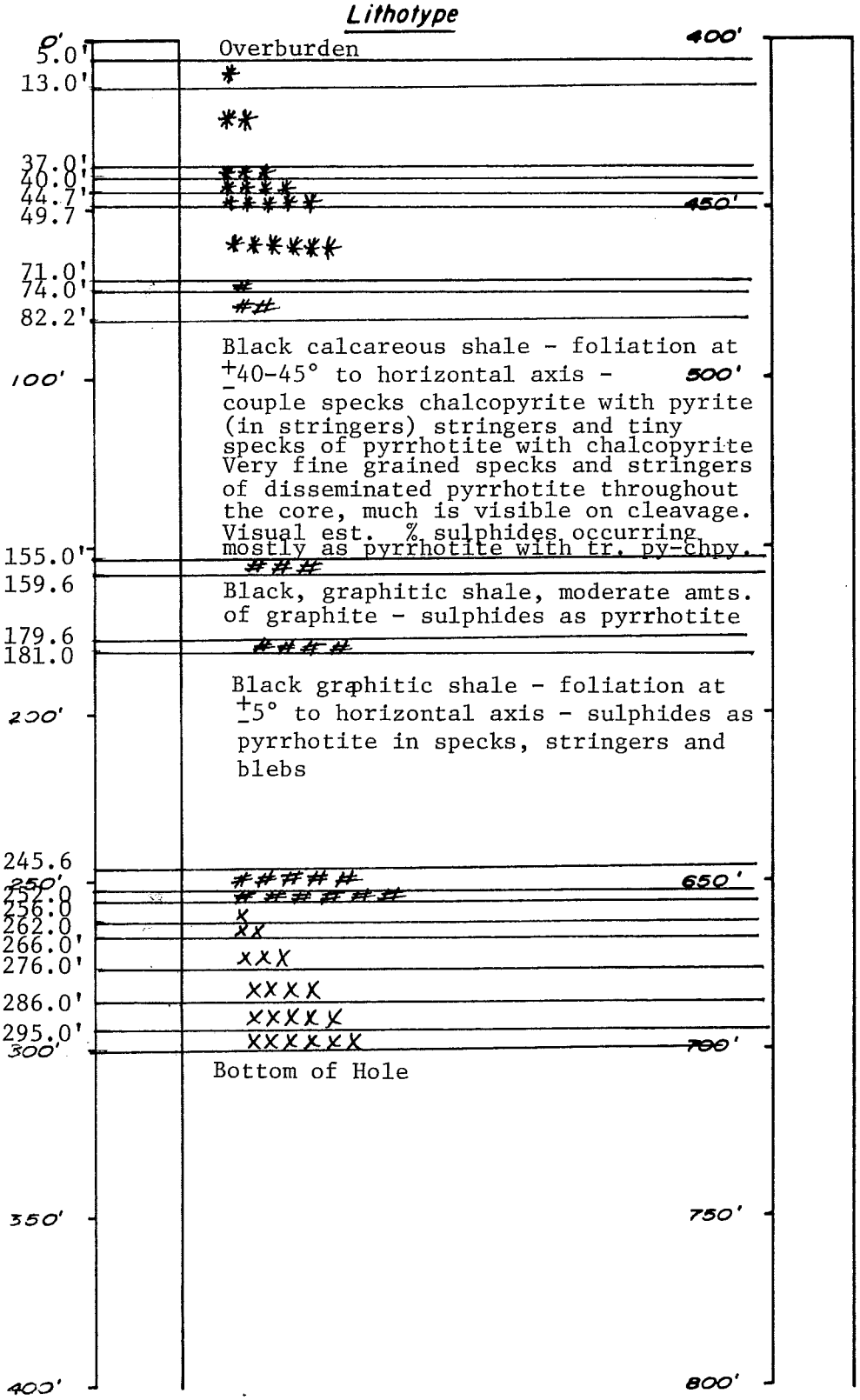
J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-23 Dip -45° Started 8/15/77 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 17560N 4560W Direction _____ Completed 8/17/77



Lithotype

*
Fine Grained Laminated light and dark green basalt tuff or tuffaceous shale, couple stringers of pyrite - nil chalcopyrite

**
Black, fine grained graphitic shale with green laminae - from 27' to 30' rock is grey with few specks chalcopyrite - graphite at 35' - Foliation in black shale ±15°-20° to horizontal axis - couple specks chalcopyrite with pyrite at 24.5' (in quartz) Few tiny specks and stringers of Po.

***
Grey, fine grained basalt tuff or tuffaceous shale - foliation ±5° to horizontal axis

****
Grey, fine grained andesite-dacite (chlorite matrix) massive (no foliation)

*****
Grey, fine grained, altered chlorite to graphitic shale - foliation @ ±15° to Horizontal axis.

******
Grey, fine to medium grained andesite - massive (no foliation) possible amygdals at 66', nil sulphides

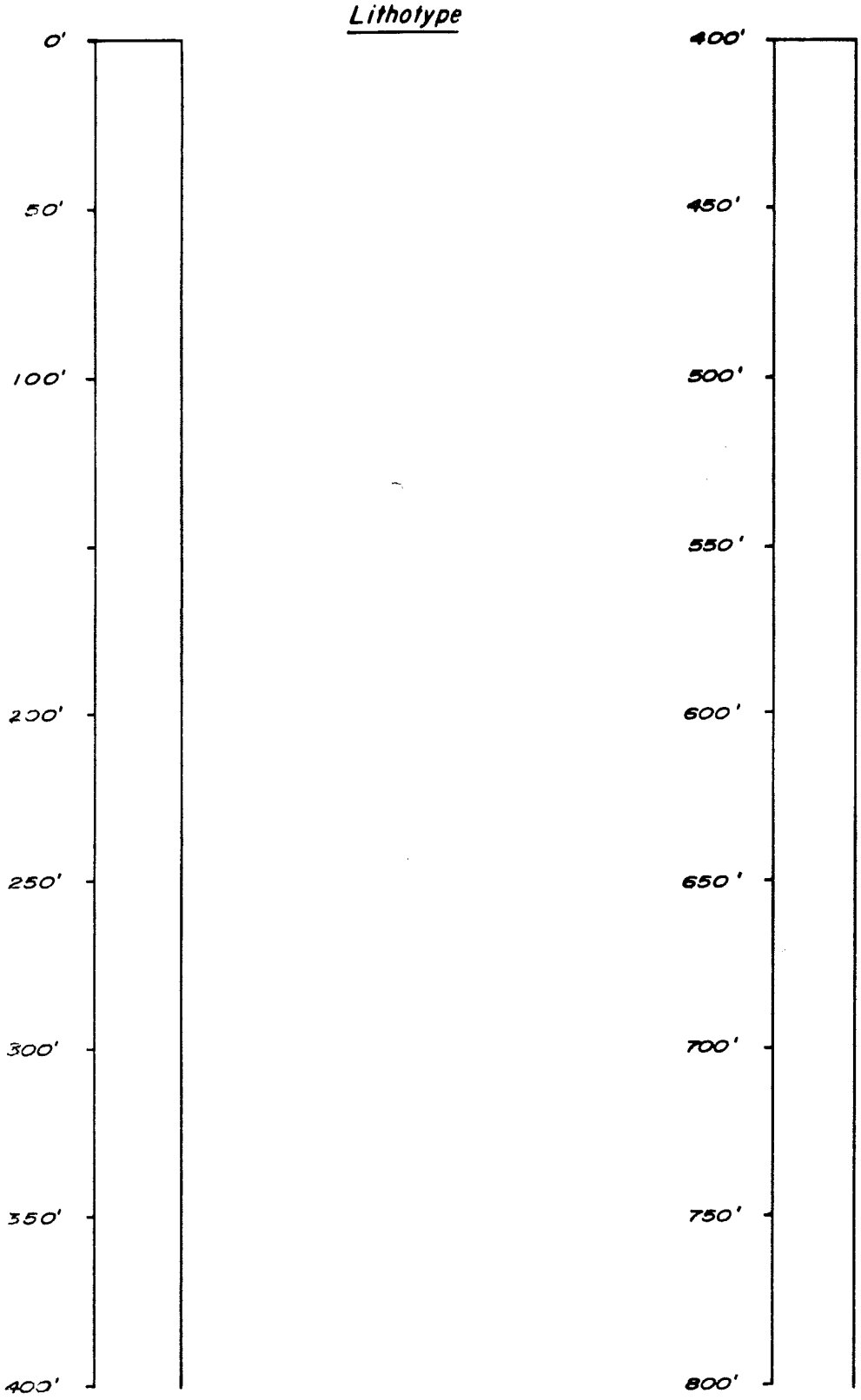
\#
Grey to black shale, trace chalcopyrite in quartz veins, couple stringers of pyrite - foliation at ±25° to horizontal axis

\#\#
Andesite, same as 49.7 - 71.0 (grey, fine grained and massive)

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-23 Dip -45° Started 8/15/77 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 17560N 4560W Direction ____ Completed 8/17/77



###
Green, fine grained massive andesit
no quartz eyes visible
sulphides as very fine grained specks and stringers of pyrrhotite
Nil chalcopyrite visible

####
Grey Shale - one or two specks of pyrrhotite

#####
Green, fine grained, massive andesite? Sulphides as pyrrhotite in tiny specks and stringers

######
Same as 181 - 245.6' - Shale
Sulphides as pyrite & pyrrhotite

X
Same as 245.6' - 252' andesite-dacite - massive (no foliation) sulphides as pyrrhotite in tiny specks

XX
Same as 181' - 245.6' - Graphitic Shale - Foliation at $\pm$0° - 5° to horizontal axis - sulphides as one or two specks of pyrrhotite

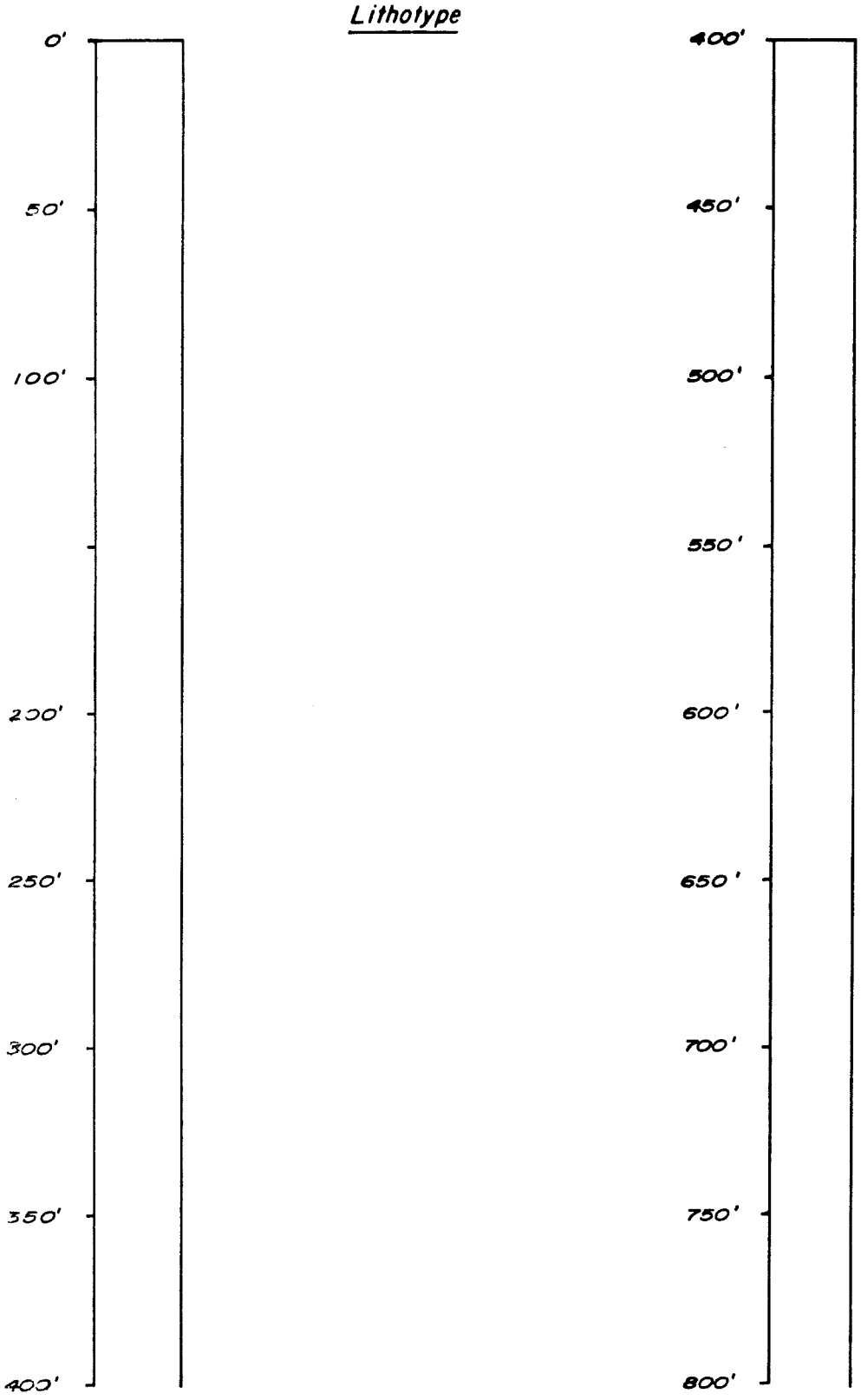
XXX
Grey to black graphitic shale
Foliation at $\pm$5° to horizontal axis
Sulphides as pyrrhotite in blebs and stringers

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-23 Dip -45° Started 8/15/77 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 17560N 4560W Direction ____ Completed 8/17/77



XXXX
Grey to black shale - foliation at 15° - 20° to horizontal axis sulphides as pyrrhotite with trace chalcopyrite (specks with pyrrhotite)

XXXXX
Grey to black shale - sulphides as pyrrhotite

XXXXXX
Quartz eye tuff - quartz eyes and angular quartz fragments

DRILL LOG

HOLE NO CC-24 LENGTH 200' ELEVATION

COORDINATES 17530N + 2930W HOLE STARTED August 18 1977 CLIENT NEJV

DIP & STRIKE < 45°, 225° Mag (S24W 45°) HOLE COMPLETED August 22, 1977 PROPERTY Caucomgomoc

FROM	TO	DESCRIPTION	ASSAYS
0	34	Overburden	
34	60	grey, fine to medium grained, talc-chlorite matrix, very fine angular fragments 34-39 (black in color, < 1/4" long), fragments of some ~~calcareous substance fm 39-45'~~ up to 1/2" length and sub-rounded to angular, foliation is difficult to see, if any (mostly massive). cleavage is ± 45° to horizontal axis, ~~sulphides as trace pyrite and~~ po in tiny specks and stringers (< %)	
60	75	same rock type, sulphides as trace pyrite, po (< %)	
75	121	talc-chlorite schist, grey-green, fine-grained, foliation @ ± 45° to horizontal axis, sulphides as trace pyrite and po (tiny specks and stringers)	
121	200	massive greenstone, epidote @ ± 2% as veinlets and stringers, sulphides as trace pyrite (tiny specks), po (tiny specks and blebs), ~~speck of chalcopyrite with po @ 168'~~	
	200	~~Bottom of Hole!!!~~	

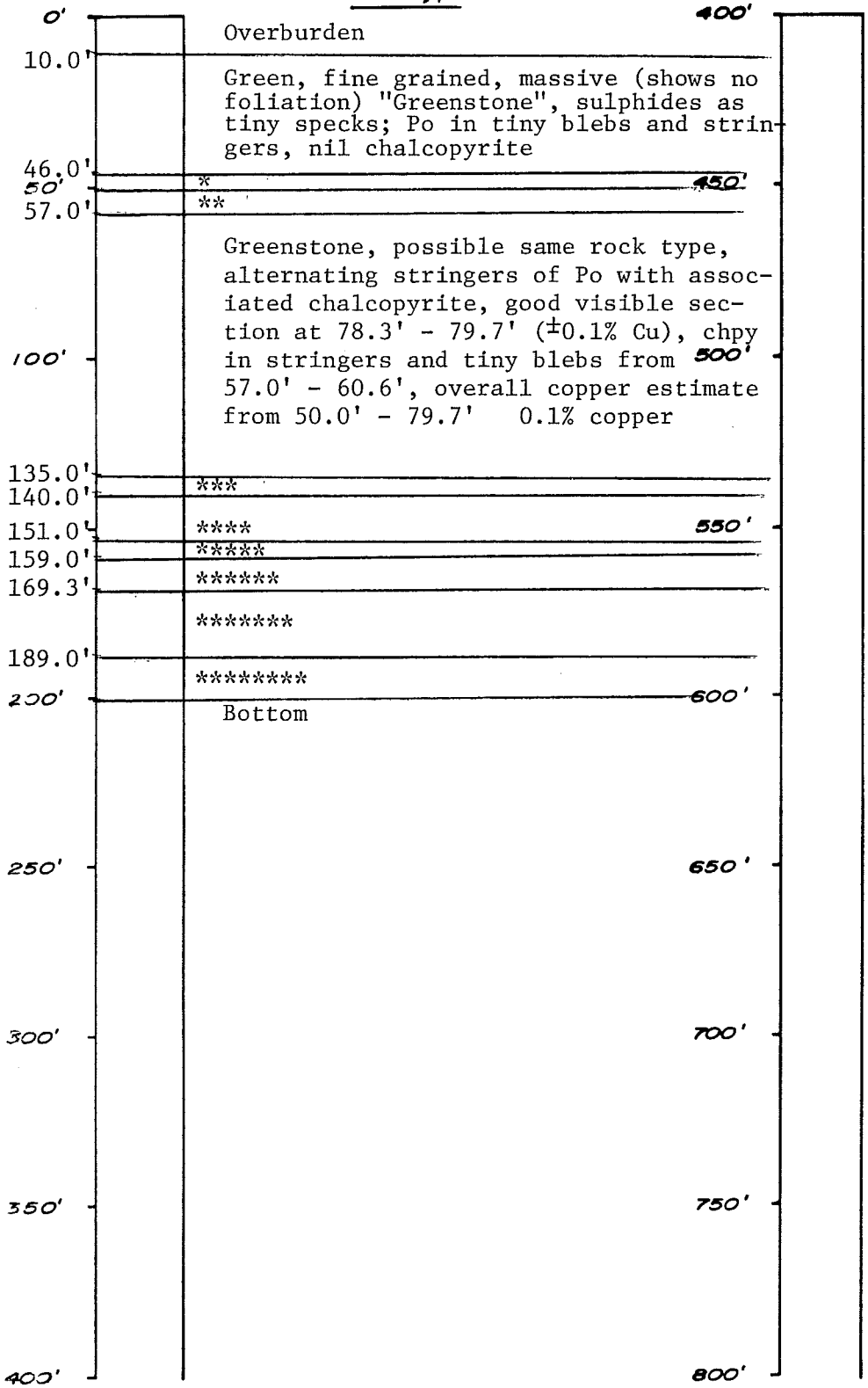
Sulphides overall (34-200) @ < % as Py, Po, Chpy

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-25 Dip 45° Started 8/24/77 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 18060N 2930W Direction _____ Completed 8/25/77



Lithotype

* Greenstone, green, fine grained, talc-chlorite matrix, no foliation, sulphides: trace Po (couple tiny specks)

** Greenstone, possibly same rock type but showing more mineralization in the form of py, po, chpy, estimated chpy @ ±0.1% Cu (one piece to office with TCW), Po estimate ±2%, Py estimate %

*** Light grey to green, fine grained, calcareous (laminated grey and green) shows foliation at ±15° to horizontal axis (possible calcareous shale) sulphides as tiny specks of py and po stringers

**** Same as 46.0' - 50.0' - massive Dacite-Andesite, Sulphides: Trace Py, Po (one or two specks)

***** Same as 135.0' - 140.0' with some several inch zones of massive dacite

****** Light grey, fine-grained, calcareous shale? sulphides as Po, nil chalcopyrite visible

******* Black graphitic shale (graphite heavy in small pieces), sulphides as Py, Po, located within this section are a couple of short non-graphitic but grey shaley sections (all 2' + Nil sulphides

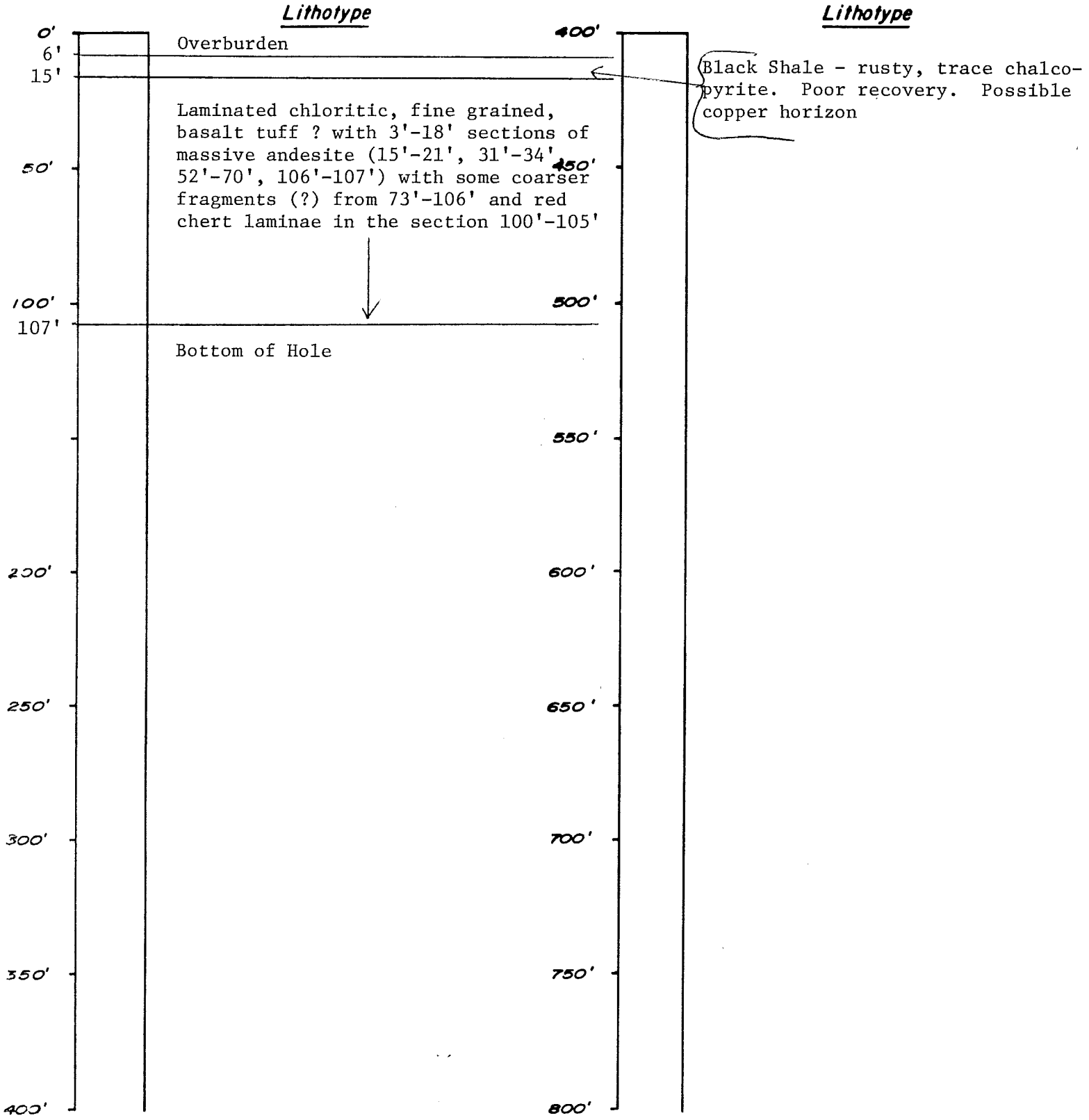
******** Laminated black graphitic shale with some massive dacite, no foliation, sulphides as trace Py, Po (couple specks and tiny stringers)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-30 **Dip** Vertical **Started** 10/17/78 **Elev.** ____

Job no. 255 **Township** T7-R14/15 **Coord.** 17732N 4187W **Direction** ____ **Completed** 10/17/78



J.S. Cummings Inc.

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-30 Dip Vertical Started 10/17/78 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 17800N 4200W Direction _____ Completed 10/17/78

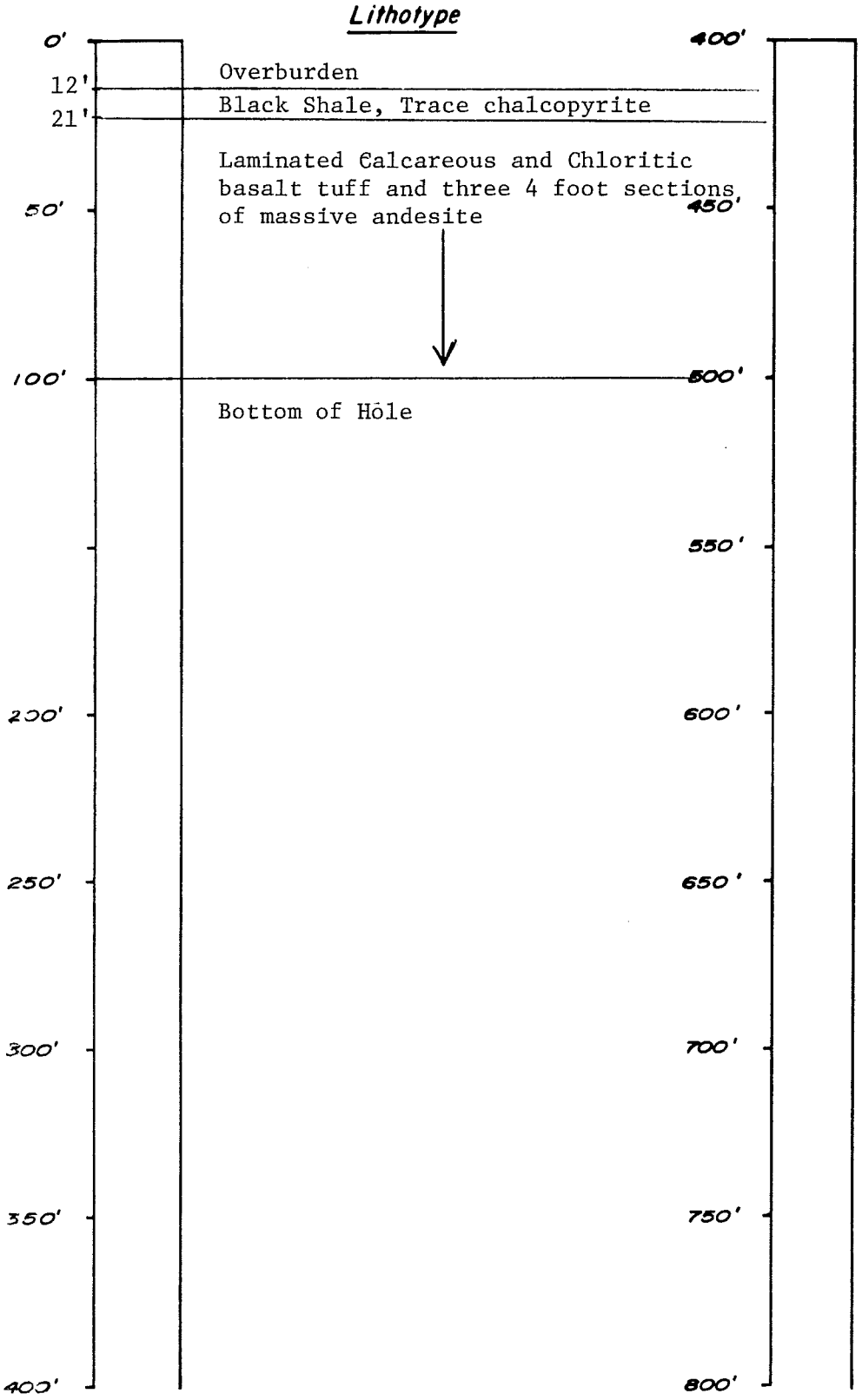
FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0'	6'	6'	Overburden		
6'	15'	9'	Trace - possible	Trace copper	Red limonite
			+5% before oxidat-		(weathering)
			ion		
15'	107'	92'	Trace,- 1% py & po		

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC **Hole no.** CC-31 **Dip** Vertical **Started** 11/7/78 **Elev.** ____

Job no. 255 **Township** T7-R14/15 **Coord.** 17907N 3877W **Direction** ____ **Completed** 11/7/78



J.S. Cummings Inc.

J. Chisholm

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-31 Dip Vertical Started 11/7/78 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 17907N 3877W Direction _____ Completed 11/7/78

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0'	12'	12'	Overburden		
12'	14'	2'	Trace pyrite		
14'	21'	7'	Trace pyrite	Trace copper	
			Trace Chalcopyrite		
21'	100'	79'	Trace to 1% pyrite		

J. S. Cummings, Inc.

DDH CC-31 - (Assays for Portion of Hole)

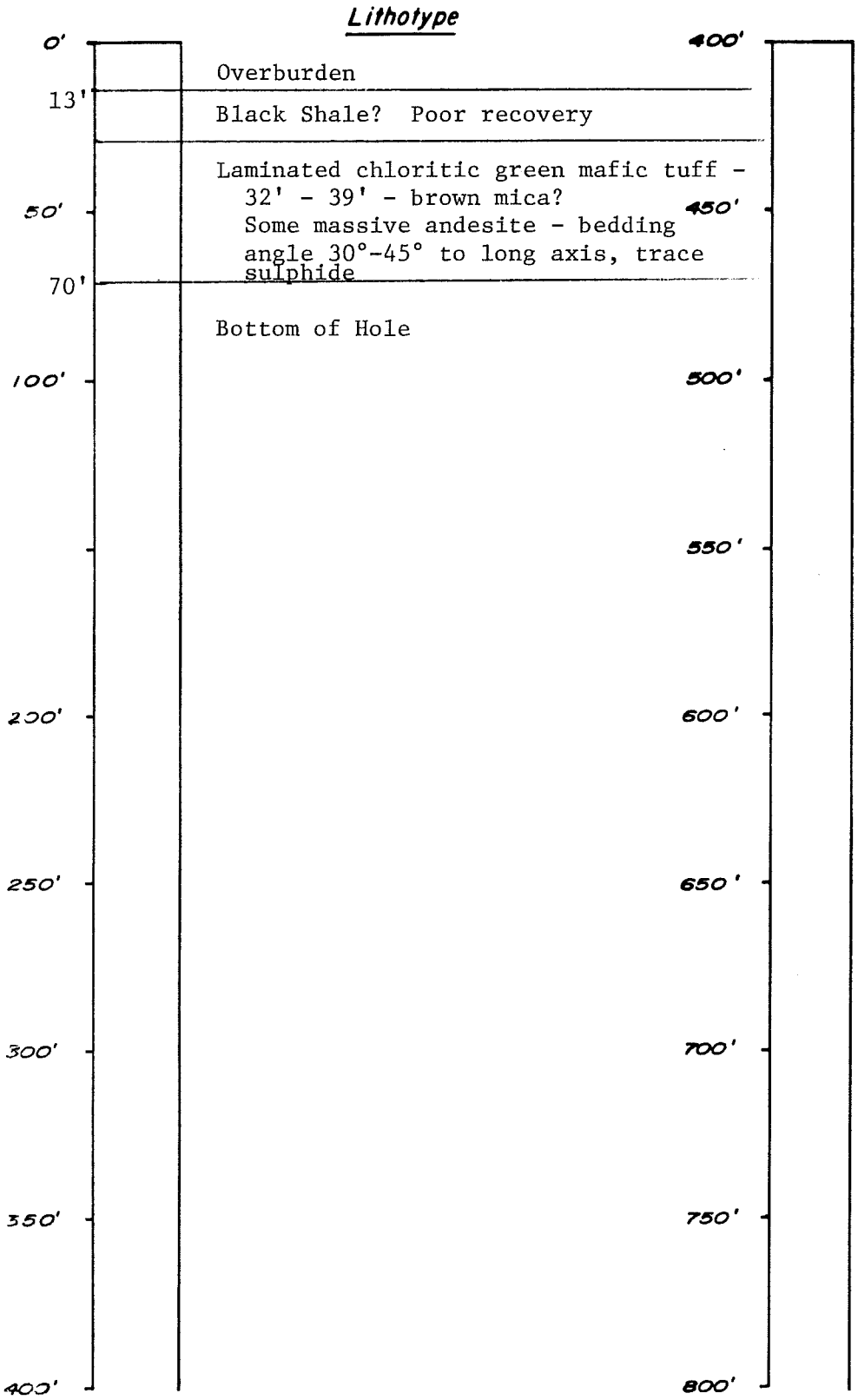
DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
13.5 - 14.5		None		0.1	Trace	
14.5 - 17		0.056		None	Trace	0.74
17 - 19		0.006		None	Trace	
19 - 21		0.018		0.3	Trace	

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-32 Dip 45° Started 11/8/78 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 17695N 4208W Direction 32° Mag Completed 11/8/78



J. S. Cummings, Inc.

DDH CC-32 - (Assays for Portion of Hole)

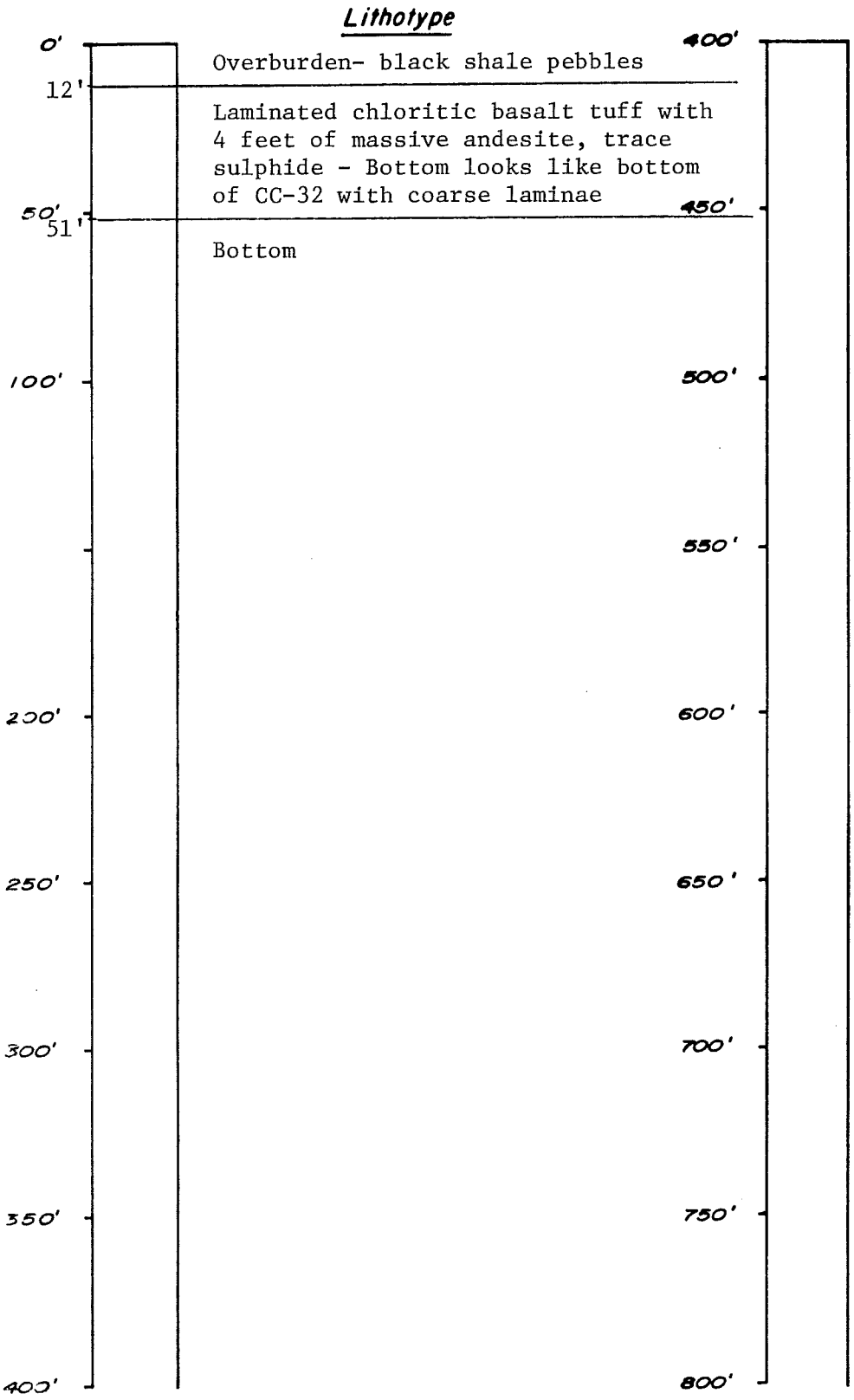
DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
35 - 38	Trace	0.025		None	None	

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-33 Dip 70° Started 11/9/78 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 17743N 4160W Direction 213° mag Completed 11/9/78



J. S. Cummings, Inc.

DDH CC-33 - (Assays for Portion of Hole)

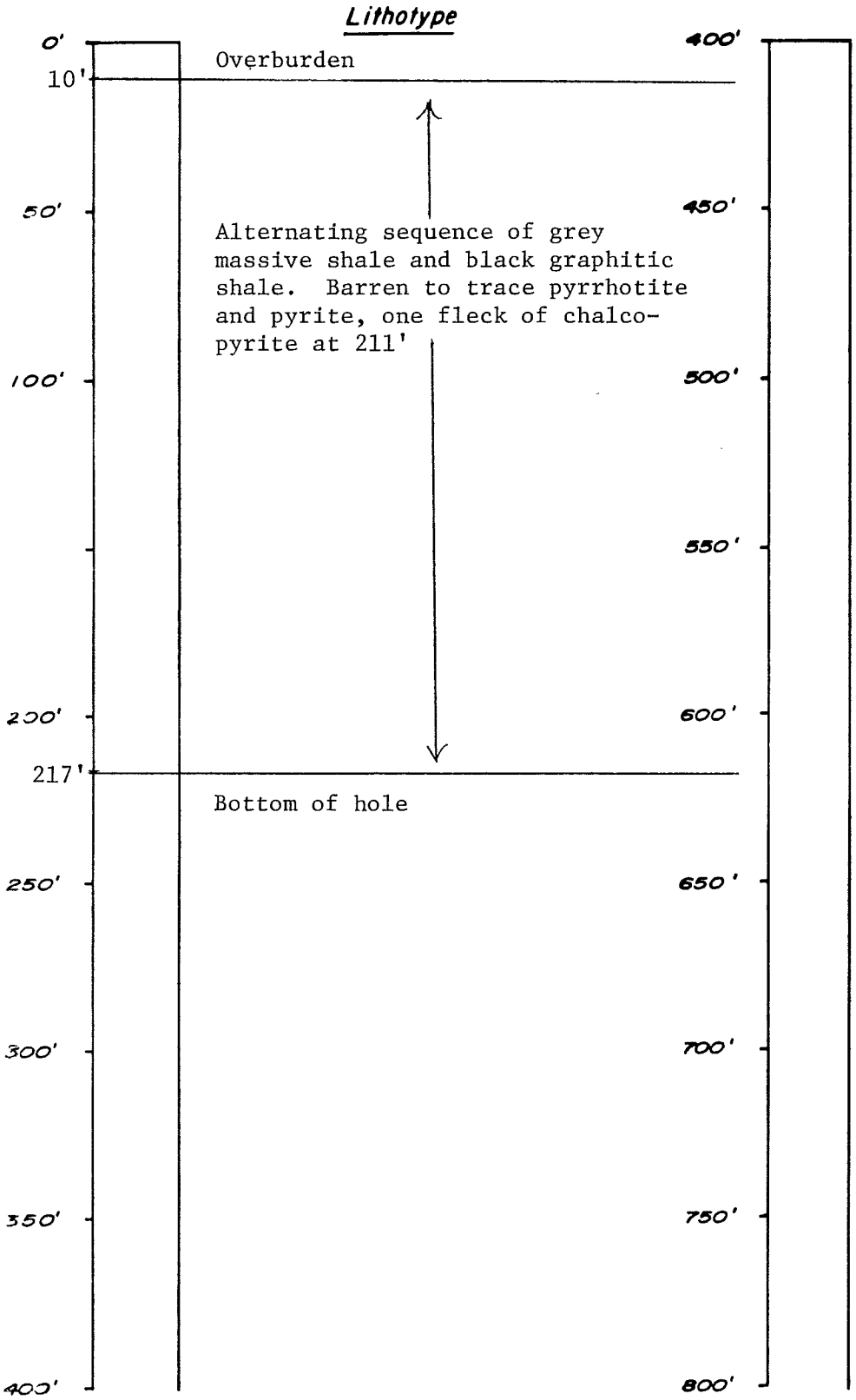
DEPTH (FEET) FROM COLLAR	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	S
32 - 35		None		None	None	0.24

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-34 Dip 45° Started 11/11/78 Elev. ____

Job no. 255 Township T7-R14-15 Coord. 6800N 8300W Direction 21° NW Completed 11/12/78



J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-35 **Dip** Vertical **Started** 11/14/78 **Elev.** ____

Job no. 255 **Township** T7-R14-15 **Coord.** 18100N 3900W **Direction** ____ **Completed** 11/15/78

Lithotype

0'
10' Overburden
Black Graphitic Shale
1 to 2% pyrrhotite
32' Andesite
41' Tuffaceous Black & Grey Shale
50' Between 1 and 2% pyrrhotite
Trace chalcopyrite
72' Andesite - Trace pyrrhotite
80' Black Graphitic Shale -
1 to 2% pyrrhotite, trace pyrite
100'
101' Andesite
107' Black Graphitic Shale
151' Chloritic and calcareous tuffaceous shale
165' Bottom of Hole
200'
250'
300'
350'
400'

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

Lithotype

J.S. Cummings Inc.

E. Skeffington

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC35 Dip Vertical Started 11/14/78 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 18100N 3900W Direction _____ Completed 11/15/78

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	10'	10'	Overburden		
10'	32'	22'	±2% - 5%	Couple specks chalcopyrite at 17' and 26'	
				No grade, all less than trace	
32'	39'	9'	<%	None	
39'	40'	1'	±2% - 5%	±0.5 - 0.7% Cu	±2' of ±0.1% copper
40'	41'	1'	<2%	Trace copper	
41'	55'	14'	±2%	Chalcopyrite specks - no grade	
55'	70'	15'	<%	None	
70'	71.5'	1.5'	±2%	None	
71.5'	81'	9.5'	<%	None	
81'	103'	22'	±2%	None	
103'	115'	12'	<%	None	
115'	132'	17'	±2-5%	None	
132'	151'	19'	<2%	None	
151'	165'	14'	<%	None	
	Bottom				

J. Labao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc *Hole no.* CC-45 *Dip* -45° *Started* 7/7/81 *Elev.* _____

Job no. 255 *Township* T7-R14/15 *Coord.* 17670N, 4205W *Direction* 257°mag *Completed* 7/21/81

Lithotype

0'

Overburden
5' - 15' - Basalt Boulder

27'

Exhalite (magnetic)
Soft, grey-green, layered 25° to 45° to axis with calcareous beds. Within calcareous beds visible magnetite and rounded to angular brownish-red, hard chert (?) frags (1/4") are found. Minor pyroclastic material is also present. Minor basalt and sericitic shale.

50'

Exhalite (?) contains chlorite, white mica, minor calcite, mgt., locally well laminated with abundant calcite, but generally less than 340'-510', local qtz ash (TCW)

100'

124'

Basalt and Exhalite (magnetic)

Basalt - soft, green, fine grained, massive with minor epidote stringers and matrix (124' - 153') (157' - 192')

Exhalite - same as above, but less magnetite and brownish-red chert (?) visible 45° to core axis (143'-157')

192'

200'

Exhalite (magnetic)

Same as above, but layered 40° to 45° to axis with minor basalt (225' - 232')

250'

298'

300'

Basalt

Same as above, but with less stringers and more crystalline

340'

350'

Exhalite (magnetic)
Same as above, but less brownish-red chert (?) visible and more greenish in color from 482'-510', minor basalt (424'-429') (479'-482.5')
Chlorite-Sericite Shale (459'-461')
well laminated with chlorite, calcite, white mica, mgt, (TCW)

400'

J. Labao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-45 **Dip** -45° **Started** 7/7/81 **Elev.** _____

Job no. 255 **Township** T7-R14/15 **Coord.** 17670N, 4205W **Direction** 257°mag **Completed** 7/21/81

Lithotype

400'

The description on the preceeding page continues down to 510' on this page

450'

500'

510'

Bottom of Hole

550'

Acid Tests

	Actual	Corrected
200'	56°	
400'	57.5°	
510'	58°	

600'

650'

700'

750'

800'

J.S. Cummings Inc.

J. Labao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-45 Dip -45° Started 7/7/81 Elev. ____

Job no. 255 Township T7-R14/I5 Coord. 17670N, 4205W Direction 257°mag Completed 7/21/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
27.0'	36.0'	9.0'	Trace pyrite		
36.0'	36.5'	0.5'	3-4% pyrrhotite, trace chalcopyrite		
36.5'	179.0'	142.5'	Trace pyrite		
179.0'	180.0'	1.0'	1% chalcopyrite (calcite vein in basalt)		
180.0'	191.0'	11.0'	Trace pyrite		
191.0'	192.0'	1.0'	1% chalcopyrite (calcite vein in basalt)		
192.0'	335.0'	143.0'	Trace pyrite		
335.0'	335.5'	0.5'	1-2% pyrite, trace chalcopyrite		
335.5'	377.0'	41.5'	Trace pyrite		
354.5'	372.0'	17.5'	Trace Pyrite		
372.0'	372.5'	0.5'	5% Pyrite or more (fine grained in beds)		
372.5'	377.0'	5.5'	Trace Pyrite		
377.0'	377.5'	0.5'	5% Pyrite or more (fine grained in beds)		
377.5'	510.0'	132.5'	Trace Pyrite		
Bottom of Hole					

J.S. Cummings Inc. J. Labao

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-46 **Dip** -45° **Started** 7/22/81 **Elev.** ____

Job no. 255 **Township** T7-R14/15 **Coord.** 17670N, 4200W **Direction** 77°mag **Completed** 7/24/81

Lithotype

0'

Overburden

38'

Exhalite (magnetic)
Soft, grey to green, layered 45° to 60° to axis with calcareous beds. Some calcareous beds contain visible magnetite and subrounded to angular red chert fragments. Minor rounded quartz fragments are found throughout the section.
Minor basalt (38' - 41')
Weakly to well laminated chlorite and calcite - no samples of red chert seen, similar to CC-45 especially 340'-510' (TCW)

50'

100'

Basalt
Soft, green, fine grained, massive with minor epidote stringers

121'

Exhalite (magnetic)
Same as above, but more greenish in color. From 192' - 240' no red chert found in calcareous sections. Minor basalt 190.0' - 192.5'

200'

240'

Basalt - same as above

250'

Bottom of hole

300'

350'

400'

Acid Test

	Actual	Corrected
250'	57°	

J.S. Cummings Inc.

SULPHIDE LOG

J. Labao

Project Caucomgomoc Hole no. CC-46 Dip -45° Started 7/22/81 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 17670N, 4200W Direction 77°mag Completed 7/24/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
38'	250'	212'	Trace pyrite, pyrrhotite and chalcopyrite		
			(chalcopyrite found at 239')		

J.S. Cummings Inc. J. Labao

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-47 **Dip** -45° **Started** 7/24/81 **Elev.** _____

Job no. 255 **Township** T7-R14/15 **Coord.** 18100N, 3900W **Direction** 190°mag **Completed** 7/29/81

Lithotype

0'

Overburden

17'

Basalt and Black Shale

Basalt - Soft, fine grained, green, massive with minor stringers of calcite

50'

Black Shale - Soft, black, fine grained, layered 45° to 60° to axis with elongate, rounded "clasts" of basalt, grey chert and minor disseminated sulphide clasts (94' - 100') (102' - 103') (with clasts)

100'

108'

transition zone? TCW

Black Shale

Soft, black, fine grained, layered 60° to 75° to axis with rounded to elongate "clasts" of basalt, grey chert and minor sulphide clasts. Minor grey exhalite soft grey with sericite beds (124' - 129') (136' - 136.5')

150'

Exhalite (magnetic)

Soft, green-grey, with finely layered sericite-chlorite at 70° to 80° with minor calcite and quartz sections. Some fine grained ash and pyroclastic (quartz) present and much visible magnetite (beds and disseminated). Exhalite becomes more calcareous from 335' - 368'

200'

minor basalt: 171' - 176'; 242' - 247'; 263' - 272'; 314' - 317'

chlorite, calcite, white mica, mgt., exhalite;
strongly magnetic from 237'-263'
263'-277' (TCW)
(assay shows 260'-262.5' has 24% total iron as Fe_2O_3)

250'

300'

350'

368'

Basalt

Similar to above section with minor exhalite (magnetic) (402' - 407')

400'

J.S. Cummings Inc.

LITHOLOGIC LOG

Project CAUCOMGOMOC Hole no. CC-47 Dip -45° Started 7/24/81 Elev. ____

Job no. 255 Township T7-R14/15 Coord. 18100N, 3900W Direction 190°mag Completed 7/29/81

Lithotype

400'

Basalt (continued from page 1)

419'

Exhalite (magnetic)
Soft, maroon to grey-green, layered 50° to 70° to axis with visible magnetite in layers and disseminated. Some minor pyroclastics present. Red scratch, indicates hematite present. Minor basalt at 445'-502'; 520'-524'; 546'-560' (rhyodacite and minor quartz eye tuff found also in this footage)

450'

Section contains generally less chlorite, more white mica, and qtz, less calcite than 150'-368' or 587'-618'

500'

Strongly magnetic at 437', 537' TCW

550'

587'

Exhalite (magnetic)
Soft, grey-green, layered (20° to 50°) to axis. Considerably more calcite and ash found in this section. Visible magnetite

600'

618'

Basalt (foliated)
Soft, green, with abundant chlorite, slightly foliated at 45° to axis

650'

Bottom of Hole

700'

Acid Tests

Depth	Actual	Corrected
200'	55°	49°
400'	56°	50°
600'	56°	50°

750'

800'

J.S. Cummings Inc.

J. Labao

SULPHIDE LOG

Project CAUCOMGOMOC Hole no. CC-47 Dip -45° Started 7/24/81 Elev. _____

Job no. 255 Township T7-R14/15 Coord. 18100N, 3900W Direction 190°mag Completed 7/29/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
17'	44'	27'	.5% - 1% pyrite		
44'	62'	18'	Trace pyrite		
62'	69'	7'	1%		
69'	94'	25'	Trace pyrite		
94'	108'	14'	1% pyrite - trace chalcopyrite - Note bleb at 106'		
108'	150'	42'	1-3% pyrite, trace chalcopyrite		
150'	368'	218'	Trace pyrite		
368'	419'	51'	Trace pyrite		
419'	443'	24'	Trace pyrite		
443'	444'	1'	2% pyrite		
444'	650'	206'	Trace pyrite		
	650'	Bottom			

J. S. Cummings, Inc.

DDH CC-47 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Fe
260.5 - 262.5	2'	None	None		None	None	17.2

Bottom of Hole: 650'

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-51 **Dip** -45° **Started** 8/10/81 **Elev.** _____

Job no. 255 **Township** T7-R14/T7-R15 **Coord.** 255-29 **Direction** 87° Mag **Completed** 8/11/81

See Sketch
SE 7/15 - along road S of Poland Pond

Lithotype

0'

Overburden

47'
50'

Green Argillite and Dacitic (or Andesitic) Tuff (Interlayered) -
Green Argillite - soft, green to yellow-green, layered 45°-55° to axis, wispy layering of sericite and brecciation common.
Dacitic Tuff - hard and soft, green, layered, 45°-55° to axis, with qtz ash (ash to lapilli), with minor calcareous basalt (77'-85' and 96'-98'), same as below

100'
105'

Green Argillite -
green and minor maroon, soft, well layered (70°-85° to axis), Maroon section scratch red. Minor calcareous basalt, green, and lt. green, massive, with minor calcite stringers, (105'-111'). Matrix also contains calcite (138'-140' and 158'-163').

150'

175'

Calcareous Basalt -
Same as above, large calcite vein (202'-208'). Minor felsic fragmental??, soft, green, somewhat layered, with felsic tuff pyroclastics and what appear to be exhalite fragments (202'-208').

200'

247'
250'

Bottom of Hole

Probably Cauc. Grid B hanging wall.

300'

350'

400'

J.S. Cummings Inc.

J.Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-51 Dip -45° Started 8/10/81 Elev. _____

See Sketch

Job no. 255 Township T7-R14/T7-R15 Coord. 255-29 Direction 87° Mag Completed 8/11/81

SE 7/15 - along road S of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	47	47'	Overburden		
47	105	58'	Trace Pyrite		
105	174	69'	.5% Pyrite (in stringers)		
174	247	73'	Trace Pyrite		
Bottom of Hole					

J. Lobao

(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-52 **Dip** -45° **Started** 8/17/81 **Elev.** _____

Job no. 255 **Township** T7-R14/T7-R15 **Coord.** 255-29 **Direction** 267° Mag **Completed** 8/18/81

See Sketch

SE 7/15 - along road S of Poland Pond

Lithotype

0'

Overburden

20'

Dacitic Tuff (?)

25'

Calcareous Basalt -
Soft, green-grey, massive to slightly foliate, fine grained with minor calcite stringers and calcite in matrix. Minor felsic ash tuff, felsic fragmental with yellow exhalite fragments, welded felsic tuff (99'-103'), all layered 20°-30° to axis.

50'

100'

103'

Qtz-Talc (or Sericite) Tuff or Exhalite -
Soft, grey (minor yellow section), finely laminated (20°-30° to axis), some layers contain qtz lapilli. Some sections have been altered by silica - via qtz. stringers?. Minor calcareous basalt, same as above (211'-215') and (218'-220').

Very fine grained qtz ash (?) laminated with talc or sericite - minor cross bedding in laminae, waterlain felsic tuff or exhalite

200'

220'

Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-52 Dip -45° Started 8/17/81 Elev. _____

Job no. 255 Township T7-R14/T7-R15 Coord. 255-29 Direction 267° Ma Completed 8/18/81

See Sketch
SE 7/15 - along road S of Poland Pond

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	20	20'	Overburden		
20	26	6'	Trace Pyrite		
26	103	77'	Trace Pyrite, Chalcopyrite and Sphalerite		
103	220	117'	.5% Pyrite, Trace Chalcopyrite		
Bottom of Hole					

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc **Hole no.** CC-53 **Dip** -45° **Started** 8/19/81 **Elev.** ____

See Sketch

Job no. 255 **Township** T7-R14/T7-R15 **Coord.** 255-29 **Direction** 87° Mag. **Completed** 8/20/81

SE 7/15 - SW of road

Lithotype

0'

Overburden

33'

Felsic Qtz Eye Tuff, Tuffaceous Siltstone, Minor Exhalite -
Reasonably hard, but scratchable, grey-green, massive with rounded ash to lapilli qtz in sericite-chlorite matrix. Minor exhalite - dark grey-green, layered but not well laminated, 75°-80° to axis with some visible ash, contains chl, talc (?), and qtz; and calcareous basalt

50'

100'

103'

Black Shale
Soft, black to grey, finely layered in some sections, 80° to axis, fine grained. Some sections are more calcareous than others, and some sections contain fragments of exhalite, black and grey chert, and dacite tuff (minor) in various quantities, some minor sections graphitic. Minor tuffaceous shale - dk. grey-green (119'-123'; 163'-165'; and 204'-214'); basalt (214'-216'); dacite tuff (123'-124'). Locally contorted and fragmented layers, locally calcareous lenses.

150'

200'

233'

Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc. J. Lobao

SULPHIDE LOG

Project Caucomgomoc Hole no. CC-53 Dip -45° Started 8/19/81 Elev. _____

See Sketch

Job no. 255 Township T7-R14/T7-R15 Coord. 255-29 Direction 87° Mag. Completed 8/20/81

SE 7/15 - SW of road

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
0	33	33'	Overburden		
33	103	70'	Trace Py, Chpy, & Sphl.		
103	233	130'	1-2% Pyrite and Pyrrhotite		
Bottom of Hole					

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-1 **Dip** -45° **Started** 5/14/81 **Elev.** ____

Job no. 255.1 **Township** T7-R14/T7-R15 **Coord.** 255-13 **Direction** 21° Mag **Completed** 5/28/81

See Sketch
NE T7-R15

Lithotype

0'

Overburden

47'

50'

Shale -
Soft, dark grey, grey, and light grey, layered, ≈30° to core axis, locally graphitic. Sample at 47' shows pyrrhotite and trace chalcopyrite along bedding and cross-cutting veins

76'

100'

Basalt -
Probable flow, soft, green to light green, massive, fine grained, with minor qtz, calcite, and epidote veins, with layers of shale, tuffaceous shale, basalt tuff or felsic tuff at 78'-80', 88'-101', 133'-145', 145'-180'

180'

200'

Shale and Tuffaceous Shale -
Soft, dark to light grey, layered ≈ 30°-25° to core axis with very calcareous shale layers, dark grey shale layers and tuffaceous shale layers with minor qtz eyes and fragments, some layers are sericitic in composition, minor siliceous layers (felsic tuffs), and some are basaltic (basalt tuff);
205'-209' - soft, grey, massive. fine grained basalt with minor calcite veins
Sample at 227' shows pyrrhotite and trace chalcopyrite along bedding and a layer(?) with calcite, sphalerite, chalcopyrite and pyrrhotite.

247'

250'

Bottom of hole

300'

350'

400'

J. S. Cummings, Inc.

DDH CCN-1 - (Assays for Portion of Hole)

DEPTH (FEET) FROM COLLAR	LENGTH	% Zn	% Cu	% Pb	Oz/Ag	Oz/Au	Approx. % Sulphide
47 - 51	4'	None	0.012	None			3.3
51 - 56	5'	None	0.006	None			1.0
56 - 61	5'	None	None	None			1.5
61 - 66	5'	None	None	None			1.7
66 - 71	5'	None	0.006	None			1.9
71 - 76	5'	None	None	None			0.4

Bottom of Hole: 247'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-1 Dip -45° Started 5/14/81 Elev. _____

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 NE T7-R15 Direction See Sketch 21° Mag. Completed 5/29/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
47	76	29'	1% (2 samples show 3%) TCW	.5% Pyrite, .4% Pyrrhotite, .1% Chalcopyrite	
76	180	104'	<.5%	Pyrrhotite, Trace Chalcopyrite, Trace Pyrite, *NOTE: large bleb of Pyrrhotite at 158'	
180	247	67	>.5% <1%	Pyrite - Trace Chalcopyrite, Trace Sph (196', 227')	
Bottom of Hole					

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-2 **Dip** -45° **Started** 5/30/81 **Elev.** ____

See Sketch

Job no. 255.1 **Township** T7-R14/T7-R15 **Coord.** 255-13 **Direction** 201° Mag **Completed** 5/31/81

NE T7-R15

Lithotype

0'

Overburden

25'

Basalt -
Soft with some more siliceous sections, grey, fine grained, with considerable stringers of epidote, qtz, and calcite in some sections

50'

25' - 48' - more coarse grained with rounded to subrounded plagioclase

75' - 77' - Larger, angular quartz and felsic fragments

100'

Sample at 118' shows sericite-chlorite exhalite with chalcopyrite, sphalerite and pyrrhotite

150'

154'

Interlayered Basalt Tuff, Dark Grey Shale, Tuffaceous Shale and minor Calcareous Shale, ≈50° to core axis

175'

Basalt Tuff -
more layered or foliate

200'

220'

Interlayered Basalt Tuff - tuffaceous shale and calcareous shale

226'

Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-2 Dip -45° Started 5/30/81 Elev.

See Sketch

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag Completed 5/31/81

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
25	226	201'	<.5%	Pyrrhotite/Pyrite, Trace	
				Chalcopyrite and Sphalerite	
117	117.3	0.3'	1%	Chalcopyrite, Trace Sphalerite	
				(Vein bleb) (To office!)	
147.5	148	0.5'	1% Chalcopyrite,		
			2%-5% Pyrrhotite		

J.S. Cummings Inc. J. Lobao

LITHOLOGIC LOG

Project Caucomgomoc North Hole no. CCN-3 Dip -45° Started 6/2/81 Elev. _____

See Sketch

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag Completed 6/9/81

NE T7-R15

Lithotype

0'

Overburden

50'

54'

Basalt -
soft, fine grained, grey-green with considerable stringers of epidote in some sections, some stringers appear brecciated with minor

100'

91'-93' - grey, coarse grained, probably altered basalt with phenocrysts of hornblend or andesite

150'

93'-117'- basalt tuff, grey, green, soft, weakly to well layered, ≈50°-60° to axis

181'-254'- more coarse grained with lath shaped plagio-clase crystals with minor epidote stringers, some sections are fine grained

200'

250'

254'

Bottom of Hole

300'

NOTE:

5' of core lost from 54'-66'

Boxes 17, 18, 19, or 211'-241' have been dumped

350'

400'

Lithotype

400'

450'

500'

550'

600'

650'

700'

750'

800'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-3 Dip -45° Started 6/2/81 Elev.

See Sketch

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag Completed 6/9/81

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
54	254	200'	<.1%	Pyrite, Pyrrhotite, trace chalcopyrite	
Bottom of Hole					

J. Lobao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-4 **Dip** -45° **Started** 6/9/81 **Elev.** _____

Job no. 255.1 **Township** T7-R14/T7-R15 **Coord.** 255-13 **Direction** 201° Mag **Completed** 6/11/81

See Sketch
NE T7-R15

Lithotype

0'

Overburden

50'
56'

Basalt - reasonably hard, but scratchable, grey, medium grained with lath shaped plagioclase? crystals

70'

Quartz-sericite (?) exhalite or chert - light grey to green to light maroon, well layered, 70°-80° to axis, fine grained with some visible fine ash (includes a green unknown mineral and trace chalcopyrite)

86'
100'

Basalt Tuff (?) - soft with minor hard sections, green, fine grained, well layered, 70°-80° to axis with minor siliceous exhalite and calcareous sediment

104'

Basalt -
Soft, grey-green, fine to medium grained (medium grained has lath shaped plagioclase crystals) with minor siliceous exhalite, basalt tuffs and black to grey shale (minor graphite), layering ≈60°-70° to axis

150'

192'
200'

Black to Grey Shale -
Soft, well layered, 70° to axis, with minor graphite in some sections, some sections of "grey" shale appear tuffaceous, minor section basalt

Quartz-sericite(?) Exhalite and Basalt Tuff - hard and soft, green, layered 70° to axis, fine grained (Trace to 1% mgt.)

250'
254'
256'

Bottom of Hole

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-4 Dip -45° Started 6/9/81 Elev. _____

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 See Sketch NE T7-R15 Direction 201° Mag Completed 6/11/81

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
70	86	16'	2%	Pyrrhotite, Tr Pyrite, Chalco-pyrite and Sphalerite	SiO_2?
86	192	24'	<.5%	Pyrite, Tr Chalcopyrite	
192	254	62'	1%	Pyrite, Pyrrhotite, Tr Chalcopyrite	
Bottom of Hole					

J.S. Cummings Inc. J. Lobao

LITHOLOGIC LOG

Project Caucomgomoc North Hole no. CCN-5 Dip -45° Started 6/11/81 Elev. _____

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag See Sketch Completed 6/12/81
NE T7-R15

Lithotype

0'

Overburden

50'

54'

Basalt and Grey to Black Shale -
Basalt - reasonably hard, but scratchable, green, fine to medium grained with lath shaped plagioclase?, laths in medium grained section, minor epidote and calcite stringers
Shale - soft, black to grey to green, well layered, 75°-80° to axis, fissile, minor graphite, sericite and tuffaceous layers
Shale - 70' - 80' (tr. chpy. in vein at 74')
87' - 109'
126' - 136'
155' - 181'

100'

150'

181'

200'

Basalt - reasonably hard, but scratchable, green, fine to medium grained with lath shaped plagioclase laths in medium grained sections, minor epidote, calcite and quartz stringers

250'

256'

Bottom of Hole

300'

350'

400'

Lithotype

400'

450'

500'

600'

650'

700'

750'

800'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-5 Dip -45° Started 6/11/81 Elev. _____

See Sketch

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag Completed 6/12/81

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
70	80	10'	Trace	Pyrrhotite and Pyrite	
87	109	22'	<.5%	Pyrrhotite	
122	155	33'	Trace	Pyrrhotite, Pyrite and Chalcopyrite	
155	181	26'	<5%	Pyrrhotite	
181	256	75'	Trace	Pyrrhotite	
Bottom of Hole					

J.S. Cummings Inc.

J. Lobao

LITHOLOGIC LOG

Project Caucomgomoc North Hole no. CCN-6 Dip -45° Started 6/13/81 Elev. _____

Job no. 255.1 Township T7-R14/T7-R15 Coord. 255-13 Direction 201° Mag Completed 6/14/81

See Sketch
NE T7-R15

Lithotype

0'

Overburden

50'

74'

Basalt - reasonably hard, but scratchable, green, fine to medium grained with minor lath shaped crystals (plagioclase?), minor epidote, and calcite stringers

100'

148'-153' - basalt tuff and green to dark maroon shale, soft, layered ≈70° to axis, with minor siliceous layers

150'

257'-274' - basalt and basalt tuff, green, massive and layered, fine grained with minor calcareous stringers, appears altered

200'

250'

274'

Bottom of Hole

300'

350'

400'

Lithotype

400'

450'

500'

550'

600'

650'

700'

750'

800'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caicomgomoc North Hole no. CCN-6 Dip -45° Started 6/13/81 Elev. _____

Job no. 255.1 Township T7-R14/T7-R15 Coord. See Sketch 255-13 Direction 201° Mag Completed 6/14/81

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
74	148	74'	Trace	Pyrrhotite	
148	153	5'	<.5%	Pyrrhotite, Trace Chalcopyrite	
257	274	17'	Trace	Pyrrhotite	
Bottom of Hole					

J. Lobao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-7 **Dip** -45° **Started** 6/16/81 **Elev.** _____

See Sketch

Job no. 255.1 **Township** T7-R14/15 **Coord.** 255-13 **Direction** 201° Mag **Completed** 6/17/81

NE T7-R15

Lithotype

0'

10' Overburden

Basalt -

Reasonably hard but scratchable, grey-green, fine to medium grained with minor lath shaped plagioclase crystals in medium grained section, some sections have a mottled texture

50'

W/Minor -

23'-31' - Tuffaceous Shale, Welded Felsic Tuff and Basalt -

Tuffaceous Shale - soft, grey-green, layered ≈65° - 70° to axis, white-green streak

Welded Felsic Tuff - hard and soft, grey to light green with felsic pyroclastics up to lapilli in size, some pyroclastics appear welded, chlorite matrix

100'

62'-63' - Welded Felsic Tuff - (same as above)

88'-93' - Tuffaceous Shale? - locally contains fragments

150'

200'

210' Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-7 Dip -45° Started 6/16/81 Elev.

Job no. 255.1 Township T7-R14/15 Coord. 255-13 Direction 201° Mag Completed 6/17/81

See Sketch

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
10	23	13'	Trace Pyrrhotite and Pyrite		
23	31	8'	.5% Pyrrhotite, Trace Chalcopyrite		
31	210	179'	Trace Pyrrhotite		
Bottom of Hole					

J. Lobao

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-8 **Dip** -45° **Started** 6/22/81 **Elev.** _____

Job no. 255.1 **Township** T7-R14/15 **Coord.** 255-13 **Direction** 201° Ma **Completed** 6/23/81

See Sketch
NE T7-R15

Lithotype

0'

Overburden

36'

Basalt -
Reasonably hard, but scratchable, grey-green, fine to med. grained with minor euhedral (lath) and anhedral plagioclase crystals in medium grained sections, minor epidote, calcite and qtz stringers, minor section of basalt seems altered, grainy, with soft altered hornblende or biotite books

50'

49'-50' - Siliceous Vein? - hard, white to buff, medium grained with subrounded qtz, epidote is found surrounding the quartz (may be an altered quart: vein)

100'

93'-95' - Tuffaceous (basaltic to felsic?) - hard, and soft, grey-green, fine grained with some layering, 60° - 70° to axis and fine quartz pyroclastics?, minor epidote present

150'

201'-220' - Tuffaceous (basaltic to felsic?) - soft, green-grey, fine grained with ash to lapilli size pyroclastics, some layering, ≈ 60° - 70°, this section appears altered

200'

236'

Bottom of Hole

250'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-8 Dip -45° Started 6/22/81 Elev. _____

Job no. 255.1 Township T7-R14/15 Coord. 255-13 Direction 201° Mag. Completed 6/23/81

See Sketch
NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
36	236	200'	<.5% Pyrrhotite, Trace Chalcopyrite		
Bottom of Hole					

J. Lobao
(TCW)

J.S. Cummings Inc.

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-9 **Dip** -45° **Started** 6/24/81 **Elev.** ____

Job no. 255.1 **Township** T7-R14/15 **Coord.** 255-13 **Direction** 201°Mag **Completed** 6/25/81

See Sketch
NE T7-R15

Lithotype

0'

Overburden

33'

Basalt and Minor Felsic and/or Andesitic Tuff -
Basalt - soft, grey-green, fine grained with minor calcareous sections and stringers some medium to coarse grained with books of chlorite and other mafics (65' - 69')

Felsic and/or Andesitic Tuff - grey, soft, slightly layered (64° - 70°) with sub-rounded (lapilli) to rounded quartz in sericite/chlorite, talc, epidote matrix (35' - 39') (76' - 79')

50'

100'

Dacite Porphyry - hard, green, with plagioclase phenocrysts, in fine grained matrix, and flecks of epidote in matrix

124'

Basalt and Felsic and Andesitic (?) Tuff

Basalt - same as above, medium to coarse grained with chloritic books

129' - 136' - Welded Felsic Tuff (hard, massive, white with chlorite flecks, appears welded)

136' - 138', 148' - 155', 167' - 171', 189' - 198' -Felsic and/or Andesitic Tuff - soft and hard, green-grey, slightly layered or massive, feldspar and quartz fragments, chlorite-sericite - (talc - epidote?) matrix, coarse fragments from 167' - 171', fine grained and hard from 152' - 154'

200'

233'

Bottom of Hole

250'

Footages for Basalt and Felsic Tuff from 124' - 233'

Basalt	Felsic Tuff
124' - 129'	129' - 130' (welded)
138' - 148'	130' - 136' (welded)
155' - 167'	136' - 138' (felsic and/or andes.
176' - 182'	148' - 152'
183' - 189'	154' - 155'
208' - 233'	189' - 198'

300'

350'

400'

J.S. Cummings Inc.

J. Lobao

SULPHIDE LOG

Project Caucomgomoc North Hole no. CCN-9 Dip -45° Started 6/24/81 Elev. _____

Job no. 255.1 Township T7-R14/15 Coord. 255-13 Direction 201° Mag. Completed 6/25/81

See Sketch

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
33	189	156'	Trace Pyrrhotite and Pyrite		
189	208	19'	<.5% Pyrrhotite, Trace Chalcopyrite, Trace Sphalerite? @ 194'		
208	233	25'	Trace Pyrrhotite and Pyrite		
Bottom of Hole					

J.S. Cummings Inc.

J. Lobao
(TCW)

LITHOLOGIC LOG

Project Caucomgomoc North **Hole no.** CCN-11 **Dip** -45° **Started** 6/28/81 **Elev.** _____

See Sketch

Job no. 255.1 **Township** T7-R14/15 **Coord.** 255-13 **Direction** 201°mag **Completed** 6/29/81

NE T7-R15

Lithotype

0'

Overburden

21'

Basalt

50'

Soft, grey-green, fine grained with stringers of epidote, calcite and minor quartz - Very abundant in sections

48' - 71' - Fragmented quartz-sericite exhalite with a basalt matrix

150' - 152' - Some layering ≈ 70° to core axis with quartz and minor calcareous frag? - pyroclastics? - ash? in a chlorite/sericite matrix

100'

200'

221'

250'

300'

350'

400'

J.S. Cummings Inc.

SULPHIDE LOG

J. Lobao

Project Caucomgomoc Hole no. CCN-11 Dip -45° Started 6/28/81 Elev. _____

See Sketch

Job no. 255.1 Township T7-R14/15 Coord. 255-13 Direction 201°mag Completed 6/29/81

NE T7-R15

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
21'	48'	27'	.5% pyrrhotite and		
			pyrite	Trace chalcopyrite	
48'	71'	23'	.5% - 1% pyrrhotite	Trace chalcopyrite	
71'	150'	89'	<.5% pyrrhotite		
150'	152'	2'	1% pyrrhotite	Trace chalcopyrite	
152'	221'	69'	<.5% pyrrhotite	Trace chalcopyrite	
	Bottom				