description				
(						
0	4.37	Overburden				
4.37	5.79	White crystalline sodic granite - mostly comprised of white feldspar with traces of pale green sericite and fine grained pyrite. Cut by fractures with white feldspar (albite?) and by black chloritic shears.				
5.79	9.14	3 cm of epidotic alteration transitional to coarse grained mafic diorite - augite, in part altered to hornblende. Rock is 50% mafic minerals. Occasional veinlets of feldspar 2 to 5 cm wide.				
9.14	9.30	Dull yellow-green coloured alteration.				
9.30	10.50	Mixture of white vein quartz and diorite, minor amounts (3%) of fine grained brown biotite. Core is very broken: recovery is about 33%.				
10.50	11.28	Dense greenish coloured clayey alteration with mariposite. Appearance is mottled. About 1/2% pyrite.				
11.28	32.30	Coarse grained augite diorite with 50 - 60% mafic minerals, numerous thin seams of white feldspar. Gabbroic appearance. Rock is weakly foliated and is serpentinous where sheared. From 15.79 to 17.68 rock is finer grained and may be a partially absorbed dyke or a xenolith. From 17.68 to 18.29 rock is strongly albitized and is in part strongly sheared parallel to core axis. From 27.28 to 27.73 rock is dense, dark green, fine grained - altered andesite dyke From 27.73 to 28.13 very fine grained pale green epidotic and clayey				

## Drill Hole 83-B-2

Collar location: Commodore vein, 78 metres south 80 degrees east of

portal of Commodore adit

Bearing:

240 degrees azimuth

Inclination:

-55 degrees

Length: Core size: 35.3 metres

Core recovery:

BO 96.5%

Begun:

Completed:

December 18, 1983 December 20, 1983

Logged and sampled by E. Ostensoe

From To (metres)		Description
	9.75 25.30	Overburden Gabbroic diorite with acidic intrusive phases. Numerous short sections of pale green alteration and veinlets of albite and quartz. Few calcite veins up to 4 cm wide. Section of very siliceous granite with brown biotite flakes from 17.07 to 18.10 metres and feldspar porphyry dyke from 22.5 to 23.5
25.30	30.78	At 25.30 sharply defined contact between gabbroic diorite and leucocratic granite with fine grained brown coloured biotite. From 29.70 increased amount of vein quartz, appearance of pyrite, traces of arsenopyrite
30.78	31.09	Fine grained grey rhyolite with calcite on fractures and light green clay-like alteration.
31.09	31.70	Strongly brecciated mixture of augite diorite and siliceous gougy sheared rock
31.70	35.30	Mixed gabbroic and siliceous phases gradational into very dark green gabbro

### Drill Hole 83-B-3

Collar location: Commodore vein, 79 metres south 80 degrees east of

portal of Commodore adit

Bearing:

225 degrees azimuth

Inclination:

-75 degrees

Length:

43.9 metres

Core size:

BQ

Begun: Completed: December 22, 1983 December 23, 1983

Logged and sampled by E. Ostensoe

From To (metres)

	9.14 14.32 15.24	Overburden Augite diorite Sodic granite
15.24	20.42	Augite diorite
20.42	22.40	Fine grained, altered andesite dyke with 12 cm calcite vein
22.40	23.16	Augite diorite
23.16	24.01	Andesite, similar to above
24.01	27.00	Sodic granite
27.00	29.10	Varied medium grained augite gradational to andesite
29.10	37.49	Dark green diorite with few albite veinlets
37.49	40.54	Vein quartz with carbonate and much albitic alteration, narrow graphitic gouge sections, some may
40.54	43.90	be sheared sulphide mineralization Dark green augite diorite with few albite and quartz stringers

APPENDIX 2
CERTIFICATES OF ASSAY

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· ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

V7J 2C1 CANADA

TELEPHONE (604) 984-0221

TELEX 043-52597

CERTIFICATE OF ASSAY

TO : SERAPHIM. DR. R. H.

316 - 470 GRANVILLE STREET

VANCOUVER. 3.C.

V6C 1V5

CERT. # : A8317007-001.

INVOICE # : 18317007

: 30-DEC-83 DATE : NONE

P. D. #

**ELDEN 1411** 

	Sample description	Prep	Ag oz/T	AU OZ/T		
	45279	236	0.01	0.005	 	 
	45280	236	0.01	<0.003	 	 
	45281	236	0.04	0.003	 	 
	45282	236	0.12	0.014	 	 
	45293	236	0.13	0.010	 	 
	SLUDGE 1	236	0.18	0.064	 ~-	 
	SLUDGE 2	236	0.12	0.014	 	 
	SLUDGE 3 ·	235	0.05	0.012	 	 
ı	SLUDGE 4	236	0.01	0.003	 	 4-11



Registered Assayer. Province of British Columbia



· ANALYTICAL CHEMISTS

· GEOCHEMISTS

· REGISTERED ASSAYERS

CANADA

TELEPHONE (604) 984-02

V7J 2(

TELEX

043-525!

CERTIFICATE OF ASSAY

TO : SERAPHIM. DR. R. H.

316 - 470 GRANVILLE STREET

236

235

236

236

236

236

236

236

236

0.01

0.01

0.02

0.06

0.06

0.04

0.04

0.02

0.61

VANCOUVER. 3.C.

V6C 1V5

SLUDGE

SLUDGE

SLUDGE

SLUDGE

SLUDGE

SLUDGE

SLUDGE 10

SLUDGE 11

SLUDGE 12

: A8317008-00 CERT. #

INVDICE # : 18317008

DATE : 30-DEC-83

P.O. # : NONE

Ag oz/T Au oz/T Prep Sample code RUSH FA RUSH FA description 236 0.01 <0.003 45284 0.02 <0.003 236 45285 0.01 <0.003 236 45236 236 0.01 0.018 45287 0.01 <0.003 236 45288 0.02 <0.003 235 SLUDGE <0.003 0.01 236 SLUDGE 0.02 <0.003 236 SLUDGE 3

<0.003

<0.003

<0.003

0.316

0.016

0.022

<0.003

<0.003

<0.003

ANADIAN TESTING ASSOCIATION

Registered Assayer. Province of British Columb