

# 6140

GEOLOGICAL  
ASSESSMENT REPORT  
ON THE

PORCUPINE (LOT 4634)  
FRANKLIN (LOT 4635)  
AND  
CHAMPAGNE (LOT 5131)

MINERAL CLAIMS  
SITUATED  
FOUR (4) KILOMETERS  
SOUTHEAST OF YMIR, B.C.  
ON PORCUPINE CREEK  
NELSON MINING DIVISION  
N.T.S. 82F/6E

LATITUDE 49°15'N; LONGITUDE 117°10'W.

FIELD WORK BETWEEN OCTOBER 26 AND 28, 1976

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. **6140**

REPORT BY:

D. R. COCHRANE, P. ENG.  
NOVEMBER 30, 1976  
DELTA, B.C.



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geology  
geophysics  
geochemistry

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## INTRODUCTION

In October 1976, the author and Messers. Urquhart and Graham of Merritt, B.C., inspected portions of the Porcupine, Champagne and Franklin mineral claims situated on Porcupine Creek, a few miles southeast of the town of Ymir in South Central B.C.

The "Porcupine" is an old claim, originally staked in 1895, and has a small past production record. The purpose of the work was to inspect and examine the claims as part of a total re-evaluation program in the old Ymir Gold-Silver camp, brought about by the upward valuation in the price of gold.

This report is designed for assessment work submission and assessment work details are tabulated in Appendix I. Metric units have been used exclusively in this report.

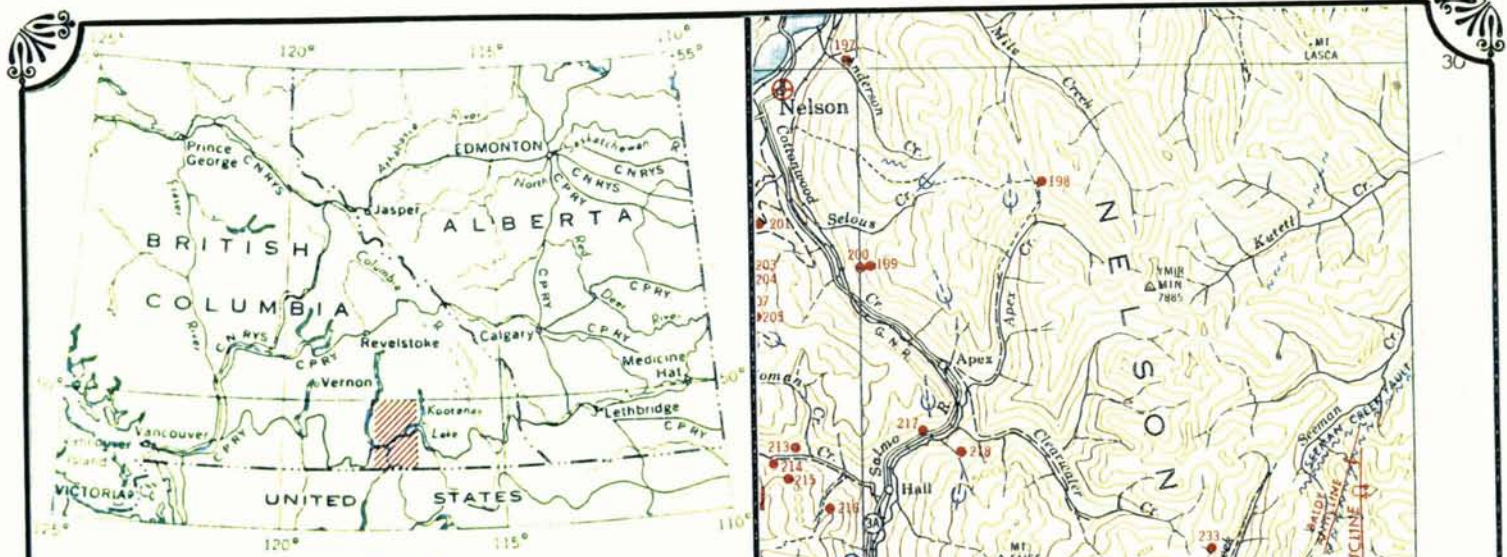


LOCATION AND ACCESS

The Ymir Gold Camp is situated in British Columbia's Kootenay District, some 40 odd air kilometers east and slightly north of Trail, and 20 air kilometers south of the city of Nelson. The town of Ymir is the nearest settlement and consists of a hotel, general store and gas station. Ymir is located on the Salmo River; Highway #6, the West Kootenay Power line and Burlington Northern Rail line. Access to the claims during snow free months may be made by car by proceeding south from Ymir along Highway #6, then across the river and up Porcupine Creek for two kilometers or a total of approximately 5 road kilometers from downtown Ymir. The north part of the Porcupine claim crosses the creek near the bridge. The Franklin and Champagne claims are west and south of the Porcupine respectively.

The N.T.S. code for the area is 82F/6E, the latitude  $49^{\circ}15'N$ , and longitude  $117^{\circ}10'$  West.

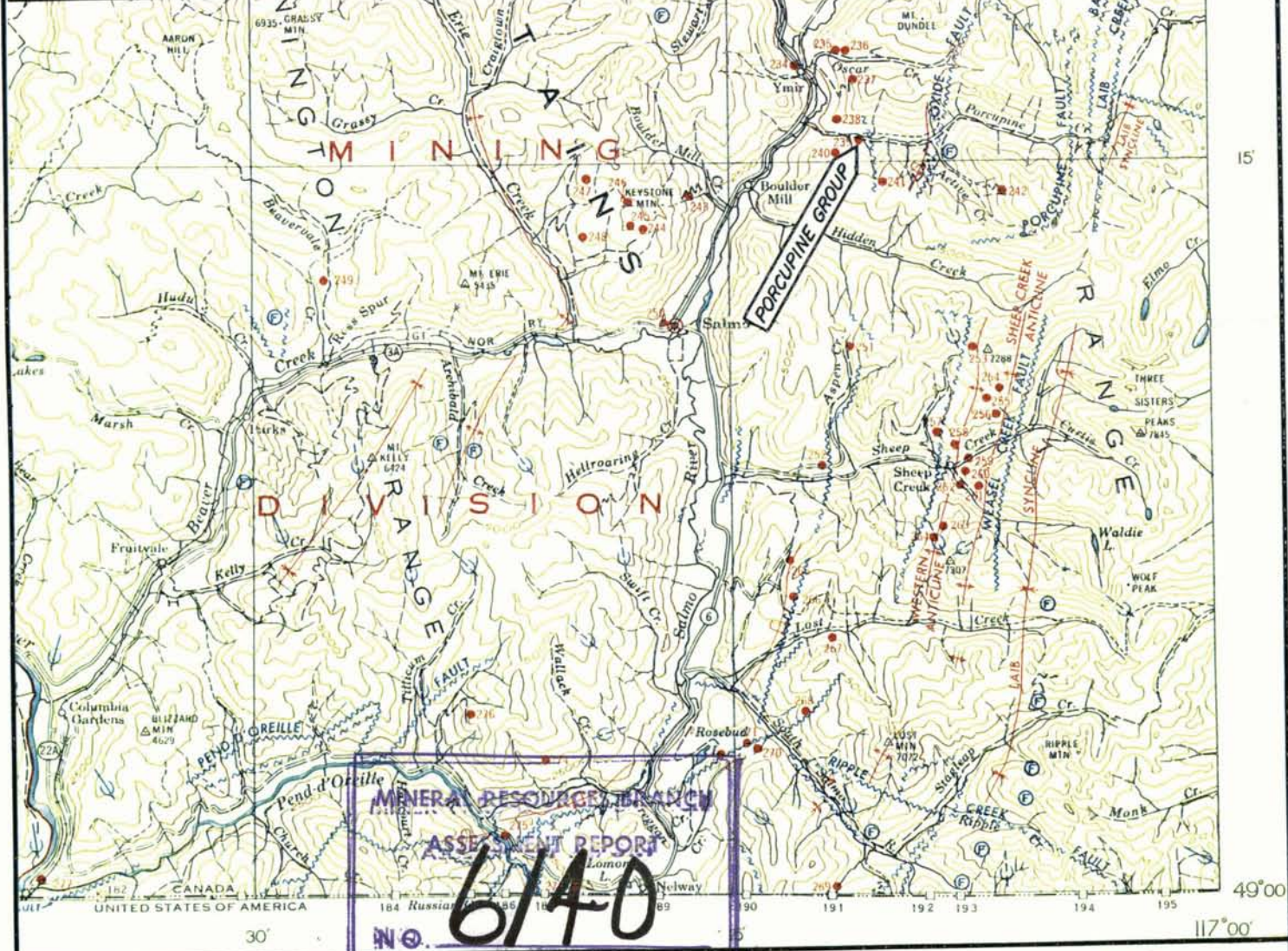




INDEX MAP



EXTRACTED FROM G. S. C. MAP NO 1091 A. "MINING PROPERTIES, NELSON"



" PORCUPINE GROUP " LOCATION MAP FIGURE 1

XEROGRAPHY by B.A.C.

DECEMBER 1976

CLAIMS INFORMATION

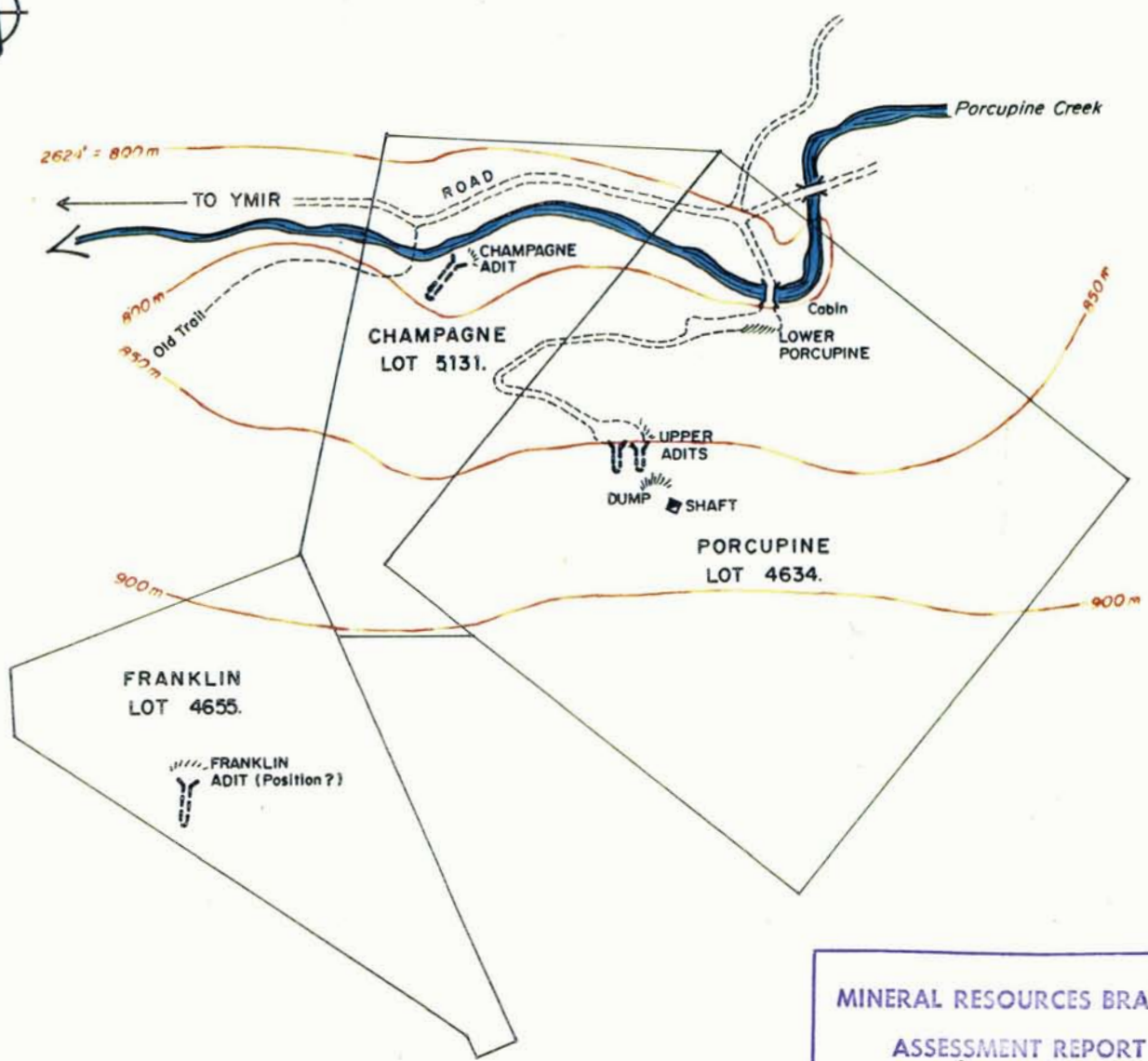
The Porcupine, Franklin and Champagne claims are reverted crown grants acquired by Mr. I Urquhart of Merritt, B.C. in the fall of 1975. They are registered in the Nelson Mining Division and are shown on B.C. Dept. of Mines Claim Map 82F/6E.

The following table lists pertinent claims information:

<u>CLAIM NAME</u>	<u>LOT #</u>	<u>RECORD #</u>	<u>ACRES</u>	<u>EXPIRY DATE</u> *
Porcupine	4634	120	51.65	Nov. 10/76
Franklin	4635	121	23.07	Nov. 10/76
Champagne	5131	125	18.36	Nov. 10/76

\* As of November 1, 1976.





MINERAL RESOURCES BRANCH  
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1:5000



From Sketch by D.R.C.

*Ymir Camp*  
NELSON MINING DIVISION

.. PORCUPINE GROUP ..  
SKETCH MAP FIGURE 2

XEROGRAPHY by B.A.C.

DECEMBER 1976

GENERAL SETTING

The Ymir Gold Camp lies within the Nelson Range of the Selkirk Mountain complex which is an impressive northerly trending upland surface bounded on the west by the Columbia River, and on the east by Kootenay Lake and River. The area is characterized by rugged peaks which rise to elevations in excess of 2200 meters above sea level with moderately steep slopes and deeply incised stream valleys.

Forest cover is extensive below elevations of about 1800 meters and consists of stands of tamarack, hemlock and fir. Above this level the vegetation is sub-alpine type, open and snow covered for most months of the year.

The area is readily accessible by air, road and rail and the major population centers include Castlegar (which is serviced by air by P.W.A. from Vancouver), Nelson (pop. 6772 in 1951) and Salmo. Ymir is essentially a "ghost town" but is strategically located in the Salmo Valley between Nelson and Salmo, and has a full compliment of "services".

The bedrock geology of the region is complex, but is dominated by the extremely large Nelson Batholith





(and satellitic bodies) which underlies the greater part of the entire Nelson map sheet (82F/6).

The geological history of the area is long and involved and dates from the Precambrian through to a complex Pleistocene history. Geological bias is north-northwesterly with a few major valleys running transverse to this direction (i.e. Ymir and Porcupine Creeks).

The mining history dates from 1885 when the first strikes were made. However, there was little attention payed to the area until the mid 1890's and after the Rossland rush when new locations where being considered. In 1896 many of the well known claims were staked and two years later the Ymir camp began to attract considerable attention. This activity lasted for six or seven years, after which the Salmo Camp became the center of attention. There was a brief flurry in the late 20's and early 30's but essentially the camp is an old one, and remains relatively untouched by modern exploration techniques.



HISTORY

The Porcupine claim, the oldest claim in the immediate area and the one the creek is named after, was staked in 1895 and most of the old workings date back to 1897. It was crown granted by J. S. Clute in 1902 and was worked by Messers. Haukendahl, Guille and Peterson in the 20's. The property originally consisted of seven (7) claims (Easter, Porcupine, Amador, Sunrise, Franklin and Champagne), and the name of the group was changed to the Maple Leaf in the early '50's.

Apart from the first years of activity in the late 1800's, work on the Porcupine and adjacent claims was primarily conducted between 1925 to 1930 and again in the 1940's.

In 1926 and 1948 the Porcupine shipped a total of 44 tons of ore containing 405 ounces of silver, 3747 pounds of lead, 3832 pounds of zinc and 3 ounces of gold. (Memoir 308). The average of the 44 tons shipped is tabulated below.

Porcupine (Maple Leaf)

<u>Tons</u>	<u>% Pb</u>	<u>% Zn</u>	<u>Ag (oz/ton)</u>	<u>Au (oz/ton)</u>
44	4.26	4.35	9.20	0.068

The presence of tin has also been noted in the Porcupine mineralization.



(7)

In 1948, the Maple Leaf Gold Mining Co., drove an adit on the property and shipped 26 tons to the Trail smelter. Since that time periodic surface work has been done on the property.

The Porcupine is extensively developed and workings consist of ten (10) short adits and a number of open cuts. Many of the adits are now caved and inaccessible.



GENERAL GEOLOGY

The Ymir Gold camp lies on the east flank of a large, north trending synclinorium whose axis runs from Salmo to Nelson, a distance of roughly 40 kilometers. The synclinorium is "floating" being enclosed for the most part in Nelson plutonic rocks, and the latter is considered by most workers as being derived by metamorphism of pre-existing volcanic and sedimentary rocks (Little, pg. 98). The synclinorium consists of the following sequence (from outside or oldest, towards the center):

1. Lower or Pre-Jurassic Ymir Group (formerly Pend D'Oreille by Drysdale) consisting of argillite, slate and paragneiss.
2. Lower Jurassic Rossland Formation consisting predominately of greenstones.
3. Mid/Upper Jurassic Hall Formation, which conformably overlies the Rossland, and consists of argillite, sandstone and conglomerate.

This entire complex is intruded by various intrusives of the Nelson plutonic suite and is locally strongly deformed and metamorphosed.

To the east of the synclinorium is a sequence of Cambrian and Ordovician strata that are northerly trending and are characterized by quartzite, argillite and various schists.



Productive metaliferous gold, silver, lead and zinc deposits occur in all the above described rocks except the Hall Formation.

Various attempts have been made in the past to classify the metal deposits in the Nelson - Ymir area, and the problem has yet to be satisfactorily solved. Cockfield (1966) utilized a host rock system, and Little (1960) used a relative abundant metal system. However, the past producing mines of the Ymir camp are predominately gold deposits although significant amounts of silver, lead and zinc have been recorded.

The important criteria for deposits in this particular study is, however, "overall dimensions", since narrow "vein type" occurrences are labour intensive and expensive to mine. On the other hand, replacement, skarn or metasedimentary deposits often have vertical and lateral extents that make the body amenable to mechanized, inexpensive bulk handling systems of mining.

Narrow, tabular or vein type deposits are often found in massive homogeneous rocks such as intrusive or thick volcanic sequences. Deposits with layer overall dimensions often occur in a layered or bedded sequence, or near intrusive contacts, and it is to this type of



deposit that this study is directed.

Mineralization on the Porcupine, Franklin and Champagne claims consists of pyrite, galena, and sphalerite, with silver and gold values lying within Pend D'Oreille schists at or close to the contact with small bodies of Nelson plutonic rocks. Traces of copper and tin have been reported, and mineralization has been previously classified as lying within silicified and/or shear zones. The author's first impression of the mineralization is that although veins do exist there is considerable evidence of replacement, specifically on the lower cuts near the creek and on the Porcupine claim.



GENERAL DESCRIPTION OF SHOWINGS

Many of the workings are caved and inaccessible, however suites of rock samples were collected from dumps and accessible cuts and examined under a binocular microscope. The following summarizes the findings:

1. Champagne (Creek) Adit: Located approximately 500 meters west (downstream) from the main Porcupine showings, an adit driven at an azimuth of  $240^{\circ}$ , portal on the south side of the creek at creek level. Portal open and tunnel in fair condition driven straight in for approximately 40 meters.

The adit exposes, and is driven on a banded, vertical quartz vein ranging in thickness from 10 to 40 centimeters wide. Mineralization within the vein consists of knots and stringers of pyrite and brown sphalerite-galena intergrowths. Sections of the vein contain narrow (2 to 3 cm wide) bands of massive sulphides. Visual estimate of these bands; 30% pyrite, 40% galena and the remainder sphalerite.

Franklin Adit:

The Franklin adit is located south of Porcupine Creek and approximately 200 meters higher in elevation than the creek. The adit is caved and dump material



is predominately schistose rock with traces of pyrite and a few quartz stringers.

#### Porcupine - Lower Workings

The lower Porcupine workings are situated a short distance south of the Creek near the bridge. Early reports describe several adits in this area, however, fairly recent bulldozer trenching has apparently obliterated the portals. There is one large rock cut which exposes a complex silicified zone with horizons of schist. Mineralization consists of pyrite, galena and sphalerite within the silicified rocks and also disseminated in host rocks. Some hand specimens of impressive mineralization may be collected. There is insufficient exposure to determine the attitude or extent of this showing, however mineralization is not restricted to quartz veins.

#### Uppermost Porcupine Showings

The uppermost Porcupine showings consist of a fairly fresh bulldozer cut, two open adits, one caved adit and a caved shaft. Structure, lithology and mineralization is complexly distributed and is further complicated by the presence of narrow post-ore dikes, and post-ore faulting. The upper shaft exposes a quartz





vein approximately two (2) meters wide, striking at an azimuth of  $140^{\circ}$  and dips southwest at  $45^{\circ}$ . The vein is highly pyritic and certain sections contain bands and blebs of galena and sphalerite with traces of chalcopyrite.

Two adits and a rock cut below the shaft expose knots, clusters and bands of pyrite, galena and sphalerite with traces of chalcopyrite and within a siliceous host. Mineralization is not restricted to the quartz veins, bands and pods, and galena especially often occurs as fine disseminations in relatively unsilicified schist.




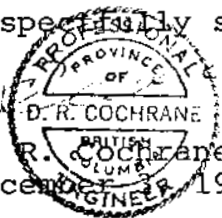
CONCLUDING REMARKS

There are several mineralized zones on the Porcupine, Franklin and Champagne claims, and these occur in silicified and granitized quartzites and schists often in association with tongues of Nelson granodiorite. The mineral suite is not complex and consists predominately of pyrite, galena and light to dark brown sphalerite with minor chalcopyrite. Mineralization is not restricted to quartz veins, lenses and pods but is also found in altered host rocks. The sulphide suite contains silver and minor gold and tin.

Present exposure is insufficient to accurately determine extent of mineralization and therefore indirect methods (such as induced polarization surveys) are required to evaluate the several "showings".

Respectfully submitted

  
D. R. COCHRANE, P. Eng.  
December 1976



APPENDIX I

ASSESSMENT WORK DETAILS

PROJECT: Porcupine  
CLAIMS Porcupine, Champagne, Franklin  
LOCATION: Four (4) km S.E. of Ymir, B.C.  
MINING DIVISION: Nelson  
N.T.S. 82F/6E  
WORK DONE: Geological examination, sample collection,  
microscope examination of samples.

FIELD PERSONNEL:

C. F. Graham, Merritt, B.C. Experienced Prospector  
I. Urquhart, Merritt, B.C. Experienced Prospector.  
D. R. Cochrane, P. Eng., Delta, B.C. Consultant

DATES:

Field Work: October 27 and 28, 1976  
Office: November 30, Dec. 3, 1976 (D. R. Cochrane)

COSTS:

Graham/Urquhart 3 man days @ \$50/man day = \$200.00  
D. R. Cochrane P. Eng. 3 1/2 days @ \$200/day = \$700.00

SPONSOR:

C. F. Graham and Associates  
P.O. Box 910  
Merritt, B.C.



APPENDIX II

BIBLIOGRAPHY

Maple Leaf (Porcupine) (239)

References: Minister of Mines, B.C., Ann Repts: 1925,  
p. 249; 1930, p. 273, 1939 p. 81; 1944  
p. 61; 1948 p. 133. Drysdale, 1917B, pp.3, 133,  
Cockfield 1936, pp. 16, 17. McAllister,  
1951, p. 40., Little, 1960.

