

92F239-07

007461

**REPORT**  
**ON**  
GEM LAKE (MEG GROUP)  
COPPER PROSPECT  
1961  
**PROPERTY FILE**  
NANAIMO  
MINING DIVISION  
J. J. MCDOUGALL  
GEOLOGIST  
No 2

REPORT  
ON  
GEN LAKE (NEG GROUP) COPPER PROSPECT  
1961

I N D E X

	<u>Page</u>
General .....	1
Results .....	1
Conclusions and Recommendations .....	2
Drill Logs - Holes #1 - #6 .....	mounted in back
Map - GL #1/61, Scale 1" = 50' .....	in pocket

PROPERTY FILE

## REPORT

on

### GEM LAKE (HEG GROUP) COPPER PROSPECT

1961

#### GENERAL

During September and early October a 2-man crew using the Longyear and packsack machines did a little over 1000 feet of test and exploratory drilling along an outcrop area some 200 feet by 400 feet with vertical exposures of 4 to 500 feet. Tests were made at both extremities of the outcrop which consists of a mineralized pipe-like granitic and volcanic breccia overlain by similarly mineralized volcanics.

#### RESULTS

Except for the failure to intersect the source of the tons of high grade found on the talus slides below, core grade was as indicated by surface exposures. The 1000 feet of drilling cut 900 feet of visibly mineralized (chalcopyrite) material ranging between 0.08 and 4.83% copper. The best section (in Hole #6) was 30 feet at 1.6% including 5 feet of 4.83% and this helped average the bounding 60 feet out to 1.0% copper. The average magnetic iron content of the basic lava flows ranges between 5 and 15%.

A magnetometer survey (Map GL2/62) shows a magnetic high to continue 8 or 900 feet beyond the last outcrop heading towards a projected intersection of NS and EW faults (see Map GL1/61) and at the same time draping around the south and west sides of the quartz diorite stock-like intrusive. Unfortunately this direction coincides with slightly magnetic talus ridges originating at the main deposit. However in one locality well removed the anomaly cuts across another talus slide composed of non-magnetic

PROPERTY FILE



quartz diorite strengthening the theory that most of the magnetics are due to copper-magnetite rock in place.

Prospecting in the immediate vicinity of Gem Lake turned up some very high grade pods of chalcopyrite along the strongly developed EW fault or shear zones. Several of these assayed up to 1/2 oz. in gold. Although the zones are well developed structurally, mineralization is spotty.

#### CONCLUSIONS AND RECOMMENDATIONS

Although the copper and precious metal content of the sections drilled is disappointingly low, Gem Lake is still an attractive prospecting area in which, at a future date, a couple of long drill holes drilled from suitable set-ups well back on the hangingwall are warranted. One should be directed southerly to test the whole zone at depth, and the other southwesterly to test the granitic contact in the magnetic high area where the previously described fault intersections occur. There is a probability that some of the high grade copper sections, inaccessible on the vertical cliffs, plunge to the west at about a  $-50^{\circ}$  angle and all drilling to date has passed under them. This second drill hole would also test this theory which adds yet a fourth control to the already complicated assemblage. Also some of the high grade float may have originated practically "in situ" but testing this theory with short holes is not practical.

A couple short pack-sack holes were planned this year to test the gold-bearing copper zones found west and south of Gem Lake but insufficient time was available. This should be done the next time a camp is set up at Gem Lake. Claims are all in good standing for a couple more years.

Vancouver, B. C.  
December 21, 1961

James J. McDougall  
Geologist

PROPERTY MEG (Gen Lake) COPPER - 1961 DRILLING

HOLE NUMBER .....

SHEET NUMBER .....

# DIAMOND DRILL RECORD

SECTION FROM ..... TO .....

LOCATION: LAT. DRILLERS - SCHUSSLER & LANG  
 DEP. ....

STARTED NOTE: .....

ELEVATION OF COLLAR .....

COMPLETED Bearing of DDH's approx only due to magnetics.

DATUM .....

ULTIMATE DEPTH .....

DIRECTION AT START: BEARING .....  
 DIP .....

PROPOSED DEPTH .....

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE				
<u>ABBREVIATIONS</u>								
V1	Fine-grained, dark, altered amygdaloidal basaltic to andesitic lava flows. Amygdules consist of either green olivine and/or epidote. Often contain appreciable magnetite as a fine-grained replacement or possible original constituent.							
V2	Similar to V1 in appearance but porphyritic instead of amygdaloidal. Probably represents a sill-like intrusive andesite-basalt porphyry. Not mineralized but altered with development of chlorite, etc.							
G1	Granodiorite <sup>or</sup> in qtz diorite - medium-grained, minor brecciation - definitely an intrusive.							
G2	As G1 but lightly feldspathized - may represent near contact granitization - a good host rock for chalcopyrite mineralization							
B1	Angular breccia consisting of fragments of basaltic volcanics (V1) only, - usually highly altered with widespread development of chlorite which with magnetite and chalcopyrite constitutes the groundmass.							
B2	Angular breccia consisting of V1 and G1 fragments with minor aplite and possible quartzite particles. Believed to be partly intrusive in origin but localized by faulting. More than one period of complex brecciation indicated by inclusion of B2 in apparent V1.							
(CP)-Chalcopyrite. (Mag)-Magnetite. (Moly)-Molybdenite. Other abbreviations as on 1961 Bonanza Copper Summary Report.								
In general, core recovery and drilling conditions the best yet encountered - i.e. 99% Core Recovery & numerous full barrel pulls.								

PROPERTY FILE

PROPERTY \_\_\_\_\_  
 MEG COPPER

HOLE NUMBER \_\_\_\_\_  
 SHEET NUMBER #1 (PS) \_\_\_\_\_  
 SECTION FROM 1 TO \_\_\_\_\_

# DIAMOND DRILL RECORD

LOCATION: LAT. 185 ft @ N20° 30' E from Stn #5 a perman-  
 DEP. ent(?) transit station on rock bluff (see  
 ELEVATION OF COLLAR \_\_\_\_\_ Map)  
 DATUM \_\_\_\_\_  
 DIRECTION AT START: BEARING \_\_\_\_\_  
 DIP N22° E

STARTED \_\_\_\_\_  
 COMPLETED September 15th, 1961  
 ULTIMATE DEPTH September, 1961  
 PROPOSED DEPTH 101 ft.

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Average	Au	Ag	Cu
	-25°				Iron			
0 - 6	Dk grey, sl porph & amy. Andeso-basalt (V1) occ veinlets c.p., mag			6.0		Tr	Tr	0.3
6 - 11	Ribbon-banded qtz dior dyke(?) sl diss c.p. moly and mag. Ctct @ 60°			5.0		Tr	Tr	0.3
11 - 46	V f.g. dark V1, sl diss c.p. (dyke 37-38) occ Gl brec. ptcle	11-21		10.0		0.01	Tr	0.3
		21-31		10.0		Tr	Tr	0.48
		31-41		10.0		Tr	Tr	0.61
		41-46		5.0		Tr	Tr	0.30
46 - 82	B2 zone - 60-70% of rock is Gl, sl diss c.p. also sl str c.p. mag	46-47		1.0		Tr	0.3	3.86
		47-57		10.0		0.01	0.2	0.97
		57-67		10.0		Tr	Tr	0.18
		67-77		10.0		Tr	Tr	0.20
		77-87		10.0		Tr	Tr	0.11
82 - 101	V f.g. V1 feathery interlocking texture. only weakly mineralized - may be another sill	87-97		10.0		Tr	Tr	0.10
		97-101		4.0		Tr	Tr	0.10
	E N D as capacity of drill.							
	Sol Iron content - 0 - 101			101.0'	11.21%			
	Best section 57.0 ft @ 0.56% Cu (included 11.0' @ 1.23% cu)							



PROPERTY MEG COPPER

HOLE NUMBER .....

SHEET NUMBER #2 (PS)

SECTION FROM 1 TO .....

# DIAMOND DRILL RECORD

LOCATION: LAT. 212 ft @ N23° 30'E from Stn. 5

STARTED .....

DEP. ....

COMPLETED September, 1961

ELEVATION OF COLLAR .....

ULTIMATE DEPTH do

DATUM .....

PROPOSED DEPTH 100 ft.

DIRECTION AT START: BEARING North  
DIP -70°

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Average			
0 - 5	Brecciated, sl porph dark grey V1, cemented by magnetite and c.p.	0-5	5.0'		Iron	Au	Ag	Cu
5 - 10	" " more porph, gradational to B2	5-10	5.0			Tr	0.1	1.47
10 - 13	" " decreasing B2, less S2	10-13	3.0			0.02	0.1	1.68
13 - 45	About 50% G1 in 1 ft sections	13-23	10.0			Tr	0.1	0.94
	mixed with B1, some mag as cement, sl c.p.	23-33	10.0			Tr	Tr	0.15
45 - 62	Decreasing G1, sl brecc V2(?) occ mag	33-43	10.0			Tr	Tr	0.13
62 - 75	60% G1, frags in gray volc, sl mag	43-53	10.0			Tr	Tr	0.15
75 - 80	B1, larger feld phenos in possibly mixed V1 and V2 - c.p. in fractures	53-63	10.0			Tr	Tr	0.19
80 - 85	Coarse gnd B2	63-73	10.0			Tr	Tr	0.10
85 - 97.5	" " sl c.p. & mag in last few feet	73-83	10.0			Tr	Tr	0.10
97.5 - 100	Not recovered	83-93	10.0			Tr	Tr	0.13
		93-97.5	4.5			Tr	Tr	0.05
	E N D - as beyond capacity of drill.							
	Best mineralized section 13 ft. @ 1.42% Cu							
	Average sol iron content							
				97.5 ft.	12.42%			

PROPERTY MEG COPPER

HOLE NUMBER #3 (PS)

SHEET NUMBER 1

SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_

# DIAMOND DRILL RECORD

LOCATION: LAT. 187 ft. @ N55° 30'E from Stn. #5

STARTED September, 1961

DEP. \_\_\_\_\_

COMPLETED do

ELEVATION OF COLLAR \_\_\_\_\_

ULTIMATE DEPTH 120 ft.

DATUM \_\_\_\_\_

DIRECTION AT START: BEARING N6°W  
DIP -15°

PROPOSED DEPTH \_\_\_\_\_

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Average Iron	Au	Ag	Cu
0 - 23.5	V f.g., dark andesite or andeso-basalt dyke or sill, V1 but gradational(?) to V2 Qtz amyg.							
23.5 - 48.5	" " Co3 bndg. @ 50° sm Gl dyke @ 80°	1-40		40.0'		Tr	Tr	0.05
		40-80		40.0		Tr	Tr	0.05
48.5 - 71.5	" " decreasing amyg, greener	80-90		10.0		Tr	Tr	0.08
71.5 - 95	" " ecc Gl, RW, sl cu st @ 80 ft. poss (sl) fault	90-100		10.0		Tr	Tr	0.13
		100-110		10.0		Tr	Tr	0.19
	Beyond 90 ft, grain size decreasing becoming dense, siliceous. Sl c.p. assoc. with fractures.	110-120		10.0		Tr	Tr	0.08
95 - 110	F.g., "tough" andesite							
110 - 120	" " - sl diss c.p., increasingly amyg sl c.p. in amyg. Poss ctct with Gl @ 120'							
	E N D - as capacity of drill.							
	Hole failed to penetrate through to breccia zone due to lack of power.							



PROPERTY MEG COPPER

HOLE NUMBER #4 (LY)

SHEET NUMBER 1

SECTION FROM \_\_\_\_\_ TO \_\_\_\_\_

# DIAMOND DRILL RECORD

LOCATION: LAT. 397 ft @ N22°W from Sta. #5

STARTED September, 1961

DEP. \_\_\_\_\_

COMPLETED do

ELEVATION OF COLLAR \_\_\_\_\_

DATUM \_\_\_\_\_

ULTIMATE DEPTH 286 ft.

DIRECTION AT START: BEARING S28°E

PROPOSED DEPTH \_\_\_\_\_

DIP -46°

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Average Iron	Au	Ag	Cu
0 -- 24.5	Sl c.p., mag in Bl, occ Qtzite? frag	0	40	40.0'		Tr	Tr	0.10
24.5 - 43	Diss c.p. & mag in chloritic cement of less brecciated Bl	40	80	40.0		Tr	Tr	0.17
43 - 67	" " but volc increasing amygd Bndg 50-75° to core irreg.	80	100	20.0		Tr	Tr	0.14
67 - 71	As 0-24.5 - brecciation decreasing toward end of section (ruptured upper flows??)	100	110	10.0		0.02	Tr	0.28
71 - 74	Less brecc Vl, sl diss c.p. pyrite. No aptitic or Qtzite frags	110	160	50.0		Tr	Tr	0.12
74 - 84	" " brecciation decreasing	160	210	50.0		Tr	Tr	0.16
84 - 86	Brecciated Gl - ptcls to 2"	210	260	50.0		Tr	Tr	0.11
86 - 96	Diss. c.p., mag, pyr, moly in "spotted" Vl	260	286	26.0		Tr	Tr	0.09
96 - 111	Mixed Gl and Vl	Sol Iron content						
111 - 175	Dioritized or feldspathized tuff - tapioca texture, amygd in pt, sl diss c.p. mag.	0	260	260.0'	10.99%			
175 - 237	Sl diss c.p. in B2 - (mostly Gl frags) Bndg @ 35°							
237-260	Speckled, part brecciated Vl, sl cp Bndg @ 40-50°							
260 - 276	Diss c.p. in Gl							
276 - 284	V sl c.p. in Vl							
284 - 286	Gl, etct @ 60°, sl diss c.p. Pyr.							
	E N D							



PROPERTY MEG COPPERHOLE NUMBER #6 (LY)SHEET NUMBER 1

## DIAMOND DRILL RECORD

SECTION FROM 270 ft. TOLOCATION: LAT. Same as #5 - 404' @ N31°00E from  
DEP. do Stn. #5STARTED October, 1961

ELEVATION OF COLLAR

COMPLETED October, 1961

DATUM

ULTIMATE DEPTH 270 ft.DIRECTION AT START: BEARING S10°W  
DIP -51°

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE	Average Iron	Au	Ag	Cu
0 - 13	Diss c.p. in V1, jntg & bndg @ 60° to core	0-	20	20.0'		Tr	Tr	0.35
13 - 80	G1 gradational to G2. Increasing diss c.p.	20-	30	10.0		Tr	Tr	0.99
	and pyr	30-	40	10.0		Tr	Tr	0.36
80 - 83	Mixed G1 and V1, sl c.p.	40-	50	10.0		Tr	Tr	0.33
83 - 92	S1 coarser V1, (dioritized?)	50-	60	10.0		0.01	0.1	1.14
92 - 94	G1	60-	70	10.0		0.02	Tr	0.53
94 - 146.5	V1 sl diss c.p., 4" massive very coarse grained crystalline chalcopyrite @ 132 ft. No breccia. Intg generally @ high angle to core - bndg. @ 70°	70-	75	5.0		0.02	0.1	1.50
		75-	80	5.0		0.04	0.2	4.83
		80-	130	50.0		Tr	Tr	0.14
146.5 - 270	V1, last few but more 'dioritized' porphyroblastic feld in part occ scattered veins pyr, c/p, mag. Bndg @ 70-80° @ 245 ft only signs of brecciation encountered	130-	180	50.0		Tr	Tr	0.27
		180-	230	50.0		Tr	Tr	0.31
		230-	270	40.0		Tr	Tr	0.10
	E N D							
	Magnetite content	90-	140	50.0	11.21%			
		140-	190	50.0	7.53%			
		190-	240	50.0	8.86%			
		240-	270	30.0	6.52%			
	Best 60 ft (20-80) @ 1.0% Cu includes 30 ft @ 1.6%.							
	LAST HOLE AT MEG, 1961.							