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N.T.S. 92-F-11

SUMMARY

REPORT

ON

GEM LAKE COPPER

1963

Nanaimo

MINING DIVISION

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Vancouver, B. C.
February 18, 1964.

J. J. McDougall
Geologist

C O N T E N T S

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INTRODUCTION

This report includes a short summary of Gem Lake copper data gathered in the past few years plus an account of this year's (1963) drilling. The writer outlined this year's work and visited the property on several occasions.

More detailed accounts occur in the 1960 and 1961 "Gem Lake" reports.

PROPERTY & OWNERSHIP

Falconbridge holds a block of 20 located claims, MEG #1 to 20, within the E. & N. (C.P.R.) Land Grant on Vancouver Island. Although we retain title to precious metals, C.P.R. owns all base betals including the copper which is of prime concern on this property. As a result of these unusual circumstances (the E. & N. Land Belt has always been avoided by most prospectors and companies) Falconbridge entered into an unofficial agreement with C.P.R. stating that after doing a certain amount of preliminary work, an official agreement would be drawn up by May of 1964 - this to outline royalties, etc.

LOCATION & ACCESS

The MEG Group of claims is situated around Gem Lake, a small body of water (elevation 3400 feet) occupying a cirque-like setting at the head of the Oyster River on east central Vancouver Island. (For more detailed location etc. see February, 1961, Report.) Access during 1963 was by logging road from Campbell River to a point (elevation 2000 feet) on the north side of the Oyster River, then via helicopter for

the remaining 8 miles. Earlier access had been over the high pass from larger Moat Lake. (See Map FL 1/63).

HISTORY & DEVELOPMENT

This property was "rediscovered" by us during helicopter recce early in 1960 during which time a few samples were taken of the mineralized "Main Cliff". Although copper values were low, interest was retained because of favourable structural implications involving an excellent brecciated host rock plus well mineralized float, the source of which was not evident. Late in 1960 a few rock cuts were made in extensive but weakly mineralized material near the lake. The following year 3 packsack holes and 3 Longyear holes, totalling about 1000 feet, were put in from accessible locations around the Cliff Showing. Results, as described in the 1961 report, were not encouraging although as much as 60 feet averaging 1% copper were encountered. A magnetometer survey indicated the favourable magnetite-chalcopyrite breccia zone to continue downhill under talus and it was decided to test this continuation in 1962. However at this later date the drill was tied up at Catface and nothing was accomplished beyond a test ground magnetometer and Ronka EM survey (Presunka). The latter failed to respond.

Following Faith Lake work in September two men (Lang & Ronnlund) were moved into Gem Lake to prepare the only possible drill site from which the extensive talus area could be penetrated. Schussler and Evans followed 10 days later when our helicopter finally became available, and about 10 days were spent drilling with our AX equipment. A rapid S.P. survey was made (Mott and Kimball - Map GM#3/63) following a more detailed job at Faith Lake (Map FL 2/63).

FAITH LAKE AREA
FORBIDDEN PLATEAU
MAP FL 1/63
SCALE: 1:50,000
(1.25" to 1 MILE)

DDH AX #1 was run southerly to a depth of 623 feet at the shallowest dip possible (-44°) and achieved its purpose. Hole AX #2, directed southwesterly and downhill, had to be abandoned at 50 feet after the hole, inclined as much as -60°, failed to find bedrock. Equipment and time were just not adequate and we were very decidedly fortunate in getting any kind of a hole at all into this zone without considerable additional expenditures.

All equipment was moved out but drill core was packed and left at the camp.

GENERAL GEOLOGY AND DESCRIPTION OF PROPERTY

Nothing under this heading can be added to that as described in earlier reports. In general the copper deposit occurs in brecciated volcanic rocks cut by a small stock of quartz diorite which is itself partially brecciated. Mineralized flow breccias containing quartz diorite as well as volcanic fragments and granitic sills related to the intrusive are occasionally well mineralized with chalcopyrite and magnetite as are most joint and fracture planes in the extensive alteration aureole around the stock.

RESULTS OF 1963 WORK

Drill Hole AX #1 was designed primarily to probe under the accumulation of well mineralized chalcopyrite float occurring along the southern half of the talus slopes leading down from the mineralized cliffs. The source remained in doubt after earlier work and it seemed probable that the near massive chalcopyrite occurred in an oreshoot plunging easterly under the talus. The drill hole would also intersect a slightly anomalous S.P. zone in the same general location as well as cut across the breccia zone continuance. The hole was completed to a depth of 623 feet and although it did not completely penetrate the

mineralized volcanic zone, it should have cut any worthwhile breccia mineralization as well as any sizeable oreshoot such as anticipated towards the southern edge of the zone.

Chalcopyrite is visible in all core both in fractures with quartz and magnetite or as a replacement of the epidote and quartz amygdules but no concentration was encountered (core recovery near perfect). Two mineralized but highly altered sill or dyke-like intrusive bodies were encountered (similar to those intersected in earlier LY 6) as was the weakly mineralized "cliff breccia zone".

ASSAYS AND RESERVES

The best assays of about 0.6% copper were across a 5-foot section of slightly brecciated volcanics. The intrusives seldom showed more than 0.2% across 5 or 10-foot widths and this is probably only slightly less than the best across any appreciable width of the mineralized breccia. Minor molybdenite (0.02%) was encountered in the deepest intrusive body intersected. The acid soluble iron content across slightly better than normal material is between 6 and 7½%.

CONCLUSIONS AND RECOMMENDATIONS

The results of drill hole AX1 prove quite conclusively that the grade at least immediately west of the Cliff outcrop is no better than that of material previously sampled, and that the hoped for chalcopyrite oreshoot either does not exist or is so small that it plunges undetected above or below the area intersected. The writer is no more clear on the overall control or shape of this mineralized, extremely irregular body now than when it was first seen. This would not be entirely true were we able, with safety, to examine the Cliff outcrops more carefully. Attempts to gain this information through drilling are frustrating because of the very

limited access afforded by the showing itself along with the extensive and surprisingly deep talus. We are fortunate to have had our own drillers who were able, through ingenuity not common to most, to effect setups in most unlikely locations.

The S.P. survey, although indicating activity near the chalcopyrite float, also showed equally favourable reaction near the similarly weakly mineralized collar of AX2, thus largely cancelling out its significance.

There appears to be no easy or inexpensive way to follow through at Gem Lake. If the property were clearly owned by us, a couple holes put in with a much larger drill capable of penetrating at least 100 feet of talus would be recommended near the base of the slope and a few shorter holes from the top of the cliff would also be in order to trace out the better mineralized granitic sills in the hopes that they would be part of a deeper and larger mineralized intrusive. However such testing would cost more than we have already spent on the property and the money could, in the writer's view, best be spent on more deserving copper prospects - particularly Catface - to which there are now no strings attached. In short, the Gem Lake property does not appear to have a potential which would allow splitting of the profits, but not the costs, with C. M. & S or C.P.R.

Work done this year will be recorded as assessment on the key claims (i.e. at least 8 will be in good standing for 10 years and 4 for 8 years). The remainder will be allowed to lapse.

J. J. McDougall
Geologist

Vancouver, B.C.
February 18, 1964

Photo 1

Looking south toward Meg Zone from our camp on Gem Lake

Photo 2

Airlift of three 40-foot tripod poles - Gem Lake

Photo 3

Longyear drill in place on top of cliffs (Hole #5) - this hole flattened a few degrees and came out the side of the mountain.

PROPERTY GEM LAKE (Meg)

HOLE NUMBER A X 1

SHEET NUMBER 1

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT

DEP

ELEVATION OF COLLAR

DATUM

DIRECTION AT START: BEARING South

DIP -44°

STARTED Oct. 6/ 1963

COMPLETED Oct 12/1963

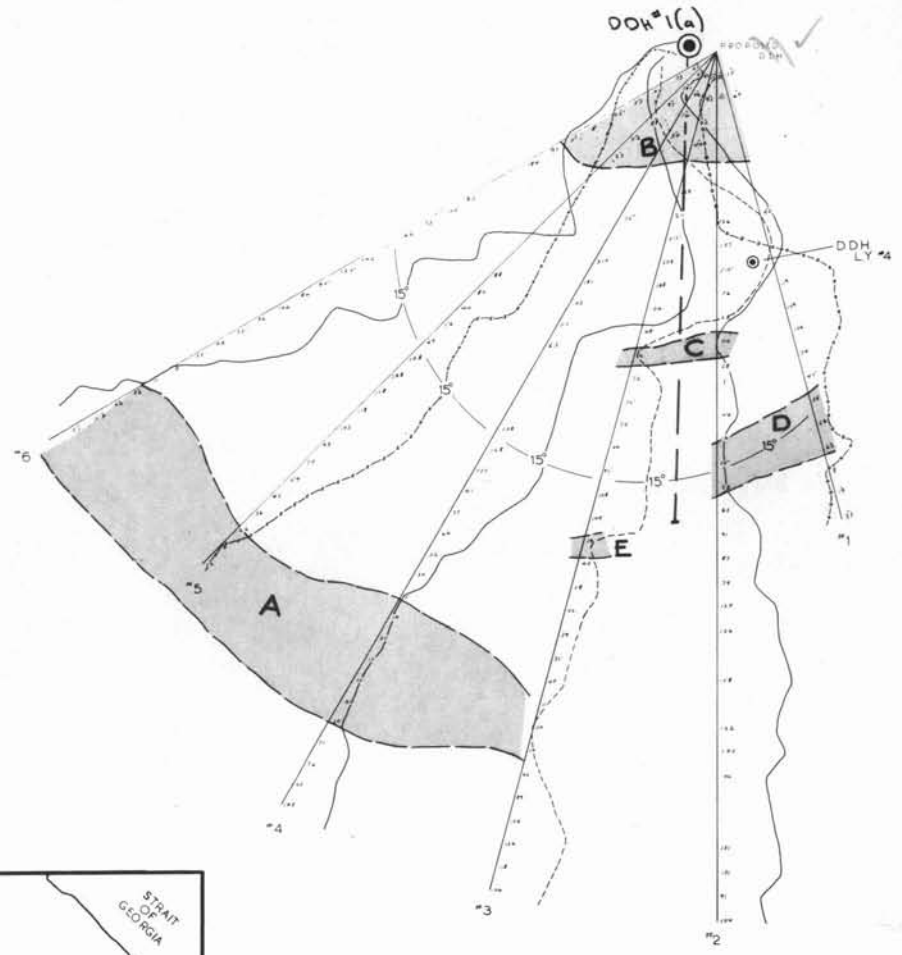
ULTIMATE DEPTH 623 ft

PROPOSED DEPTH Schussler-Lang-Evans- / J.M.

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Au	Ag	Cu	Fe(AS)	
0 - 35	O. B.	Start 7522							
25 - 235	Coarsely amygdaloidal basalt (Vl) epidote-SO2 & Co2 amygdules; some sections less basic - bndg @ 40° and @ 0° to core. - Cp present, as well as pyrr, in more siliceous amyg sections; occ sm gob Cp. - sl oxid to 75 ft. Occ sl magnetite.	54 - 60	6.0	tr	tr	0.18	6.24	
		70 - 75	5.0	tr	tr	0.28		
		75 - 80	5.0	tr	tr	0.15	7.44	
		235 - 240	5.0	.01	tr	0.22		
235 - 238	Feldspathized diffused porph qtz diorite dyke-- sl diss Cp thru-out - ctct @ 75°.	265 - 270	5.0	.01	tr	(0.59)		MoS2
		580 - 590	10.0	tr	tr	0.08		0.02
238 - 385	Vl as prev. 266 - Cp and pyrr blebs.								
385 - 402	Fg, feld chlor. qtz diorite - massive - ctct @ 50 - 60° - poor. Diss fg Cp thru-out.	(Previous hole attempted - 43 ft O.B. abandoned (last (S45°W) - 92 ft in 3 holes ")							
402 - 407	Vl								
407 - 420	Flow(?) breccia - frags of Vl in gd range up to 3". Very weakly min. Occ sl mag.								
420 - 581	Vl, gen amygd, occ sl Cp on fractures or replacing amygs, several qtz dior veinlets.								
581 - 590	Diffused siliceous feldspathic qtz diorite sill(?) - sl MoS2, Cp (on fractures and diss).								
590 - 623	Vl, still sl Cp repl of amygs; occ sl mag vein. E N D Core Rec. 100%. Cp & pyrr diss thru whole core but nowhere greater than 0.25% Cu for any distance. Magnetite widely distributed but total not great.								

N. M. P. - FORM A

MAP GL 3/63



KEY PLAN

FALCONBRIDGE NICKEL MINES LIMITED

SELF POTENTIAL SURVEY

GEM LAKE B.C.

LEGEND

SP readings in millivolts
positive plotted right
profile scale 1"=100 m.v.
datum = 0 m.v.

INTERPRETED MINERALIZATION