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

672982

by:
W.R. Bacon, Ph.D, P.Eng. Sept.22,1969.

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HARRISON PROPERTY

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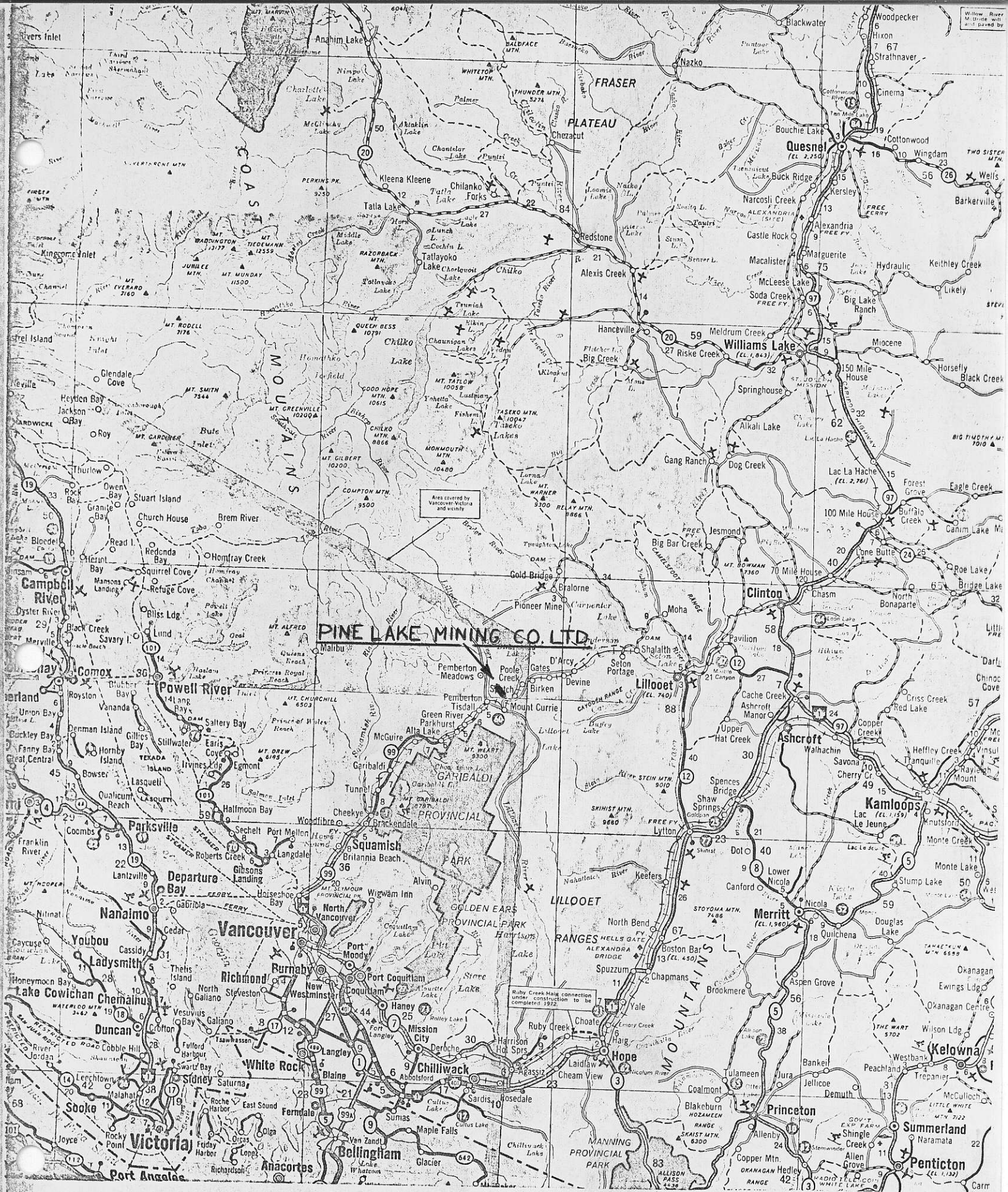
by

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

Vancouver, B.C.

September 22, 1969.


PINE LAKE MINING CO. LTD.
SCALE: 1"=34 MILES
Area covered by Vancouver-Victoria and vicinity
Ruby Creek-Hatzic connection under construction to be completed 1972
Willow River M. Bridge will be paved by
FRASER PLATEAU
COAST MOUNTAINS
CARIBOO MOUNTAINS
MANNING PROVINCIAL PARK
GARIBALDI PROVINCIAL PARK
GOLDEN EARS PROVINCIAL PARK
LILLOOET RANGES
Quesnel
Williams Lake
Clinton
Lillooet
Ashcroft
Kamloops
Merritt
Campbell River
Comox
Powell River
Parksville
Nanaimo
Vancouver
Victoria
Port Angeles
Bellingham
Anacortes
Squamish
Whistler
Pemberton
Lytton
Hope
Chilliwack
Abbotsford
Mission City
Port Coquitlam
Port Moody
Burnaby
Richmond
New Westminster
North Vancouver
Langley
White Rock
Blaine
Sumas
Duncan
Chemainus
Ladysmith
Lake Cowichan
Youbou
Sooke
Sidney
Kelowna
Penticton
Summerland
Princeton
Barkerville
Wells
Horsefly
Likely
Alexis Creek
Chezacut
Redstone
Hanceville
Riske Creek
Soda Creek
Macalister
Castle Rock
Alexandria
Narcosli Creek
Buck Ridge
Bouchie Lake
Cottonwood
Wingdam
Nazko
Blackwater
Woodpecker
Hixon
Strathnaver
Cinema
Kersley
Tatla Lake
Kleena Kleene
Chilanko Forks
Tatlayoko Lake
Anahim Lake
Nimpo Lake
Charlotte Lake
Chilko Lake
Taseko Lakes
Big Creek
Meldrum Creek
Springhouse
Alkali Lake
Gang Ranch
Dog Creek
Lac La Hache
Miocene
150 Mile House
Horsefly
Black Creek
Forest Grove
Eagle Creek
100 Mile House
Buffalo Creek
Canim Lake
Cone Butte
Roe Lake
Bridge Lake
Chasm
North Bonaparte
70 Mile House
Jesmond
Big Bar Creek
Gold Bridge
Bralorne
Pioneer Mine
Carpenter Lake
Moha
Pavilion
Shalalth
Seton Portage
D'Arcy
Pemberton Meadows
Poole
Gates
Birken
Devine
Mount Currie
Tisdall
Green River
Parkhurst
Alta Lake
McGuire
Garibaldi
Tunnel
Cheekye
Brackendale
Woodfibre
Squamish
Britannia Beach
Alvin
Wigwam Inn
Horseshoe Bay
Gibsons Landing
Roberts Creek
Langdale
Sechelt
Port Mellon
Halfmoon Bay
Lasqueti
Qualicum Beach
Parksville
Coombs
Lantzville
Departure Bay
Gabriola Ferry
Nanaimo
Cedar
Caycuse
Nitinat
Youbou
Cassidy
Ladysmith
Thetis Island
Chemainus
Crofton
Vesuvius Bay
Duncan
Cobble Hill
Honeymoon Bay
Lake Cowichan
Fulford Harbour
Saltspring Island
Ganges
Swartz Bay
Sidney
Saturna
Roche Harbor
East Sound
Orcas
Olga
Lopez
Friday Harbor
Richardson
Joyce
Rocky Point
Victoria
Sooke
Malahat
Leechtown
Jordan River
Port Renfrew
Pacific Rim National Park
Fanny Bay
Denman Island
Hornby Island
Union Bay
Royston
Courtenay
Comox
Cumberland
Merville
Oyster River
Campbell River
Quadra Island
Cortes Island
Read Island
Stuart Island
Church House
Brem River
Homfray Creek
Squirrel Cove
Refuge Cove
Lund
Savary I.
Powell River
Lang Bay
Saltery Bay
Earls Cove
Egmont
Irvines Landing
Stillwater
Gillies Bay
Texada Island
Bowser
Lasqueti
Qualicum Beach
Halfmoon Bay
Sechelt
Port Mellon
Roberts Creek
Langdale
Gibsons Landing
Horseshoe Bay
Gabriola Ferry
Departure Bay
Nanaimo
Vancouver
North Vancouver
Wigwam Inn
Alvin
Britannia Beach
Squamish
Whistler
Pemberton
Lillooet
Lytton
Spences Bridge
Shaw Springs
Cache Creek
Ashcroft Manor
Upper Hat Creek
Ashcroft
Walhachin
Savona
Cherry Cr.
Kamloops
Lac Le Jeune
Heffley Creek
Tranquille
Criss Creek
Red Lake
Copper Creek
Monte Creek
Stump Lake
Nicola
Merritt
Canford
Lower Nicola
Dot
Douglas Lake
Quilchena
Brookmere
Boston Bar
Spuzzum
Chapmans
Yale
Choate
Ruby Creek
Harrison Hot Spgs
Agassiz
Laidlaw
Cheam View
Hope
Haig
Haney
Mission City
Deroche
Abbotsford
Sumas
Chilliwack
Sardis
Rosedale
Ferndale
Blaine
White Rock
Langley
Aldergrove
Fort Langley
Port Coquitlam
Port Moody
Burnaby
Richmond
New Westminster
Steveston
North Galiano
Galiano
Vesuvius Bay
Crofton
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Duncan
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Rocky Point
Victoria
Sooke
Malahat
Leechtown
Jordan River
Port Renfrew
Pacific Rim National Park

Fig 1.

TABLE OF CONTENTS

ILLUSTRATIONS

INTRODUCTION

The Harrison property of Pine Lake Mining Co. Ltd. (N.P.L.) is in the Pemberton section of the Lillooet Mining Division. It presently consists of 84 claims and more are now being acquired by staking.

The writer visited the property on September 17th-18th, 1969. This report results from the examination and from a general familiarity with the area.

PROPERTY

The Company is the recorded owner of the following claims located in the Lillooet Mining Division:

NAME OF CLAIM	RECORD NUMBER	EXPIRY DATE
OWL 1 & 2	30908 - 30909	August 11, 1970
OWL 3	28053	June 20, 1971
OWL 4	30910	August 11, 1970
OWL 5	28055	June 20, 1971
OWL 6	30911	August 11, 1970
OWL 7 - 8	28057 - 28058	June 20, 1971
O.C. 1 - 6	23736 - 23741	May 13, 1970
O.C. 43 - 48	23847 - 23852	June 18, 1970
K.B. 1 - 8	23853 - 23860	June 18, 1970
K.B. 9 - 14	23887 - 23892	July 15, 1970
O.L.N. 1 - 16	29614 - 29629	December 29, 1969
O.L. 1 - 2	29588 - 29589	November 13, 1969
O.L. 3 - 12	30888 - 30897	August 11, 1970
O.C.S. 1 - 12	29597 - 29608	November 27, 1969
O.L.S. 3 - 12	30898 - 30907	August 11, 1970

LOCATION AND ACCESS

The claims are in and flanking Owl Creek, a southeasterly 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 this 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, are 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 a 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 this examination and, in fact, much core remains to be split. It is obvious, however, that much of the intrusive is pyritized and considerable sections of it, at least in the vicinity of the two drill holes, contain 0.15-0.35 per cent copper. There are lesser, but still significant, sections which, in the opinion of the writer, will run 0.35-0.60 per cent copper.

The molybdenite content appears to be low and it is impossible to opine with any degree of certainty whether this mineral will represent a credit or not.

The area of the C showing and a considerable area around it has been covered by an Induced Polarization survey. In the opinion of the writer, the results of this survey are not too significant because of the relative abundance of pyrite in the intrusive. Moreover, it appears that sections of the volcanics also contain sufficient pyrite to cause IP anomalies.

CONCLUSIONS AND RECOMMENDATIONS

In the valley of Owl Creek, the underlying diorite intrusive is exposed in three localities and, in each, copper mineralization is evident. Molybdenite may prove to be a credit in the Upper (C) showing.

The C showing is regarded as of potential importance because the possibility of a surface operation exists here. This is not the case with the A and B showings, neither of which is regarded favourably by the writer.

The C showing definitely warrants further investigation by diamond drilling.

Work of a preliminary nature, mapping and soil sampling, should be carried out between the three known showings and upstream, beyond the C showing, where certain favourable geochemical indications are beginning to take form.

COST ESTIMATE

Property payment due January 15th, 1970	$14,000
Winterizing camp, core shack, etc.	2,000
Drilling C showing - 7000 ft., NQ and BQ	87,500
Surface investigation	5,000
	$108,500

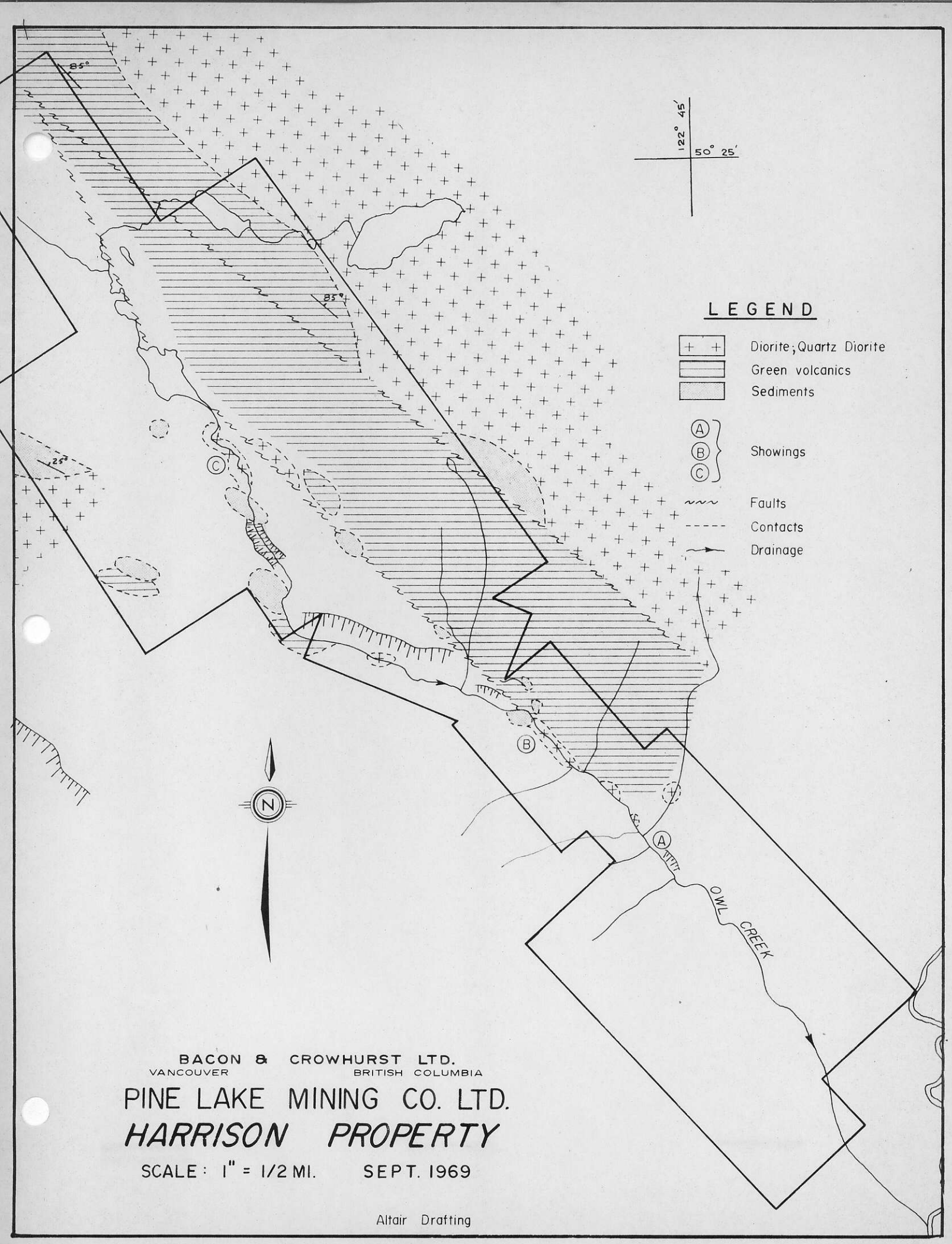
Should the results of this program be favourable, a further 7000 ft. of diamond drilling is recommended. 87,500

Total $196,000

Respectfully submitted,

BACON & CROWHURST LTD.

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



BACON & CROWHURST LTD.
VANCOUVER BRITISH COLUMBIA

PINE LAKE MINING CO. LTD.

HARRISON PROPERTY

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

Altair Drafting

CERTIFICATE

I, William R. Bacon, with business address at 102 - 1111 West Georgia Street, Vancouver, 5, 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
Sept. 22, 1969

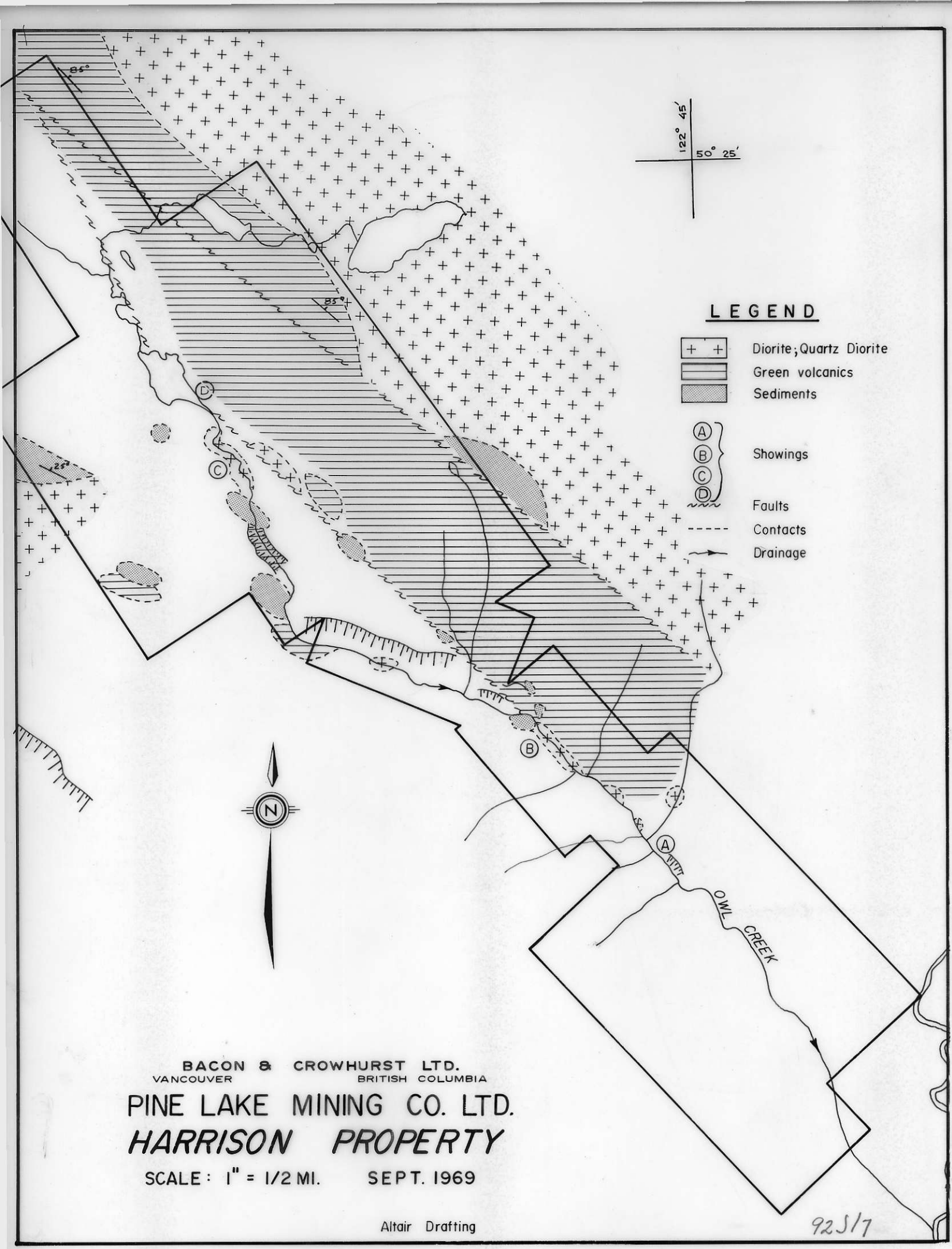
SUPPLEMENT

This is further to my report on the Harrison property of Pine Lake Mining Co. Ltd. (N.P.L.) dated September 22nd, 1969.

Since that report was made, I have had presented to me by K.G. Sanders, P.Eng., assay results of the first hole on the "C" zone referred to on pages 7 and 8 of my report. This core was split and sent for assay to Bondar-Clegg & Company Ltd., North Vancouver, by R.A. Hrkac. Both men are directors of the company. The results include a section of 280' from 310' to 590' with an average grade of 0.418 per cent copper and 0.029 per cent molybdenite (MoS_2) and a further section of 40' from 620' to 660' with an average grade of 0.432 per cent copper and 0.043 per cent molybdenite (MoS_2). This confirms my visual inspection of the core and leaves the conclusions and recommendations in my report unaltered.

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

October 2nd, 1969



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92S/7