

GEOLOGICAL REPORT ON THE BEAR CLAIMS

CLAIMS - BEAR - LOT 14714
BEAR NO. 1 - Record Number 1641

NELSON MINING DIVISION

N.T.S. - B2 F/6

Latitude - 49 degrees, 22 minutes, 30 seconds North
Longitude - 117 degrees, 17 minutes, 30 seconds West

Owner of claims - Goldrich Resources Inc.

Operator of claims - Lightning Minerals Inc.

Author - Peter Hannigan

Date - December 13, 1987

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,728

Part 5 of 9

FILMED



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S) GEOLOGICAL	TOTAL COST \$ 1929.80
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AUTHOR(S) P. HANNIGAN SIGNATURE(S) *Peter Hannigan*

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED DEC. 29, 1987 YEAR OF WORK 1987

PROPERTY NAME(S) BEAR CLAIMS

COMMODITIES PRESENT GOLD

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION NELSON NTS B2 F/6

LATITUDE 49° 22' 30" N LONGITUDE 117° 17' 30" W

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

BEAR LOT 14714

BEAR #1 R#1641

OWNER(S)

(1) GOLDRICH MINES INC. (2)

MAILING ADDRESS

1730, 401 W. GEORGIA ST.
VANCOUVER, B.C., V6B 5A1

OPERATOR(S) (that is, Company paying for the work)

(1) LIGHTNING MINERALS INC. (2) TERRA MINES LTD.

MAILING ADDRESS

202, 7608-103 ST.
EDMONTON, AB
T6E 4Z8

← SAME

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

L. JURASSIC VOLCANICS

QUARTZ VEINS < 2.5 cm

GOLD.

REFERENCES TO PREVIOUS WORK

LITTLE, H.W., 1960 NELSON W 1/2, GSC. MEMOIR 308

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground	4 HECTARES	BEAR, BEAR#1	1929.80
Photo			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralogic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)			
Photogrammetric (scale, area)			
Line/grid (kilometres)			
Road, local access (kilometres)			
Trench (metres)			
Underground (metres)			

TOTAL COST .. 1929.80 ..

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted	Date			Information Class
	Rept. No.			

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GEOLOGICAL REPORT OF THE BEAR CLAIMS

I Introduction

The Bear claim group consists of one crown grant and one reverted crown grant on the south side of Hall Creek about 12 km due south of Nelson. Access to the property is achieved by following an overgrown branch trail from the end of the Hall Creek road at the lower Fern adit. The Hall Creek road ends about 5 km west of Hall Siding on Highway 6 (see Figure 1).

The ground covered by the claims has been burned over. As a result, thick stands of alder and devil's club are prevalent.

The Ymir gold camp, in which these claims can be included, was discovered in 1885 when the initial gold occurrences were found. The camp did not receive much attention until 1896 when the railway was built. Most of the occurrences had been staked by this time and mine production started soon after. Most production occurred in the early years of the century as well as in the 1930's. War broke out in the 1940's and mining operations ceased. After the war, fragmentation of ownership, and low gold and silver prices prevented major production plans. Recently, Goldrich Resources Inc. managed to acquire a substantial amount of ground in the Ymir camp, and then an agreement was signed in 1987 whereby Lightning Minerals Inc. would perform the work required in the area.

According to the Minister of Mines Annual Report of 1937, the Bear property was owned at that time by Carl Peterson of Hall Siding. A short adit and two open cuts were reported to have been excavated. Three tons of ore removed from the property contained 9.65 ounces of gold and 0.94 ounces of silver. A grab sample of the adit dump retrieved by the author of the Minister's Report returned an assay value of 3.26 ounces per ton gold and 0.4 ounces per ton silver.

In 1987, a geological mapping program was initiated by Lightning Minerals on the Bear claims. The scale of mapping used was 1:5000. The total area surveyed was about four hectares.

The claims included in this report are as follows:

Bear	Crown Grant	L14714
Bear #1	Reverted Crown Grant	Record No. 1641

The personnel employed on these claims were A. Hitchins, R. Meyer and P. Hannigan, all of Lightning Minerals Inc.. Field work was performed on October 19 and 21, 1987.

II Detailed Technical Data and Interpretation

a. Regional

A large synclinorium with a north-south axis trending from Salmo to Nelson seems to be the major structure in the Ymir gold camp area. This synclinal structure is probably a roof pendant of supracrustal rocks enclosed by the Nelson plutonic complex. The core of the structure is occupied by the younger Mid to (?) Upper Jurassic Hall Formation consisting of argillites, sandstones and conglomerates (see Table 1, Table of Formations). Adjacent to the Hall rocks on both flanks, a band of Lower Jurassic Rossland Formation consisting of greenstones are exposed. Lower or pre-Jurassic Ymir Group material consisting of argillite, slate and paragneiss are the oldest rocks on the structure. Abundant Nelson plutonic bodies intrude this belt of rocks. Strongly deformed and metamorphosed supracrustal rocks are present adjacent to these intrusions.

According to Little (1960), the Rossland Formation consists of basic flows and flow breccias, probably andesitic to basaltic in composition. Thin sections reveal saussuritized plagioclase feldspars, augite, and chloritized hornblende. These rocks have been metamorphosed to the greenschist facies as evidenced by the presence of secondary calcite, albite, epidote, zoisite and chlorite. Another common rock type noted in the Rossland Formation was an intrusive augite porphyry. Dark green fine-grained volcanic rocks have numerous small phenocrysts of augite within them. These rocks are sometimes weathered to light green in colour. These rocks are similar in composition to the flows above.

Little's map shows that the most abundant phase of the Nelson plutonic complex is a porphyritic granite. The grey rocks contain a coarse-grained quartzo-feldspathic groundmass with abundant phenocrysts of feldspar. The phenocrysts range in size from barely larger than groundmass to 14 cm in length, with the average length being about 5 centimeters. Hornblende content is generally greater than biotite in the mafic minerals.

ii Property Geology

The main rock-type encountered on the property was the augite porphyry of the Rossland Formation (see Figures 2 and 3). Massive dark green andesitic volcanic rocks with abundant phenocrysts of augite characterize this rock-type. The massive nature of the material precludes structural interpretation of these rocks. The presence of three joint sets produce a very blocky talus.

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The main set of workings consisting of two adits and three open-cuts or trenches are located on a contact between the augite porphyry and a porphyritic granite dike. Phenocrysts of plagioclase feldspar are present in a quartzo-feldspathic groundmass. This massive grey rock is fractured in at least two directions. The fracture planes of interest on the property generally strike east-west. There is often crushing of the wall rock material along the planes and quartz has been introduced as fissure fillers. The quartz stringers have adjacent oxidized and argillic altered wall rocks. The veins and stringers are often vuggy. Pyrite stringers and blebs are frequently abundant in these crushed quartz-rich rocks. Minor malachite was also observed. Free gold has been reported in these veins, but none was seen in our investigation. Within the adit, the vein has been reported to be up to 25 cm wide but then it quickly pinches down to a 10 cm width (Minister of Mines, 1937).

About 250 m west of these workings (Station PH-87-146, Figure 2), an inaccessible adit was located with an azimuth of 105 degrees. The rock-type at the adit entrance consisted of massive fractured augite porphyry. No rusty material was seen on the adit dump.

Also, about 80 m east of the main workings, another inaccessible adit was found. Again, massive dark green augite porphyry occurred at the entrance. No quartz or rusty material was encountered at the adit dump. This adit (Station PH-87-138) may actually be outside of the Bear claim group on the Fern claim.

iii Discussion of Results and Interpretation

The purpose of this geological survey was to locate the original showing, carefully mapping and sampling significant structures. Then an attempt would be made to extend these encouraging structures as well as locate possible parallel or en echelon economic fractures. The location of new workings and the careful geological mapping of surrounding ground may provide clues for locating these zones.

All samples were sent to Roszbacher Laboratories in Burnaby, B.C. for rock geochemical analyses. Gold values were quite significant. Sample C-47644 was a grab of crushed and oxidized quartzose material with abundant pyrite stringers from the Bear adit entrance. This sample returned 11,800 ppb (0.35 opt) Au.. C-47645 assayed 3600 ppb (0.11 opt) Au.. This grab sample came from the adit dump and contained abundant pyrite stringers and blebs. Another grab

sample (C-47646) sampled the rusty fracture in the open cut 10 metres to the east of the adit entrance. Oxidized and argillized crushed quartzose material ran 35,000 ppb (1.03 opt) Au.. C-47647 sampled the mine dump to the west of the previous dump and it returned 5800 ppb (0.17 opt) Au.. See Appendix 1 for all rock geochemical results.

It was thus determined that the gold occurs in a quartz fissure filler as both free gold and also intimately associated with pyrite mineralization. Another sample (C-47648) from the same adit dump as C-47647 containing no visible pyrite mineralization returned only 940 ppb Au..

III Recommendations

The presence of impressive gold-bearing structures on the Bear claim suggests to the author that further work is justified on the property.

Work suggestions are as follows:

1. Open and clean up the Bear adit, so that sampling and mapping can be performed in the underground workings.
2. Clean out the sloughed-in pits and trenches nearby and map and sample the excavations.
3. Expand the mapping and prospecting areas around the workings, looking especially for similar structures. It was noted in the Minister of Mines Report (1937), that the workings described above are called the lowest workings. It is, thus, imperative to investigate the area up the mountain from the excavations. It is also apparent, from Figure 2, that mapping has been restricted to the Bear claim. Some mapping should be attempted on the Bear # 1 claim.
4. A soil geochemical grid survey may be useful in locating hidden structures under overburden.

Respectfully submitted,

Peter Hannigan

Peter Hannigan
Geologist
Lightning Minerals Inc.

TABLE 1

TABLE OF FORMATIONS

(from Little, 1960)

PERIOD

FORMATION

LITHOLOGY

L. Cretaceous (?)

Nelson Plutonic Rocks

Porphyritic granite, non-porphyritic granite to granodiorite, quartz diorite, syenite, monzonite, pseudodiorite, pyroxene-hornblende-biotite rock, mylonite, diorite.

L. Cretaceous (?)

Ultrabasic rocks, serpentinite.

M. & U. Jurassic

Hall Formation

Argillite, sandstone and conglomerate.

L. Jurassic

Rosslund Formation

Andesite, latite, basalt, flow breccia, augite porphyry, agglomerate, tuff, minor shale, metamorphosed greenstone.

Sinemurian Beds

Argillite, argillaceous quartzite, slate, minor flows and pyroclastic rocks.

Permian (?), Triassic (?) and L. Jurassic (?)

Ymir Group

Argillite, slate, argillaceous quartzite, minor limestone, paragneiss.

References

Little, H. W.

1960: Nelson Map Area, West Half, British Columbia
(82FW1/2); Geological Survey of Canada, Memoir 308

Minister of Mines, British Columbia

Annual Report, 1937

Wells, R.A.

1985: Exploration and Development Proposal, Nelson Mining Division, British Columbia for Arizako Mines Ltd. (unpublished report).

STATEMENT OF QUALIFICATIONS

I, Peter Hannigan, do hereby certify that:

1. I am a geologist employed by Lightning Minerals Inc., 202 , 7608 - 103 Street, Edmonton, Alberta, T6E 4Z8.
2. I am a graduate of the University of Calgary with a BSc Degree in Geology (1975).
3. I have practised my profession since graduation and was engaged in exploration prior to 1975 as well. My previous employers include; Geophoto Ltd., Sherritt Gordon Mines Ltd., Scope Exploration Services, Procan, Welcome North and Cyprus Anvil Ltd..
4. This report is based on researching government reports and exploration on the Eclipse / Imperial claims in the fall of 1987.
5. I have no interest, directly or indirectly in the property described in the report.

Respectfully submitted

Peter Hannigan

Peter Hannigan
December 12, 1987

APPENDIX 1

List of Rock Geochemical Results

<u>Sample Number</u>	<u>Ag ppm</u>	<u>Au ppb</u>
C-47644	1.0	11,800
C-47645	0.2	3,600
C-47646		35,000
C-47647		5,800
C-47648		940

APPENDIX 2

ITEMIZED COST STATEMENT

Wages For Field Work:

Peter Hannigan (geologist)	2 days	\$150/day	\$ 300.00
Austin Hitchins (geologist)	1 day	\$150/day	\$ 150.00
Rick Meyer (assistant)	1 day	\$100/day	\$ 100.00
	Add 4% holiday pay		\$ 22.00
	Add 20% burden (office, benefits)		\$ 110.00
	TOTAL WAGES FOR FIELD WORK		<u>\$ 682.00</u>

Wages For Report Preparation:

Peter Hannigan (geologist)	4 days	\$150/day	\$ 600.00
	Add 4% holiday pay		\$ 24.00
	Add 20% burden (office, benefits)		\$ 120.00
	TOTAL WAGES FOR OFFICE WORK		<u>\$ 744.00</u>
	TOTAL WAGES		<u>\$1426.00</u>

Food and Accomodation:

8 days at \$40/day	\$ 320.00
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Transportation:

Rental of 4x4 truck, mileage, gas, oil, repairs 2 days at \$75.00/day	\$ 150.00
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Assay Costs:

5 rock geochemical analyses - Au at \$4/sample	\$ 20.00
2 rock geochemical analyses - Ag at \$1.90	\$ 3.80
Shipping costs to assay lab by Greyhound	\$ 10.00

SUB-TOTAL \$ 503.80

TOTAL EXPENDITURES \$1929.80

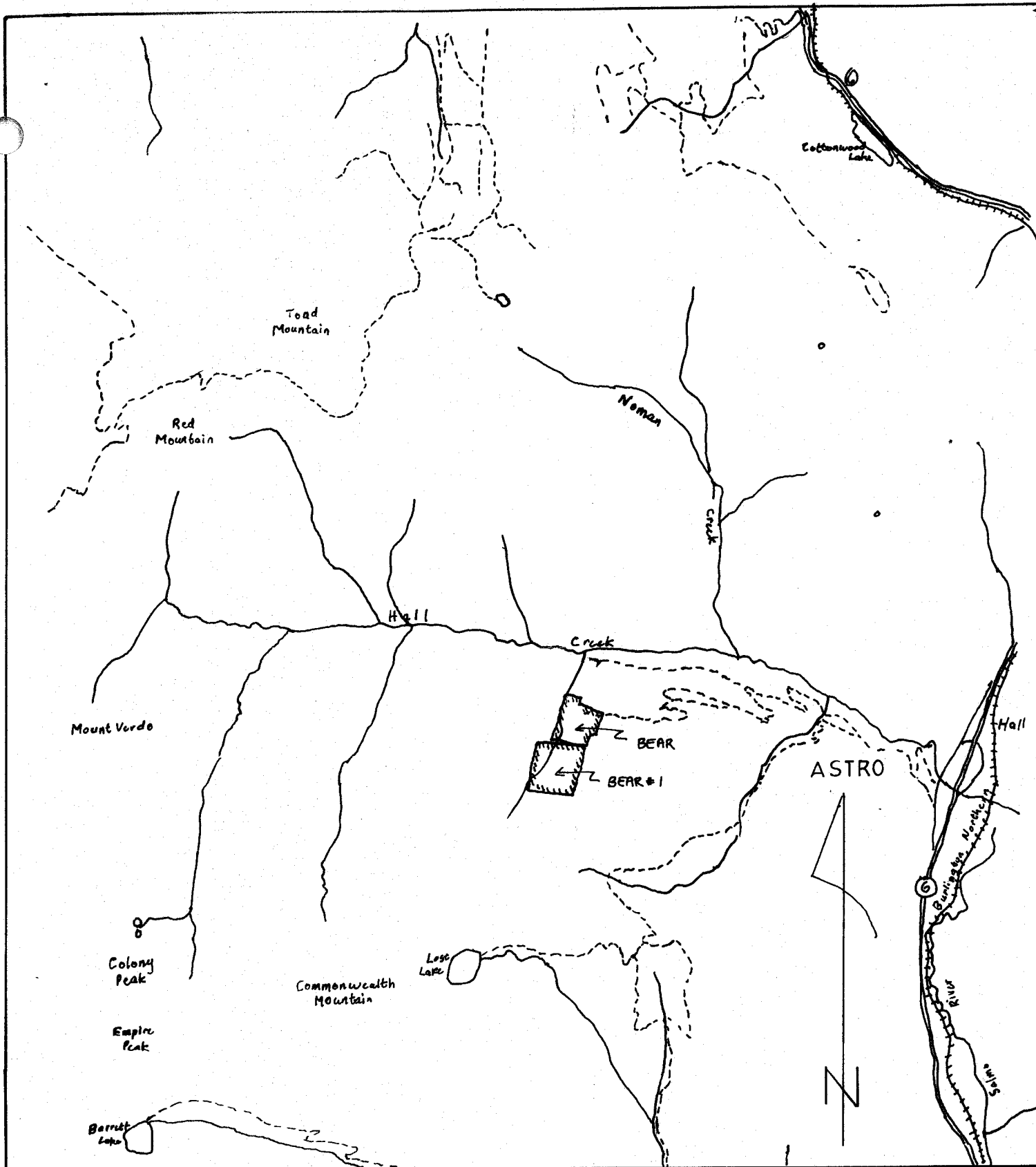
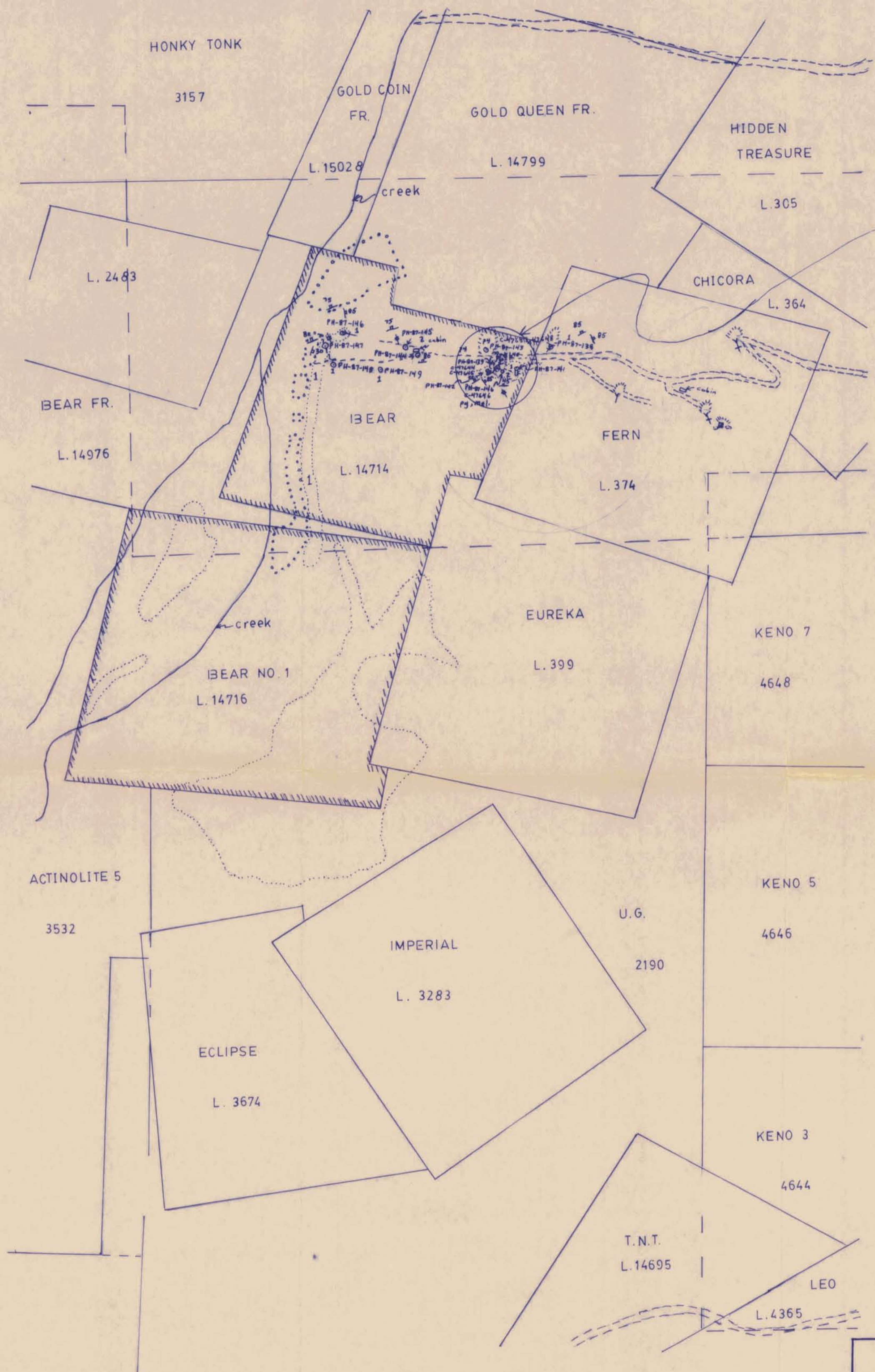


FIGURE 1 : INDEX MAP

SCALE: 1:50,000

N.T.S.: 82F/6



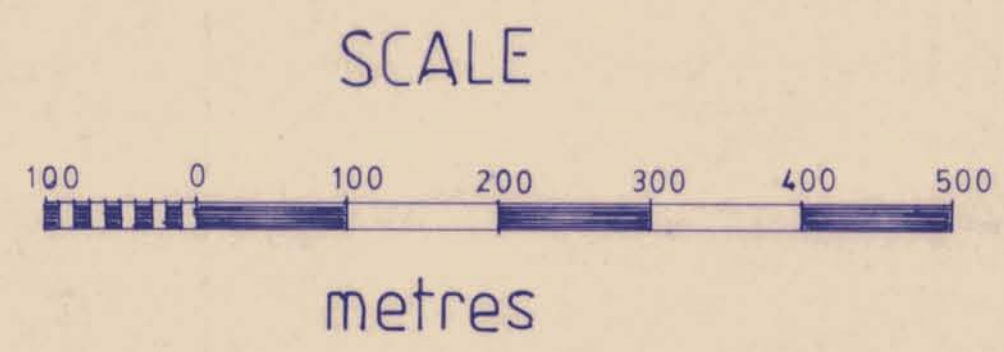
See figure 3 for blow-up of adit area

LEGEND

- ASTRO
 - 2 Porphyritic granite dikes
 - 1 Basic volcanic flows - augite porphyrite
 - Outcrop boundary
 - Talus slopes
 - Fracture; inclined, vertical
 - Adits; accessible, caved in
 - Shear zone
 - Dump
 - py Pyrite mineralization
 - mal Malachite mineralization
 - PH-87-138 Geological mapping station
 - C-47646 Sample number (rock chip)
 - Road
 - Trail
 - Shaft
 - Claim group
- Claim boundaries established by topographic map

GEOLOGICAL BRANCH
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LIGHTNING MINERALS LTD.	
GEOLOGY MAP	
BEAR CLAIMS - YMIR AREA	
GEOLOGY BY: P. HANNIGAN	SCALE: 1:5000
DRAWN BY: P. HANNIGAN	DATE:
	DRAWING NO: FIGURE 2

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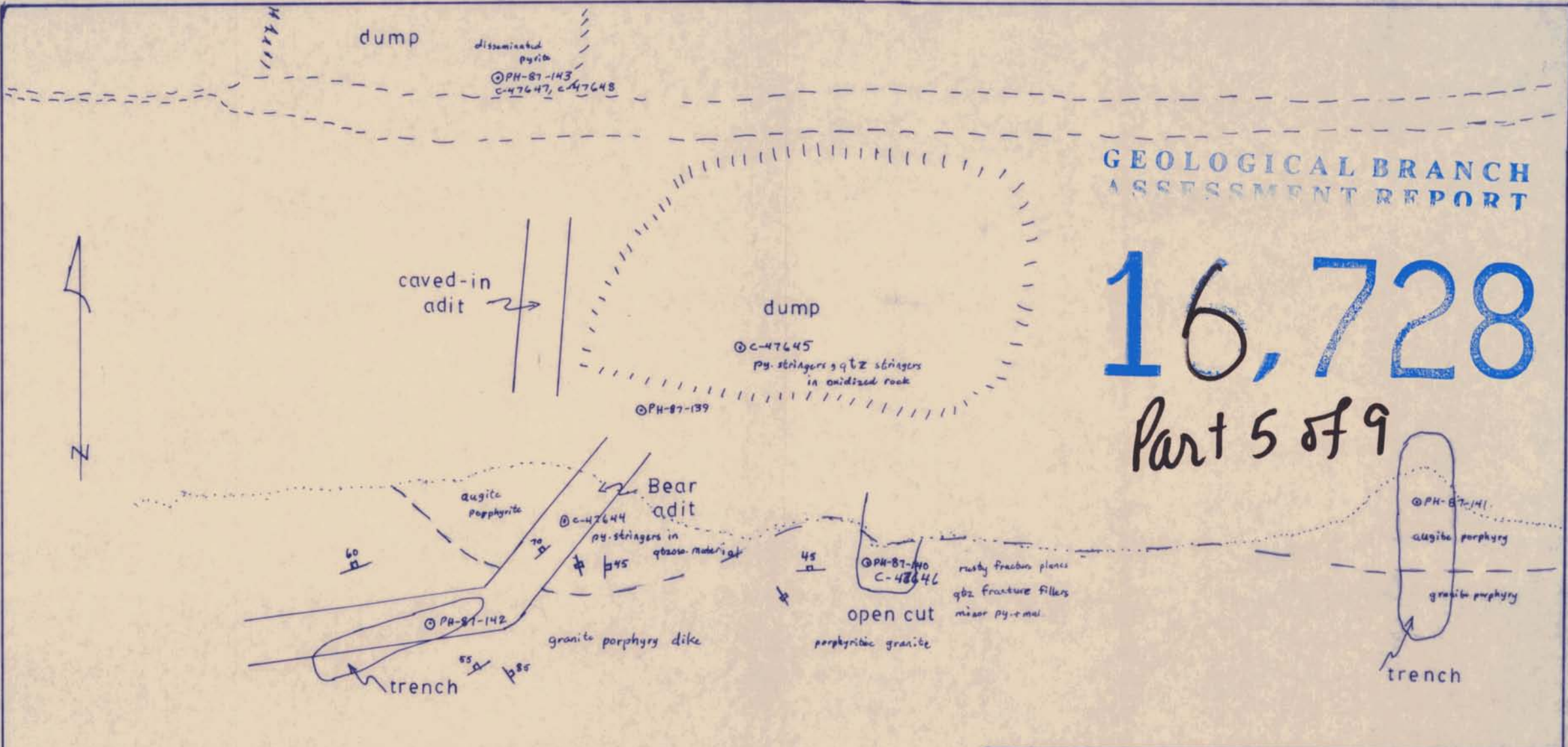


FIGURE 3 :

GEOLOGY MAP OF
ADIT AREA