GEOLOGICAL REPORT ON THE
Mineral Claims held by
PORT HARDY COPPER MINES LTD.
NANAIMO MINING DIVISION
British Columbia
April 22, 1968
W.G. STEVENSON, P. ENG.

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INTRODUCTION

During 1963 I visited the Port Hardy Copper Property which was then being tested by dozer trenches and diamond drilling. I have subsequently had an opportunity to review the literature published by the G.S.C. and Provincial Department of Mines, and to study a report prepared by Mr. A.W. Poole, P. Eng. dated November 15th, 1963 and by Mr. Harvey H. Cohen, P. Eng. dated February, 1964.

The accompanying report is based on data observed during my examination, from a review of the literature and maps that have been published and from discussions with engineers and prospectors who have been active on this property. I did not collect any samples, the assay results that are reported are taken from Mr. Poole's report.

CLAIMS AND TITLES

I have attached a map which will show the outline of the claims held by Port Hardy Copper Mines Ltd. as of 1963. Some c aims have been allowed to lapse since that time, however I have not investigated the status of claims or of the company.

LOCATION AND ACCESS

The claims held by Port Hardy Copper are centered

six miles south of the village of Port Hardy, north of Rupert Inlet, four miles northeast of Coal Harbour.

Access to Rupert Inlet can be gained by float plane or ocean vessel. An improved road connecting Port Hardy and Coal Harbour passes within one mile of the property. A series of logging roads provide easy access from this main road to all parts of the property.

HISTORY

Vancouver Island has been subjected to extensive prospecting and exploration and a number of gold, silver, lead, zinc, and copper occurrences have been discovered. Many of these have been explored and as a result of the Japanese market which opened in 1957, the deposits of Coast Copper, Yreka and Empire Development at the north end of Vancouver Island, commenced production.

During 1963 the Geological Survey of Canada released a set of airborne magnetic maps which covered the northern part of Vancouver Island. These maps caused a renewal of interest in the area and a number of companies and individuals acquired mineral claims and initiated mineral exploration programs, which have continued to date.

During 1963 Port Hardy Copper initiated an exploration program of dozer trenching and diamond drilling on their property. This work was suspended at the end of the year and there is no record of exploration on the property since that date. The company is now dormant and there is no recent annual report.

Utah Construction Mining Co. launched a major diamond drilling program about this same time and since 1965 have concentrated their activity on the north side of Rupert Inlet. The results of their drilling have remained a closely guarded secret, however, officials of Utah Construction have released a statement that 30 million tons of material grading over 0.5% copper and 0.025% MoS_2 have been indicated and closer spaced drilling and underground testing will be accomplished.

During 1967 several hundred mineral claims have been located in the Nanaimo Mining Division at the northern end of Vancouver Island, and during 1963 modest exploration has been initiated on several properties.

EXPLORATION AND DEVELOPMENT

The records in the British Columbia Minister of Mines Reports show that Port Hardy Mines Ltd. initiated dozer work and diamond drilling in 1963 and that some ten acres of ground was stripped with a dozer and that 17 holes for a total of 3,000 feet of drilling was accomplished.

1. LITTLE JOE SHOWING

The Little Joe showing is a skarn zone which occurs along both foot and hanging wall contacts of a limestone band. The skarn has been exposed by dozer stripping over an area 300 feet by 1,500 feet. The skarn zones have an east-northeast strike and a dip to the southeast. The contacts of the zones and extent of the skarn, in most cases, cannot be observed.

The skarn on the south side of the limestone band had widths varying from a few feet up to fifty feet, and the distribution of mineralization is irregular. The skarn zone on the north side of the limestone band is narrow, mineralized with minor amounts of chalcopyrite and sphalerite. A chip sample taken across sixteen feet of the skarn in this vicinity assayed trace Au., 0.2 oz. Ag, 0.70% Cu, and 0.5% Zn. Three hundred feet westerly two other diamond drill holes have tested the skarn zone. In the skarn zones mineralization was sparse, the highest grade section from 64 to 67.5 feet assayed 2.23% Cu and 0.4% Zn. These surface exposures have been tested by two diamond drill holes.

A skarn zone which is located 90 feet toward the north appears to be about 15 feet in width and 40 feet in length. It is heavily mineralized with chalcopyrite, some bornite and sphalerite. A grab sample assayed; 0.03 oz. Au,

I have had an opportunity to study a report dated November 15th, 1963 by Mr. A.W. Poole. This report had as an attachment the drill logs of 15 holes representing a total of 1,477 feet of drilling, a plan map of a small part of the area, and a series of cross sections through some of the drill holes. I have duplicated these logs, and have had duplicate copies of the map and cross sections prepared which are attached as an Appendix to my report.

In comparing the data contained in Mr. Poole's report with the information in the Minister of Mines Reports it appears that the exploration data relating to the development of the Port Hardy Copper property is not complete and that the logs on possibly two drill holes and 1,500 feet of drilling is not available. An assessment of this property is further complicated inasmuch as I do not know how much reliance can be placed on the drill logs or the assay results.

While there is no indication from these reports what geochemical, geophysical or what additional geological surveys have been accomplished, there is reason to doubt that the past exploration was effective.

I have attached a map marked Appendix "B" drawn to a scale of 1" = 1000' which will show the outline of the mineral claims, the area covered by the geological map in Mr. Poole's report and the location of the four areas where mineralization has been tested.

GEOLOGY

The rocks of the area under consideration are of volcanic flows and interbedded sedimentary strata. The volcanic rocks are fine grained to dense grey green to dark green andesite. The sediments are fine to coarsely crystalline, grey to black limestone. A series of these limestone bands traverse the property. The trend of the limestone and volcanic rocks is east or northeast with a southerly dip of 40°. Younger dikes and sills cut the sedimentary volcanic rocks.

The mineralization occurs in skarn zones which has developed along the contact between limestone and volcanic rock. The zones vary in width from a few inches to several feet. The principal skarn minerals are garnet, pyroxene, amphibole, epidote, calcite with quartz gangue. Chalcopyrite is the predominant ore mineral with sphalerite, chalcocite, bornite, malachite and galena. The distribution of metallic mineralization through the skarn varies from rich sulphide shoots to a complete absence of sulfides.

MINERALIZATION

Exploration work to date has been concentrated in four areas; these are shown on the attached claim map drawn to a scale of 1" = 1000'.

2.3 oz. Ag, 0.22% Zn, and 7.84% Cu. Massive magnetite with some chalcopyrite is exposed 500 feet westerly.

2. H.T. SHOWING

An exposure of limestone striking east-northeast and dipping to the south has been found 2,900 feet east of the Little Joe showing. This limestone, parallel to and south of the Little Joe zone has been traced southwesterly for a distance of 3,300 feet. The limestone has in places been altered to skarn and mineralized with chalcopyrite.

3. NORM SHOWING

The Norm showing is located 4,500 feet southeasterly from the Little Joe showing. Stripping has exposed a limestone skarn zone trending east-northeast, parallel with the Little Joe zone.

Three diamond drill holes intersected narrow skarn zones, some of which contained good copper values at shallow depth. A correlation of the formation in the holes suggests faulting. A fourth diamond drill hole located 125 feet easterly intersected 4.5 feet of skarn which assayed 1.89% Cu.

One other diamond drill hole intersected 24 feet of mineralization which assayed 1.32% Cu. However, this diamond drill hole was inclined southerly and was drilled down the dip of the zone.

4. BIG JOHN SHOWING

This showing 3,000 feet east of the Norm showing extends over an area 500 feet by 150 feet. Stripping has exposed limestone with an east-northeast strike which contains irregular skarn zones mineralized with chalcopyrite and sphalerite. Three inclined diamond drill holes show these zones to be shallow; one vertical diamond drill hole on this zone did not expose any mineralization.

Two other holes were drilled from a site located 225 feet westerly. One of these holes intersected 2 feet of skarn which was sparsely mineralized with sulfides.

CONCLUSIONS

1. Widespread mineralization has been exposed on the surface and in diamond drill holes that were put down on the Port Hardy Copper property during 1963.

2. This mineralization was not found in concentrations sufficient to suggest that a profitable mining operation could be developed and exploration was discontinued at the end of 1963.

3. Since this mineralization on the Port Hardy Copper Claims was discovered and tested, a significant ore body has

been developed on the adjoining property held by Utah Construction and Mining Company one mile southerly.

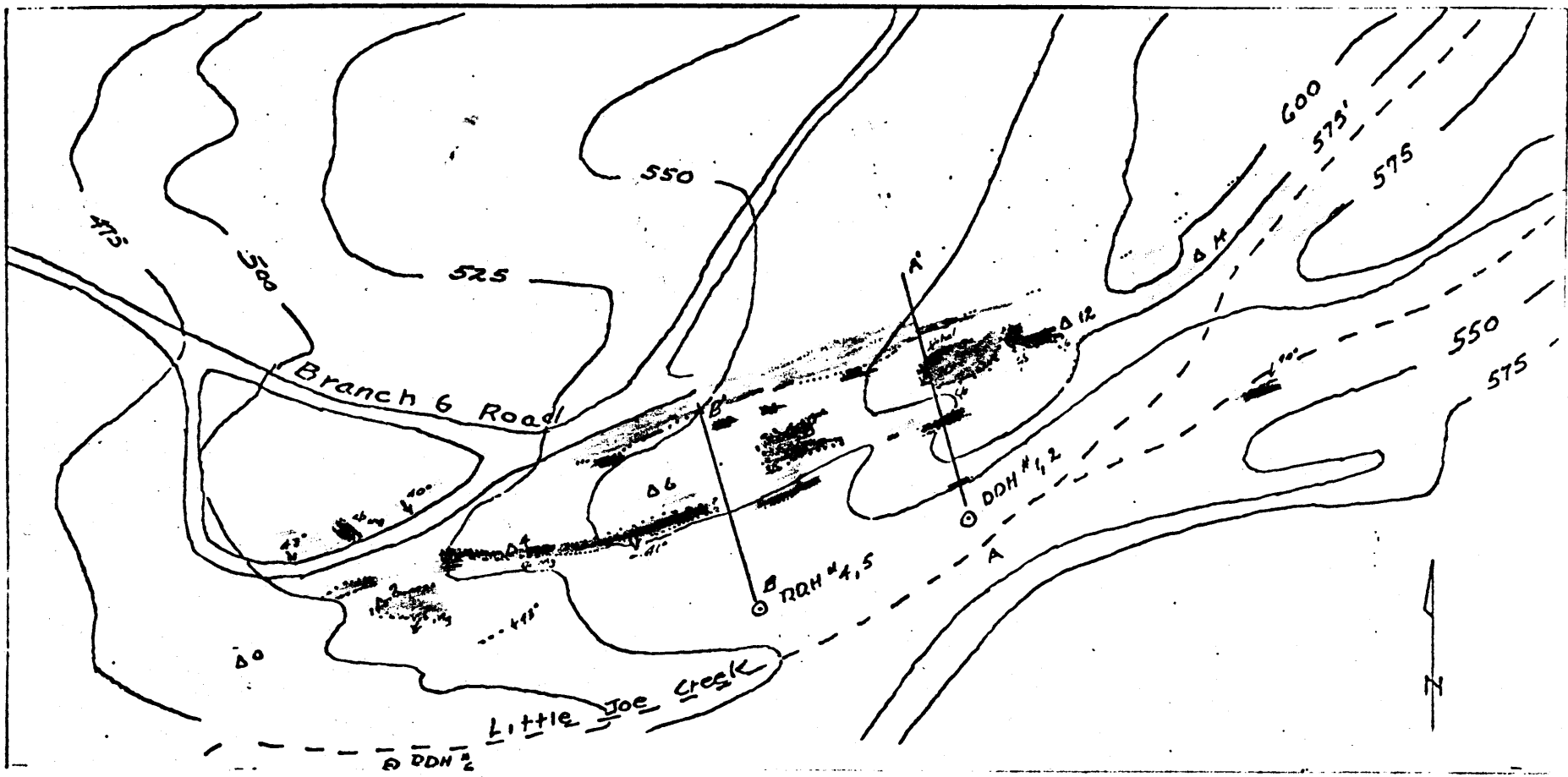
4. Mineralization on the property of Utah Construction has been extremely difficult to assess and it has been necessary to conduct an appreciable exploration program in order to develop ore reserves.

5. In light of the development since Port Hardy Copper discontinued exploration 4 years ago, a reappraisal of this property and possibly additional exploration appears to be warranted.

RESPECTFULLY SUBMITTED

W.G. STEVENSON AND ASSOCIATES LTD.
Consulting Geologists

W.G. STEVENSON P. ENG.



LEGEND

SKARN

LIMESTONE

ANDESITE

inches
0 1
0 1 2
centimetres

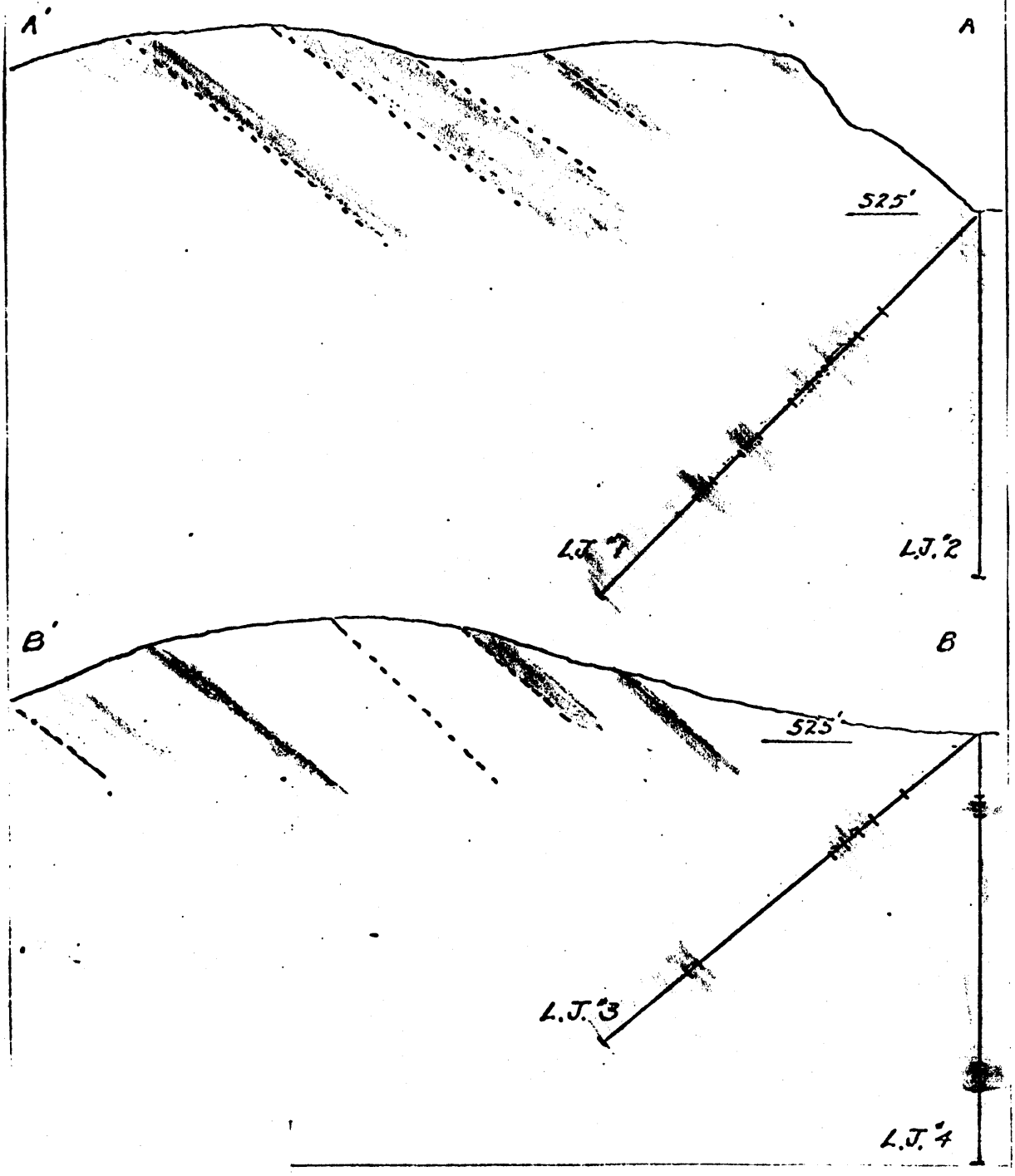
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

PORT HARDY COPPER MINES LTD.
NANAIMO M.D.

GEOLOGICAL SKETCH MAP
LITTLE JOE SHOWING

BY A.W. POOLE NOV. 12, 1963
SCALE 1" = 1963
TO ACCOMPANY REPORT BY
W.G. STEVENSON APRIL 22, 1968

APPENDIX C



LEGEND

SKARN

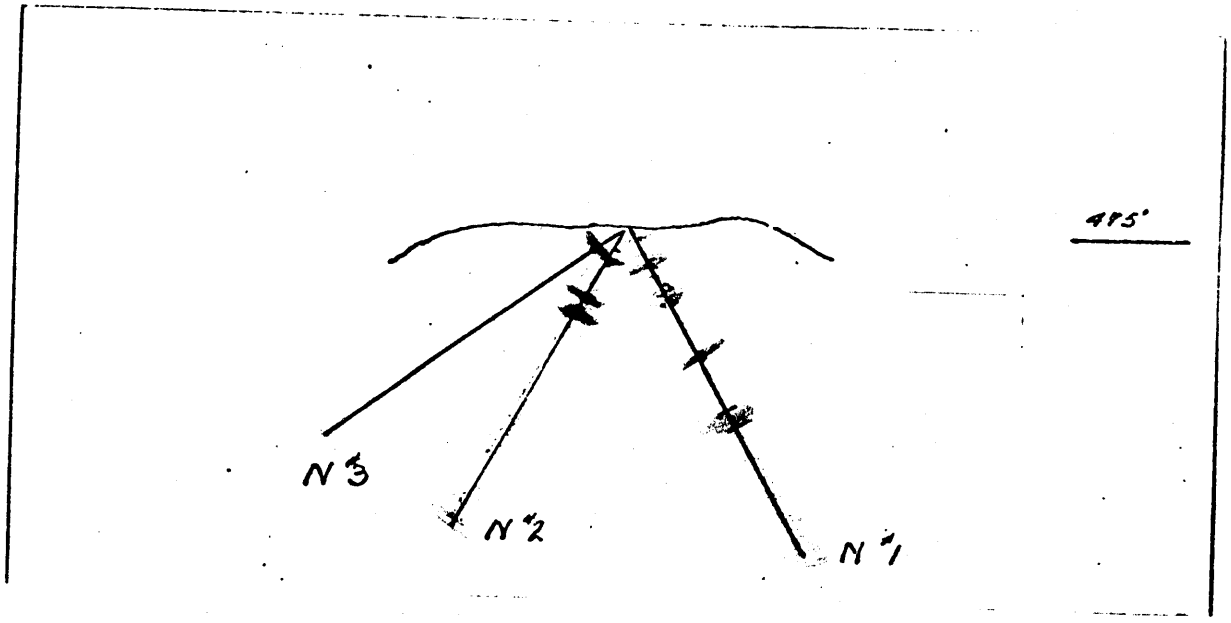
LIMESTONE

ANDESITE

PORT HARDY COPPER MINES LTD.
NANAIMO M.D.

VERTICAL SECTIONS
LOOKING EASTERLY
LITTLE JOE SHOWING
BY A.W. POOLE NOV. 12, 1963
SCALE 1" = 50'
TO ACCOMPANY REPORT BY
W.G. STEVENSON APRIL 22, 1968

APPENDIX D



LEGEND

SKARN

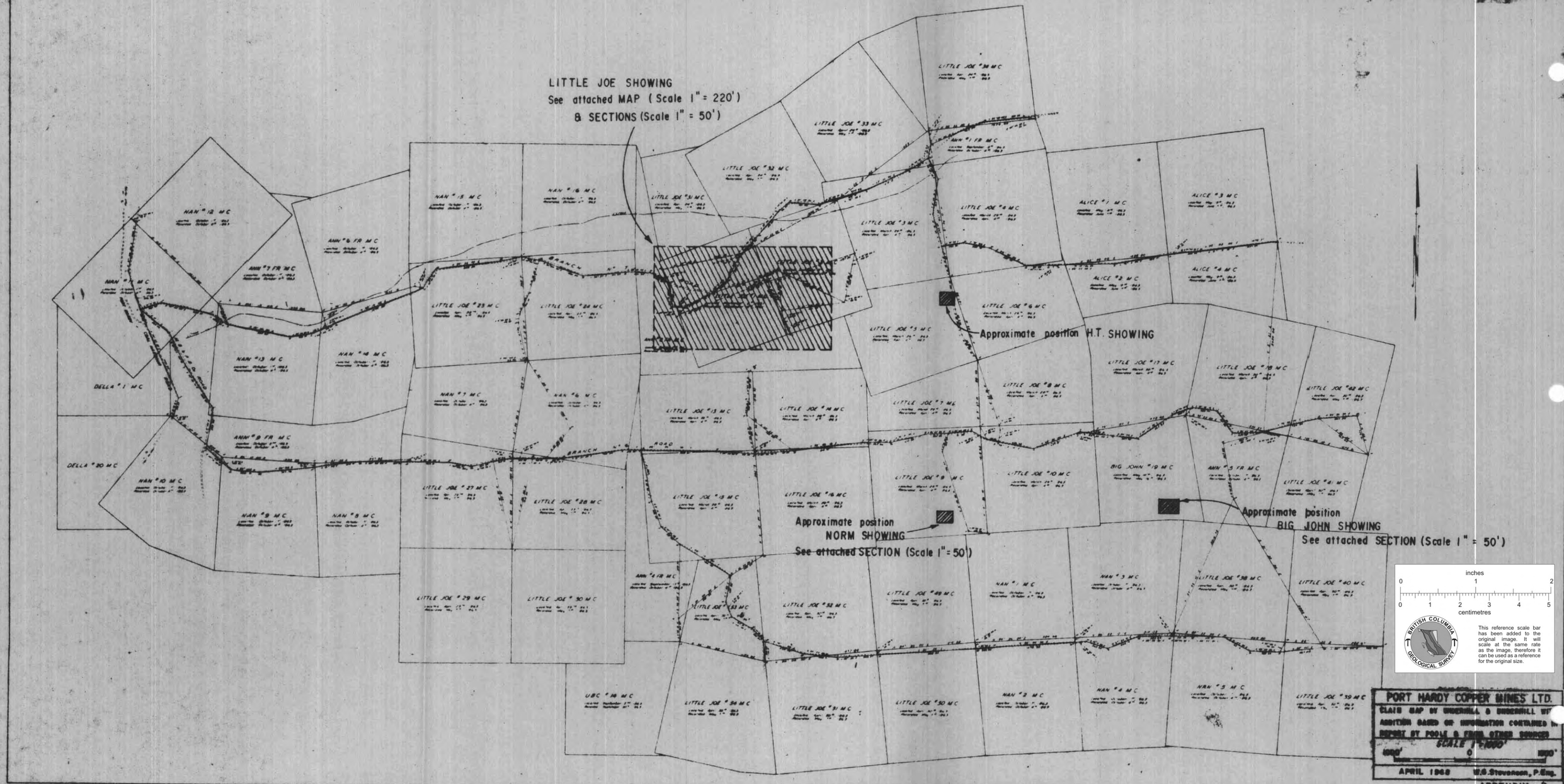
LIMESTONE

ANDESITE

PORT HARDY COPPER MINES LTD.
NANAIMO M.D.

VERTICAL SECTION
LOOKING WESTERLY
NORM SHOWING
BY A.W. POOLE NOV. 12, 1963
SCALE 1" = 50'
TO ACCOMPANY REPORT BY
W.G. STEVENSON APRIL 22, 1968

APPENDIX E


LITTLE JOE SHOWING
See attached MAP (Scale 1" = 220')
& SECTIONS (Scale 1" = 50')
Approximate position H.T. SHOWING
Approximate position
NORM SHOWING
See attached SECTION (Scale 1" = 50')
Approximate position
BIG JOHN SHOWING
See attached SECTION (Scale 1" = 50')
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
PORT HARDY COPPER MINES LTD.
CLAIM MAP IN BRADNELL & BRADSHALL BY
ADDITION BASED ON INFORMATION CONTAINED IN
REPORT BY POOLE & FROM OTHER SOURCES
SCALE 1"=1000'
APRIL 1968
W.G. Stevenson, P.Eng.
APPENDIX - B

PORT HARDY COPPER MINES LTD.

QUATSE LAKE

UTAH CONSTRUCTION AND MINING CO.

MAGNET EXPLORATION LIMITED

MAGNET XPLORATION LIMITED

Coal Harbour

INLET

RUPERT

RIVIERA

HARDY MINERALS LTD. (NPL)

N

LEGEND

- Cretaceous Sediments
- Bonanza Formation
- Quatsino Formation
- Karmutsen Formation
- Coast Range Intrusive
- Fault

APPENDIX-A

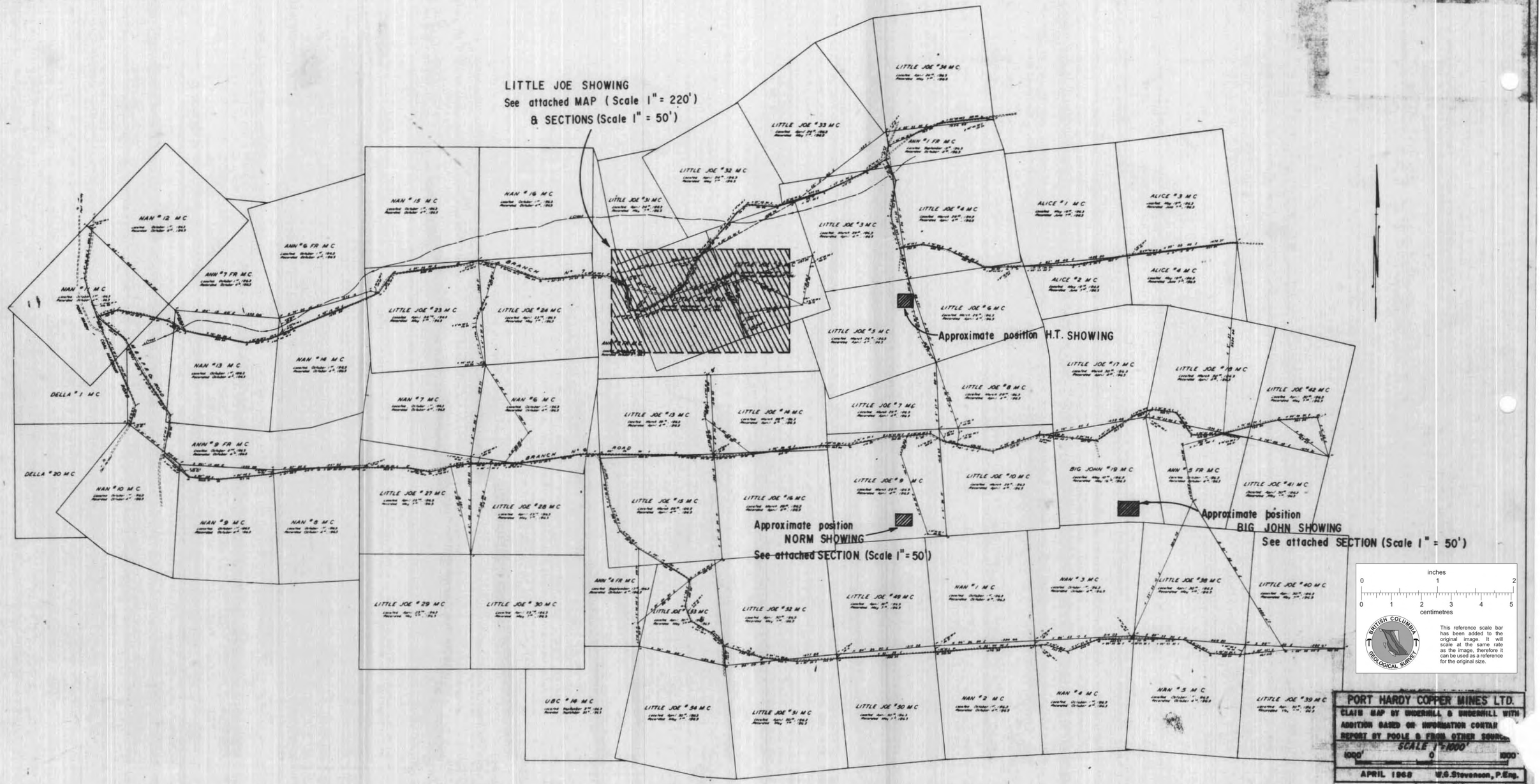
PORT HARDY COPPER MINES LTD.

RUPERT INLET — NANAIMO M.D., B.C.

GEOLOGICAL SKETCH MAP WITH PROPERTY BOUNDARIES COMPILED FROM MAPS DRAWN BY B.C. DEPARTMENT OF MINES AND PETROLEUM RESOURCES, GEOLOGICAL SURVEY OF CANADA AND OTHERS

SCALE 1" = 1 MILE

APRIL, 1968 — W.G. STEVENSON P. Eng.


LITTLE JOE SHOWING
See attached MAP (Scale 1" = 220')
& SECTIONS (Scale 1" = 50')
Approximate position H.T. SHOWING
Approximate position
NORM SHOWING
See attached SECTION (Scale 1" = 50')
Approximate position
BIG JOHN SHOWING
See attached SECTION (Scale 1" = 50')
BRANCH
ROAD
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
PORT HARDY COPPER MINES LTD.
CLAIM MAP BY UNDERHILL & UNDERHILL WITH ADDITION BASED ON INFORMATION CONTAI
REPORT BY POOLE & FROM OTHER SOURCES
SCALE 1"=1000'
1000'
0
1000'
APRIL 1968
W.G.Stevenson, P.Eng.
APPENDIX – B

QUATSE LAKE

PORT HARDY COPPER MINES LTD.

MAGNET EXPLORATION LIMITED

UTAH CONSTRUCTION AND MINING CO.

Coal Harbour

MAGNET XPLORATION LIMITED

INLET

RUPERT

RIVIERA

HARDY MINERALS LTD. (N.P.L.)

N

LEGEND

- Cretaceous Sediments
- Bonanza Formation
- Quatsino Formation
- Karmutsen Formation
- Coast Range Intrusive
- Fault

APPENDIX-A

PORT HARDY COPPER MINES LTD.

RUPERT INLET NANAIMO M.D., B.C.

GEOLOGICAL SKETCH MAP WITH PROPERTY BOUNDARIES COMPILED FROM MAPS DRAWN BY B.C. DEPARTMENT OF MINES AND PETROLEUM RESOURCES, GEOLOGICAL SURVEY OF CANADA AND OTHERS

SCALE 1" = 1/2 MILE

APRIL, 1968 W.G. STEVENSON P. Eng.

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. L.J. #1
Length 165'
Bearing Az 345°
Dip -45°

Depth	Core BX	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0 - 6		Overburden - no core						
6 - 42		Andesite - light to dark grey-porphyritic, minute calcite seams, epidote inclusions. 17' to 22' - limestone pieces intermixed with mud. 22' to 42' pyrite crystals sparsely disseminated throughout. Occasional blob of chalcopyrite.						
42- 53		Limestone - grey to dark grey, contact gradational within inches.						
53- 58		Skarn - gradational change from limestone, garnet, epidote, some calcite seams.	0.04	Tr.	Tr.	Tr.	5.0'	110
58- 63		Skarn-garnet, 59.4' to 61.5 blebs and veinlets chalcopyrite. Increase of amphibole at 61.5'	0.19			Tr	5.0'	S-1
63- 65		Skarn-amphibole-garnet pyroxene, alternate veinlets, considerable chalcopyrite in blebs and veinlets, magnetite.	2.23			0.47	4.5'	S-2
65- 67		Skarn- amphibole, occasional crystal of chalcopyrite and sphalerite. Sphalerite at 66.5'. Contact -60° to core axis.						
67- 70		Limestone - dark grey, bottom contact 45°						

70 - 72	Skarn - fibrous amphibole, some pyroxene inclusions, sphalerite, rare chalcopyrite blebs.				0.56	4.5'	S-3
72 - 77	Skarn-amphibole grading to garnet to pyroxene. 74' to 75' strongly magnetic slightly magnetic to 77'. 73' to 74' garnet - pyroxene bands 1/8" inch wide. Occasional sphalerite.			Tr.	Tr.	3.0'	S-4
77 - 82	Skarn-pyroxene grading into mixedpyroxene-garnet skarn. Magnetite from 77' to 80'.			Tr.	Tr.	5.5'	S-5
82 - 97	Andesite-grey green to dark green, occasional speck chalcopyrite. Epidote inclusions.						
97 - 101	Skarn - garnet, occasional bleb chalcopyrite. ½" calcite stringer at 98'	0.04		Tr.	Tr.	3.75'	S-6
101- 104	Skarn - pyroxene, garnet andesite mixture. Some chalcopyrite, pyrite hematite.	0.04	0.01	Tr.	0.10	3.0'	111
104- 116.5	Andesite-grey green to dark green, many small calcite stringers. some hematite. Amygdaloidal 108' to 112'						
116.5-123	Skarn - garnet. No apparent mineralization	0.05			Tr.	5.5'	S-7
123 - 165	Andesite - dark greenish grey, some hematite on fractures. Lency throughout. Mud at 139'. Considerable disseminated pyrite from 147' to 149'.						
165'	End of hole.						

NOTE: Sample no. designated with prefix S were sampled prior to the logging of core and assay results were obtained from Port Hardy Copper Mines Ltd.

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. L.J. #2
Length 112'
Dip 90°

Depth	Core	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
	BX							
0 - 20		Overburden - no core						
20- 80		Andesite - greenish grey, porphyritic some minute calcite stringers, chips from 50' to 53'. Core become darker in color towards 80'.						
80- 95		Andesite - dark grey, few calcite stringers, at 89'						
95- 112		Andesite - greenish grey						
112		End of hole.						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. L.J. 43
Length 149'
Bearing Az 345°
Dip -39°

Depth	Core	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
	BX							
0 - 12		Overburden - no core						
12 - 28		Andesite- dark grey - porphyritic from 12' to 13' and 18' to 28'/some pyrite crystals from 18' to 19'						
28 - 41.5		Limestone - dark grey						
41.5-46		Skarn - high percentage of epidote from 42' to 46'. Sparse sulphide crystals	0.04	Tr.	Tr.	0.05	4.5'	113
46 - 47		Skarn - garnet 9"	0.03	Tr.	Tr.	0.10	0.8'	112
47 - 53.5		Limestone - dark grey						
53.5-58		Skarn - ½" band garnet followed by epidote. Few bands garnet,some amphibole from 57.5' to 58'						
58'- 110.7		Limestone - dark grey, broken chips and mud at 64' & 83.5'						
110.7-115		Skarn - garnet to garnet pyroxene - pyroxene from 113' to 115'. Chalcopyrite in veinlets and blebs throughout, high percentage of epidote from 114' to 115'	0.43	Tr.	Tr.	0.25	4.3'	114
115 - 149		Andesite-dark greenish grey-altered zone from 115' to 117'. Limey to 122'.Epidote inclusions quite prominent in places. Occasional cluster of Chalcopyrite crystals, bleb at 145'.Color becomes almost black for last feet of core.Chips from 148' to 149'						
149		End of hole						

DIAMOND DRILL - HOLE LCC

PORT HANDY COPPER MINE LTD.

HOLE NO. L.J./4
Length 132'
Dip 90°

Depth	Core	Formation	Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	CORE SAMPLES Length	No.
	BX							
0 - 13		Overburden - no core						
13 - 20.5		Limestone - silicified from 13' to 13.5', dark grey, crystalline, some pyrite crystals at lower contact						
20.5-22		Andesite-greenish grey, contact at 70° to axis. Epidote at contact						
22 - 23		Skarn - 6" high percentage epidote then 6" dark grey andesite. Both contacts 70° to axis of core						
23 - 25.5		Skarn-epidote to 23.5'. Change to garnet with pyroxene inclusions. Blebs and veinlets of chalcopyrite magnetite, last 6".	0.04	Tr.	Tr.	Tr.	2.5'	115
25.5-30.5		Limestone - dark grey, crystalline, some calcite veinlets at 30' to 30.5'						
30.5-34.5		Altered zone-high percentage of epidote, pyroxene inclusions, some blebs of sulphide at 34'	0.04	Tr.	Tr.	Tr.	4.0'	116
34.5-102		Limestone- dark grey to black, lower contact at 45° to core.						
102-110		Skarn - garnet with epidote, no apparent mineralization	0.04	Tr.	Tr.	0.15	4'	117
			0.04	Tr.	Tr.	0.20	4'	118
110-132		Andesite - dark greenish grey						
132		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER LTD.

HOLE NO. N#1
Length 95'
Bearing Az 350°
Dip -60°

Depth	Core BX	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0 - 4		Andesite-chips and pieces						
4 - 10.5		Limestone-light grey to almost white						
10.5-12.5		Skarn-garnet, blebs and veinlets of Chalcopyrite, bornite bleb at 10.5'. No mineral last 6"	1.86	0.04	1.0		2.0	S-8
12.5 - 17		Andesite-greygreen, limey						
17 - 20.5		Skarn - garnet with some pyroxene inclusions, some blebs and veinlets of chalcopyrite, some hematite, lower contact at 35° to core.	1.15		0.5	0.05	3.5	S-9
20.5-23		Limestone- dark grey						
23 - 23.5		Skarn - garnet, blebs and veinlets of cholcopyrite	1.25	0.02	0.5	0.05	0.5'	119
23.5 - 37		Limestone - dark grey						
37 - 38		Skarn - 8", garnet, veinlet of chalcopyrite at contact with limestone, no further apparent mineralization.	0.22				3.0	S-10
38 - 57		Andesite - altered, soft, light green, minute calcite stringers, occasional epidote. Section 52' to 57 contains sparse chalcopyrite as blebs and veinlets.	0.87				5.0	S-11
57 - 87		Andesite - hard, dark grey						
87 - 89		Andesite - altered, light green						
89 - 92		Andesite - dark grey, broken pieces						
92 - 95		Andesite - altered, light green-minute calcite stringers. End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. N/2
Length 89'
Bearing Az 176°
Dip 61°

Depth	Core BX	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0 - 4		Overburden						
4 - 7		Limestone - light grey, crystalline						
7 - 10		Andesite - li ht green, limey						
10 - 11.5		Skarn- garnet, pyroxene inclusions, some hematite. Chalcopyrite blebs and veinlets from 10.3' to 10.5'	0.64	0.01	0.3	0.10	1.5'	120
11.5-20		Limestone - light grey						
20 - 21.5		Skarn-garnet, few pyroxene inclusions, well mineralized with blebs and veinlets chalcopyrite	2.32	0.01	0.2	0.05	1.5'	121
21.5-22.7		Limestone-dark grey, contact with skarn @ 50° to axis of core						
22.7-27		Skarn- garnet, blebs and veinlets of cholcopyrite, become very sparse towards 27'	0.41			0.05	4.5'	S-12
27 - 89		Andesite - dark grey, porphyritec, altered to light green from 30 to 32', then greenish grey from 32' to 50'- Water loss at 40.5'. Occasional bleb and veinlets of chalcopyrite from 51' to 52.5'						
89		End of hole						

22

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. N#3
Length 94'
Bearing Az 180°
Dip -36°

Depth	Core	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
	BX							
0 - 1.5'		Skarn - garnet, occasional chalcopyrite crystal, hematite tain	0.14	Tr.	Tr.	Tr.	1.5'	122
1.5- 8		Andesite - light greenish grey, pieces & chips						
8 - 10		Skarn - (highly altered limestone) some hematite, and disseminated pyrite, chalcopyrite	0.22	Tr.	Tr.	0.10	2.0'	123
10 - 94		Limestone - light grey, crystalline. Change to dark grey at 53.5'						
94		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LT D.

HOLE NO. N/6
Length 21.5'
Bearing Az 140°
Dip -35°

Depth	Core	Formation	Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
			CORE SAMPLES					
	BX							
0 - 2.3		Skarn - garnet, altered, some chalcopyrite in blebs and veinlets, bleb of bornite.	1.62	0.02	1.0	0.10	2.3'	124
2.3- 4.5		Skarn - altered, mineralization as above.	2.19	0.02	0.9	0.10	2.2'	125
4.5-21.5		Andesite-grey, green, pieces and chips to 11'. Porphyritic epidote inclusion from 18' to 21.5'						
21.5		End of Hole						

24

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPERMINE LTD.

HOLE NO. N#7
Length 84'
Bearing Az 180°
Dip -35°

Depth	Core	Formation
0 - 5.5		Skarn - altered, cholcapyrite in blebs and veinlets
5.5- 11.		Skarn - garnet, chalcopyrite in blebs and veinlets, some hematite
11 - 14		Skarn - garnet, chalcopyrite in blebs and veinlets
14- 19		Skarn - garnet, well mineralized from 14' to 15.5' with chalcopyrite, magnetite at 15.5'. Chalcopyrite in blebs and disseminated from 15.5' to 19' - Pyroxene inclusions.
19 - 24		Skarn - garnet, some pyroxene inclusions. Chalcopyrite sparsely disseminated
24 - 29		Skarn - garnet with pyroxene inclusions. Chalcopyrite very sparsely disseminated, some hematite
29 - 33		Skarn - garnet, some pyroxene inclusions. Chalcopyrite sparsely disseminated throughout some hematite
33 - 84		Andesite-dark grey green-some minute calcite stringers. Small bleb of garnet skarn at 37.9' to 38.0' Porphyritic from 50' to 84'
84		End of hole

CORE SAMPLES

Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
2.85	0.01	0.7	Tr.	5.5'	126
0.87	Tr.	Tr.	Tr.	5.5'	127
1.21	Tr.	Tr.	Tr.	3.0'	128
1.20	0.01	Tr.	Tr.	5.0'	129
0.33	Tr.	Tr.	Tr.	5.0'	130
0.08	Tr.	Tr.	0.20	5.0'	131
0.11	Tr.	Tr.	Tr,	4.0'	132

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. B. J. #1
Length 75'
Dip 90°

Depth	Core	Formation	Core Samples					
			Core Assay				Length	No.
			Cu	Au	Ag	Zn		
	EX		%	oz/ton	oz/ton	%		
o - 25		Andesite - dark greenish grey, Limey						
25 - 75		Andesite - dark greenish grey, porphyritic, occasional epidote inclusions. Chips and mud from 43' to 43.5'						
75		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINES LTD.

HOLE NO. B. J. #2
Length 189
Dip 90°

Depth	Core	Formation	CORE SAMPLES Core Cu	Au	Assay Ag	Zn	Length	No.
0	- 5	Overburden - pieces limestone						
5	- 49	Limestone - dark grey crystalline						
49	- 57	Skarn - pyroxene with chalcopyrite in blebs and veinlets, some calciteveinlets. Amphibole at 52.5' with some sphalerite, No apparent mineralization from 53' to 54'. Chalcopyrite blebs from 54' to 57'. Some hematite	0.70	0.01	0.2	0.57	4.0'	S-13
			0.25	0.02	0.2	3.88	2.0'	S-14
			1.81	0.02	0.5	0.25	21.0'	S-15
57	- 69	Andesite- silicified - greenish grey, very limey. Chip from 63' to 64' and 65' to 69'						
69'	-189	Andesite- greenish grey, 6" shear @ 70' at 45° to core axis. Hematite on shear. Porphyritic from 73' to 75' and from 95' to 189'. Faulting evident from 118' to 189'. Limestone seam 1" at 155' at 35° to core axis. Andesite becomes dark greenish grey from 175' to end of hole.						
189'		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. B. J. #3
Length 60.5'
Bearing due South
Dip -45°

Depth	Core	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0 - 7	AX	Limestone - dark grey						
7 - 36	FX	Limestone - dark grey						
36 - 39.5		Skarn-amphibole- pyroxene, some sphalerite, Chalcopyrite in blebs	0.27	0.01	Tr.	2.48	3.5'	106
39.5-40		Dike - greenish grey						
40 - 42		Skarn - pyroxene, some blebs of chalcopyrite. Hematite present	0.53	0.01	Tr.	Tr.	0.5'	107
42 - 60.5		Limestone - grey to dark grey						
60.5		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. B. J. #4
Length 127
Bearing due north
Dip -45°

Depth	Core	Formation	CORE SAMPLES Core Cu %	Au oz/ton	Assay Ag oz/ton	Zn %	Length	No.
0	- 10'	Overburden - no core						
10	- 49	Limestone - dark grey, crystalline mud from 31' to 33'						
49	- 51	Skarn - garnet pyroxene, chalcopyrite in blebs, some hematite.	0.76	Tr.	Tr.	0.25	2.0'	108
51	- 127	Andesite - altered zone from 51' to 53', greenish grey, porphyritic limey to 56'. Chips and mud at 56' and 61.5'. Faulting evident from 69' to 112'. Calcite - hematite filled shear at 120' at 30° to core axis.						
127		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. R. J. #5
Length 51'
Bearing
Dip 90°

Depth	Core	Formation	CORE SAMPLES Core Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0 -3	AX	Andesite - pieces						
3 - 24'	EX	Andesite - greenish grey, porphyritic, epidote inclusions chip and mud from 19' to 20'. Some small calcite stringers						
24-51		Andesite - dark greenish grey. Porphyritic from 25' to 35'.						
51		End of hole						

DIAMOND DRILL - HOLE LOG

PORT HARDY COPPER MINE LTD.

HOLE NO. B. J. #6
Length 34'
Bearing Due North
Dip -45°

Depth	Core	Formation	Core Samples: Assay Cu %	Au oz/ton	Ag oz/ton	Zn %	Length	No.
0	- 3'	Limestone - dark grey						
3	- 5'	Skarn - pyroxene, minute veinlet of Chalcopyrite anda few dsolated crystals of chalcopyrite. Hematite	0.09	Tr.	Tr.	0.74	2.0'	109
5	- 34'	Andesite - greenish grey, porphyritic, Limey to 19'						
34'		End of hole						

Whitehorse...

May 28/68.

Re: Port Hardy Copper Report by W. G. Stevenson.

Dear Don,

Attached please find Stevenson's Port Hardy copper report. I brought it with me to re-read in preparation for a visit to the property; my apologies if this inconvenienced you.

Reading through it I wonder how far we can draw a parallel with the Utah occurrences? This really depends on the the true nature of what are referred to as skarns here. I believe these are abundant skarn rocks developed in northern Vancouver Is. & possibly the Utah copper occurrences are in "skarn type" situations. It seems in that general area that the three elements - limestones, volcanics, and intrusives - are necessary for the development of the contact metasomatic deposits (such as the Texada iron, etc. etc.) and the Port Hardy ground appears to have these three. Possibly some exploration closer to the intrusive might be worth while.

I understand Utah have a pipe moly ore zone also & wonder if there is any moly in the Port Hardy claim area, or if they looked for it?

If the Utah experience is anything to go by it seems that exploration in this area needs to be extensive & thorough to be meaningful, which would mean a fairly major program.

(over).

PHONE CALL

Date April 10/68 Time 2:25

To [illegible]

WHILE YOU WERE OUT

Mr. Stevenson

of

Phone 685 1123

Telephoned	✓	Please call him	✓
Called to see you		Will call again	
Wants to see you		Returned your call	

MESSAGE

Operator

FORM No. 24

TELEPHONE 685-1123
Residence: 987-6967

WILLIAM G. STEVENSON, P. Eng.
Consulting Geologist
509 STOCK EXCHANGE BUILDING
475 HOWE STREET
VANCOUVER 1, CANADA

April 25th, 1968

Mr. D.W. Tulley
Cyprus Exploration Corp.
322-510 West Hastings St.
Vancouver 1, B.C.

Dear Don:

In accordance with our discussions earlier this month I have reviewed all of the data available to me regarding a prospect which I consider holds some promise and which is located on the northern end of Vancouver Island.

The attached report is based on private reports and on published literature and from a visit that I made to the property in 1963. My field examination was brief and merely confirmed the existance of mineralization which is widespread and which occurs in the complex assemblage of volcanic and sedimentary rocks. The assay results which are listed in my report are from data in private reports. I did not collect any samples for assay while on the property.

I have not investigated title to the claims or status of the property, however I have learned that Mr. John A. MacIsaac, 20th Floor Marine Bldg., 355 Burrard Street, Vancouver, B.C. holds as substantial interest in the company and in the property.

Mr. MacIsaac was unable to provide any reports or other specific information or data.

Yours sincerely,

Bill

W.G. STEVENSON

Enclosure