REPORT on the HARRISON PROPERTY LILLOOET MINING DIVISION of PINE LAKE MINING CO. LTD. (N.P.L.)

by: W.R. Bacon, Ph.D., P.Eng.

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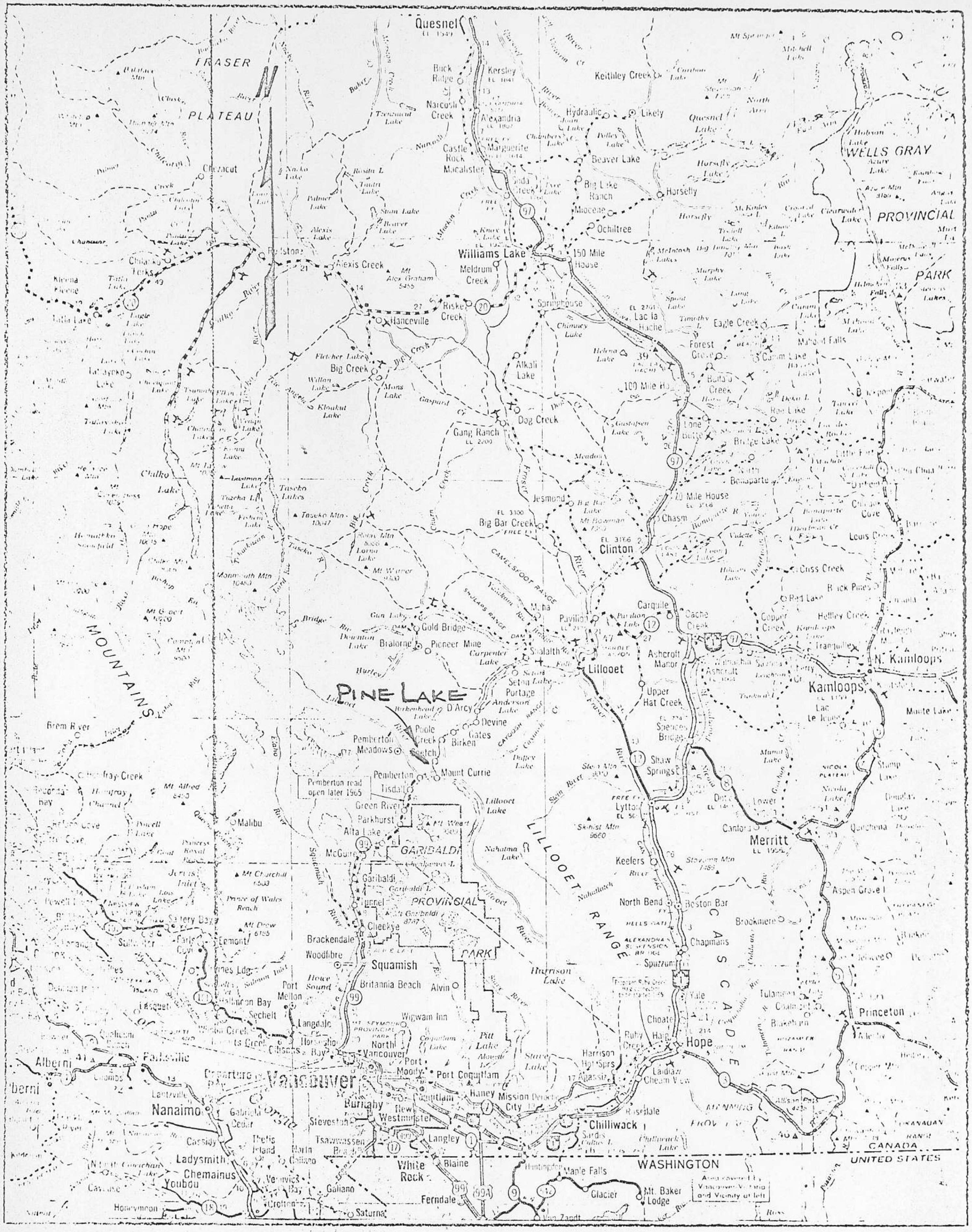

Scale: 1" = 30 Miles

FIG. 1.

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INTRODUCTION

The Harrison property of Pine Lake Mining Co. Ltd. (N.P.L.) is in the Pemberton section of the Lillooet Mining Division. The writer visited the property on September 17th-18th, 1969 and later wrote a report on the property dated March 3rd, 1970.

Subsequently, two more diamond drill holes were drilled on the "C" showing and an induced polarization survey has been undertaken on the "D" showing. The present report includes this new information but otherwise is essentially the same as the March 3rd, 1970 report which recommended drilling of the "D" showing.

PROPERTY

The Company is the recorded owner of the following claims located in the Lillooet Mining Division, Province of British Columbia:

Name of Claim	Record Number	Expiry Date
Owl 1 & 2	30908 - 30909	August 11, 1974
Owl 3	28053	June 20, 1974
Owl 4	30910	August 11, 1974
Owl 5	28055	June 20, 1974
Owl 6	30911	August 11, 1974
Owl 7 & 8	28057 - 28058	June 20, 1974
O.C. 1-6	23736 - 23741	May 13, 1974
O.C. 43-48	23847 - 23852	June 18, 1974
K.B. 1-8	23853 - 23860	June 18, 1974
K.B. 9-14	23887 - 23892	July 15, 1974
O.L.N. 1-16	29614 - 29629	Dec. 20, 1974
O.L. 1 & 2	29588 - 29589	Nov. 13, 1974
O.L. 3-12	30888 - 30897	August 11, 1974
O.L.S. 3-12	30898 - 30907	August 11, 1974
O.L.S. 13-30	31957 - 31974	Sept. 23, 1974
O.L. 13-22	31975 - 31984	Sept. 23, 1974
B.O. 1-6	31985 - 31990	Sept. 23, 1974
B.O. 7 & 8	31991 - 31992	Sept. 23, 1973
B.O. 9	31993	Sept. 24, 1974
B.O. 10	31994	Sept. 24, 1973
B.O. 11 & 12	31995 - 31996	Sept. 24, 1974
O.C.S. 15-17	31195 - 31197	Sept. 26, 1974
O.C.S. 20-26	32198 - 32204	Sept. 26, 1974
O.L.S. 1 & 2	32205 - 32206	Sept. 26, 1974
O.L.N. 17-24	32207 - 32214	Sept. 26, 1974
O.C.S. 18 & 19	32215 - 32216	Sept. 26, 1974

The Company is the beneficial owner of all the immediately aforesaid claims subject to its paying and performing the payments and conditions of that certain Option Agreement dated October 16, 1968, granted by James Stuart Scott and Leslie R. Harrison to the Company.

According to the records of the Mining Recorder at Lillooet the following claims appear to be located over or partially over other mineral claims in contravention of Section 12 (1) of the Mineral Act:

Claim Number	Record Number
O.L. 14	31976
O.L. 16	31978
B.O. 5	31989
B.O. 7-12	31991 - 6
O.L.N. 16	29629
O.L.N. 17	32207
O.L.N. 19	32209

LOCATION AND ACCESS

The claims are in and flanking Owl Creek, a south-easterly flowing tributary of the Birkenhead River which drains into the northwestern end of Lillooet Lake, east of Pemberton. They extend from close to the Pemberton-D'Arcy road for a distance of six miles up Owl Creek valley.

Access from Pemberton is by 7 miles of gravel road to Owl Creek, thence by 5.5 miles of steep dirt road to a tent camp at the upper or "C" showing.

Highway, railway and power lines cross Owl Creek near its mouth.

GENERAL FEATURES

Owl Creek flows in a deeply incised valley in typical Coast Mountains terrain. The elevation of Owl Creek at its mouth is about 800 feet whereas, at the tent camp, the elevation is approximately 3600 feet.

The vegetation is characteristic of the coastal rain forest. It is exceedingly dense and extensive; outcrops are scarce except in the creek bottom and on the ridges that rise to 5500 feet.

The topography is rugged.

HISTORY

Three showings occur on the property, the lowermost of which has been known for many years. This showing, known originally as the Copper Queen, was probably discovered in 1913 when considerable prospecting was undertaken in Owl Creek. Subsequently an adit was driven 217 feet in a N 50 degrees E direction beneath the mineralization exposed at the surface.

The Copper Queen showing is two miles upstream from the mouth of Owl Creek. In the period 1928-29, the Britannia Mining and Smelting Co. Ltd. drilled three short holes to test the Copper Queen.

In 1963 The Mining Corporation of Canada Ltd. staked claims in Owl Creek and undertook a program of road building, geological mapping, trenching and silt sampling of the creek and its tributary streams. In 1967 the 26 claims then held were transferred to

L.R. Harrison of Garibaldi who had done the staking for the aforementioned mining company.

Pine Lake Mining Co. Ltd. assumed direction of work on the property in 1968 under an option agreement with Harrison and J.S. Scott of Vancouver.

GENERAL GEOLOGY

The only published geological map of the area under consideration is of a preliminary nature, occurring as Figure 6 in the Geological Survey of Canada Summary Report, 1924, Part A, facing Page 76A. This map shows rock distribution and indicates that the Pemberton area is underlain by the Coast Intrusives and substantial areas of older, layered rocks - both volcanic and sedimentary.

In Owl Creek, as is often the case in the Coast Mountains, the valley is worn in the relatively soft, layered rocks whereas the ridges flanking the valley are composed of durable granitic rocks.

The layered rocks comprise dark green volcanic types and lesser amounts of argillaceous and other sedimentary rocks. As inferred above, these rocks trend with the valley, i.e. NW-SE. They dip steeply, generally northeastward. Evidence of shearing is abundant in the layered rocks.

Rather limited exposures of diorite occur in the bed of Owl Creek. The mineralized showings are associated with these intrusives and volcanic inclusions therein.

THE SHOWINGS
(See Figure 2)

A (Lower)

The Lower showing has been adequately tested by the old adit, the 3 Britannia drill holes, and a long hole drilled by Pine Lake.

The copper occurs in diorite and altered green volcanics.

Channel sampling by The Mining Corporation of Canada Limited along the northwest wall of the adit may be summarized as follows:

217 feet grading 0.33% copper which contains 90 feet grading 0.41% copper.

The Pine Lake hole was drilled S 48 degrees W, parallel to the adit, at a dip of 72°30' for a distance of 958 feet. This surface hole was collared 185 feet directly above the face of the adit and traverses the ground 30 feet southeast of the adit. The purpose of this hole was to penetrate beneath any possible leaching or enrichment (much limonite and copper stain are evident in the adit). Values in the Pine Lake hole, D.D.H. A-1, were generally quite low with 600 feet averaging 0.20% copper. Molybdenite is quite sparse.

The grades mentioned above plus the steep terrain (which precludes a possible surface operation) add up to an uneconomic situation.

B (Middle)

The Middle showing, like the Lower, is in the bed of Owl Creek. A few samples were taken by The Mining Corporation of Canada Limited and they indicate the presence of copper in the intrusive here. No work of any consequence has been done on the B showing.

C (Upper)

This showing occurs in a canyon section of Owl Creek. Here the intrusive which is diorite occurs in cliffs for a lineal distance of 1400 feet across a width of 400 feet. It is, however, presumed to be much wider on the basis of small, isolated outcrops and, by the same token, may be as much as 2500 feet long.

The diorite in the canyon is much weathered, iron stained in some places and copper stained in others. Pyrite is common and lesser amounts of chalcopyrite and molybdenite can be found here and there.

Soil sampling indicated an anomalous copper-molybdenum area with dimensions of 2500 feet by 1200 feet which contains the intrusive outcrops. This area is roughly elliptical with the major axis trending S.65°E. The rocks on the north of the diorite are green, highly altered volcanics; those on the south are argillaceous sediments.

At the time of the examination two drill holes, bearing S.25 degrees W and dipping at 60 degrees had just been completed at depths of 1112 feet and 896 feet. These parallel holes, collared 200 feet apart, were the first to be drilled on the C showing. They

encountered similar sections although the longer hole was continued into the argillaceous sediments on the south side of the intrusive.

In these two holes, the intrusive is much altered diorite - silicified, epidotized, chloritized and cut by numerous quartz stringers. Calcite and gypsum are also present in veinlets and patches.

Considerable sections of the diorite are porphyritic and these appear to be only slightly mineralized, if at all.

The principal sulphide is pyrite; it is at least 10 times as prevalent as chalcopyrite. Both are extremely fine grained and, in actual fact, the presence of the latter can sometimes be detected with the pyrite only by means of a hand lens.

The chalcopyrite occurs with the pyrite and separately, in streaks and in patches. It is also found occasionally with quartz in vugs which are not uncommon.

Bornite, amounting to 2%-3%, occurs in D.D.H. C-2, at 191'-194'.

Molybdenite occurs sparsely on fractures whereas magnetite is sporadically distributed in irregular patches not generally associated with the sulphides.

Only a few drill core assays were available at the time of the examination and, in fact, much core remained to be split. It was obvious, however, that much of the intrusive is pyritized and considerable sections of it, at least in the vicinity of the first two drill holes would contain 0.15-0.35 per cent copper. There were lesser,

but still significant, sections which, in the opinion of the writer, would run 0.35-0.60 per cent copper.

Subsequent to the examination, six more holes were drilled S. 25 degrees W, all dipping at minus 60 degrees with the exception of C-8 which was drilled at minus 45 degrees. The holes are spaced at 200 foot intervals except for C-5 which is drilled parallel to the others but represents a 600 foot eastward stepout.

Mr. K.G. Sanders, P.Eng., supplied the writer with the results of the drilling of the first 8 holes on the C showing. They are reported as follows:

HOLE C-1 - Depth 1,112 ft.

90'-140'	= 50'	- 0.150% Cu	- 0.004% MoS_2
320'-650'	= 330'	- 0.399	0.029

HOLE C-2 - Depth 896 ft.

100'-144'	= 44'	- 0.207% Cu	- 0.008% MoS_2
150'-220'	= 70'	- 0.402	0.002
220'-275'	= 55'	- 0.239	0.002
360'-410'	= 50'	- 0.346	0.004
560'-690'	= 130'	- 0.539	0.031

HOLE C-3 - Depth 929 ft.

280'-290'	= 10'	- 0.210% Cu	- 0.006% MoS_2
320'-330'	= 10'	- 0.200	0.004
360'-380'	= 20'	- 0.205	0.001
500'-520'	= 20'	- 0.215	0.006
810'-820'	= 10'	- 0.210	0.007
850'-900'	= 50'	- 0.250	0.003

HOLE C-4 - Depth 976 Ft.

240'-270'	= 30'	- 0.226% Cu	- 0.002% MoS_2
420'-460'	= 40'	- 0.205	0.009
810'-835'	= 25'	- 0.222	0.006

HOLE C-5 - Depth 735 ft.

Nothing over 0.20% Cu

HOLE C-6 - Depth 705 ft.

50'-100'	=	50'	0.272% Cu	0.004% MoS_2
290'-490'	=	200'	0.231	0.007
540'-550'	=	10'	0.220	0.001
560'-590'	=	30'	0.200	0.001

HOLE C-7 - Depth 800 ft.

295'-305'	=	10'	0.07% Cu	0.055% MoS_2
335'-345'	=	10'	0.14	0.042
470'-506'	=	36'	0.277	0.014
550'-645'	=	95'	0.223	0.015
690'-700'	=	10'	0.25	0.010

HOLE C-8 - Depth 664 ft.

55'-100'	=	45'	0.293% Cu	0.012% MoS_2
130'-190'	=	60'	0.258	0.007
220'-250'	=	30'	0.220	0.007
580'-630'	=	50'	0.214	0.018

HOLES C-9 and C-10 were drilled during October, 1970 in the same section, 025-205°, and from the same set-up, as Hole C-1. Information on them was supplied by Mr. R. Hrkac of the Pine Lake Company who logged the core.

HOLE C-9 - Depth 449 ft.

340'-350'	=	10'	0.60% Cu	0.014% MoS_2

HOLE C-10 - Depth 847 ft.

440'-560'	=	120'	0.32% Cu	0.0066% MoS_2.

D

The D showing is on the northeast shore of Little Owl Lake, approximately 2500 feet upstream from the C.

Strictly the D is a copper geochemical (soil) anomaly in an area of complete overburden. The anomaly is irregular and segmented but exhibits a length of 1400 feet in which the soils average more than 500 ppm copper.

An induced polarization survey by Seigel Associates Ltd. revealed a linear "zone of increased chargeability" just upslope from the geochemical anomaly. The linear aspect of the geophysical anomaly suggests that the anomaly may be caused by a tabular sulphide body 200'-300' wide.

RECOMMENDATIONS

The writer recommended 7000 feet of diamond drilling for the C showing and 8,113 feet was done.

The writer now recommends 7000 feet of drilling for the D showing. Experience drilling the C showing has proven that the writer's cost estimate of $12.50 per foot for a combination of NQ and BQ wireline was accurate. Therefore drilling the D should cost $87,500.

It is reasonable to allow an amount of $7,500 for road and camp rehabilitation plus contingencies. Thus the total expenditure for the proposed program is $95,000.

Respectfully submitted,

BACON & CROWHURST LTD.

W.R. Bacon, Ph.D., P.Eng.

CERTIFICATE

I, William R. Bacon, with business address at 1720 - 1055 W. Hastings St., Vancouver, 1, British Columbia, DO HEREBY CERTIFY THAT:

1. I am a consulting geological engineer.

2. I am a graduate of the University of British Columbia with B.A.Sc. (1939) and M.A.Sc. (1942) degrees in Geological Engineering.

3. I am a graduate of the University of Toronto with a Ph.D. (1952) degree in Economic Geology.

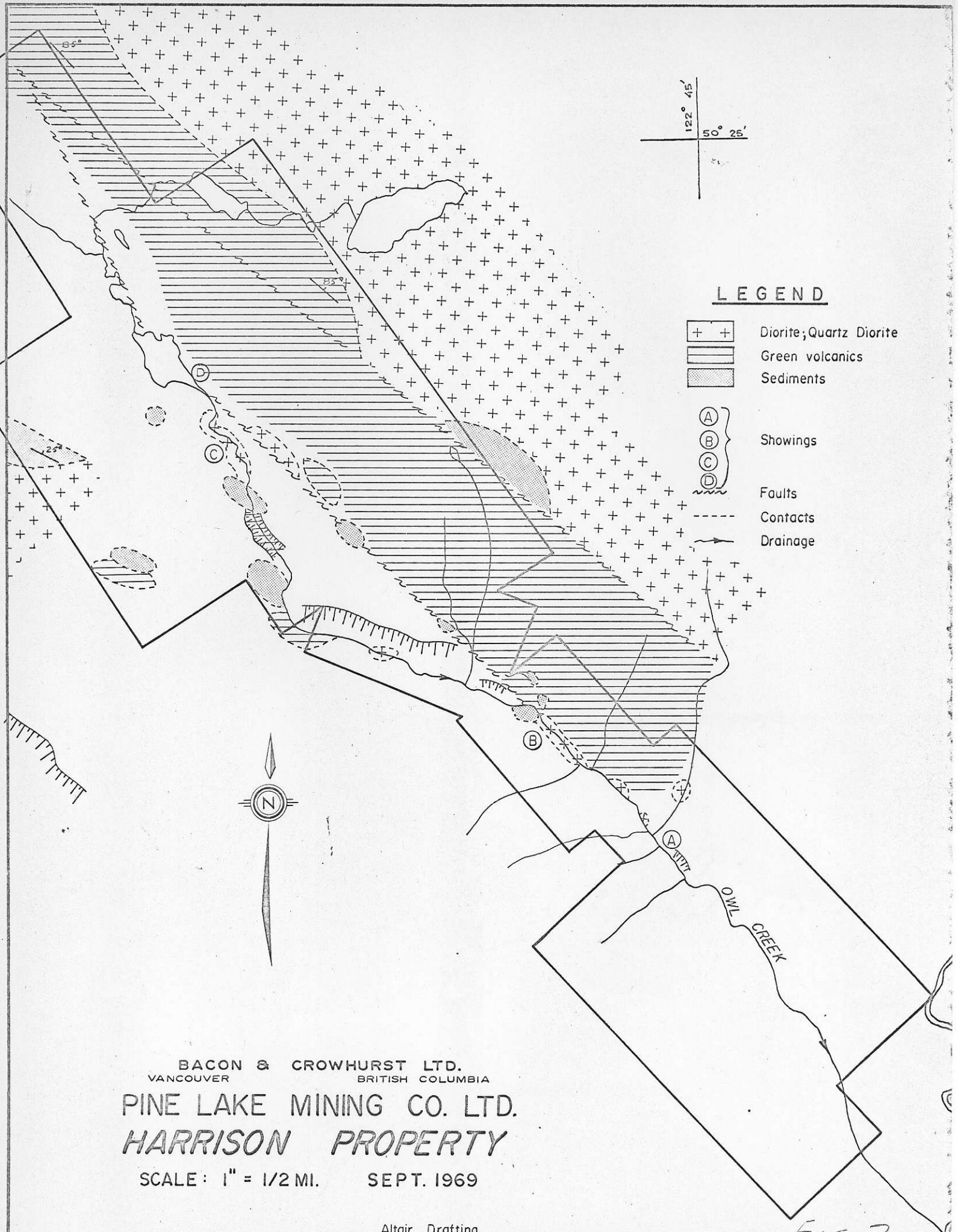
4. I have practised my profession for thirty years in Canada, South America and Australia. During the past twenty years, the majority of my time has been spent in British Columbia; it includes seven years (1949-56) as geologist with the B.C. Department of Mines.

5. I have personally examined the Harrison property of Pine Lake Mining Co. Ltd.

6. I have no interest, direct or indirect, in the property or securities of the above company, nor do I expect to acquire any such interest.

W.R. Bacon, Ph.D., P.Eng.

Vancouver, Canada.
February 11th, 1972.



BACON & CROWHURST LTD.
VANCOUVER BRITISH COLUMBIA

PINE LAKE MINING CO. LTD.

HARRISON PROPERTY

SCALE: 1" = 1/2 MI. SEPT. 1969

Altair Drafting

FIG. 2.