J. S. Cummings, Inc.

APPENDIX

CC-1

2587N, 212W
Bearing 105°
Dip -45°
Depth 300'

From	To	
0	11	Overburden
11	21	Siliceous lapilli agglomerate Rounded to angular quartz and rhyolite or dacite fragments in a grey to grey-green fine grained matrix. Layered (on the order of 1') with the % fragments ranging from 10% to 90%. Fragmental layers are comprised primarily of interlocked, rounded quartz with gradational boundaries (welded) and some angular quartz. Section contains disseminated and vein pyrite and calcite.
21	29	Siliceous tuff Grey and grey-green, fine grained, nearly massive with one 5" layer of lapilli agglomerate. Disseminated pyrite and some quartz veining (1" or less).
29	35	Siliceous lapilli agglomerate Described 11-21, with layers 1" to 2'.
35	50	Siliceous tuff With several lapilli agglomerate layers from 3" to 12" thick.
50	58	Siliceous lapilli agglomerate

CC-1 (cont'd)

From	To	
58	78	Siliceous tuff
78	81	Siliceous lapilli agglomerate
81	106	Rhyodacite Grey, massive, fine grained, crystalline, with pyrite, chalcopyrite and a trace bornite. One 2" layer of lapilli agglomerate. Some quartz fragments and some lighter grey, massive, fine grained to agglomeritic fragments or broken layers (up to 2"), total fragments <10%.
106	112	Siliceous lapilli agglomerate Fragments up to 1".
112	136	Siliceous tuff A 1' section of 10% pyrite and chalcopyrite (est.).
136	148.5	Diatreme breccia Finely laminated (1/100" to 1/10"), light green, very fine grained felsic tuff fragments and fragmented layers (2") and en echelon lenses (1/2") of light grey fine grained massive limestone.
148.5	160.5	Green tuffaceous shale - gritty tuff Interlayered, fine and medium grained, green rock. May be faintly laminated and may contain some en echelon lenses of limestone. The coarser portion has considerable green feldspar crystals or fragments and a trace of very fine grained small red fragments.

CC-1 (cont'd)

From	To	
160.5	199	Red tuffaceous shale Purple-red, fine grained, massive to faintly laminated rock with common (<10%) 1/4" to 1/2" calcareous shale en echelon lenses.
199	214	Basalt Massive, fine grained, dark green rock.
214	223	Red tuffaceous shale Light purple red (lighter than 160.5'-199', but otherwise similar).
223	238	Green tuffaceous shale Light green, fine grained, massive to faintly laminated with occasional 1/4" to 1/2" en echelon lenses of limestone. Very similar to the purple-red unit except in color.
238	256	Red tuffaceous shale
256	283	Green tuffaceous shale
283	300	Red tuffaceous shale One small section has light green irregular stringers.

J. S. Cummings, Inc.

CC-1 (cont'd)

Sulphides

11 - 56.7	2-5%
56.7 - 81.7	1%
81.7 - 88.1	2-5%
88.1 - 105.6	12.8%
105.5 - 136	1%
136 - 300	None

J. S. Cummings, Inc.

DDH CC-1 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
11.0- 20.0	0.30	0.505		0.04		
20.0- 29.0	0.45	0.069		None		
29.0- 36.7	0.60	0.088		None		
36.7- 41.0	0.05	0.025		None		
41.0- 46.5	0.45	0.018		None		
46.5- 50.5	0.60	0.126		None		
50.5- 56.7	0.35	0.075		None		
81.7- 86.7	0.25	0.157		None		
86.7- 88.1	0.35	0.107		None		
88.1- 90.1	Trace	0.245	None	None	0.010	5.28
90.1- 91.0	0.8	1.518	None	0.1	None	11.71
91.0- 93.2	0.2	2.277	None	0.3	Trace	6.13
93.2- 96.5	Trace	0.327	None	None	None	0.80
96.5-100.0	0.1	1.340	None	0.1	Trace	8.08
100.0-105.5	0.3	0.961	Trace	0.1	None	2.64
105.5-110.6	0.10	0.025		None		
127.6-129.0	0.40	3.263		0.36		

J. S. Cummings, Inc.

CC-2

2575N, 365W
Bearing 100°
Dip -45°
Depth 300'

From	To	
0	7	Overburden
7	32	Siliceous lapilli agglomerate (lithic) Angular to rounded, fine grained lithic fragments (rhyolite, dacite, and andesite) and some rounded to angular quartz fragments. Fragments range from grit to lapilli. Locally weakly calcareous.
32	50.5	Siliceous tuff Green, fine grained pyritic (5%) layered unit. Locally weakly calcareous. Layering as follows: 5.5' very fine grained laminated (1/50" to 1" with sericite-chlorite alteration), 2 feet of very fine grained pyritic-sericitic matrix with rounded calcareous shale fragments, 11' of very fine grained massive, greener, grain boundaries more visible.
50.5	94	Diatreme breccia Brecciated chlorite shale. Fine grained, dark and light green layers from 1/50" to 2" commonly broken, contorted. Considerable quartz (with some calcite) veins commonly 1/20". Trace pyrite.
94	97	Basalt Dark green, fine grained and massive.
97	105.5	Diatreme breccia (chlorite shale) Trace pyrite.

CC-2 (cont'd)

From	To	
105.5	107	Siliceous lapilli agglomerate
107	114	Siliceous tuff Sulphide zone. Fine grained light grey to dark grey with quartz, calcite and sulphide alteration.
114	119	Diatreme breccia (calcareous shale) Contains some magnetite.
119	121	Diatreme breccia With epidote alteration. Broken and irregular, pale yellow-green, fine to gritty laminated (1/50" to 2/10"), pieces and fragments of laminated calcareous shale.
121	125	Diatreme breccia (calcareous shale) Laminated black and light grey (1/100" to 1") with the light grey calcareous layers fragmented. Magnetiferous.
125	163	Green tuffaceous shale Massive to faintly laminated (1/50") and there are a few (2") layers of gritty tuff with a few small fine grained red fragments. 115-127 is more siliceous with quartz veins up to 3" thick.
163	176.5	Green tuffaceous shale
176.5	179	Laminated calcareous shale

CC-2 (cont'd)

From	To	
179	187	Green tuffaceous shale
187	207	Red tuffaceous shale With minor gritty tuff.
207	222	Red tuffaceous shale Pale. Minor green tuffaceous shale.
222	244	Red tuffaceous shale
244	285	Red tuffaceous shale and minor green tuffaceous shale
285	300	Red tuffaceous shale

Sulphides

7 - 32	1%
32 - 50.5	5%
50.5 - 94	Trace
94 - 97	None
97 - 105.5	Trace
105.5 - 114.3	5%
114.3 - 300	Trace

J. S. Cummings, Inc.

DDH CC-2 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
17.2- 18.2	0.55	None	Trace	0.1	Trace	0.51
106.0-108.0	0.30	0.050	None	None	Trace	1.22
108.0-111.7	2.20	0.094	None	None	Trace	4.29
111.7-114.3	0.45	0.018	Trace	None	Trace	2.17
114.3-119.8	0.10	None	Trace	None	None	0.60

J. S. Cummings, Inc.

CC-3

2400N, 430W
Bearing 105°
Dip -45°
Depth 246'

From	To	
0	7	Overburden
7	52	Siliceous tuff Fine grained, nearly massive, light green with occasional 0.1" to 1" lighter layers. Contains some lapilli quartz and rhyolite or dacitic fragments (<10%) and several 2" to 1' lapilli agglomerate layers. Locally weakly calcareous. Occasional quartz carbonate veins commonly 1/20" to 1/2".
52	84.5	Interlayered siliceous tuff and siliceous lapilli agglomerate Both green. Disseminated pyrite and 2 veins of quartz-calcite-sphalerite-pyrite 1" to 2".
84.5	96	Diatreme breccia (fragmented calcareous shale) With a coral (?) fossil at 86.5'.
96	106	Amygduloidal dacite Fine epidote ground mass with epidote and a light colored mineral in amygdules.
106	131	Diatreme breccia (fragmented calcareous shale)
131	157.5	Green tuffaceous shale 131-145 grey fragmental gritty tuff with feldspar and mafic (black) fragments with 0.1" to 1" grey-black laminated magnetiferous-calcareous shale

CC-3 (cont'd)

From	To	
		layers. 145 to 157.5 green fragmental gritty tuff with feldspar and mafic fragments with 0.1" to 1" layers of green shale.
157.5	173	Green tuffaceous shale - epidote zone Fine creme-green epidote-rich fragments with chlorite-quartz-calcite veins. Trace of pyrite in cubes and patches.
173	206	Green tuffaceous shale Very fine grained, green to light grey, green to faint reddish, grey-green.
206	247	Red tuffaceous shale Pink to red with some grey shale and gritty tuff beds.

Sulphides

7 - 60	1%
60 - 84.5	3%
84.5 - 157.5	None
157.5 - 173	Trace

J. S. Cummings, Inc.

DDH CC-3 (Assays for Portion Of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
60.2- 61.5	3.80	0.012	None	0.1	Trace	5.00
61.5- 63.9	0.35	0.006	None	None	None	0.65
63.9- 66.2	0.55	0.018	None	None	None	0.40
66.2- 67.9	0.15	None	None	None	Trace	0.43
71.1- 72.1	0.85	0.094	None	None	Trace	1.46
72.1- 74.0	0.35	0.012		None		
74.0- 75.0	2.10	0.151	None	None	Trace	6.58
75.0- 77.6	0.45	0.006		None		
77.6- 78.6	0.75	0.018	None	None	Trace	1.52
78.6- 79.6	3.65	0.088	None	0.1	Trace	3.09
79.6- 81.6	0.30	0.006		None		
81.6- 82.6	0.25	0.018	Trace	0.1	Trace	0.47

J. S. Cummings, Inc.

CC-4

2342N, 251W
Dip - Vertical
Depth 117'

From	To	
0	7	Overburden
7	32	Diatreme breccia (fragmented calcareous shale) Fine laminated near the top (black and grey) but most of section is a dark grey, fine grained shaly groundmass with coarser grey calcareous fragments or lenses.
32	40	Green tuffaceous shale (gritty tuff) Green fragmental with mafic (black) to andesitic (green) and felsic (white) fragments in a finer green fragmental matrix.
40	52	Interlayered green tuffaceous shale and gritty tuff Layers 1/2" to 1" common.
52	91	Green tuffaceous shale Light green, very fine grained, with some calcareous lenses.
91	117	Red tuffaceous shale With some gritty tuff layers.

Sulphides

7 - 117 None

J. S. Cummings, Inc.

CC-5

2435N, 34W
Dip - Vertical
Depth 107'

From	To	
0	5	Overburden
5	69	Rhyodacite Grey, massive, fine grained with crystalline texture. Disseminated and veins (typically 1/2") of massive pyrite. Scattered traces of chalcopyrite and bornite.
69	78	Diatreme breccia (fragmented calcareous shale) Black to light grey layers (1" to 1/100" fragmented layers and rounded lenses. 69-73 felsic laminae and fragments substitute for the shaly material).
78	80	Green tuffaceous shale Interlayered with gritty tuff.
80	84	Red tuffaceous shale Minor layers of gritty tuff.
84	102	Green tuffaceous shale Minor gritty layers, one 4" epidote alteration zone at 93.5'.
102	107	Red tuffaceous shale

J. S. Cummings, Inc.

CC-5 (cont'd)

Sulphides

5 - 42.5	4.4%
42.5 - 52	7.0%
52 - 56.5	2.7%
56.5 - 69	3.3%
69 - 107	None

J. S. Cummings, Inc.

DDH CC-5 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
5.0- 9.6	0.05	0.100	None	None	Trace	0.72
9.6- 14.0	0.15	0.069	None	0.1	Trace	2.47
14.0- 17.6	0.10	0.075	None	None	Trace	1.82
17.6- 22.0	0.05	0.126	None	None	Trace	2.10
22.0- 28.1	0.05	0.025	None	None	None	1.27
28.1- 31.8	0.40	0.088	None	None	None	3.81
31.8- 35.6	Trace	0.044	None	0.2	None	0.74
35.6- 39.7	0.05	0.119	None	None	None	6.37
39.7- 42.5	Trace	0.012	None	0.2	None	1.02
42.5- 43.5	0.10	0.447	None	0.4	None	7.58
43.5- 47.0	Trace	0.119	None	0.1	None	3.31
47.0- 52.0	Trace	0.113	None	0.1	Trace	2.67
52.0- 56.5	Trace	0.037	None	None	Trace	1.35
56.5- 59.2	0.05	0.226	None	None	Trace	3.87
59.2- 62.0	0.05	0.144	None	0.2	None	1.16
62.0- 69.0	0.10	0.277	None	None	Trace	0.92

J. S. Cummings, Inc.

CC-6

2862N, 180E
Dip - Vertical
Depth 500'

From	To	
0	6	Overburden
6	10	Red tuffaceous shale Deep red with occasional light green felsic calcareous veins.
10	15.5	Green tuffaceous shale Green, massive, very fine grained, weakly calcareous.
15.5	19	Basalt Green, fine grained, with visible feldspar and mafic grains.
19	25	Green tuffaceous shale
25	37	Basalt
37	42	Green tuffaceous shale
42	68	Red tuffaceous shale Deep red, faintly laminated with occasional felsic calcareous and light green veins.
68	95	Green tuffaceous shale Faintly laminated.

CC-6 (cont'd)

From	To	
95	137	Basalt (amygdaloidal) Fine grained, green with 10% amygdules commonly filled with calcite and chlorite and 1" to more than 1' layers of ropy epidote and fragmental flow layers.
137	195	Basalt Green to reddish-green with calcite-chlorite filled amygdules (<5%). Contains some inclusion of altered red shale and green shale (e.g., 140-143). 184-195 transition zone with some interlayered green tuffaceous shale.
195	199	Green tuffaceous shale 198-199 has a quartz-calcite-epidote vein.
199	335.5	Red tuffaceous shale Layered with various shades of purple red and often faintly laminated (i.e., more hematite in thin laminae).
335.5	339.5	Basalt (amygdaloidal)
339.5	341	Red tuffaceous shale
341	414	Interlayered red tuffaceous shale and amygdaloidal basalt Green and reddish-green with layers commonly 6" to 4'.

CC-6 (cont'd)

From	To	
414	430	Red tuffaceous shale
430	436	Green tuffaceous shale
436	457	Gritty andesite tuff Green with abundant fine grained light green angular to rounded fragments with secondary chlorite, sericite and a dark mineral.
457	500	Interlayered red and green tuffaceous shale

Sulphides

0 - 500 None to trace

J. S. Cummings, Inc.

DDH CC-6 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
115.0-119.3	0.05	0.006		None		

J. S. Cummings, Inc.

CC-7

2980N, 1400W
Dip - Vertical
Depth 500'

From	To	
0	12	Overburden
12	64	Chlorite shale Very fine grained, layered light yellow-green and dark green with layers commonly 1" to 2" and smaller laminae to 1/100". Many quartz carbonate veins from 1/20" to 6", highly veined and contorted in places. Several 1' sections of 5% pyrite. The lighter layers make up about 1/3 of the rock.
64	71.5	Basalt Massive, fine grained, green.
71.5	278	Chlorite shale Similar to 12-64 except from 82-278 lighter layers make up about 3/4 of the rock.
278	280	Hematitic chlorite shale Similar to the preceding but has a faint reddish color.
280	281	Basalt Massive, fine grained, green.
281	291	Hematitic chlorite shale

CC-7 (cont'd)

From	To	
291	303	Gritty tuffaceous sediment With 1/2" to 2" layers of felsic tuff and 1" to 2" layer of quartz eye and gritty tuff. Fine grained felsic and quartz fragments. Locally weakly calcareous.
303	324	Calcareous shale (tuffaceous) Moderately laminated (1/100" to 1/10") with small quartz eyes. Moderately calcareous.
324	327	Gritty tuffaceous sediment Rounded quartz crystals or fragments and very fine grained grey to black rounded lithic fragments (a few fragments are angular) in a calcareous matrix.
327	342	Calcareous shale Fine grained, light grey, calcareous laminae 0.1" to 1" and black shaly laminae 1/100" to 1/10".
342	343	Gritty tuffaceous sediment As 324-327.
343	355	Calcareous shale As 327-342.
355	357.5	Gritty tuffaceous sediment Similar to 324-327 and also has a few thin shale laminae.

CC-7 (cont'd)

From	To	
357.5	500	Calcareous shale

As described in 327-342. Coral fossils at 397, 415.

Sulphides

12 - 291	Trace
291 - 303	1%
303 - 324	None
324 - 327	0.7%
327 - 500	None

J. S. Cummings, Inc.

DDH CC-7 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
291 - 303	None		Trace			0.51
324 - 327	None		Trace			0.37

J. S. Cummings, Inc.

CC-8

386S, 747W
Dip - Vertical
Depth 231'

From	To	
0	5	Overburden
5	14	Siliceous tuff Massive, grey-green, fine grained and partially altered (sericite-chlorite) to a very fine grained, green with stringers of sulphide (5%) - pyrite and minor sphalerite.
14	43	Welded rhyolite lapilli agglomerate Partially interlocked fragments of quartz, altered feldspar, and fine grained lithic fragments (yellow-green to green) - chlorite-sericite alteration, very fine grained quartz-rich groundmass, 2% sulphide, pyrite and minor sphalerite in stringers. One 2' fine grained dacite layer. Rock is broken with one or more quartz veins, pyrite stringers, calcite, yellow-green to green alteration more pronounced along breaks.
43	47	Siliceous tuff 5% sulphide.
47	132	Rhyolite breccia Grey, fine grained, massive to weakly layered, occasionally lighter layers (1/20" to 3') fragmented with numerous stringers of quartz, calcite, sulphides (pyrite, sphalerite, trace chalcopyrite and bornite) and a black mineral, especially along breaks. Sulphides may be in zones 1" to 4" massive (>50%) sulphide. The sulphide zones themselves are commonly broken and veined.

CC-8 (cont'd)

From	To	
		There is no textural proof of whether the sulphides were deposited syngenetically and later fractured and/or mobilized, or are completely epigenic. The best sulphide section is 47-97' (13%) and from 97-132' the sulphides are 2-5%.
132	141	Rhyolite breccia Grey, similar to 47-132 but lighter colored (more quartz). Occasional 1' layer of welded rhyolite lapilli agglomerate with quartz and lithic fragments in a quartz-rich groundmass.
141	151	Rhyolite breccia Grey 2-5% sulphides (Py and Sph).
151	155	Rhyolite breccia Light grey, with thin veins or laminae (?) of sulphide (2.5% Py and Sph).
155	168	Rhyolite breccia Grey, 3% sulphides except 158-171, 10% sulphides.
168	212	Rhyolite breccia Light grey, 2-5% sulphides, 185-191 10% sulphides Py and Sph.
212	231	Welded rhyolite lapilli agglomerate 2-5% sulphides (Py and Sph), welded quartz, angular

CC-8 (cont'd)

From	To	
		to rounded lithic fragments and yellow-green altered feldspars.

Sulphides

5 - 47	2-5%
47 - 97	13%
97 - 231	2-5%

J. S. Cummings, Inc.

DDH CC-8 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
47.0- 53.5	1.40	0.151	0.10	0.1	Trace	6.82
53.5- 59.0	Trace	0.056	None	0.1	None	0.21
59.0- 65.5	0.60	0.075	0.15	0.1	None	9.67
65.5- 70.6	1.70	0.037	0.10	0.1	None	2.97
70.6- 74.1	1.65	0.069	Trace	0.1	None	4.95
74.1- 79.2	0.60	0.025	Trace	None	None	2.92
79.2- 84.7	2.60	0.081	None	None	None	9.67
84.7- 87.2	1.70	0.044	None	None	None	5.60
87.2- 93.1	1.30	0.050	None	None	None	10.42
93.1- 97.0	0.85	0.075	Trace	0.1	None	5.08
127.7-132.3	1.10		0.25			3.06
140.3-149.3	1.10		0.10			4.15
158.2-167.0	0.65		0.20			4.14
167.0-172.0	0.60		None			7.58

III. DRILL RESULTS SUMMARY (cont'd)

SIGNIFICANT ASSAYS

Table I

Hole	Depth	Feet	Zn	Cu	% Sulphide	Other
CC-1	11-56.7	45.7	.41	.06	2-5 (est)	
CC-1	81.7-88.1	6.4	.27	.15	2-5 (est)	
CC-1	88.1-105.5	17.4	.18	1.02	12.8	trace Ag
CC-2	106.0-114.3	8.3	1.19	.06	5.0	
CC-3	60.2-66.2	6.0	1.17	.07	3.9	
CC-3	66.2-71.1	4.9	0.20 (est)	None	1.0 (est)	
CC-3	71.1-82.6	11.5	.87	.04	2.7	
CC-5	42.5-52	9.5	.01	.15	7.0	.1 Ag
CC-5	56.5-69	12.5	.07	.23	3.3	trace Ag
CC-8	47-97	50.0	1.20	.07	13.0	Tr. Ag, Pb
CC-8	127.7-132.3	4.6	1.10		7.0	.25 Pb
CC-8	140.3-149.3	9.0	1.10		9.0	.10 Pb
CC-8	158.2-172	13.8	.63		11.3	.13 Pb

VI. GEOLOGY (cont'd)

Table II - Rock Analyses

Hole	Depth	Rock Type	Ca	Mg	Fe	SiO_2**
CC-1	200	Basalt	6.80		3.45	52.54
CC-6	100	Basalt				50.86
CC-6	150	Basalt				44.38
CC-1	166	Red Tuff. Shale	7.36		4.10	51.70
CC-1	239	Red Tuff. Shale	3.43		4.95	57.44
CC-1	293	Red Tuff. Shale	3.54		3.45	63.84
CC-6	60	Red Tuff. Shale	6.68		4.15	54.30
CC-6	287	Red Tuff. Shale	7.05		3.65	55.80
CC-6	403	Red Tuff. Shale	1.72		6.95	56.42
CC-6	497	Red Tuff. Shale	11.16		3.20	46.08
CC-1	272	Gr. Tuff. Shale				50.46
CC-6	90	Gr. Tuff. Shale				49.86
CC-1	147	Calc. Shale Brec.	16.74		2.15	30.50
CC-7	331	Calc. Shale	12.20		3.60	25.72
CC-7	371	Calc. Shale	31.09		0.90	8.91
CC-2	93	Chl. Shale Brec.				56.64
CC-7	20	Chl. Shale	0.98		6.80	56.20
CC-7	108	Chl. Shale	1.47		5.45	55.10
CC-7	214	Chl. Shale	0.86		8.40	46.72
CC-7	221	Chl. Shale				53.34
CC-1	11-20	Sil. Lap. Aggl.				81.20
CC-8	36	Rhyo. Lap. Aggl.				79.90
CC-1	96.5-100	Sil. Tuff				62.80
CC-5	35.6-39.6	Sil. Tuff	0.126	1.70		69.20
CC-5	56.5-59.2	Sil. Tuff	0.09	1.97		71.70
CC-2	108-111.7	Sil. Tuff				65.50
CC-8	231	Rhyo. Lap. Aggl.	0.67		3.15	83.56
CC-8	84.7-87.2	Rhyo. Brec.				87.40
CC-8	103	Rhyo. Brec.				72.46

** Corrected for sulphide where necessary.

DRILL LOG

HOLE NO CC-9
COORDINATES 1595N, 350 W
DIP & STRIKE Vertical

LENGTH 247'
HOLE STARTED June 3, 1977
HOLE COMPLETED June 8, 1977

ELEVATION
CLIENT
PROPERTY Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	4	Overburden			
4	214	Siliceous volcanics - grey, fine-grained, sericite chlorite alteration, sphallerite and pyrite mineralization			
214	218	K-spar basalt?			
218	247	~~Calcareous shale breccia~~			

DRILL LOG

HOLE NO CC-9
COORDINATES 1595N + 350W
DIP & STRIKE Vertical

LENGTH 247'
HOLE STARTED
HOLE COMPLETED

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides:			
8	24.6	as py < % (tiny blebs and stringers)			
24.6	25.0	± 5-10% sulphides as py, galena and sphallerite			
25.0	70.7	< % sulphides as py in tiny blebs and stringers			
70.7	214	see assays -			
		overall ± 1.2% Zn			
		< 0.1% Cu			
		± 2-5% py			
214	247	< % sulphides			

J. S. Cummings, Inc.

DDH CC-9 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
4 - 24	Trace	0.012				
24 - 44	None	0.006				
44 - 64	None	0.025				
64 - 70.7	0.20	0.025				
70.7- 80.7	1.0	0.018				
80.7- 90.7	1.0	0.018				
90.7- 100.7	1.0	0.044				
100.7- 110.7	1.0	0.044				
110.7- 120.7	0.8	0.037				
120.7- 124.7	0.7	0.037				
124.7- 130.7	1.1	0.025	None	None	None	4.62
130.7- 136.2	1.3	0.050	None	None	None	2.51
136.2- 141.2	1.1	0.018	None	0.1	None	0.79
141.2- 146.2	0.8	0.006	None	0.1	Trace	0.41
146.2- 152.0	1.1	0.037	None	0.1	Trace	0.77
152 - 154.7	0.7	0.012				
154.7- 160.2	2.1	0.012	None	0.1	Trace	1.19
160.2- 163.5	0.7	0.006	None	0.2	Trace	0.39
163.5- 167	Trace	0.006				
167 - 172	1.3	0.025	None	0.1	Trace	1.93
172 - 177	1.9	0.056	None	0.2	None	4.46
177 - 182	1.1	0.056	None	None	None	3.49
182 - 187	1.6	0.075	None	None	None	2.70
187 - 192	2.4	0.081	None	0.4	None	5.09
192.2- 198	0.2	0.044				
198 - 203	1.0	0.069				
203 - 207	2.7	0.094	None	0.5	Trace	10.10
207 - 214	1.2	0.050				

DRILL LOG

HOLE NO CC-10
COORDINATES 1190N, 580W
DIP & STRIKE Vertical

LENGTH 150'
HOLE STARTED June 9, 1977
HOLE COMPLETED June 13, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	11	Overburden			
11	41	Calcareous shale, laminated variety - i.e., light grey, more calcareous and dark grey shale laminea usually 1/50"-1" though may be 3", contorted and fragmented probably slump as piece at 32' indicate soft rock deformation			
* possibly triolite at 18'					
41	92	Calcareous shale - more massive with less separation of calcareous and shale laying through 1'-2' sections occur with light grey lenses (sometimes broken) in darker shale - bedding dips 35°			
92	97	Transition between calcareous shale and siliceous tuff (or rhyolite) i.e., calcareous siliceous tuff (as below - calcite)			
97	105	Siliceous tuff or rhyolite, massive grey, fine-grained, with visible feldspar and quartz crystals or fragments mostly rounded and fuzzy edged, few are angular pyrite and sphallerite.			
97	105	Siliceous tuff - no lamination, quite massive, grades from light grey welded quartz tuff (with chlorite-sericite alteration) with minor grey-black lithic fragments to a more lithic siliceous tuff towards bottom, i.e., more grey-black lithic fragments and matrix is darker grey - quartz-feldspar fragments fuzzy edged throughout			
105	135	Transition zone - calcareous siliceous tuff or tuffaceous calcareous shale, massive, i.e., calcareous grey fine-grained massive, with feldspar and quartz crystals or fragments and grey-black lithic fragments - all angular or rounded			
135	150	Calcareous shale - laminated variety, some fragmentation 1/50"-1", laminae of light grey (more calcareous) and dark grey shale, bedding commonly 45° though fragmentation may cause problem.			

DRILL LOG

HOLE NO CC-10
COORDINATES 1190N + 580W
DIP & STRIKE Vertical

LENGTH 150'
HOLE STARTED
HOLE COMPLETED

ELEVATION
CLIENT NEJV
PROPERTY Cauc

FROM	TO	DESCRIPTION
		Sulphides (CC-10)
11	95	< % sulphides - few tiny specks and stringers of py
95	102	sulphides as py @ ± 2%
102	105.3	sulphides as py, sphallerite, galena, chalcopyrite, overall estimate @ ± 20% (mostly pyrite)
104.7	105.0	sulphides @ ± 50%, ± 2.5% Zn, trace Pb, Cu
105.3	107	mostly pyrite @ ± 2%, sphallerite @ ± 0.5%
107	107.2	mostly pyrite @ ± 20%, trace sphallerite, galena
107.2	115.7	overall sulphides @ ± 2%, no visible sphallerite, chalcopyrite, galena
115.7	150	sulphides @ < % (couple specks pyrite)

DRILL LOG

HOLE NO CC-10 Cont'd.

COORDINATES

DIP & STRIKE

LENGTH 150

HOLE STARTED 6/9/77

HOLE COMPLETED 6/13/77

ELEVATION

CLIENT

PROPERTY

FROM	TO	DESCRIPTION
		NOTE: siliceous tuff would appear to be conformable with calcareous shale as the above and below is a transition zone.
		This hole would appear to put the siliceous volcanics within the calcareous shale unit.

J. S. Cummings, Inc.

DDH CC-10 (Assay for Portions of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
97 - 102	0.15	0.018				
102 - 105	2.00	0.088	0.10	0.2	0.015	7.53
105 - 108.2	0.35	0.056				

DRILL LOG

HOLE NO CC-11
COORDINATES 792N, 400W
DIP & STRIKE Vertical

LENGTH 97'
HOLE STARTED June 14, 1977
HOLE COMPLETED June 15, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomc Grid B

FROM	TO	DESCRIPTION	A
0	6	Overburden	
6	97	~~Amygdaloidal dacite, fine-grained, massive, grey matrix with nil~~ to some calcite; with amygdules with calcite and (zeolite?), some amygdules with chlorite calcite Trace pyrite in stringers and veins one at 49' with massive pyrite 1/4" segmented vein and veiny host	

J. S. Cummings, Inc.

DDH CC-11 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu
49 - 49.5	None	0.044

DRILL LOG

HOLE NO CC-12

COORDINATES 400N, 539W

DIP & STRIKE Vertical

LENGTH 100'

HOLE STARTED June 16, 1977

HOLE COMPLETED June 17, 1977

ELEVATION

CLIENT

PROPERTY Caucomgomo Grid B

FROM	TO	DESCRIPTION	AS
0	20	Overburden	
20	100	~~Calcareous shale - 20-30 regular laminated light grey (calcareous)~~ dark grey (shale) 1/50"-1/2" - 23-30 gritty less layering, less carbonate - 30-100 1/50"-2" dark grey shale with wavy ~~shape and irregular thickness/layer, light grey layers are more~~ calcareous lenses, ovoids, and usually wavy margins and usually thicker 1"-2" than shale. Fossils in light grey layers especially at 47, 86, 74	
		minor planar laminated zone at 97	
		bedding measurements - 25° - 35°	

DRILL LOG

HOLE NO CC-12

COORDINATES 4N + 539W

DIP & STRIKE Vertical

LENGTH 100'

HOLE STARTED June, 1977

HOLE COMPLETED June, 1977

ELEVATION

CLIENT NEJV

PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides, CC-12, =<% occurring as pyrite in tiny specks and blebs, stringers.			

DRILL LOG

HOLE NO CC-13
COORDINATES 00N, 775W
DIP & STRIKE Vertical

LENGTH 177'
HOLE STARTED June 20, 1977
HOLE COMPLETED June 22, 1977

ELEVATION
CLIENT
PROPERTY Caucomgo
Grid B

FROM	TO	DESCRIPTION
0	4	Overburden
4	12	Siliceous volcanics, tentatively rhyolite tuff, massive to faintly laminated 1/10"-1/4" (@ 5' dip 60°) lighter and darker layers - grey fine-grained, quartz-calcite veins, calcite along fractures
12	21	Transition zone between rhyolite tuff and calcareous shale, i.e., calcareous rhyolite tuff (calcite in matrix) and tuffaceous or gritty calcareous rock
21	78	Calcareous shale - see description for CC-12, i.e., description for principal type) in addition - 1-3' layers more massive limestone, some fragmented lenses, layering dips 30-40°, possible fossils at 46', 49', crinoid stems at 49'
78	82	transition zone, many 2" quartz-calcite veins in grey, very fine matrix and felsic and calcareous fragments
82	177	Andesite pyroclastic - name tentative, typically fine-grained, green matrix with angular and rounded chlorite or dark green fine-grained rock fratments commonly 1/50" to 1/4" diameter - also intermittent zones with felsic light grey, and dark grey fragments, common calcite veining with probable other light minerals, selvage common chalcopyrite, sphallerite, galena with veining from 84-127', best section 89.0-99.5

DRILL LOG

HOLE NO CC-13
COORDINATES ON + 775W
DIP & STRIKE Vertical

LENGTH 177'
HOLE STARTED June, 1977
HOLE COMPLETED June, 1977

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS			
		Sulphides of CC-13				
4	79	< % as pyrite specks and tiny stringers				
79	84	< % as pyrite specks and tiny stringers				
84	89.0	< 2% as pyrite, sphallerite, galena, and chalcopyrite (all specks)				
89.0	90.3	pyrite = ± 2-5%, chalcopyrite @ ± 1.5% Cu to 2.5% Cu ~~sphallerite @ ± 1%~~ galena @ ± 5% or ± 2.5=3.0% Pb				
90.3	95.4	sulphides @ ± 2-5% - specks, stringers of pyrite sphallerite, galena				
95.4	99.5	pyrite = ± 5-10% chalcopyrite = ± 2-5% or ± 0.5-1.2% Cu ~~sphallerite = ± 1% or ± 0.2-0.5% Zn~~ galena = ± 5% or ± 3.0% Pb				
99.5	104	± 2% overall as pyrite (1/4" veinlet of galena/chalcopyrite)				
104	114	± 2-5% (@ 104.7-150.0 Cu = 0.5, 0.1 Zn, 1.0 Pb)				
114	125	sulphides overall @ ± 2.5% (116.8-117.4) chalcopyrite = 2% or 0.6 Cu ~~galena = 2% or 1.2 Pb~~ sphallerite = 0.5% or 0.2 Zn				
125	135	sulphides overall = 5-10% @ 125.7-127.1 Cu = ± 0.8 - 1.2% Zn = 0.3% Gal = 1.2%				
135	145	sulphides as pyrite ± 2%				
145	177	sulphides as pyrite < %				
	177	Bottom of hole!!!!				

J. S. Cummings, Inc.

DDH CC-13 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au
84 - 88.5	0.40	0.006	Trace		
88.5 - 90.3	1.85	0.560	3.05	0.2	Trace
90.3 - 95.3	0.50	0.075	0.35		
95.3 - 99.6	1.50	0.308	0.10	0.1	Trace
99.6 -104.7	0.50	0.069	0.15		
104.7 -114.7	Trace	0.006	Trace		
114.7 -124.7	0.05	0.044	0.10		
124.7 -127.7	0.65	0.220	0.70	0.2	Trace
127.7 -135	None	0.006	None		

DRILL LOG

HOLE NO CC-14
COORDINATES 400S, 1050W
DIP & STRIKE Vertical

LENGTH 107
HOLE STARTED June 22, 1977
HOLE COMPLETED June 23, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	4	Overburden			
4	107	Green felsic tuff,			
		NOTE: this is a new name for the chlorite shale unit based on the abundance of the lighter green more felsic material			
		dominantly light green, massive to faintly laminated (subtle shades of green) layers, laminations 1/4"-1/50".			
		Also includes 1/50"-1" chlorite shale laminae.			
		Rock is locally brecciated as evidenced by contorted and broken laminae, with chloritic laminae remobilized along fractures, minor pyrite-calcite veins and disseminated pyrite (0-1% pyrite)			
		3" basalt dike at 96' (chill margin or reaction margin) cross cuts bedding, resicular, calcareous			
		bedding measurements 50°, 40°, 35°			

DRILL LOG

HOLE NO CC-14
COORDINATES 4S + 1050W
DIP & STRIKE Vertical

LENGTH 107'
HOLE STARTED June, 1977
HOLE COMPLETED June, 1977

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAY		
		Sulphides of CC-14			
		overall @ < % occurring as pyrite, mostly in stringers and tiny veinlets, nil chalcopyrite, nil sphallerite visible			

J. S. Cummings, Inc.

DDH CC-14 (Assays for Portions of Hole)

DEPTH	% SiO2
@ 10'	57.44
@ 37'	56.10
@ 75'	56.66
@ 91'	55.78

DRILL LOG

HOLE NO CC-15
COORDINATES 803S, 660W
DIP & STRIKE Vertical

LENGTH 211
HOLE STARTED June 24, 1977
HOLE COMPLETED June 29, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	47	Overburden			
47	67	Siliceous lapilli agglomerate, rounded and angular fragments of quartz, fine-grained felsic grey and green and fewer black - 10%-90% (dominantly 10%) fine-grained grey-green matrix. Alteration: limonite, kaolin , chlorite-sericite:light sulphides, pyrite others possibly not seen because of weathering = 1%, core-fragmented 100% recovery			
67	211	Rhyolite breccia (kaolin-limonite altered) mildly brecciated, defined by faintly darker thin zones which between fragments include pyrite - rhyolite is fine-grained grey when fresh, whitish brown (patchy) when altered.			
		NOTE: split 84-107			
		faint light and dark 1/4" layering or flow banding (?) if bedding them - dip is locally steep 60°			
		dominantly kaolin and limonite altered but with several-foot zones of fresh rhyolite, massive limonite (glassy looking) at 113, some manganese, some sericite-chlorite, sulphides tr-5%, best section 77-137, 2-5% with visible sphallerite smear, zinc in tenths (core lost = 19'), 6" of 50% pyrite at 159,			
		Core recovery lsot 47' in at least 2 places, minor (< 1') of 50% sulphide lost.			

DRILL LOG

HOLE NO CC-15
COORDINATES 803S + 660W
DIP & STRIKE Vertical

LENGTH
HOLE STARTED June, 1977
HOLE COMPLETED .

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		List of Lost Core from CC-15 - also sulphides estimate			
67	69	± 1 1/2' lost core			
69	80	± 1' lost core - sulphides @ <%			
80	84	± 1' lost core - sulphides @ 2-5%, few specks and stringers of sphallerite with pyrite			
84	90	± 5' lost core - sulphides < %			
90	91	good recovery - weathered sulphides???			
91	92	± 6" lost core			
92	97	± 3' lost core			
97	99	± 6" lost core - weathered sulphides as pyrite			
99	102	± 1' lost core - sulphides when visible = pyrite with few specks of sphallerite - visible pyrite in 3" core = 5-10%			
102	103	± 10" lost core			
103	104	± 8-10" lost core			
104	107	± 8" lost core - visible sulphides as pyrite, sphallerite (specks and stringers), visible sulphides in 6" core - 2-5% pyrite			
107	108	± 8" lost core			
108	113	± 6" lost core - sulphides visible as pyrite, sphallerite, pyrite = 5% in 1" of core			
113	114	good recovery - (obsidian) limonite visible @ 113 - sulphides < %			
114	117	± 6" lost core - sulphides visible as pyrite, trace sphallerite			
117	119	± 1 1/2' lost core			
119	126	± 2' lost core - sulphides as pyrite, sphallerite, galena, chalcopyrite 1' core = sulphides @ 5% sphallerite @ 1% galena @ 1%			
126	135	good recovery - sulphides as pyrite, chalcopyrite, sphallerite, galena, pyrite = ± 5-10%, others @ <%			
135	140	good recovery - sulphides as pyrite < %			
140	147	± 1 1/2' lost core - sulphides as pyrite, sphallerite, 2" piece of core @ ± 144-145 has 20% pyrite with associated sphallerite - overall sulphides < 2%			
147	152	good recovery - sulphides < %			
152	159	± 2' lost core - sulphides (heavy) @ 158.4-159.0 (estimated figure) @ ± 25% - sphallerite visible as specks			

DRILL LOG

HOLE NO CC-15
COORDINATES
DIP & STRIKE

LENGTH
HOLE STARTED
HOLE COMPLETED

ELEVATION
CLIENT
PROPERTY

FROM	TO	DESCRIPTION
159	160	± 6"-8" lost core - nil sulphides
160	165	good recovery - sulphides < %
165	167	± 1 1/2' lost core - nil sulphides
167	168	~~good recovery - nil sulphides~~
168	177	± 5' lost core - nil sulphides
177	179	± 1 1/2' lost core - nil sulphides
179	183	± 2' lost core - nil sulphides
183	184	± 6" lost core - nil sulphides
184	187	± 1' lost core - nil sulphides
187	189	± 1 1/2' lost core - nil sulphides
189	190	± 10" lost core - nil sulphides
190	192	± 6"-8" lost core - couple blebs of pyrite
192	197	± 1 1/2' lost core - 1/2" vein of pyrite - nil sphallerite visible
197	203	± 2' lost core - nil sulphides
203	205	± 1' lost core - nil sulphides
205	206	± 6" lost core - nil sulphides
206	207	± 6"-8" lost core - nil sulphides
207	211	± 3' lost core - nil sulphides
	211	Bottom of hole!!!

J. S. Cummings, Inc.

DDH CC-15- (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
80 - 90	0.20					1.61
90 - 100	0.10					1.43
100 - 108	0.10					0.91
137 - 147	Trace					0.63
147 - 157	Trace					0.59
157 - 167	Trace					1.65
167 - 177	None					0.02
177 - 187	Trace					0.02
187 - 197	Trace					0.66
197 - 211	Trace					0.27

J. S. Cummings, Inc.

DDH CC-15 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
47 - 57	0.25	0.044				
57 - 69	0.10	0.056				
69 - 80	0.40	0.081				
109 - 120	0.10	0.037				
120 - 127	0.60	0.069				
127 - 137	0.45	0.075				

DRILL LOG

HOLE NO CC-16
COORDINATES 1600S, 988W
DIP & STRIKE Vertical

LENGTH 283'
HOLE STARTED June 30, 1977
HOLE COMPLETED July 8, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	133	Overburden			
133	162	highly weathered or altered such that limonite, hematite, kaolin, and quartz remain (minor black mineral mn?)			
133	283	Devonian sediments Red conglomerates and red and brown sandstones			

DRILL LOG

HOLE NO CC-16
COORDINATES 16S + 988W
DIP & STRIKE Vertical

LENGTH 283'
HOLE STARTED July, 1977
HOLE COMPLETED July, 1977

ELEVATION
CLIENT
PROPERTY NEJV Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Lost core in CC-16			
133	137	± 1' lost core			
137	146	± 3-4' lost core			
146	153	± 4 1/2' lost core			
153	157	± 2 1/2' lost core			
157	167	± 4' lost core			
167	171	± 2' lost core			
171	176	± 4' lost core			
176	181	± 4 1/2' lost core			
181	183	± 1' lost core			
183	193	± 9' lost core			
193	197	± 3' lost core			
197	201	± 6" lost core			
201	207	± 4' lost core			
207	220	± 12' lost core			
220	229	± 7' lost core			
229	230	± 6" lost core			
230	236	± 5' lost core			
236	238	± 1 1/2' lost core			
238	247	± 6 1/2' lost core			
247	253	± 3' lost core			
253	257	± 1 1/2' lost core			
257	260	± 1' lost core			
260	266	± 4' lost core			
266	274	± 6' lost core			
274	277	± 2' lost core			
277	283	good recovery			

J. S. Cummings, Inc.

DDH CC-16 (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu
181 - 183	Trace	0.069

DRILL LOG

HOLE NO CC-17

COORDINATES 1560S, 105W

DIP & STRIKE Vertical

LENGTH 100'

HOLE STARTED July 12, 1977

HOLE COMPLETED July 13, 1977

ELEVATION

CLIENT

PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	9	Overburden			
9	68	light green fine-grained basalt, flow banding, and pyritic rhyolite fragments			
68	100	Basalt gree, fine-grained and grained			

DRILL LOG

HOLE NO CC-17
COORDINATES 1560S + 105W
DIP & STRIKE Vertical

LENGTH 100'
HOLE STARTED July, 1977
HOLE COMPLETED July, 1977

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides in CC-17 as pyrite - nil Zn, Cu; overall = <%			

DRILL LOG

HOLE NO CC-18
COORDINATES 1105S, 250E
DIP & STRIKE Vertical

LENGTH 100'
HOLE STARTED July 14, 1977
HOLE COMPLETED July 14, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASS	
0	10	Overburden		
10	100	hematitic basalt breccia, fine-grained, light green fragments with a hematite matrix		
		10-25 only minor hematite, rather more pyrite 2-5%, 2' 35%		

DRILL LOG

HOLE NO CC-18
COORDINATES 1105S + 250E
DIP & STRIKE Vertical

LENGTH 100'
HOLE STARTED July, 1977
HOLE COMPLETED July, 1977

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides of CC-18			
0	10	Overburden			
10	12	± 2% as pyrite seams			
12	18	< % : specks and tiny blebs of pyrite			
18	24.9	<%			
24.9	27.0	± 2-5% as pyrite			
27	27.4	± 20-25% as pyrite only			
27.4	34.2	± 2% as pyrite			
34.2	34.4	± 35% to 50% as pyrite only			
34.4	38.8	< 2% as pyrite			
38.8	54.2	< % as pyrite - one or two specks			
54.2	54.3	± 5-10% as pyrite			
54.3	55.7	< %			
55.7	56	± 10% as pyrite			
56	77	< % - one or two specks pyrite			
77	100	< % - nil sulphides			

DRILL LOG

HOLE NO CC-19
COORDINATES 2220N, 150E
DIP & STRIKE Vertical

LENGTH 60'
HOLE STARTED July 19, 1977
HOLE COMPLETED July 20, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	5	Overburden			
5	60	Basalt, dark grey, 5% hematite, minor amygdules, minor selvage, weakly magnetic, reddish tint, 1 1/2' fragmental			
		< 1% pyrite			
		~~55-56 = 2% pyrite~~			

DRILL LOG

HOLE NO CC-19

COORDINATES 2220N + 150E

DIP & STRIKE Vertical

LENGTH 60'

HOLE STARTED July, 1977

HOLE COMPLETED July, 1977

ELEVATION

CLIENT NEJV

PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides overall in CC-19 @ < %			

DRILL LOG

HOLE NO CC-20
COORDINATES 3200N, 564W
DIP & STRIKE 45° 105 Mag.

LENGTH 116'
HOLE STARTED July 21, 1977
HOLE COMPLETED July 22, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	6	Overburden			
6	19	siliceous volcanics (S.V.) fine-grained, trace chalcopyrite, sphallerite, <1% sulphides			
19	24	calcareous shale (C.S.)			
24	39	siliceous volcanics with fratments, trace pyrite, galena, <1% sulphide			
39	39.6	C.S.			
39.6	42.3	Green tuffaceous shale ? (G.S.)			
42.3	44.8	C.S.			
44.8	47	G.S.			
47	82.5	C.S.			
82.5	98.4	Grey, medium grained fragmental, trace pyrite			
98.4	116	C.S.			

DRILL LOG

HOLE NO CC-20
COORDINATES 32N + 564W
DIP & STRIKE -45°

LENGTH 116'
HOLE STARTED
HOLE COMPLETED

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides overall in CC-20 @ < %			

DRILL LOG

HOLE NO CC-21
COORDINATES 4400N, 1475W
DIP & STRIKE Vertical

LENGTH 100'
HOLE STARTED July 26, 1977
HOLE COMPLETED July 26, 1977

ELEVATION
CLIENT
PROPERTY Caucomgomoc Grid B

FROM	TO	DESCRIPTION	ASSAYS		
0	10	Overburden			
10	100	Calcareous Shale			

DRILL LOG

HOLE NO CC-21
COORDINATES 44N + 1475W
DIP & STRIKE Vertical

LENGTH 100'
HOLE STARTED August, 1971
HOLE COMPLETED August, 1977

ELEVATION
CLIENT NEJV
PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS		
		Sulphides < %			

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-22 **Dip** -45° **Started** 8-9-77 **Elev.** ____

Job no. 255 **Township** T7-R14/15 **Coord.** 7425N 425E **Direction** 77°mag **Completed** 8-11-77

Depth	Lithotype
0'–8'	Overburden
8'–26'	Basalt tuff or tuffaceous shale, fine grained laminated light and dark green
26'–68'	Graphitic shale with chloritic laminae and some basalt tuff or tuffaceous shale layers
68'–162'	Chloritic basalt tuff with several inch to several foot zones of graphitic shale especially 114' - 129', 139' to 151' - also 1' - 5', fine grained light green calcareous layers
162'–170'	Basalt tuff or tuffaceous shale lighter green fine grained and locally faintly laminated
170'	Bottom

Lithotype

Lithotype

J. Chisholm
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-26 Dip 60° Started 8/23/78 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 408S 852W Direction 105° mag Completed 9/13/78

Depth	Lithotype
0' – 10'	Overburden
10' – 78'	Grey and Green Mafic Tuff
78' – 111'	Siliceous Fragmental (Welded Agglomerate)
111' – 149'	Sericitized Dacite (tuff?)
149' – 157'	Calcareous Shale
157' – 167'	Occassionally Brecciated Dacite
167' – 186'	Rhyolite Breccia
186' – 194'	Calcareous Shale
194' – 197'	Grey Rhyolite
197' – 201'	Calcareous Shale
201' – 256'	Rhyolite Breccia
256' – 287'	Calcareous Shale
287' – 400'	Bottom of hole

Lithotype

Lithotype

J.S. Cummings Inc.

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-26 Dip 60° Started 8/23/78 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 408S 852W Direction _____ Completed 9/13/78

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	157'	147'	1%		
98'	108'	20'		0.8% Zn, 0.1% Cu	
157'	167'	10'	2-5%	1.0% Zn	
167'	177'	10'	1-2%		
175'	186'	11'	9%	0.4% Zn	
187'	287'	100'	1%		

J. S. Cummings, Inc.

DDH CC-26 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
78 - 88	Trace	0.006	None	None	Trace	
88 - 98	None	None	None	None	None	
98 - 108	0.80	0.144	0.7	0.1	None	
108 - 118	None	None	None	0.2	None	
118 - 138	0.1					0.84
138 - 157	Trace					
157 - 167	1.0	0.037	Trace	None	None	
175 - 186	0.4	0.018	None	0.2	None	4.70
235 - 245	Trace	0.012	None	None	None	

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-27 **Dip** 45° **Started** 9/15/78 **Elev.** _____

Job no. 255 **Township** T7-R14/15 **Coord.** 2000N 250W **Direction** 195° magnetic **Completed** 9/19/78

Lithotype

0'

Overburden

30'

50'

100'

Calcareous Shale, Calcareous Gritty tuffaceous sediment, some dacite-andesite (amygdaloidal - No siliceous volcanics, nor significant sulphides.

200'

250'

300'

350'

400'

Lithotype

400'

450'

500'

550'

565'

Bottom of hole

600'

650'

700'

750'

800'

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-28 Dip 45° Started 9/20/78 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 2000N 250W Direction 15° mag Completed 9/22/78

Depth	Lithotype
0' – 20'	Overburden
20' – 82'	Calcareous, grey shale, brecciated with calcite, fizzes with acid. Aphanitic to fine grain; random orientation of any layering due to brecciation. The best section is between 31' and 35'. Orientation is ±35° to the long axis of the core. Trace sulphides (pyrite)
82' – 84'	Green-grey, well sorted Calcareous Tuffaceous Sediment as seen in CC-27 (average size 5-6mm; maximum 8mm). Rock is slightly calcareous (fizzes mildly in acid) with a trace of pyrite
84' – 105'	Calcareous Shale - Tuffaceous Calcareous Sediment, Brecciated
105' – 130'	Aphanitic and massive Calcareous light green shale - Barren
130' – 131'	Dark Green Amygdaloidal Basalt - Barren
131' – 180'	Aphanitic and massive Calcareous red and green shales. Trace pyrite
180'	Bottom of Hole

Depth scale: 0', 50', 100', 200', 250', 300', 350', 400', 450', 500', 550', 600', 650', 700', 750', 800'

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-29 **Dip** 45° **Started** 9/23/78 **Elev.** ____

Job no. 255 **Township** T7-R14/15 **Coord.** 2000N 250W **Direction** 240° mag **Completed** 10/13/78

Depth	Lithotype
0' – 30'	Overburden
30' – 182'	Calcareous Shale - Barren to Trace Pyrite
182' – 256'	Light Green Amygdaloidal Dacite Trace Pyrite
256' – 376'	Grey Shale, not Calcareous though looks similar to a lot of the calcareous shale
376' – 400'	

Depth	Lithotype
400' – 450'	Amygdaloidal Dacite - Light Green - Trace Sulphide
450'	Bottom of Hole

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-36 Dip -60° Started 10/10/79 Elev. ____

Job no. 255 Township T7-R15 Coord. B 1600N 350W Direction S84°W Completed 10/17/79

Lithotype

0' 4'

Overburden

Rhyolite
Grey, fine grained, with sericite-calcite and fine pyrite in upper portion, Locally agglomeritic and locally a rhyolite breccia

50'

100'

200'

250'

266'

276'

Rhyolite-Dacite
Dark grey, fine grained, weak to moderately calcareous, Locally agglomeratic with fragments of quartz and rhyolite. Faint layering at 373' at very low angle to core long axis

300'

350'

400'

Lithotype

400'

Continued from 276'

426'

Dacite Tuff
Grey-green, fine grained, weak to moderately calcareous. Weakly laminated, 1' of grey shale with ovoids

450'

455'

BOTTOM

500'

550'

600'

650'

Basalt Dike
Weathered with pink feldspar and magnetite

700'

750'

800'

J.S. Cummings Inc.

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-36 Dip -60° Started 10/10/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1600N 350W Direction S84°W Completed 10/17/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	4'		Overburden		
4	34'	30'	<2%	Fine gr. disseminated py	
34	49'	15'	<1%		
49	50'	1'	25 - 30%	Trace sphalerite	
50	82'	32'	<1%		
82	92'	10'	2%	Trace sphalerite	
92	102'	10'	2%	Trace sphalerite	
102	112'	10'	<2%		
112	122'	10'	<2%	±1% sphal.or ±0.4-0.6% Zn	
122	132'	10'	±2%	±0.2% to 0.4% Zn	
132	142'	10'	<2%	Trace sphalerite	
142	152'	10'	<1%		
152	162'	10'	<1%		
162	166'	4'	±5%	±1% sphal. or ±0.6% Zn	
166	176'	10'	±5%	±2% sphal. or ±1-1.5% Zn	
176	186'	10'	±5%	±3% sphal. or 1.8% Zn	
186	196'	10'	<2%	Fine grained stringers of sphalerite- +or- 0.5% Zn	
196	206'	10'	±1%	Fine grained stringers of sphal. ±.5-1.5% Zn	
206	216'	10'	±2%	Fine grained stringers of sphal. ±.8-1.2% Zn	
216	226'	10'	±1%	Fine grained stringers of sphal. ±.2-0.4% Zn	
226	236'	10'	±2 - 5%	±4% sphal or ±1.8-2.5% Zn	
236	266'	30'	<1%		
266	286'	20'	<1%	Trace	
286	296'	10'	±2%	1% sphalerite????	
296	300'	4'	<1%	Sphal.blebs ±1% or 0.5% Zn	
300	316'	16'	<1%		
316	326'	10'	±10% overall (all sul. lost 1')	±1% sphal. or .6% Zn	
326	336'	10'	±2 - 5%	±3% sphal. or ±1.8% Zn	
336	346'	10'	<1%	None	
346	356'	10'	±2%	±1-2% sphalerite 0.6-1.2% Zn	
356	366'	10'	±5%	±4% sphal. or ±2.0-2.4% Zn	
366	376'	10'	±5-7%	±5% sphal. or ±3.0% Zn	
376	386'	10'	<1%		
386	455'	69'	<1%		

J. S. Cummings, Inc.

DDH CC-36 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
4 - 11	None					0.43
11 - 21	None					0.70
21 - 31	None					0.97
31 - 41	None					0.61
41 - 51	Trace					5.15
51 - 61	None					1.08
61 - 71	None					0.71
71 - 81	None					0.70
81 - 91	None					0.87
91 - 101	None					0.67
101 - 111	Trace					0.62
111 - 121	0.05		None			0.62
121 - 131	Trace					0.98
131 - 141	None					0.46
141 - 151	None					0.41
151 - 161	None					0.18
161 - 171	None		None			0.66
171 - 181	0.10		0.10			1.68
181 - 191	Trace		None			0.41
191 - 201	Trace					0.29
201 - 211	None					0.08
211 - 221	Trace					0.53
221 - 231	0.20		None			1.29
231 - 241	None					0.01
241 - 251	None					0.16
251 - 261	Trace					0.05
261 - 271	None					None
271 - 281	None					Trace
281 - 291	0.75		None			0.59
291 - 301	0.05		None			0.26
301 - 311	None					None
311 - 321	None					0.02
321 - 331	0.95		None			1.96
331 - 341	None					0.21
341 - 351	0.60					0.59
351 - 359	None		None			0.31
359 - 371	1.65		None			2.08
371 - 381	Trace		None			0.15

Bottom of Hole: 455'

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-37 Dip -60° Started 10/18/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1600N 350W Direction N84°E Completed 10/22/79

Depth	Lithotype	Description
0'		Overburden
5'		Rhyolite Grey, fine grained Locally fragmented (minor sericite) Very similar to top of CC-36 Sections weak to moderately calcareous
	A-1 to A-2	
50'		
98'		Siliceous Tuff Greenish-white, fine grained fragments of rhyolite, quartz, shale (<1/16" to 1/4")
100'	A-3	
124'	A-1	Rhyolite Similar to 5-98' (locally agglomeritic)
142'		Shale Dark grey laminae and lighter more calcareous laminae (locally fragmented)
200'		Bottom
250'		
300'		
350'		
400'		
400'		
450'		
500'		
550'		
600'		
650'		
700'		
750'		
800'		

Lithotype

Lithotype

J.S. Cummings Inc.

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-37 Dip -60° Started 10/18/79 Elev.

Job no. 255 Township T7-R15 Coord. B 1600N 350W Direction N84°E Completed 10/22/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
5	18'	13'	±2 - 5%	Trace to 0.2% Zn	
18	53'	35'	<1%	None	
53	59'	6'	±5%	Trace to 0.2% Zn	
59	71'	12'	<1%	None	
71	82'	11'	±5%	±0.3 - 0.5% Zn - Possible galena	
82	142'	60'	±2%	Trace Zn, Chpy, galena -	
				no grade	
142		24'	<1%	Pyrite	

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG (page 1 of 2)

Project Caucomgomoc Hole no. CC-38 Dip Vertical Started 10/23/79 Elev. ____

Job no. 255 Township T7-R15 Coord. 1600N B 700W Direction ____ Completed 10/26/79

Lithotype

0' 6'
Overburden

Rhyolitic-Dacitic Tuff
Grey to green, fine to medium grained, locally weakly calcareous and sericitized and upper part has fragments of grey and black rhyolite (<1/10" - 1/2")

32'

Calcareous Agglomerate
Angular (10%) and rounded fragments of quartz, rhyolite, shale, grey matrix - contains 4' of calcareous shale

50'
61'

Rhyolite
Locally brecciated, agglomeritic

100'

150'
Calcareous Shale (tuffaceous) grey, fine grained

159'
Rhyolite Breccia
Grey, fine grained

175'
Calcareous Shale
Grey to grey black, fine grained, locally graphitic, locally tuffaceous
220' - 227' and 232' - 236' are layers of siliceous agglomerate and tuff

200'

246'
250'
255'
Basalt - pink feldspar basalt

Interlayered Calcareous Shale and Siliceous Tuff 3 - 15' layers

300'
309'

Calcareous Shale,
Locally Tuffaceous, fine grained, grey-grey black, layered, locally Fragmented

350'

394'
400'
Massive Rhyolite
Massive, grey, white

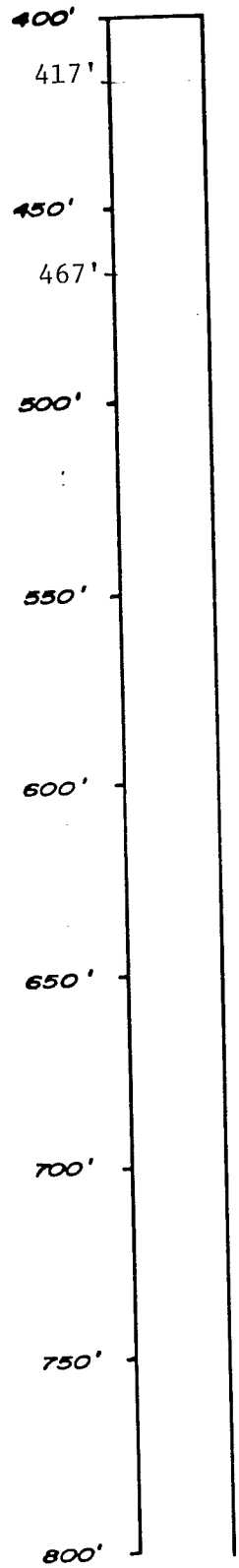
E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG (page 2 of 2)

Project Caucomgomoc Hole no. CC-38 Dip Vertical Started 10/23/79 Elev. ____

Job no. 255 Township T7-R15 Coord. 1600N B 700W Direction ____ Completed 10/ 6/79



Lithotype

Massive Rhyolite
Massive, grey, white

417'

Rhyolite Tuff or Ignimbrite
Weak laminae (45° to long axis of core)
Grey-green, fine grained

467'

Calcareous Shale
Grey-grey green, locally fragmented

Bottom

J.S. Cummings Inc.

SULPHIDE LOG

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-38 Dip Vertical Started 10/23/79 Elev.

Job no. 255 Township T7-R15 Coord. B 1600N 700W Direction Completed 10/26/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)
6	10'	4'	<1%	
10	32'	22'	±1%	Fine grained, dis. pyrite
32	60'	28'	<1%	Pyrite
60	61'	1'	±5%	±1.0 - 1.5% Zn
61	65'	4'	<1%	
65	75'	10'	±2%	±0.2% Zn
75	85'	10'	±5%	±3% sphalerite or ±1.8 to 2.0% Zn
85	95'	10'	±2%	Chalcopyrite, sphalerite, galena ±
95	105'	10'	±10 - 15%	Sphalerite 5-7% or 3.0-3.5% Zn
105	115'	10'	± 5 - 10%	±5-7% sphalerite or 3.0 - 3.5% Zn
115	125'	10'	± 2 - 5%	Trace
125	135'	10'	± 5%	Sphalerite ±4-5% or 2.4 to 3.0% Zn
135	145'	10'	±1%	±1% sphalerite or ±0.2 - 0.4% Zn
145	155'	10'	±2%	±1% sphalerite or 0.2% Zn
155	165'	10'	±5 - 7%	±5% sphalerite or ±2.5 to 3.0% Zn
165	175'	10'	±2%	Sphalerite ±1% or ±0.2-0.4% Zn
175	212'	37'	<1%	No trace
212	216'	4'	5 - 10%	Sphalerite ±2% or ±1 - 1.2% Zn
216	231'	15'	<1%	
231	232'	1'	±10%	Sphalerite ±2% or ±1 - 1.2% Zn
232	255'	23'	<1%	
255	263'	8'	±5 - 10%	Sphalerite ±7-8% or ±4.2% - 4.8%
263	274'	11'	<2%	Trace sphalerite
274	277'	3'	±15%	Chpy, sphal. galena, py. ±3-4% sp
277	300'	23'	<1%	
300	309'	9'	±10 - 15%	Sphalerite ±5% or 3.0% Zn
309	315'	6'	±2%	Trace
315	316'	1'	±5%	Sphalerite all or 5.0% or 3.0% Zn
316	323'	7'	±1%	Trace
323	332'	9'	±15%	Trace to ±1% sphalerite???
332	340'	8'	±1%	Trace
340	346'	6'	±2 - 5%	Trace ±2% sphalerite
346	356'	10'	±2%	Trace

J.S. Cummings Inc.

SULPHIDE LOG (page 2 of 2)

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-38 Dip Vertical Started 10/23/79 Elev.

Job no. 255 Township T7-R15 Coord. B 1600N 700W Direction Completed 10/26/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)
356	366	10'	±5 - 10%	Sphalerite ±1% or ±0.6% Zinc
366	376'	10'	±2 - 5%	Sphalerite ±2% or ±1.0% zinc
376	386'	10'	<1%	Very fine grained dis. pyrite - nil zinc
386	396'	10'	±2%	Trace to ±0.5 - 1% sphalerite
396	406'	10'	±2%	Sphalerite ±2% or ±1-1.2% Zinc
406	416'	10'	<1%	
416	426'	10'	±2%	Sphalerite ±.5% or ±0.3% Zinc
426	436'	10'	±2%	Trace
436	446'	10'	<1%	
446	456'	10'	<1%	
456	466'	10'	<1%	Trace pyrite
466	476'	10'	±1%	Chalcopyrite, sphalerite est. ±0.2% Zinc
476	486'	10'	±1% to <2%	Sphalerite ±1%, trace galena & sphalerite
486	496'	10'	<1%	
496	500'	4'	<1%	
500'		BOTTOM		

J. S. Cummings, Inc.

DDH CC-38 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
65 - 75	0.05		None			1.16
75 - 85	0.85		None			2.16
85 - 96	Trace		None			0.96
96 - 105	1.65		None			5.53
105 - 117	2.25		None			6.05
117 - 125	0.10		None			1.42
125 - 135	1.10		Trace			3.15
135 - 145	0.05					0.50
145 - 155	0.20					0.87
155 - 165	1.00		None			2.69
165 - 175	0.10					0.96
175 - 185	Trace					1.00
185 - 195	0.05					1.35
195 - 205	None					1.13
205 - 212	None					1.57
212 - 216	2.15		None			6.16
216 - 226	0.05					0.72
226 - 236	0.20					0.83
236 - 246	None					0.81
246 - 255	Trace					0.35
255 - 262	1.15		None			2.77
262 - 274	0.05					0.83
274 - 277	1.85		Trace			6.98
277 - 287	0.05					0.41
287 - 300	Trace					0.35
300 - 309	1.90		None			4.81
309 - 316	0.60					0.60
316 - 323	0.10					0.05
323 - 332	2.05		Trace			5.83
332 - 340	0.20					0.63
340 - 346	0.85					1.94
346 - 356	0.05					0.85
356 - 366	0.95					2.32
366 - 376	0.50					1.44
376 - 386	None					0.31
386 - 396	0.05					0.51
396 - 406	0.10					0.46
406 - 416	None					0.02
416 - 426	0.25					0.81
426 - 436	Trace					0.37

J. S. Cummings, Inc.

DDH CC-38 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
436 - 446	None					0.03
446 - 456	None					0.23
456 - 466	Trace					0.24
466 - 476	0.05					0.36
476 - 486	0.10					0.45
486 - 500	None					0.41

Bottom of Hole: 500'

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-39 Dip Vertical Started 10/29/79 Elev. ____

Job no. 255 Township T7-R15 Coord. B 1600N 900W Direction ____ Completed 10/31/79

Lithotype

0' 6' 50' 88' 100' 148' 182' 200' 250' 270' 278' 284' 300' 350' 400'

Overburden

Mafic Tuff
Green, fine grained laminated (dominantly light green, a few dark green laminae) laminae 45-60° - core long axis
Red shale occurs from 81-81.5 (and in several inch section higher in the hole)

Siliceous Tuff, Locally Agglomeritic
Green-grey, fine to medium grained with fragments of rhyolite, quartz, red chert, quartz eyes, faint layers, good sericite alteration

Calcareous Shale
Grey, fine grained

Siliceous Tuff
Similar to 88' - 148'

Siliceous Agglomerate with good alteration

Bottom

Lithotype

400' 450' 500' 550' 600' 650' 700' 750' 800'

Calcareous Shale
Grey, fine grained, layered, tuffaceous (quartz eyes)

Basalt
Pink feldspar, magnetic
Similar to CC-9, 36, 38

J.S. Cummings Inc.

SULPHIDE LOG

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-39 Dip Vertical Started 10/29/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1600N 900W Direction _____ Completed 10/31/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
6	88'	82'	<1%		
88	117'	33'	<1%	Fine grained dis. pyrite	Good sericite
117	121'	4'	<2%	Fine grained dis. pyrite	Good sericite
121	149	28'	<2%	Fine grained dis. pyrite	Good sericite
149	161'	12'	<2%		
161	176'	15'	±2% - 5%	Very fine grained dis. py	
176	202'	26'	<2%	Sphalerite specks 0.1%zn	Good sericite
202	268'	66'	<2%	Couple sph. spec. 0.1% zn	Good sericite
268	284'	16'	±1%	Fine grained dis. pyrite	
284	300'	16'	<1%	Fine grained dis. pyrite	Good sericite
300		Bottom			

J. S. Cummings, Inc.

DDH CC-39 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
88 - 98	None		None			0.36
118 - 128	None		None			0.90
148 - 158	Trace		None			0.99
158 - 168	0.10					1.47
168 - 174	0.55					1.78
174 - 180	0.05					1.13
180 - 190	0.30		None			1.47
190 - 200	0.30					1.24
200 - 210	0.15					1.15
210 - 220	Trace		None			0.40
220 - 230	Trace					0.40
230 - 240	0.10					0.44
240 - 250	0.10		None			0.71
250 - 260	Trace					0.39
260 - 270	Trace					0.86
270 - 278	Trace		None			0.80
278 - 284	Trace					0.58
284 - 294	Trace		None			0.89
294 - 300	None		None			1.38

Bottom of Hole: 300'

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-40 Dip Vertical Started 11/1/79 Elev.

Job no. 255 Township T7-R15 Coord. 1400N B 700W Direction Completed 11/1/79

Lithotype

0'
10'
30'
50'
100'
200'
250'
300'
350'
400'

Overburden

Dacite - grey, fine grained, massive altered, weakly calcareous

Grey-green, fine grained, massive with a gadational change to more siliceous, weak to moderately calcareous

Calcareous Shale - Grey, fine grained
Moderately to heavily calcareous
Locally fragmented
Short 1' sections well layered (<1/16 to 1/4")
Light grey to dark grey in color
±45° to 50° to long axis

Bottom

Lithotype

400'
450'
500'
550'
600'
650'
700'
750'
800'

J.S. Cummings Inc.

SULPHIDE LOG

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-40 Dip Vertical Started 11/1/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1400N 700W Direction _____ Completed 11/1/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	30'	30'	<1%	Couple specks sphalertie	
30'	50'	20'	<1%	Trace sphalerite @ 33'	
50'	200'	150'	<1%		
200'		Bottom			

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-41 Dip -60° Started 11/2/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1400N 700W Direction N6°W Completed 11/7/79

Lithotype

0'

10'

Overburden

Dacite Tuff
Grey-grey-green, fine grained massive to laminated, locally calcareous

50'

100' 102'

Rhyolite and Rhyolite Tuff
Grey, fine grained, massive to fragmented to laminated (laminae very steep, i.e. low angles to core long axis)
Locally weakly calcareous

200'

216'

Bottom

250'

300'

350'

400'

400'

450'

500'

550'

600'

650'

700'

750'

800'

Lithotype

J.S. Cummings Inc.

E. Skeffington
T. Williamson

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-41 Dip -60° Started 11/2/79 Elev.

Job no. 255 Township T7-R15 Coord. B 1400N 700W Direction N6°W Completed 11/7/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)
0	35'	35'	<1%	
35	102'	67'	<1%	
102	105'	3'	±5% - 10%	±3-5% galena - also chalcopyrite-sphalerit
105	117'	12'	±2%	Sphalerite, chalco, galena, pyrite
117'	136'	19'	<1%	
136'	156'	20'	±2%	Galena, sphalerite, pyrite
156	166'	10'	<1%	
166	176'	10'	±1%	Pyrite
176	186'	10'	±1%	Pyrite, sphalerite and galena
186	196'	10'	±5% - 10%	Sphal. est±5-7% or 3.0-4.2% zinc
196	206'	10'	±2% - 5%	±1 - 2% sphalerite or ±6 - 1.2% zinc
206	216'	10'	±2%	±1% sphalerite or ±.6% zinc
	216'	Bottom		

J. S. Cummings, Inc.

DDH CC-41- (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
92 - 102	None					0.42
102 - 105	0.50		0.15			2.57
105 - 115	0.50					0.80
115 - 117	0.30					0.93
117 - 126	Trace					0.25
126 - 136	0.05					1.67
176 - 186	Trace					0.28
186 - 196	1.45		Trace			4.10
196 - 206	0.80		None			2.54
206 - 216	0.20					0.65

Bottom of Hole: 216'

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project: Caucomgomoc | Hole no. CC-42 | Dip -45° | Started 11/7/79 | Elev.

Job no. 255 | Township T7-R15 | Coord. B 1200N 350W | Direction N39°E | Completed 11/8/79

Depth	Lithotype	Description
0' – 8'		Overburden
8' – 56'	E-1	Shale Grey-black, fine grained, well layered Layering <1/32" to >1/2" and about 60° to core long axis, moderately calcareous, alternating layers of light grey to dark grey to black
56' – 100'	E-1	Shale Grey-black, fine grained Moderately calcareous Very weakly graphitic Most laminae are controlled or fragments
100' – 200'		Bottom of hole

Lithotype

Lithotype

J.S. Cummings Inc.

E. Skeffington
T. Williamson

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-42 Dip -45° Started 11/7/79 Elev.

Job no. 255 Township T7-R15 Coord. B 1200N 350W Direction N39°E Completed 11/8/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
8'	200'	192'	<1%	Pyrite blebs - stringers	Calcite
	200'	Bottom			

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-43 Dip Vertical Started 11/12/79 Elev. _____

Job no. 255 Township T7-R15 Coord. 1000N 1100E B Direction _____ Completed 11/13/79

Depth	Lithotype	Description
0'		Overburden
10'		Mafic Tuff Green, fine grained, intermixed with red shale from 20' - 30' Locally fragmental, also a few blebs and stringers of red chert Thinly laminated
50'		
100'		
137'	B-4	Basalt Tuff - Reddish-green (maroon), fine grained, locally calcareous with red pieces and mafic fragments
152'	B-4	Mafic Tuff Green, fine grained Locally agglomeritic or gritty, also contains bright maroon, several inches to 1' thick, soft hematite and a few stringers of hematite
200'		
220'	C-2	
240'	C-2 & C-3	Siliceous Agglomerate Grey to black, fine grained (first 4' calcareous agglomerate) (from 272' - 278' black fine grained rhyolite with fragments of rhyolite and quartz and black sections are heavy sericite
250'		
300'		
302'		Bottom
350'		
400'		

Lithotype

Depth	Lithotype
400'	
450'	
500'	
550'	
600'	
650'	
700'	
750'	
800'	

Siliceous Agglomerate
Grey-green, medium grained,
Fragment size 1/16" - 1"
Fragments composed of rhyolit quartz, dacite, hematitic chert, last 4-6' turning more green and C-3 type

J.S. Cummings Inc.

SULPHIDE LOG

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-43 Dip Vertical Started 11/12/79 Elev. _____

Job no. 255 Township T7-R15 Coord. B 1000N 1100E Direction _____ Completed 11/13/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	
10	35'	25'	<1%		
35	65'	30'	±1%	Fine gr. dis. py. spec. thin bands (<1/4")	
65	134'	69'	±2%	Fine grained dis. py, and blebs	
134	156'	22'	<1%	Fine grained dis. py	
156	196'	40'	±1%	Fine gr. dis. py, pos. sul clasts @187'<1	
196	240'	44'	<1%	Pyrite	
240	257'	17'	<1%	Pyrite, specks of galena - nil zinc	
257	265'	8'	±2% - 5%	Pyrite, galena, sphalerite, chalcopyrite	
265	280'	15'	±2%	Pyrite, galena specks	
280	289'	9'	<1%	Pyrite, sphalerite, galena	
289	292'	3'	±10% - 15%	Pyrite, trace chalcopyrite	
292	302'	10'	<1%	Pyrite	
	302'	Bottom			

J. S. Cummings, Inc.

DDH CC-43- (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
200 - 210	None		None			0.54
230 - 240	None		None			0.26
240 - 250	0.10					0.67
250 - 257	0.15		Trace			1.50
257 - 265	0.50		Trace			1.93
265 - 275	0.10		None			0.91
275 - 280	0.05		None			1.36
280 - 289	Trace		None			0.80
289 - 292	1.90		0.10			9.21
292 - 302	0.10		Trace			1.66

Bottom of Hole: 302'

E. Skeffington
T. Williamson

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-44 **Dip** Vertical **Started** 11/14/79 **Elev.** _____

Job no. 255 **Township** T7-R15 **Coord.** 400N 1200W B **Direction** _____ **Completed** 11/16/79

Depth	Lithotype	Description
0'		Overburden
		Mafic Tuff Green, very fine grained (weakly layered - 45° to long axis) Locally fragmented
50'	B-4	
100'		
115'		
121'		
	B-4	Mafic Tuff Green, fine grained, massive Locally fragmented - occassional stringers and blebs of red hematite mixed with quartz
200'		
250'		
282'		
300'	D-2 to E-1	Hematitic Shale Red, fine grained with short 6" sections (intermixed) of mafic tuff (green)
310'		
	B-4	Mafic Tuff Green, fine grained
334'	B-4	
340'		
350'		
	B-4	Mafic Tuff Green, fine grained Much quartz injected in this unit also red hematite mixed with quartz
400'		
403'		Bottom

Depth	Lithotype	Description
400'		
450'		
500'		Mafic Tuff Reddish green, fine grained
550'		
600'		
650'		
750'		Basalt Dark grey to black Fine to medium grained
800'		

J.S. Cummings Inc.

SULPHIDE LOG

E. Skeffington
T. Williamson

Project Caucomgomoc Hole no. CC-44 Dip Vertical Started 11/14/79 Elev. _____

Job no. 255 Township T7-R15 Coord. 400N B1200W Direction _____ Completed 11/16/79

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	188'	178'	<1%		
188	200'	12'	<2%		
200	306'	106'	<1%		
306	403'	97'	<1%	Trace, specks of Chalco-	
403'		Bottom		pyrite @ 400' in quartz)	

J.S. Cummings Inc.

J. Labao
(TCW)

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-48A **Dip** -45° **Started** 8/3/81 **Elev.** _____

Job no. 255 **Township** T7-R14/15 **Coord.** See Sketch 255-19 **Direction** 267°mag **Completed** 8/3/81

Road S & W of Poland Pond

Lithotype

0'

7' Overburden

Light Maroon and Grey Argillite -
Soft, maroon to grey, layered 0° to 20° to axis (some sections 40° to axis)
maroon section scratched light red, indicates hematite

37' Bottom of hole

50'

NOTE:

The hole was stopped at night after seeing 30'
of core. Overall angle of layering 30°. - J. Labao

100'

200'

250'

300'

350'

400'

J.S. Cummings Inc.

J. Labao

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-48A Dip -45° Started 8/3/81 Elev.

See Sketch

Job no. 255 Township T7-R14/15 Coord. 255-19 Direction 267°mag Completed 8/3/81

Road S & W of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
7'	37'	30'	Trace pyrite		
	37'	Bottom			

J. Labao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC *Hole no.* CC-48B *Dip* -45° *Started* 8/4/81 *Elev.* _____

Job no. 255 *Township* T7-R14/15 *Coord.* See Sketch 255-19 *Direction* 87°mag *Completed* 8/6/81

Road S & W of Poland Pond

Lithotype

0'

10' Overburden

Basalt and Andesite Tuff -
Basalt - soft, green, fine grained, massive to slightly foliate with minor exhalite

Andesite Tuff - soft, olive green, layered 45° to 50° to axis, some sections finely laminated to brecciated occurs from 10'-14', 29'-42', 57'-65'; contains qtz ash from 10'-14', 29'-31'

50'

73'

Green Argillite with some Basalt and Andesitic Tuff - olive green, layered 35° to 70° to axis with minor basalt. (This is the Cauc Grid B hanging wall unit.)

100'

Basalt - soft grey, massive with sugary texture and calcite stringers (105'-106') (133'-142')

Andesitic Tuff - soft, green, somewhat layered with rounded quartz ash and feldspars in chlorite-sericite (?) matrix

182'

Andesitic Tuff -

200'

210'

Soft, grey-green, layered 30° to 60° to axis with chlorite matrix. Some sections contain white "specks" as visible ash and what appear to be fragments of shale. Minor olive green shale (189'-191'), basalt (same as section above (188' - 189', 199' - 209'))

250'

Bottom of hole at 210'

NOTE:

4' of core was lost between 19' and 27'

300'

350'

400'

J.S. Cummings Inc.

J. Labao

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-48B Dip -45° Started 8/4/81 Elev. _____

See Sketch

Job no. 255 Township T7-R14/15 Coord. 255-19 Direction 87°mag Completed 8/6/81

Road S & W of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10'	131'	121'	Trace pyrite		
131'	142'	9'	<.5% sphalerite and pyrite, trace chalcopyrite		
142'	188'	46'	Trace pyrite and chalcopyrite		
188'	189'	1'	Note bleb of pyrite and chalcopyrite		
			At 184' note bleb of sphalerite		
	189'	Bottom			

J.S. Cummings Inc.

J. Labao

(TCW)

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-49 **Dip** -45° **Started** 8/6/81 **Elev.** _____

Job no. 255 **Township** T7-R14/15 **Coord.** See Sketch 255-19 **Direction** 87°mag **Completed** 8/7/81

Road S & W of Poland Pond

Lithotype

0'

Overburden

20'

Calcareous Basalt - soft, grey-green, fine grained and massive with calcite present in matrix with minor Exhalite - soft, green, well layered at 70° to axis, with micaceous layers (32'-35')

48'

50'

Green to Olive Green Argillite and Maroon Argillite - (similar to CC-48A and B) - soft well layered 45° to 90° to axis. Quartz stringers cross cut some of the section. Minor brecciation. Minor calcareous basalt (same as above) 77'-78'; 88'-97'; 143'-148'

100'

158'

Basalt and Calcareous Basalt - soft, grey-green, fine grained, massive with stringers of epidote and calcite. Some sections more calcareous than others. with minor Exhalite - soft and hard (section contains chert beds or rhyolite dike). Green, layered 60° to 70° to axis, some visible ash and fragments present

200'

Andesite - (calcareous) - hard, grey, fine grained and massive with minor stringers of epidote and calcite (218'-220')

220'

Bottom of hole

250'

300'

350'

400'

J.S. Cummings Inc.

SULPHIDE LOG

J. Labao

Project CAUCOMGOMOC Hole no. CC-49 Dip -45° Started 8/6/81 Elev.

Job no. 255 Township T7-R14/15 Coord. See Sketch 255-19 Direction 87°mag Completed 8/7/81

Road S & W of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
20'	220'	200'	Trace pyrite, chalcopyrite and sphalerite		
	220'	Bottom			

J. Labao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC *Hole no.* CC-50 *Dip* -45° *Started* 8/8/81 *Elev.* _____

Job no. 255 *Township* T7-R14/15 *Coord.* See Sketch 255-19 *Direction* 87°mag *Completed* 8/9/81

Road S & W of Poland Pond

Lithotype

0'

Overburden

44'

50'

Calcareous Basalt - soft, grey-green, fine grained, massive with stringers of calcite (minor), calcite also found in matrix (may be a tuff)

61'

Green Argillite and Andesitic Tuff -
Argillite-green, olive green, maroon, soft, fine grained, layered 50° to 70° to axis. Finely laminated. Some sections brecciated. Maroon and olive green shale similar to that found in CC-48 and 49.

100'

Andesitic Tuff - soft, grey-green, layered, includes qtz and feldspar ash, local layers fragmented

122'

Calcareous Basalt - Same as above, but some sections more foliate

176'

Green Argillite - olive green same as above, but darker shade of green, 45° to 60° to axis. Slumping and brecciation also present. Minor calcareous basalt at 203'-207'; 209'-210'; 214'-235'

200'

247'

250'

Bottom of hole

Probably similar to Cauc Grid B hanging wall.

300'

350'

400'

J.S. Cummings Inc.

SULPHIDE LOG

J. Labao

Project CAUCOMGOMOC Hole no. CC-50 Dip -45° Started 8/8/81 Elev.

See Sketch

Job no. 255 Township T7-R14/15 Coord. 255-19 Direction 87°mag Completed 8/9/81

Road S & W of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
44'	61'	17'	Trace pyrite and chalcopyrite		
61'	99'	38'	Trace pyrite		
99'	122'	23'	.5% pyrite, trace chalcopyrite (olive green exhalite)		
122'	176'	54'	Trace pyrite and chalcopyrite		
176'	247'	71'	.5% pyrite, trace chalcopyrite and sphalerite		
	247'	Bottom			

J. Lobao

(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc ***Hole no.*** CC-54 ***Dip*** -90° ***Started*** 8/24/81 ***Elev.***

Job no. 255 ***Township*** T7-R14/T7-R15 ***Coord.*** See Sketch 255-29 ***Direction*** ***Completed*** 8/26/81

SW 1/4 - E of Little Wadleigh Pond

Lithotype

0'
6' Overburden

Green Argillite - grey-green, soft, fine grained with finely to wispy layering at 45° to axis, and minor qtz frags and layers, minor section altered wit qtz (37.5'-44').

50'

w/minor
Dacite Tuff?? - green, reasonably hard but scratchable, massive with ash size qtz, similar to CC-53 but finer grained, minor calcite stringers, (20'-26').

Calcareous Basalt - green, soft, foliate, at 45° to axis, fine grained, matrix contains calcite, may not be a basalt but calcareous sediment.

100'

150'

200'
206' Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-54 Dip -90° Started 8/24/81 Elev. _____

Job no. 255 Township T7-R14/T7-R15 Coord. See Sketch 255-29 Direction _____ Completed 8/26/81

SW 1/4 - E of Little Wadleigh Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
6	206	200'	.5%	Pyrite, Pyrrhotite, Tr Chalcopyrite	
Bottom of Hole					

J. Lobao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-55 **Dip** 90° **Started** 9/1/81 **Elev.** _____

Job no. 255 **Township** T7-R14/T7-R15 **Coord.** See Sketch 255-29 **Direction** _____ **Completed** 9/2/81

SW 7-14, East of Little Wadleigh Pond

Lithotype

0'

11' Overburden

Green Argillite - soft, grey-green, wispy and fine layering, ≈ 45°-60° to core axis with minor qtz frags and visible ash, some minor slumping and contorted beds

50'

w/minor
Rhyo-Dacite Tuff??? - hard, grey, massive to layered, 45°-60° with calcite and qtz stringers, some sections are calcareous (13'-14') (16'-18') (22.5'-23') (59'-60') (61'-61.5')

90'

100'

Basalt and Calcareous Basalt - soft, grey, massive, fine grained with stringers of epidote and calcite, some sections very calcareous,

w/minor - Mafic Tuff - soft, grey, layered to 70° to axis

w/visible - Ash flecks and lapilli qtz frags (98'-100') (125'-127')

131'

150' Green Argillite - same as above

154'

Basalt - soft, grey to green, both massive and crystalline and foliated basalt, minor calcite stringers, some crystalline sections, reasonably hard but scratchabl

200'

212' Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-55 Dip 90° Started 9/1/81 Elev.

Job no. 255 Township T7-R14/T7-R15 Coord. 255-29 Direction See Sketch Completed 9/2/81

SW 7-14, East of Little Wadleigh Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
11	212	201'	Trace Pyrite		
Bottom of Hole					

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC *Hole no.* CC-56 *Dip* -45° *Started* 9/08/81 *Elev.* _____

Job no. 255 *Township* T7-R14/15 *Coord.* 2160N, 1105W *Direction* 105°mag *Completed* 9/16/81

Lithotype

0' Overburden

11'

Green Argillite -

Soft, green-grey, massive to finely layered 45° to 80° to axis with much slumping and brecciation. Some sections are light maroon color and last foot in section darker maroon - Minor calcite stringers
Minor calcareous basalt and basalt at: 66' - 67'; 210' - 211'; 240' - 241'
Minor andesite at: 215' - 220'

Sample at 218' is a coarse andesite (?) with pink feldspars and abundant biotite. Such may be similar to the mafic dike occurring near hole CC-9.

Samples at 213' and 233' are greyer argillites.

50'

100'

200'

250'

260'

Felsic Tuffaceous Lapilli Fragmental and Tuffaceous Argillite? -

Soft with hard feldspars, grey with ash to lapilli size felsic fragments, basalt fragments and minor grey
matrix in some sections. Minor basalt at: 264' - 266'; 297' - 301'

300'

Non Calcareous

323'

Limey Granular Felsic Tuff Grading to Calcareous Tuffaceous Shale -

Soft to reasonably hard, steel grey to black, fine grained, layered 70° to 80° to axis with some brecciation, calcite found in matrix with some sections containing gritty felsic fragments in obvious calcite matrix
Tabulate coral at 471'

350'

Fossils: Tabulate coral and crinoid stem, possibly byrozoan

First 30' or 40' appears to be more tuffaceous; i.e., a limey granular felsic tuff.

400'

cont'd.....

J.S. Cummings Inc.

LITHOLOGIC LOG

J. Lobao
(TCW)

Project CAUCOMGOMOC Hole no. CC-56 Dip -45° Started 9/08/81 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 2160N, 1105W Direction 105°mag Completed 9/16/81

Lithotype

400'

450'

492'

500'

Amygdaloidal Andesite or Dacite -
Hard, grey, massive, fine grained with quartz and calcite amygdules in grey lathy matrix with minor brecciation and grey rhyolite. Composition uncertain whether andesitic or dacitic. However probably similar to so-called amygdaloidal dacite of earlier Grid B drilling.

535'

550'

Calcareous Tuffaceous Shale
Same as above

587'

600'

Andesite-Dacite -
Same as above, but minor amygdules present, minor calcareous section

650'

700'

717'

Calcareous Tuffaceous Shale
Minor rounded to subrounded calcareous tuff fragments

750'

772'

Massive Calcareous Felsic Tuff -
granular qtz with abundant calcite and scattered coarser qtz and lithic ash - grey to green.

800'

803'

Bottom of hole

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-56 Dip -45° Started 9/08/81 Elev.

Job no. 255 Township T7-R14/15 Coord. 2160N, 1105W Direction 105°mag Completed 9/16/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
11'	535'	524'	Trace pyrite		
535'	587'	52'	Trace pyrite, Trace	sphalerite	
587'	803'	384'	Trace pyrite		

PROJECT: Caucomgomoc HOLE NO: CC-56 Dip: -45°

JOB NO. 255 TOWNSHIP: T7-R14/15 COORD. 2160N, 1105W Direction: 105° mag.

STARTED: 9/08/81 COMPLETED: 9/16/81

ACID TESTS

	Apparent	Actual
200'	51°	45°
400'	48°	42°
600'	45°	40°
800'	41°	35°

J. Lobao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-57 **Dip** -45° **Started** 9/17/81 **Elev.** _____

Job no. 255 **Township** T7-R14/T7-R15 **Coord.** 805N 1105W **Direction** 105° Mag **Completed** 9/19/81

Lithotype

0'

11' Overburden

Green Argillite - soft, green to grey, fine grained, layered, 70° to axis with local slumping and brecciation, minor maroon section found with pyrite blebs and calcite stringers (both hard and soft), Note: no dark maroon sections found at bottom

50'

100'

139'

150' Felsic Tuff or Felsic Gritty Tuff and Felsic Fragmental or Felsic Agglomerate - hard and soft, grey-green, massive with angular to rounded felsic fragments and welded to non-welded, black, green and grey felsic fragments, and minor red chert in chlorite/sericite, calcite matrix, some fragments contain considerable pyrite (10% or >), some grading occurs and from 170' black chert and felsic fragments predominate

200'

minor calcareous shale (183'-189') (194'-195')

220' Limey Felsic Gritty Tuff Grading to Calcareous Tuffaceous Shale - soft, grey to black, layered ≈70° to axis, fine grained

250'

minor basalt - (340'-342')

fossils - tabulate coral, ostrocods

220' - 250'
276'
one good fossil in or around 260' - 290'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

LITHOLOGIC LOG

Project Caucomgomoc Hole no. CC-57 Dip -45° Started 9/17/81 Elev.

Job no. 255 Township T7-R14/T7-R15 Coord. 805N 1105W Direction 105° Mag. Completed 9/19/81

Lithotype

400' Calcareous Tuffaceous Shale - (continued from first page)

417' Bottom of Hole

450'

500'

550'

600'

650'

700'

750'

800'

Acid Test

Depth	App	Act
200'	51°	45°
400'	51°	45°

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-57 Dip -45° Started 9/17/81 Elev.

Job no. 255 Township T7-R14/T7-R15 Coord. 805N 1105W Direction 105° Mag Completed 9/19/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
11	139	128'	1-2% Pyrite (stringers and blebs)		
139	190	51'	Trace Pyrite		
190	214	24'	2% Pyrite, Trace Sphalerite and Galena		
214	217	3'	3% Pyrite, .5% Sphalerite and Galena		
217	220	3'	1% Pyrite, Trace Sphalerite and Galena		
220	241	21'	2% Pyrite (fine grained) Trace Sphalerite and Galena		
241	255	14'	2-5% Pyrite (fine grained), .5% Sphalerite and Galena (could possibly run more Zn and Pb)		
255	417	162'	Trace Pyrite, Trace Sphalerite and Galena		
Bottom of Hole					

J. S. Cummings, Inc.

DDH CC-57 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide
202 - 212	10'	0.10	0.006	Trace	0.1	Trace	3.1
212 - 222	10'	0.25	0.012	0.2	0.2	Trace	3.7
222 - 232	10'	None	0.006	None	None	Trace	3.2
232 - 242	10'	0.05	None	Trace	0.2	Trace	3.5
242 - 252	10'	0.60	0.012	0.3	0.1	0.010	5.2
252 - 262	10'	None	None	None	0.1	0.010	2.6
262 - 272	10'	None	None	Trace	0.1	Trace	1.6

0.20

Bottom of Hole: 417'

HOLE #	COORDINATES	DATE COLLARED	DATE COMPLETED	DIP	BEARING	DEPTH	MOST SIGNIFICANT SULPHIDE INTERSECTION
CC-1	B 2587N,212W	10/05/76	10/07/76	45°	N84E	300'	
CC-2	B 2575N,365W	10/11/76	10/14/76	45°	N84E	300'	
CC-3	B 2400N,431W	10/15/76	10/20/76	45°	N84E	246'	
CC-4	B 2342N,251W	10/21/76	10/25/76	Vert.		117'	
CC-5	B 2435N,34 W	10/28/76	10/28/76	Vert.		107'	
CC-6	B 2862N,180E	11/02/76	11/09/76	Vert.		501'	
CC-7	B 2975N,1400W	11/11/76	11/15/76	Vert.		500'	
CC-8	B 386 S,747W	11/16/76	11/23/76	Vert.		231'	
CC-9	B 1595N,350W	6/03/77	6/08/77	Vert.		247'	
CC-10	B 1190N,580W	6/09/77	6/13/77	Vert.		150'	
CC-11	B 792 N,400W	6/14/77	6/15/77	Vert.		97'	
CC-12	B 400 N,539W	6/16/77	6/17/77	Vert.		100'	
CC-13	B 00 N,775W	6/20/77	6/22/77	Vert.		177'	
CC-14	B 400 S,1050W	6/22/77	6/23/77	Vert.		107'	
CC-15	B 803 S,660W	6/24/77	6/29/77	Vert.		211'	
CC-16	B 1600S,988W	6/30/77	7/08/77	Vert.		283'	
CC-17	B 1560S,105W	7/12/77	7/13/77	Vert.		100'	
					SUB TOTAL	3801'	

CAUCOMGOMOC (T7R14 & 15) DRILLING

J. S. CUMMINGS, INC.

HOLE #	COORDINATES	DATE COLLARED	DATE COMPLETED	DIP	BEARING	DEPTH	MOST SIGNIFICANT SULPHIDE INTERSECTION
CC-18	B 1105S,250E	7/14/77	7/14/77	Vert.		100'	
CC-19	B 2220N,150E	7/19/77	7/20/77	Vert.		60'	
CC-20	B 3200N,564W	7/21/77	7/22/77	45°	N84E	116'	
CC-21	B 4400N,1475W	7/26/77	7/26/77	Vert.		100'	
CC-22	A 7425N,425E	8/09/77	8/11/77	-45°	N56E	170'	
CC-23	SSW17560N,4560W	8/15/77	8/17/77	-45°	S17W	300'	
CC-24	SSW17530N,2930W	8/18/77	8/22/77	<45°	S24W	200'	
CC-25	SSW18060N,2930W	8/24/77	8/25/77	<45°	S 3W	200'	
CC-26	B 408S,852W	8/23/78	9/13/78	60°	N84E	307'	
CC-27	B 2000N,250W	9/15/78	9/19/78	45°	56E	565'	
CC-28	B 2000N,250W	9/20/78	9/22/78	45°	N 6W	180'	
CC-29	B 2000N,250W	9/23/78	10/13/78	45°	S39W	450'	
CC-30	SSW17732N,4187W	10/17/78	10/17/78	Vert.		107'	
CC-31	SSW17907N,3877W	11/07/78	11/07/78	Vert.		100'	
CC-32	SSW17695N,4208W	11/08/78	11/08/78	45°	N11E	70'	
CC-33	SSW17743N,4160W	11/09/78	11/09/78	70°	S11W	51'	
CC-34	SSW 6800N,8300W (L601F, 8N)	11/11/78	11/12/78	45°	N29W	217'	
CC-35	SSW18100N,3900W	11/14/78	11/15/78	Vert.		165'	
					SUB TOTAL	7259'	

CAUCOMGOMOC (T7R14 & 15) DRILLING

J. S. CUMMINGS, INC.

HOLE #	COORDINATES	DATE COLLARED	DATE COMPLETED	DIP	BEARING	DEPTH	MOST SIGNIFICANT SULPHIDE INTERSECTION
CC-36	B 1600N,350W	10/10/79	10/17/79	-60°	S84W	455'	166-371 (est. 0.6% Zn)
CC-37	B 1600N,350W	10/18/79	10/22/79	-60°	N84E	200'	
CC-38	B 1600N,700W	10/23/79	10/26/79	Vert.		500'	
CC-39	B 1600N,900W	10/29/79	10/31/79	Vert.		300'	
CC-40	B 1400N,700W	11/ 1/79	11/ 1/79	Vert.		200'	
CC-41	B 1400N,700W	11/2/79	11/ 7/79	-60°	N6°W	216'	
CC-42	B 1200N,350W	11/7/79	11/ 8/79	-45°	N39°E	200'	
CC-43	B 1000N,1100W	11/12/79	11/13/79	Vert.		302'	
CC-44	B 400N,1200W	11/14/79	11/16/79	Vert.		403'	
			1976 - Sub Total	---- 2302 feet	----	8 holes	
			1977 - Sub Total	---- 2718 feet	----	17 holes	
			1978 - Sub Total	---- 2212 feet	----	10 holes	
	(Total Grid B -- 8428 feet -- 34 holes)		1979 - Sub Total	---- 2776 feet	----	9 holes	
			TOTAL ALL YEARS	----10,008 feet	----	44 holes	

CAUCOMGOMOC (T7R14 & 15) DRILLING

Coordinates indicated by grid (A, B, or Second Stage West)

J. S. CUMMINGS, INC.