

LOG NO:	DEC 23 1993	NO.
ACTION:		
FILE NO:		

A Geological Report  
on the  
GOV 1 & Lots 4907 & 4908  
situated  
40 km north  
of  
Creston, B.C.  
in the  
Nelson Mining Division  
N.T.S. 82-F/7(E)  
Lat: 49 25' N Long: 116 43' W

by

D.R. Morgan, P. Eng.

Owner, Operator & Author

Dates of Work: 24 - 26 August 1993

Date of Report: 10 November 1993

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,177**

**RECEIVED**  
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VANCOUVER, B.C.

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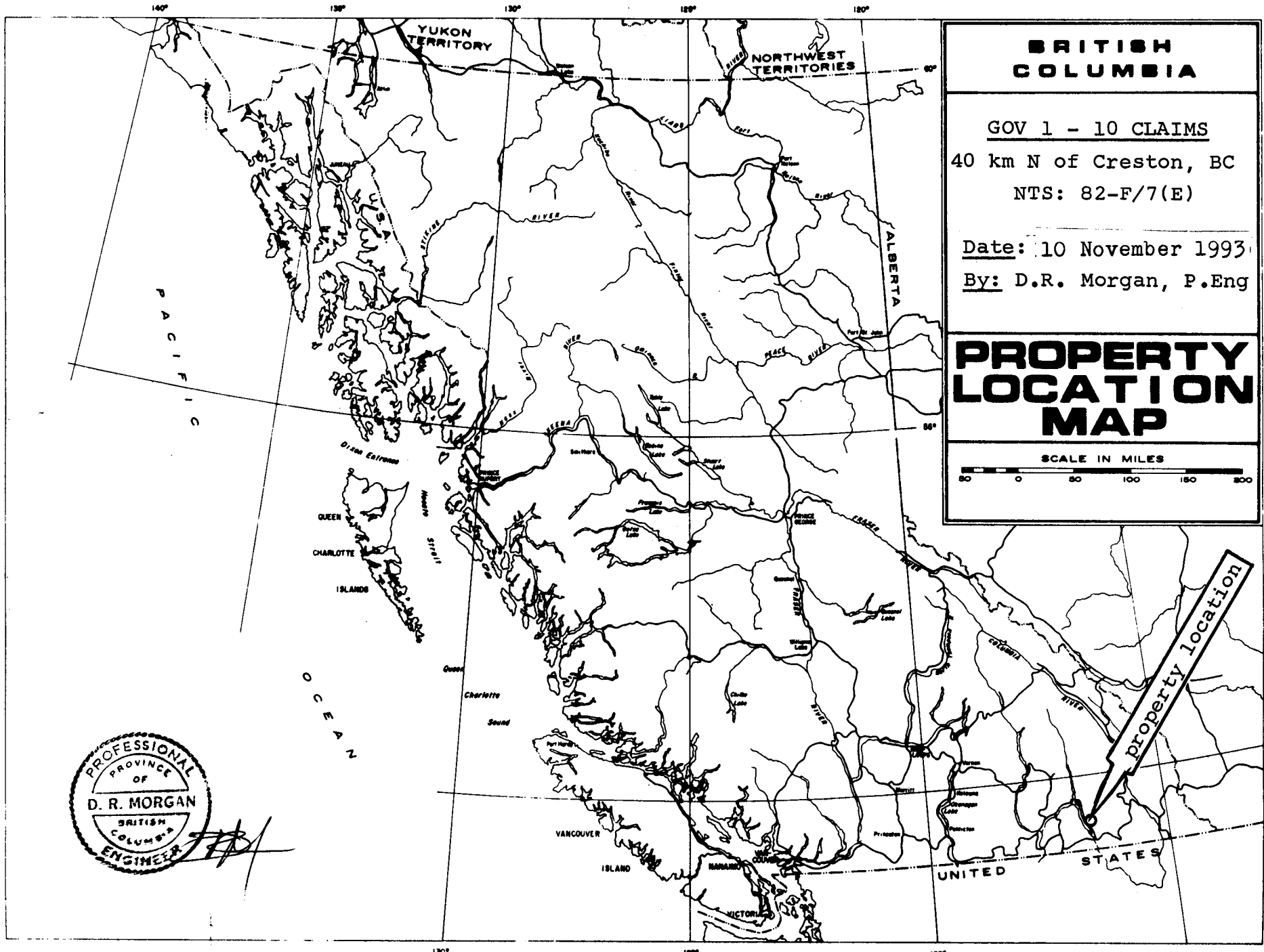
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2. Claim Map.	2a
3. Regional Geology Map	6a
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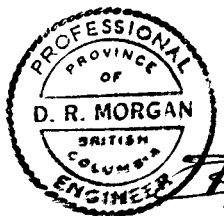


**BRITISH COLUMBIA**

GOV 1 - 10 CLAIMS  
 40 km N of Creston, BC  
 NTS: 82-F/7(E)

Date: 10 November 1993  
By: D.R. Morgan, P.Eng

**PROPERTY LOCATION MAP**

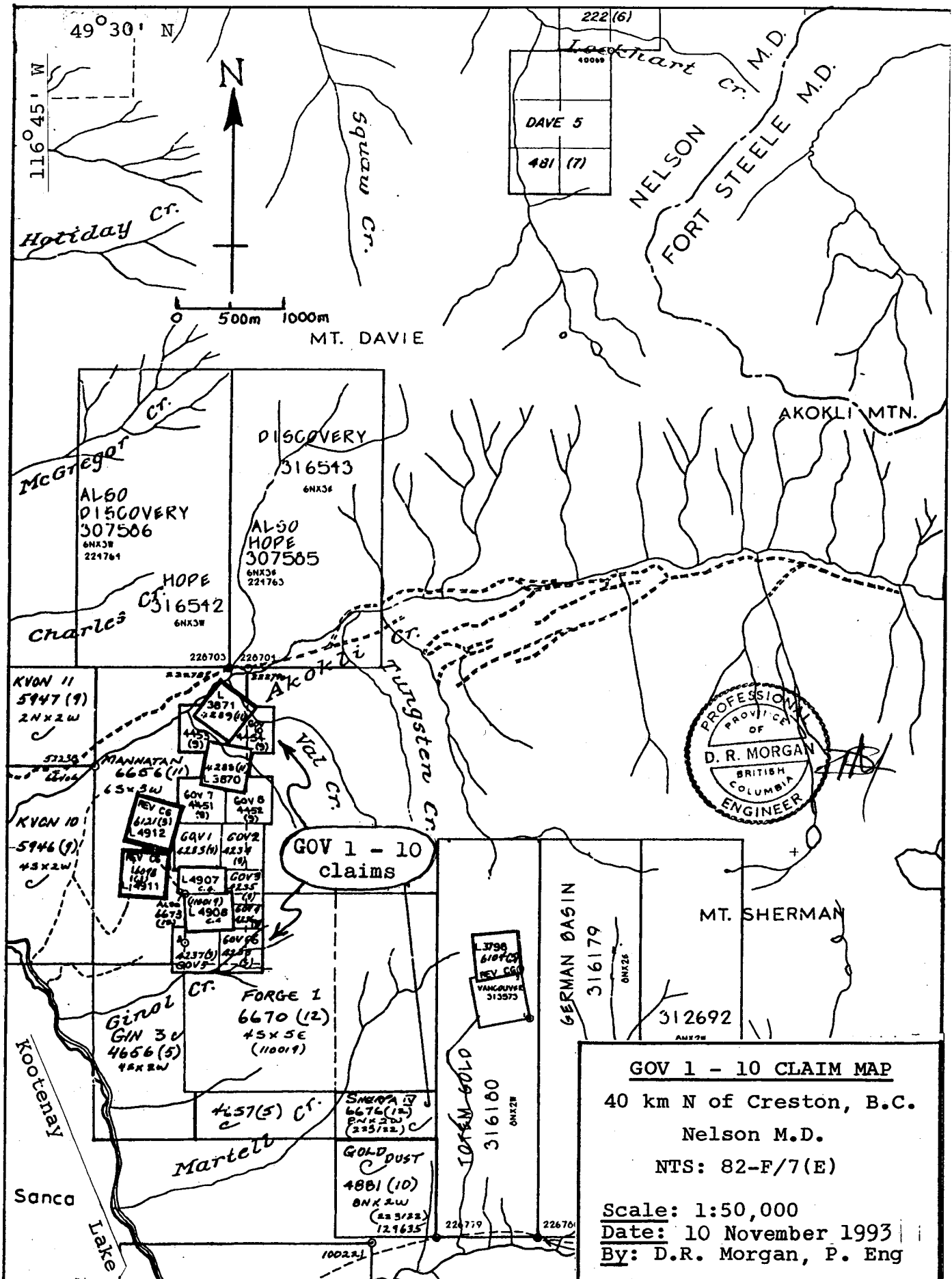


1 - 0      SUMMARY: (Fact)

1. Geological mapping on the Gov 1 and Lots 4907 and 4908 near Sanca, 40 km north of Creston, B.C., showed that the area is underlain by medium grained granodiorite.
2. The extension of the Valparaiso vein north of the Valparaiso crosscut, is exposed by pits and trenches along a strike length of 650m.
3. The vein is exposed in trenches #45, #52+6m south and #57. None of these trenches expose the vein fully from hanging to foot walls.

2 - 0      CONCLUSIONS: (Opinion)

1. The Valparaiso Vein extension north of the Valparaiso crosscut is poorly exposed in the nine pits and trenches mapped.
2. Outcrop in the area is shallow and a detailed geochemical (soils) survey along the vein should quickly identify mineralized sections for further exploration.



3 - 0 INTRODUCTION:

3 - 1 Scope & Dates of Report: This report describes geological mapping carried out by the writer on the Gov 1, claim and on Lots 4907 & 4908 (Valparaiso & Government Crown Grants) between 24 and 26 August 1993.

3 - 2 Title: The writer, David R. Morgan, 240 Holyrood Road, North Vancouver, B.C., V7N 2R5, is the full and undivided owner of the claims listed below:

<u>Claims</u>	<u>Name</u>	<u>Tenure #</u>	<u>Lot #</u>	<u>Recorded</u>	<u>Expiry Date</u>
6	Gov 1-6	233364-69	-----	26 Sept '85	26 Sept '96
2	Gov 7-8	233451-52	-----	15 Sept '86	15 Sept '96
2	Gov 9-10	233453-54	-----	15 Sept '86	15 Sept '95
1	Martilde	233388	L 3870	21 Nov '85	21 Nov '95
1	Schmulka	233389	L 3871	21 Nov '85	21 Nov '95

A Statement of Work was filed at the Sub Recorder's Office in Vancouver on 14 September 1993. Acceptance of the work described in this report will put these claims in good standing until the expiry dates shown.

4 - 0 HISTORY: (Note: The full history of the property appeared in the writer's geological report filed for assessment in 1990)

1984: The claims surrounding the Valparaiso and Government Crown Grants came open and were staked by the writer.

1987: The Gov 1-10, Martilde, Schmulka claims were optioned by Imco Resources Ltd., together with the Valparaiso and Government Crown Grants held by Mr. Pritchard.

1988: Imco Resources Ltd. drilled 306 feet in two diamond drill holes, and 770 feet of reverse circulation drilling in 3 holes. None of these holes reached target depth. Imco dropped its option. The property was optioned in October by Little Bear Resources Ltd. Some sampling, geological work and pilot geophysical surveying was carried out by Little Bear.

1989: Little Bear Resources Ltd. dropped its option in May 1989 without doing further work.

1990: The Sarah workings and pits, trenches and outcrop in their vicinity were mapped by the writer. This mapping was tied in by survey with the Valparaiso and Government surveys.

1993: The pits and trenches exposing the Government-Valparaiso vein were mapped for 650m north of the Valparaiso cross cut by the writer.

5 - 0 GEOGRAPHY:

5 - 1 Location: The property lies on the moderately steep, west facing slopes of the Purcell Mountains on the east side of Kootenay Lake between Akokli and Sanca Creeks, near Boswell and approximately 40 km north of Creston, in southeast British Columbia. It lies in National Topographic System area 82-F/7(E), is in the



Nelson Mining Division, and has a latitude of 49 degrees 25 minutes north and a longitude of 116 degrees 43 minutes west.

5 - 2      Access: Highway 3A is taken for 40 km north of Creston. Approximately 3.5 km north of Sanca a logging road leads northeast up the south side of Akokli Creek. From this point a 5.4 km dirt road leads to the property.

5 - 3      Topography: The claims cover the west facing slopes of a spur between Akokli and Sanca Creeks. Elevations range from 3,700 to 5,400 feet. The climb from Highway 3A on the shore of Kootenay Lake at 1,750 elevation to the mine workings at 3,950 elevation, is 2,200 feet(670 m).

6 - 0      REGIONAL GEOLOGY:

The property lies mainly in granodiorites of a west-projecting lobe of the Bayonne Batholith, locally intrusive into Purcell sediments. The contact between the granodiorites and the sediments lies approximately 1,200m north of the Government Shaft.

The Valparaiso Vein, a northerly striking fissure vein with an easterly dip of -45 degrees, has been exposed by 160 m of drift in the Government workings and by 198 m of drift in the Valparaiso workings 400 m to the north. The vein in these workings is hosted by the granodiorite. To the north of the Valparaiso the vein is exposed by pits and trenches for 950 m to the Lost Mine workings. The total exposure of the vein is approximately 1,500 m.

L 3870

4500

Lost Mine

Dutch Creek limestone, quartzite

Kitchener Limestone

Bayonne-Granodiorite

L 4912

Bayonne-Granodiorite

Valparaiso Vein

4911

L 4907

Imperial (Sarah)

Valparaiso

L 4908

Government

Abandoned



500 metres

Scale

Source: GSC Map 603 A

Valparaiso Property 40 km N. of Creston, NTS: 82-F/7	
<b>REGIONAL GEOLOGY</b>	
Scale: 1:10,000 (1cm-100m)	Date: 10 November 1993
By: D.R. Morgan, P.Eng.	

The Valparaiso vein is a quartz filled fissure vein which varies in width from one to twenty five feet (ref.2, p.66) and is mineralized with pyrite, arsenopyrite, sphalerite, galena, chalcopyrite, wolframite, silver and gold. Sulphide minerals occur as bands, blebs and disseminations in the vein quartz (ref. 4, p.10). Wolframite occurs mainly in sheared sections of the granite footwall. Assay results indicate that gold and silver values are generally confined to quartz-sulphide material.

The Sarah (formerly Imperial) vein lies 360 m east of and sub-parallel to the vein in the Valparaiso workings.

7 - 0 GEOLOGY OF THE PROPERTY:

7 - 1 Mapping Procedure: A Topofil thread chain and compass survey was run from the Valparaiso crosscut portal for 650m north following an old trail alongside a series of pits and trenches. A total of 23 survey stations were located in this survey relative to the Valparaiso crosscut portal at 5473736 North and 519940 East on the Universal Transverse Mercator (UTM) grid. All outcrop, underground workings, trenches and trails were mapped in, and appear on the accompanying 1:1,000 scale geological map (pocket).

7 - 2 General: The oldest rocks on the property are westerly dipping, late Precambrian sediments in the northern quarter of the claim group. The Kitchener Limestone is overlain by Dutch Creek limestones and quartzites. The contact between these units is shown to strike at about 015 degrees and dip westerly on G.S.C. Map 603 A (ref.2). This contact roughly follows the northern part of the

boundary between Gov 7 and Gov 8. These sediments have been intruded by a northerly projecting lobe of the Bayonne Batholith granodiorites. This intrusive contact extends from the southwest corner of Gov 7 to the centre of the claim and then swings easterly. All of the claims south of this contact (Gov 1-6) are underlain by granodiorite. This granodiorite hosts the easterly dipping Government-Valparaiso Vein which has been traced for 1,500 m north from the Government workings to the Lost Mine. The Imperial (Sarah) vein lies 450 m east of the Valparaiso workings. This report describes the trenches following the Valparaiso vein for 650m north of the Valparaiso crosscut workings.

7 - 3      Rock Types:      The only rock type observed was a grey, medium grained biotite granodiorite. The only variation shown in this rock type in the area mapped was in the immediate vicinity of the vein where it was sheared, decayed and often rusty weathering. Its typical composition was as follows:

White feldspar (no twinning visible):	50%
Quartz:	: 30%
Biotite:	: 20%

Descriptions of the unmineralized trenches and outcrop mapped appear below. The numbers correspond to those on the 1:1000 geology map. (Descriptions of mineralized trenches appear in the next section under "Mineralization.")

# 44: A trench 2m wide by 4m long cuts easterly into hill side (as do

all trenches described below). On face at east end is biotite granodiorite, quartz 30%; feldspar 50%; biotite 20%, medium grained. No mineralization seen in place or in braggging pile. This is apparently the end of the trail. From here on it is heavily overgrown. Air photo shows logged area about 100m N.

#45-46 No outcrop.

# 46: 8m to east is a small outcrop of fresh granodiorite. It extends south for 30m.

#46-47 Little outcrop. Pit 1m square at 46+15m

#47: 8m east is massive granodiorite outcrop which extends 24m south.

#50 Trench: Width 2m; length 3m. Partly sloughed in. Rusty granodiorite fragments. Specimen taken.

# 50+68' Trench, 1m square. Outcrop 10m east of trail 5m wide extends up bank for 25m; massive granodiorite.

#51-52 Outcrop 26m east of trail, continuing the one mentioned above. Extends 30m southerly; width 5m.

#53 The outcrop at the last trench has extended south at roughly 8m east of the trail. Width: 40m to east. Also extends to station 54 where it approaches to 6m east of the trail.

#54+12m a prong of outcrop crosses trail from NE to SW, width 8m.

55 Trench. 2m wide by 10m. Clean fresh granodiorite at east end. Mostly sloughed in, but some rusty material in trench walls. Specimens of fresh & rusty granodiorite taken.

#55-56 Outcrop extends south.

- #58 On outcrop, which has been 6m upslope to the east and crosses the trail here at about 195 degrees. It extends 30m to SW where there is a patch of talus. The trail crosses this outcrop for 30m. Massive granodiorite; no vein visible.
- #59 Trench on line, 4m by 4m. Massive granodiorite at head of trench, but no vein walls exposed. Fracturing in granodiorite 000/42E. Some rusty material
- #60 Outcrop continues in a bluff 20m east of line, as it has since #59. No pits.
- #61 Outcrop ended at 60+20m where it submerges. Extends 30m east. Minor outcrop 13m N of #61 and 17m west of line.
- #63 Outcrop on trail, also 3m to W. & 10m to E. It extends from the minor ocp mentioned above, has a width of 13m and extends to bluff to east of Valparaiso portal.

7 - 4      Mineralization:

- Ocp 45; Trench, 3m by 5m. Granodiorite, coarse grained, fresh. Hanging wall of vein (000/-47E) is in head of trench below which is some very decayed granodiorite exposed for about 1m. Then covered for about 2m to the west, then rusty weathering vein material is exposed again in the south wall of the trench for 1m. Specimen of this r/w material taken.
- #52+6m south: Trench 4m wide by 8m. Fresh granodiorite at east end of trench is lower part of outcrop extending east 40m. Hanging wall of vein at east end of trench. (020/46E) Below hanging wall is

decayed, buff coloured granodiorite. A specimen fragment of vein quartz was taken from this decayed material. The lower part of the vein is buried.

#57 Trench: Vein hanging wall exposed at east end (000/35E). Above hanging wall is fresh granodiorite. Below h/w the granodiorite is crushed. Rusty at h/w contact for 5 inches, below which it is bleached, buff coloured and decayed. Quartz stringers occur in a 6 inch wide zone close to the hanging wall. Six feet below the h/w contact is rusty bleached granodiorite. The vein appears to be horse tailing in this trench. The outcrop above the trench is massive and extends eastwards about 40m, and also extends south 40m. Below the trail is a prominent talus slide extending for 100m south of station 55, and for about 80m downslope.

8 - 0      REFERENCES:

1. Curtin, C.J.            "Gold Relief Claims," February 1936.
2. Rice H.M.A.            "Nelson Map Area, East Half," Memoir 228.  
G.S.C. 1941. (Includes map # 603 A)
3. Hougland, E.            "Palouse Company Property, for Palouse  
Company Ltd., January 1959.
4. Reeve, A.F.            "Destiny Bay Properties," for North Pacific  
Mines Ltd., 20 May 1964.
5. Greene, A.S.            "Destiny Bay Properties - Hot Group of  
Claims," for Custom Mining Ltd., 12 November  
1981.

## Annual Reports of the B.C. Minister of Mines:

Year:	'00	'02	'03	'24	'26	'27	'32	'33	'34	'53	'54	'55
Page:	85	302	242	449	285	320	195	200	A27	121	129	54



9 - 0      STATEMENT OF QUALIFICATIONS:

I, David R. Morgan of 240 Holyrood Road, North Vancouver, B.C., V7N 2R5, do hereby certify that:

1. I am a 1954 graduate of McGill University, Montreal, Quebec, with a Bachelor of Science Degree in Honours Geology.
2. I am a registered member, in good standing, of the Association of Professional Engineers of the Province of British Columbia.
3. I personally carried out the mapping of the Gov 1 and L4907 & L4908 claims 40 km north of Creston B.C., 82-f/7(E), as described in this report.

Signed,



David R. Morgan, Geologist, P.Eng.



North Vancouver, B.C.

10 November 1993

10 - 0      STATEMENT OF COSTS:

I hereby certify that the following costs were incurred in carrying out the geological mapping of the GOV 1 claim and L4907 & L 4908, 40 km north of Creston , B.C., on N.T.S. 82-F/7(E), between 23 and 27 August 1993, and in report preparation:

Geologist: (D.R. Morgan)

Geological mapping: August 24-26: 3 days	
Travel: August 23 & 27: 2 days	
Drafting & Report writing: 3 days	
Total: 8 days @ \$400/day:	3,200.

Helper: (L. Morgan)

June 28 - July 02	
Total: 5 days @ \$100/day:	500.

Room & Board:

Motels:	147.20	
Food:	<u>150.</u>	297.20

Transportation:

Truck Rental:	244.40	
Car: 1120 km @ .40/km	448.	
Gas:	<u>80.</u>	772.40

Printing, Copying, Report Prep:

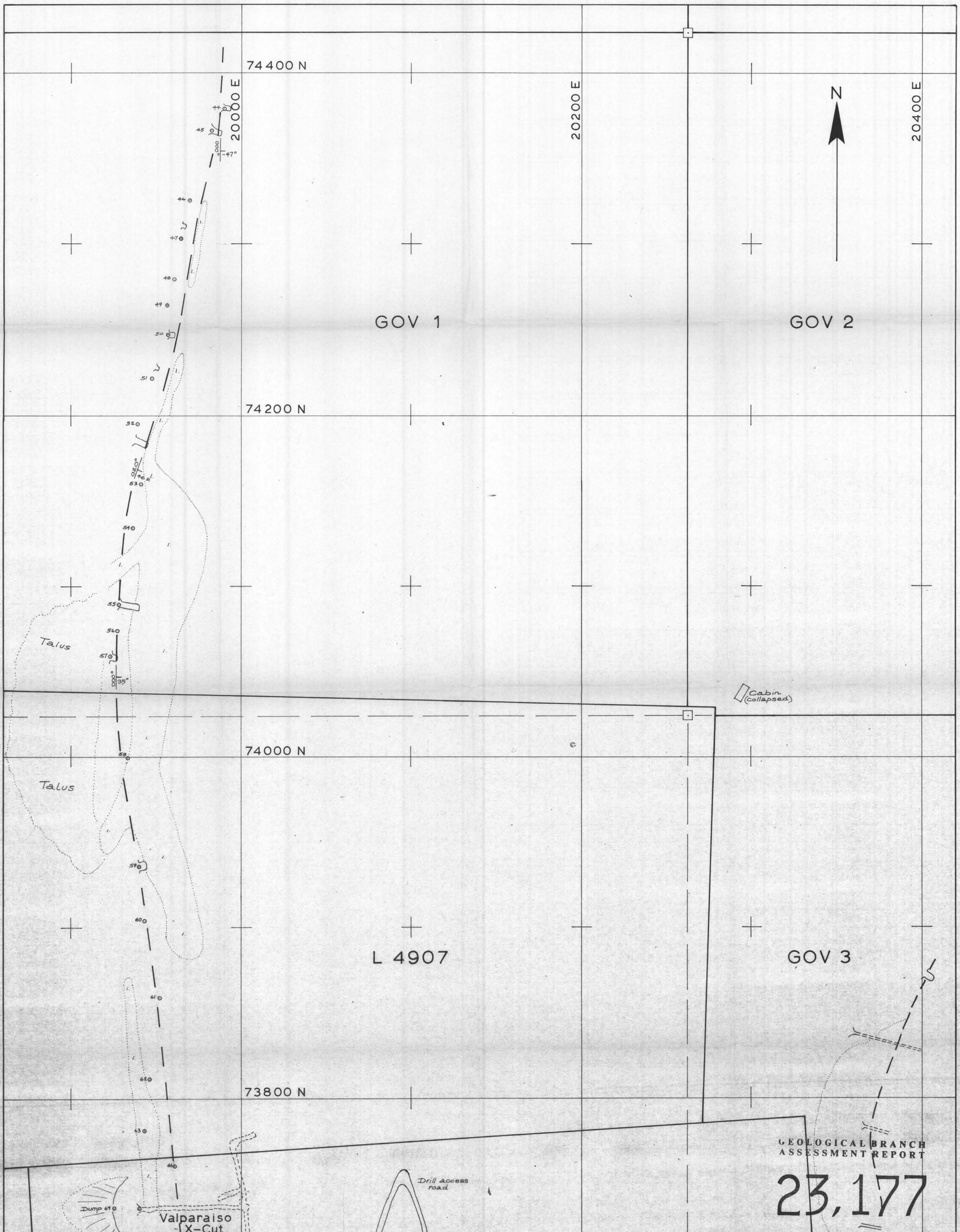
	<u>75.</u>
TOTAL EXPENSES:	<u>4,844.60</u>

Signed,



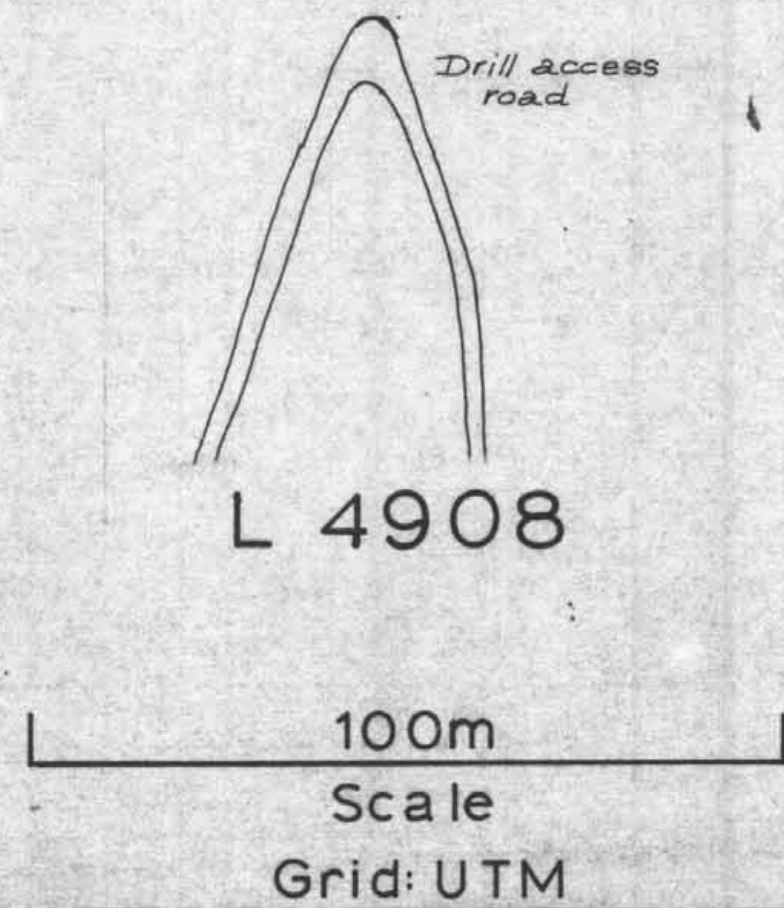
-----  
 David R. Morgan, Geologist, P. Eng.  
 N. Vancouver, B.C. 10 November 1993





**LEGEND**

	Vein
	Granodiorite
	Survey station
	Talus
	Cabin (collapsed)



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

# 23,177

**GOV 1-3 Claims**  
Boswell, Nelson MD, NTS: 82-F/7

**GEOLOGY**

Scale: 1:1000 (1cm to 10m)
Date: 10 November 1993
By: D.R. Morgan P. Eng

PROFESSIONAL ENGINEER  
D. R. MORGAN  
BRITISH COLUMBIA