MR 120-4

Report on

Bornite Copper Corporation Limited

Cravins Island Option MR 120-7 120-97

Southeastern Alaska

and

Lafleine and Desmeoizes Townships Property

Northwestern Quebec

by

Alan C. Lee, P. Eng.

November 13, 1956.

I N D E X

C E R T I F I C A T E

Bornite Copper Corporation Limited,
24 Gamble Street, East,
ROUYN, Quebec.

I, ALAN C. LEE of the City of Noranda, in the Province of Quebec, do hereby certify that:

1. I am a Mining Engineer with an office situated at 100 Fifth Street, Noranda, Quebec.

2. I am a graduate of the University of Toronto in Mining Engineering and I have practised my profession as a Consulting Engineer for over 20 years.

3. I have no interest in the securities of this Corporation or in any of the claims owned or optioned by it, nor do I expect to have any.

4. My report dated November 13th, 1956, is based upon personal visits to the property on April 18th, 1956, and October 8th and 9th, 1956, and upon the logging and sampling of drill holes No. 1 to 29 inclusive done under the supervision of J. P. Jewell, Mining Geologist, resident at the property while the work was being carried out. A summary of these results forms part of this report.

DATED this 13th day of November, 1956

NORANDA, Quebec.

Alan C. Lee, B.A.Sc.,
Professional Engineer,
Province of Quebec.

November 13, 1956.

Bornite Copper Corporation Limited,
34 Gamble Street, East,
ROUYN, Quebec.

Dear Sirs: Re: Property Plans

The plans which accompany the report on the Gravina Island Option consist of:

1. Location map showing claim groups, each 1" to 2000'.

2. Plan showing drill holes, surface workings, geology, 1" to 500'.

The first plan is largely diagramatic because in Alaska it is not necessary to submit staking sketches when recording claims.

The second plan was drawn by J. P. Jewell, geologist, who was in charge of the work at the property for its duration in 1956. This outlines the Main Paula group, the North Paula and the Victory Mining Company old patented claims most of whose posts were located while prospecting. The property was not geologically mapped mainly because of the scarcity of rock outcrop inland from the seacoast. This plan is reasonably accurate in showing the relationship of showings and drill holes relative to the property boundaries.

Yours very truly,

Alan C. Lee, P. Eng.

Alan C. Lee, P. Eng.

Report on

Bornite Copper Corporation Limited Option

Gravina Island

South-Eastern Alaska

U.S.A.

November 13, 1956.

Introduction

Bornite Copper Corporation Limited owns or has under option 126 claims, nominally 20 acres each in four groups:

Paula	47 claims
Bear	44 claims
Salt Chuck	12 claims
Kitz	2 claims
	125

It will be noted that 58 claims have been added to the group described in my report of April 21, 1956. This was done in order to afford protection for certain showings and discoveries at the north end of the property which this summer's prospecting had located.

Since April 19th this year and up until October 13th two, and for a short period, three diamond drills belonging to Boyles Brothers limited were continuously employed in exploratory drilling and completed 8,364 feet.

Lines were cut to open up the bush for travel and the ground was energetically prospected both by surface work and by use of a "Packsack" diamond drill purchased by the Corporation.

Property

This consists of the following lode claims registered at the Mining Recorder, Office of the Territories Department of Mines, in Ketchikan, Alaska.

Paula Group	- Nos. 1 to 58 inclusive except 17, 34, 37, 39, 41, 49, 50, 51, 52, 53, and 54.
Bear Group	- Nos. 1 to 44 inclusive.
Salt Chuck Group	- Nos. 1 to 12 inclusive.
Kitz Group	- Nos. 1 and 2.

The north part of the Paula group and Kitz No. 1 and 2 adjoin and possibly overlie old patented claims which belonged to the Victory Mining Company Limited. These boundaries are therefore subject to re-survey to accurately define the limits of Bornite's option. The Victory Mining Company is presently inactive and the United States Government has taken steps to regain title to the property, however their representatives have indicated their willingness to grant a lease to Bornite which surrounds the older property.

These claims are staked in one continuous block, except for the enclosed Victory Mining group. Its dimensions are approximately 2 miles wide by 2 miles long from north to south.

It lies along the east shore of Gravina Island facing Nichols Passage from Dall Bay on the south to Seal Cove on the north. This island is one of the many islands which fringe the west margin of the Alaska Panhandle and it lies 10 miles south of the bustling town of Ketchikan. It is about the same distance northwest of Annette Island Airport which is landing field for that area and is a regular port of call for airliners plying the coastal route of Southeastern Alaska from Seattle, Washington.

Topography and Access

These claims border the Pacific Ocean at a point where the mean range of tides is about 15 feet from low to high water. The coastline is fairly steep and rocky but shelter for landing supplies at Dall Bay is afforded by islands and reefs towards the south. At Seal Cove good shelter is provided from the south by reefs at low water, but southwest gales pound the shore unmercifully at high tide.

However, supplies may be landed in good weather from shallow draft boats and seaplanes at almost any stage of water. Both craft are plentiful for hire at Ketchikan from which it is less than 15 minutes by air.

The ground rises fairly rapidly from tidewater to a maximum elevation of 1910 feet at Punch Hill, 1½ miles distant to the northwest, just beyond the property. Most of it would not be over 500 feet above sea level. In spite of this and its rocky character the drainage is poor and it is divided into terrace-like steps wooded with stunted spruce and fir. Each terrace is covered with labrador tea and moss which enclose small ponds and muskeg areas. Here and there rocky spurs and knolls project through the muskeg which can be prospected.

Geology

The rocks of Gravina Island have been described by Theodor Chopin in Professional Paper 120 D of the U.S.G.S. (Department of Interior) issued by the U.S. Government Printing Office, 1918, and summarized by the undersigned as follows:

"These rocks belong to the Upper Triassic or Jurassic age and consist of greenstone and slate which are made up of interbedded series

of altered tuffs, flows and black slates with some intrusives, occurring on Gravina and Revillagigedo Islands. The greenstones and slates overlie the Upper Triassic rocks with apparent conformity. They occupy three parallel belts on Gravina Island, one from South Vallenar Point to Seal Cove, another from the east shore of Bostwich Inlet to Vallenar Point and the third along Tongass Narrows from Old Indian town to Gravina Point.

"The rocks consist of volcanic breccias and tuffs with interbedded black slate and water-lain fine grained tuffaceous sediments. Certain green schistose tuffs apparently interbedded with new massive tuffs and breccias may be older infolded rocks and some greywacke and slates may be younger infolded rocks."

"The volcanic rocks may be divided up as follows:

1. Lower series of purely igneous material, coarse pyroclastics and breccia.

2. Upper series of mixed water-laid tuffs and black slates and limestone with porphyritic basic rocks of similar composition, evidently partly intrusive and partly explosive."

"No sharp line separates the two parts. The black slates pass into green fissile tuffs and this into more massive varieties. The limestone bodies are too small to be shown on a map."

The undersigned confirmed these general observations on the ground and noted that the north side of Dall Bay is fringed with quartz monzonite, usually fine grained and more or less fractured and cut up with quartz-carbonate stockworks. The same intrusive monzonite was noted on infrequent outcrops towards the west and northwest for ½ mile. Proceeding north along the shore towards Seal Cove there is a change to greenstone. At or near this contact there is a brecciated zone which constitutes the main showing at Dall Bay which was explored by drill holes No. 1 to 13 inclusive.

Chalcopyrite mineralization is concentrated where the monzonite intrusions have been accompanied or followed by brecciating action with bleaching, development of sericite schist and influx of pyrite and chalcopyrite mineralization. This is in the form of heavy to massive narrow bands up to ½ inch and disseminations. Quartz-carbonate veining and silicifications preceded the mineralization.

At Seal Cove geological conditions are similar to those at Dall Bay, except that the volcanic rocks are more basic and intermixed with coarser grained phases some of which may be intrusive diorites. Here the silicification and bleaching is less extensive while the intrusive consists of grey to pink aplite and granite as dikes instead of the larger stock-like forms of quartz monzonite at Dall Bay. The showings along the creek entering the northwest corner of Seal Cove were explored by drill holes 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 29.

Showings and History

According to old U.S. Government reports copper was first discovered here in 1898 and intensive prospecting and development seems to have gone on for several years to be followed by quiet periods up to the end of World War I after which very little was done until Northwest Ventures staked the property in 1954.

One report by Alfred Hulse Brooks in 1902 describes the operations in the Ketchikan Mining District when they were at the peak of their activity. Those around Dall Bay are as follows:

RX 121.30

"Rossland and Deer Park Mining Company - the claims belonging to this Company are adjacent to Dall Bay. The Company has erected several substantial buildings and has sunk two shafts, with crosscuts, and a number of test pits. The two shafts are in the southern corner of Dall No. 4. One is located just at tidewater, and is said to be about 30 feet deep; the other is 20 feet higher, and 50 or 60 feet deep with a crosscut at the bottom. Both of these shafts were filled with water when visited. The deeper shaft is provided with a steam hoist. The ore observed on the dump is chalcopyrite with quartz gangue. The waste dump contained fragments of mineralized pegmatite and also chloritic greenstone-schist. About 50 feet to the east of the shaft is an outcrop of brecciated porphyry."

"The writer is indebted to M. C. H. Hunt, manager of the Rossland and Deer Park Mining Company, for the following information, which is extracted from a letter dated - Portland, Oregon, December 27, 1901:

"I regret that no one representing the interest of the company was on the ground at the time of your visit, as the real merits of the property could be shown only by one familiar with the ground, to point out the place where the ledge is exposed for a distance of several hundred feet from the beach in a northerly direction. There are also several places where considerable prospecting has been done other than at the shafts which you visited. At all the points where prospecting has been done on this ledge the same character of ore has been found showing that the ore body is continuous."

"From the many assays made from time to time, values were shown in gold, copper and silver, fluctuating sometimes as high as 30% copper, $10.00 in gold and $3.00 in silver. This showing was from ore taken from the oreshoot, the same in both shafts beginning at the surface, gradually increasing in strength to the depth of 60 feet in one shaft and 100 feet in another. In the latter a crosscut was run at a depth of 90 feet a distance of 25 feet showing a defined ledge thoroughly mineralized. As I have stated, the values change, but a careful estimate made from the whole shows an average of 11% copper, $6.00 in gold, with slight values in Silver."

"Apex Group - this group, embracing about a dozen claims, lies a mile to the north of Dall Bay. The highest is on the top of the mountain, 1,000 feet above tidewater. The ore bodies contain chalcopyrite with zinc blende, and often carry gold values."

"On the Concord No. 2, a tunnel has been driven for about 10 feet. KX120-33 The ore is mineralized breccia, occuring at the contact of coarse pegmatite and banded green schist. It contains chalcopyrite, with quartz and calcite gangue and a little manganese."

"The uppermost claims of the group, Concord Nos. 3 and 4, are near the top of the mountain. These deposits lie at the contact of the greenstone-schist and pegmatite. The rocks dip steeply 80° S.E. One open-cut shows 2 feet and another 18 inches to 2 feet of pyrite and zinc blende. The veins cut the greenstone-schist. The walls of this latter vein are silicified."

"On the Blue Jay claim of this group a tunnel has been driven about KX120-91 50 feet. The tunnel intersects some brecciated zones near the contacts of greenstone and pegmatite, along which mineralization has taken place."

"At the Old Man claim a mineralized zone serveral feet in thickness, carrying copper pyrite is exposed in a small opencut. It is in a brecciated KX120-32 zone and carries considerable zinc blende."

"A quarter mile to the east of the Old Man is the Sunrise vein, which has a thickness of 12 to 18 inches. It has been traced on the surface for several hundred feet. Its strike is N 75° W dip S 80°. Near the contact with the greenstone-schist the country rock is a pegmatite. This vein seems to be better defined than many of the others, and shows a beautiful mass of chalcopyrite ore. The ore is said to carry values of $72.00, which is chiefly in copper, with a little silver and gold."

"Grenadier claim - this property is located about 1 mile west of KX120-34 the upper end of Dall Bay. A prospecting cut about 10 feet deep shows greenstones, schists, and pegmatite more or less brecciated near the contact. Some mineralization has taken place along the shear zones."

"At Seal Cove in the northern part of the claims explored, the following comments have been made on the old claims, many of which form part of the Victory Mining Company:

Seal Bay - two test pits have been sunk on the beach close to tidewater. The more westerly one is in a green, contorted schist which carries pyrite. The more easterly is in a mineralized pegmatite which carries copper pyrite with a quartz and calcite gangue."

KX, 20-22

"Bay View claims - these claims are about a half mile to the west of Seal Bay. At No. 2 an open-cut of 20 feet exposes a dark green diabase-schist, and next to and grading into it a brecciated form of the same rock, which has been recemented by quartz and some calcite. With this infiltrated quartz occur iron and copper pyrite and some bornite. The mineralization occurs at intervals for 30 to 40 feet. At the No. 3 claim of this group there is a 20 foot drift. The bed-rock is a dark green schist, which is slickensided and brecciated, with a recementation by ore-bearing solutions. One fault zone runs N 80°E, another about 60°W. The ore from this locality is copper and iron pyrite, with some zinc blende. The drift was driven along a vein carrying pyrite, about a foot in width, which runs about N 60° W. The Bay View claims belong to the Victory Mining Company."

120-35
KX 120-36

"War Eagle claim - at this locality there is a shaft, probably 40 feet deep and near at hand two tunnels, which are about 100 feet apart vertically. The country rock is a greenstone-schist, which has been sheared and brecciated, and the ore occurs along the shear zones. Near the breast of the lower tunnel about 3 feet of the breccia and ore are shown. The strike of the vein in approximately N 30° E. The fault plane dips about 85° E. and is approximately parallel to the strike. The ore is a chalcopyrite and is said to carry gold values. This claim, together with the Big Joe, where an open-cut exposes the extension of the same mineral-bearing zone, belongs to the Patterson Company. The same company also owns the Hobo claim which joins the War Eagle on the west. The latter was not visited."

KX 120-36

"Grotto claim - this claim, together with the O'Brien, Trio, and the Big Three, which lie to the north, belong to the Victory Mining Company. When the examination was made there was no one on the property, but since then developments have been actively pushed."

"The mine workings were found to consist of a tunnel about 100 feet long, located about 600 feet above tide, and a second tunnel, 50 feet higher and 30 feet long. The lower tunnel cuts across the foliation of the greenstone-schist which forms the country rock. The greenstone-schist is all somewhat mineralized, but probably does not carry value, except along shear zones, where the mineralization has been more intense. These shear zones occur at irregular intervals in the inner 30 feet of the tunnel, which is near a mass of intrusive pegmatite. The upper tunnel has penetrated a brecciated greenstone-schist, which is more or less mineralized for the full length of the tunnel, or about 30 feet."

"Since our examination the lower tunnel has been driven 100 feet further, and the company is reported to be now drifting on the ore body. It would seem from this that the writer's observations were at fault and that the mineralized zone observed at a depth of 100 feet in the lower tunnel was not the same ore body which is exposed in the upper tunnel. The company reports the lead to be 25 feet wide where the tunnel intersects it. The cropping average 11 percent copper across 5 feet. The walls of the ore body where the drift is being driven are said to be well defined. About one-fourth of a mile in a northerly direction from the lower tunnel a small shaft, probably 50 feet deep had been sunk, at the time of our visit, in some mineralized schists."

KX 120-37

"Jumbo claim - this is about half a mile from the beach and not more than 50 feet above tidewater. A small crosscut exposes 5 to 10 feet of a zone in part heavily mineralized with copper and iron pyrite. In its occurrence it is similar in character to the ore bodies already described. The opening is in a flat, and there are no outcrops in the vicinity."

This is all the significant history available at the time of writing this report.

This old data has little present-day importance except to show the widespread nature of the copper occurrences and that they were interesting enough to stimulate extensive prospecting at a time when copper was valued at about 1/5 its present price.

Diamond Drilling

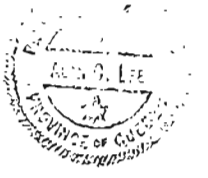
Since the report by the undersigned, dated April 21st, 1956 Diamond drilling has been carried out in the Dall Bay area for a distance of 2,000 feet along the contact between altered quartz monzonite intrusive and the country rock. Fourteen holes were drilled along a baseline N 14 W, they were numbered 1, 2, 2A, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13, a total of 3,934 feet. Copper values were confined to the first 8 holes or the most southerly 600 feet, as follows:

Summary of Diamond Drill Results

Beach Showing - Dall Bay - Gravina Island, Alaska

Baseline "A"
Location

Hole No. 1		From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg.	Length Ft.
N - 0 plus 20'	E 250'	102.0	107.0	1.00	5.0'	86.9'	46°	254°	310'
		107.0	109.0	0.55	2.0	or			
		109.0	120.0	0.30	11.0	28%			
		Average		0.52	18.0				
Hole No. 2									
S - 0 plus 80'	E 207'	6.0	50.0	0.33	44.0		50	265	264
		190.0	200.0	0.54	10.0				



Baseline "A"
Location

Hole No. 2A	From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg.	Length Ft.
Same as No. 2 on same section	0.0	5.0	0.80	5.0'	33.5' or 12%	65°	265°	278'
	5.0	10.0	1.30	5.0				
	10.0	15.0	0.70	5.0				
	15.0	20.0	0.55	5.0				
	20.0	25.0	0.25	5.0				
	25.0	30.0	0.30	5.0				
	30.0	35.0	0.15	5.0				
	35.0	40.0	0.15	5.0				
	40.0	45.0	0.25	5.0				
	Average		0.38	45.0				
	83.0	88.0	0.65	5.0				
	134.0	137.8	0.70	3.8				
	165.0	170.0	1.20	5.0				
	195.0	200.0	1.00	5.0				
	200.0	205.0	0.25	5.0				
	205.0	212.0	1.00	7.0				
	Average		0.78	17.0				
Hole No. 3								
S - 0 plus 35' E 135'	1.1	75.0			26.0 or 11%	40	74	240
	Average		0.47	73.9				
Hole No. 4								
N - 2 plus 90' E 225	220.0	225.0	0.65	5.0	42.5 or 11%	45	254	390
	228.0	233.0	1.50	5.0				
	Average		0.83	13.0				
	335.0	340.0	0.55	5.0				
	340.0	345.0	0.05	5.0				
	347.0	353.7	0.65	6.7				
	Average		0.39	18.7				
Hole No. 5								
S - 0 plus 130' E 230	5.0	10.0	0.45	5.0	45.0 or 15%	45	220	306
	10.0	20.0	0.65	10.0				
	20.0	25.0	0.25	5.0				
	25.0	30.0	0.15	5.0				
	30.0	35.0	0.70	5.0				
	Average		0.40	30.0				
Hole No. 6								
N - 0 plus 195' E 200'	190.0	197.0	0.65	7.0	51.0 or 14%	45	256	349

Baseline "A"
Location

Hole No. 7	From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg.	Length Ft.
S - 0 plus 50' E 90'	60.0	66.0	0.65	6.0	31.0' or 11%	70°	76°	291'
	135.0	140.0	1.10	5.0				
	157.5	162.5	0.45	5.0				
	180.0	190.0	0.40	10.0				
Hole No. 8								
N - 0 plus 390' E 135'	no sampling				18.0 or 6%	50	256	324
Hole No. 9								
N - 0 plus 1190' W 30'	135.0	150.0	0.20	15.0	20.5 or 7%	45	256	300
Hole No. 10								
N - 0 plus 760 W 30'	no sampling						256	214
Hole No. 11								
N - 0 plus 1030' W 65'	no sampling				21.0' or 10%	45	256	219
Hole No. 12								
N - 0 plus 1185' N E 10'	no sampling					45	76	149
Hole No. 13								
N - 0 plus 1750' W 15'	no sampling					50	256	300
					TOTAL			3,934 ft.

The outstanding results may be restated as follows from above:

Hole No. 1	-	0.52% copper across	18.2 ft.	core loss 28%
Hole No. 2	-	0.33% copper across	44.0 ft.	
	and	0.54% copper across	10.0 ft.	
Hole No. 2A	-	0.38% copper across	45.0 ft.	core loss 12%
	and	0.78% copper across	17.0 ft.	
Hole No. 3	-	0.47% copper across	73.9 ft.	core loss 11%

Hole No. 4	-	0.83%	copper across	13.0 ft.	core loss 11%
	and	0.39%	copper across	18.7 ft.	
Hole No. 5	-	0.40%	copper across	30.0 ft.	core loss 15%
Hole No. 6	-	0.65%	copper across	7.0 ft.	core loss 14%
Hole No. 7	-	0.65%	copper across	6.0 ft.	core loss 11%
	and	1.10%	copper across	5.0 ft.	
	and	0.40%	copper across	10.0 ft.	

The above results show copper over interesting widths, but in quantities that are sub-marginal to mine under even the favourable conditions that exist here, including open-cut mining, cheap transportation and access. However, if the drill logs are studied and it is realized that 10 to 20% of the mineralized core was ground, there seems to the writer room for doubts that these results accurately represent the copper content in those intersections.

Down to depths of 200 feet the feldspars are kaolinized and the rock is shattered and seamed so that it is free to grind in the core barrel and it seems logical to believe that the softer chalcopyrite will wear most. On the other hand sludge samples do not show higher copper values, but with so many seams and faults it is not certain that all the heavy sulphides would be washed to surface and caught. They might be trapped on their way up in open fractures.

There seems a good chance that if more efficient core recovery was made in the mineralized sections that the copper content would be raised to commercial levels. To this end it is suggested that holes be drilled to cut the mineralized zones under 200 feet vertically below the weathering and that particular care be taken to prevent core loss by grinding. Careful supervision of drill runners is necessary at all times mainly to ensure that they "pull" as soon as a "block" occurs and do not continue to run and thus grind the core. This will entail a great deal more work for the crews, however, but it should give a truer picture of the amount of copper present.

In the Beach area, the most southerly 600 feet at Ball Bay seems to be the most promising part of the property so far.

It is proposed that this length of 600 feet of altered quartz monzonite be drilled with 7 holes which would intersect the known copper bearing portion below the surface weathering. Each hole should have a minimum length of 500 feet making a total of 3500 feet. If encouraging results are obtained then more drilling would be required.

North Paula Group - Seal Cove

"C" Picket Line

Hole No. 26		From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg.	Length Ft.
N - 0 plus 100'	E 125'	no sampling					45°	280°	298'
Hole No. 16									
N - 0 plus 305'	E 115'	33.6	35.6	0.63	2.0'		45	280	388
		48.4	50.9	0.70	2.5				
		125.0	128.5	0.35	3.5				
		130.7	133.2	0.42	2.5				
		Average		0.30	8.2				
		145.1	147.6	0.87	2.5				
		152.0	156.0	1.60	4.0				
		Average		0.90	10.1				
		160.7	163.9	0.80	3.2				
		166.8	171.0	0.80	4.2				
		Average		0.42	10.3				
		190.0	193.5	0.30	3.5				
		196.0	200.0	0.22	4.0				
		230.0	231.1	4.40	1.1				
		245.0	250.0	1.07	5.0				
Hole No. 15									
N - 0 plus 410'	E 50'	80.0	85.0	0.50	5.0	83.0' or 33%	45	280	251
		85.0	90.0	0.90	5.0				
		90.0	92.5	1.30	2.5				
		92.5	95.0	0.20	2.5				
		95.2	98.6	1.20	3.4				
		Average		0.79	18.6				
		108.0	111.0	0.50	3.0				
		115.0	116.0	0.40	1.0				
		121.0	125.0	0.50	4.0				
		155.0	158.4	0.75	3.4				
		163.0	166.0	0.70	3.0				
Hole No. 20									
N - 0 plus 510'	E 100'	28.5	36.5	1.26	8.0		45	280	355
		170.7	173.1	0.35	2.4				
		184.0	186.7	0.45	2.7				

Hole No. 22		From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg	Length Ft.
N - 0 plus 710'	E 90'	57.0	59.3	0.30	2.3		45°	280°	501'
		392.0	395.0	0.65	3.0				
		395.0	400.0	1.60	5.0				
		400.0	405.0	0.45	5.0				
		Average		0.94	13.0				
Hole No. 24									
N - 0 plus 720'	E 5'	73.9	77.0	1.15	3.1		45	100	360
						TOTAL -			2,153 ft.
"D" Picket Line									
Hole No. 29									
S - 0 plus 40'	E 85'	no sampling					45	250	272
Hole No. 27									
N - 0 plus 410'	W 170'	no sampling				67.0 or 16%	50	80	406
Hole No. 19									
N - 0 plus 700'	E 135'	156.6	162.0	1.91	5.4		50	250	346
		180.0	187.3	1.51	7.3				
		187.3	194.0	0.15	6.5				
		194.0	195.3	2.47	1.3				
		Average		0.99	15.3				
Hole No. 21									
N - 0 plus 870'	W 70'	40.0	42.0	1.88	2.0		50	80	211
		48.7	50.7	2.00	2.0				
		134.3	142.7	1.76	8.4				
		165.0	173.0	0.36	8.0				
Hole No. 23									
N - 0 plus 990'	W 75'	129.8	131.0	1.00	1.2		50	80	306
Hole No. 25									
N - 0 plus 190'	W 35'	139.0	143.0	1.05	4.0		50	80	296
						TOTAL -			1,837 ft.

"B" Picket Line

Hole No. 17		From	To	% Cu	Width	Lost Core	Dip Deg.	Az Deg.	Length Ft.
8 - 0 plus 795'	E 70'	60.0	70.0	0.41	10.0'		50°	250°	99'
Hole No. 18									
8 - 0 plus 795'	E 70'	67.5	68.9	0.82	1.4		65	250	124
		116.8	120.0	0.97	3.1				
		120.0	126.0	1.32	6.0				
						TOTAL -			223 ft.

War Eagle Lode Claim - south of Victory Mining Company tunnel.

Hole No. 14		no sampling					45	110	217'

The total footage drilled at the north end of the property was 4,430 feet.

The outstanding results may be restated as follows from above:

"C" Picket Line

Hole No. 16	-	0.30%	copper across	8.2 ft.
		0.90%	copper across	10.1 ft.
		0.42%	copper across	10.3 ft.
		4.40%	copper across	1.1 ft.
Hole No. 15		0.79%	copper across	18.6 ft. core loss 33%
Hole No. 20		1.26%	copper across	8.0 ft.
Hole No. 22		0.94%	Copper across	13.0 ft.
Hole No. 24		1.15%	copper across	3.1 ft.

"D" Picket Line

Hole No. 19	0.99%	copper across	15.3 ft.

"B" Picket Line

Hole No. 17	0.41%	Copper across	10.0 ft.
Hole No. 18	0.97%	copper across	3.1 ft.
	1.32%	copper across	6.0 ft.

The rocks in this northern part of the property are largely greenstones ranging from tuffs and basic lavas to coarser grained varieties which may be diorites. They include sediments also. The lighter coloured intrusives consist of aplite and porphyries, dike-like in form and are much less extensive than the monzonite at Dall Bay. So is the alteration, bleaching and the stock-works of quartz and quartz-carbonate stringers. Pyrite mineralization here is relatively heavy and it has been followed by chalcopyrite which occurs mainly in the bleached and silicified schists and seldom in the intrusive.

Widths of copper were not as large as at Dall Bay but there was better concentration over narrow widths. Core loss through grinding was somewhat less due to better drilling technique but it was still heavy in most holes. In fact the first hole drilled, No. 15, had the highest loss of any, 33%. There is no doubt that an important proportion of the copper content would be lost in the drilling here also. For that reason the writer would be interested in seeing 2 or 3 deeper holes drilled on the North Paula group in the vicinity of holes 15 and 16 to cut the mineralized zone below the effect of surface weathering. To accomplish a similar aim it is recommended that these 2 holes be deepened to 700 or 800 feet, if it is practical to do so. This would prospect what promises to be the widest bleached and altered zone in the Seal Cove area. If favourable results are achieved then it may be considered worth drilling additional holes to both east and west as well as to the south to completely explore this favourable zone. An unexplored gap lies 200 feet to the south of No. 16 and 500 feet to the west, while the east has not been touched. A minimum of 2,000 feet of drilling is recommended here.

Assessment Work

On July 1st, 1956, 4,123 feet of diamond drilling was recorded on Paula Group claims, No. 1 to 55, a total of 76 days valued at $39,000.00. The remaining 4,241 feet of drilling should be recorded on or before July 1st, 1957, and at the same time the surface prospecting and line cutting included:

Diamond drilling - 4,241 feet at a cost $8.65 per foot -	$36,684.65
Surface prospecting and line cutting - 450 man days @ $17.75 -	7,987.50
	$44,672.15

Summary and Conclusions

The copper occurrences at Dall Bay in the Beach area at the south end of the property are found in a brecciated and fracture band of quartz monzonite 250 to 300 feet wide and carrying interesting values for 600 feet along its north-south strike. Seven holes have explored it down to 200 feet vertically, although the deepest hole, No. 7, went to 270 feet.

These holes showed copper across most of the zone and the widest continuous section was in Hole 3 assaying 0.47% copper across 73.9 feet with a core loss in the entire hole of 11%.

The values obtained are not commercial but due to the excessive core lost by grinding there is a possibility that minable widths might be found to grade over 1% copper if the zone be cut at say 200 feet vertically below the effects of surface weathering and if the drilling is very carefully supervised to minimize the chalcopyrite lost through grinding in the core barrel. Accordingly it is recommended that further testing of this zone be done next summer by say 7 holes for a total of 3,500 feet.

At the north end of the Paula group at Seal Cove, somewhat better copper values occur across narrow widths in quartz-carbonate stock-works when the lavas have been bleached and silicified. The largest area of alteration, around hole 15 and 16 has not been completely explored and 2,000 feet of drilling is recommended here to complete its testing laterally and at depth, below surface weathering. Holes 15 and 16 encountered the best copper values in the Seal Cove area.

These recommendations are made on the assumption that the present option may be kept in force at no further cost to Bornite for the period of one year from now.

In conclusion the writer regards this property as an interesting copper prospect worthy of more work because of the wide spread showings over its four square miles of area and because of its accessibility and cheap transportation.

These showings on which future work has been recommended are considered to be the best found so far on the property.

If a large tonnage of material carrying 1% copper could be outlined by drilling, in one compact mass whose shape would lend itself to open-cut mining, this prospect could quickly develop into an important mine. There is a good possibility of this becoming a fact if the drilling recommended were carefully done and if it were supervised with intelligence and painstaking care.

NORANDA, Quebec.

Alan C. Lee,
Professional Engineer,
Province of Quebec.

Bornite Copper Corporation Limited

LaRoche and Des Meloizes Townships

Northwestern Quebec

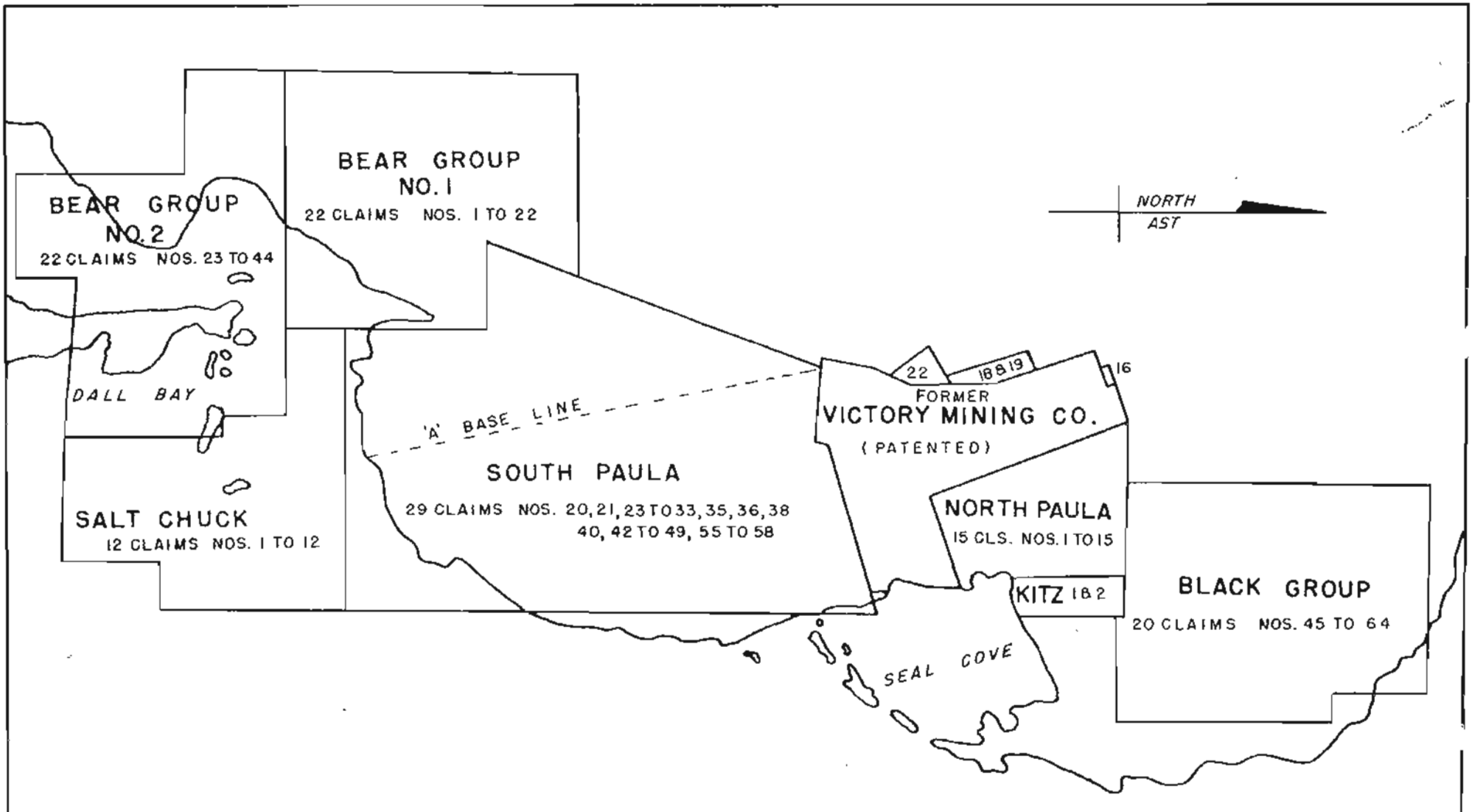
November 13, 1956

This property has been fully described in my previous report dated December 12, 1955, as to property, location and claim numbers. A later report of May 22, 1956, describes the 4,602 feet of diamond drilling which was done in carrying out the recommendations of the earlier report.

Since the results of this were inconclusive no further work has been done on the property up to the present date.

NORANDA, Quebec.

Alan C. Lee,
Professional Engineer,
Province of Quebec.



BORNITE OPTION

GRAVINA ISLAND

SOUTH EASTERN ALASKA

SCALE 1" = 2000'

GROUP OUTLINES APPROXIMATE

A.C. LEE NOV. 1956