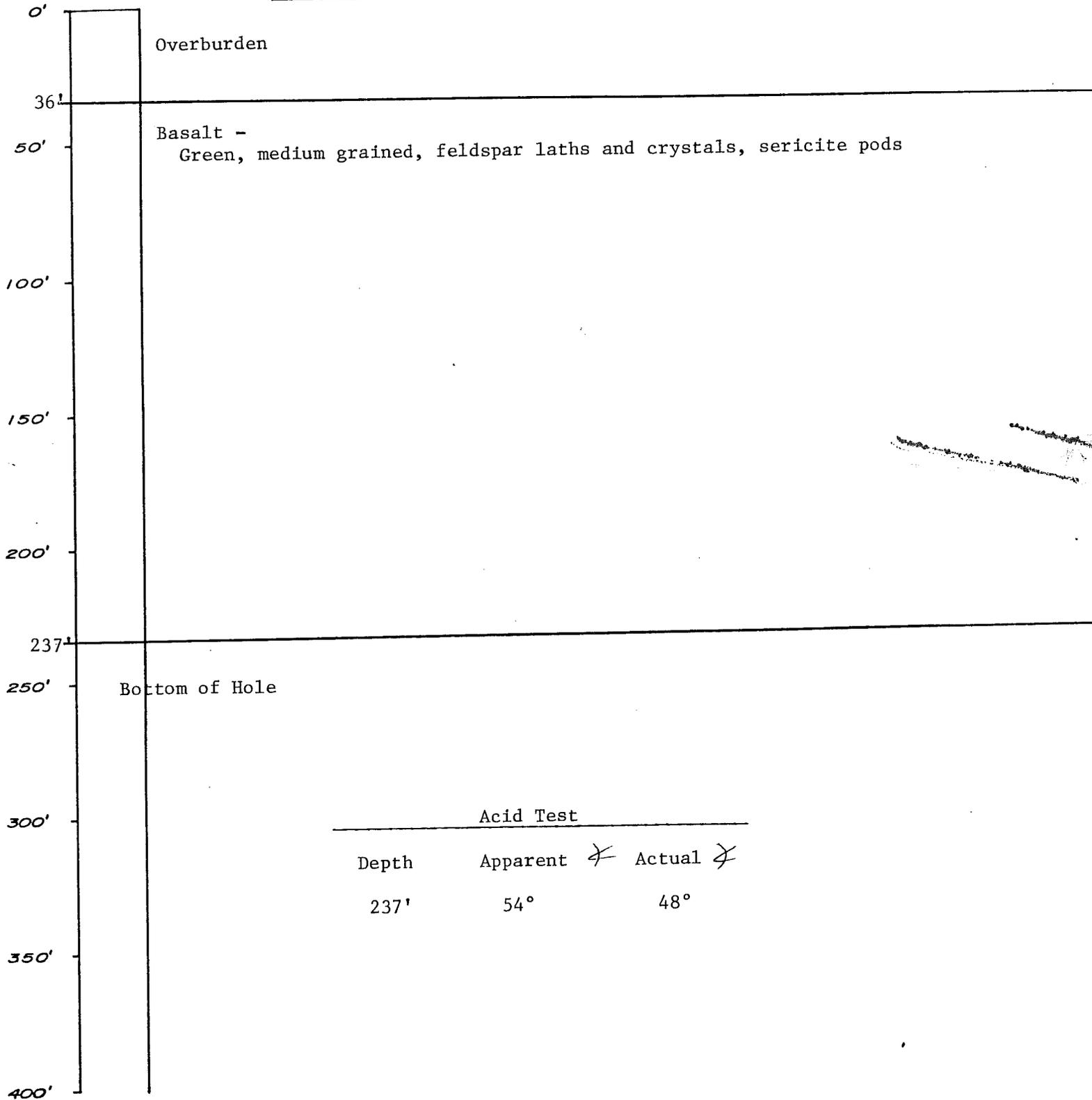


LITHOLOGIC LOG

Project Lithologic T11-R7 Hole no. 117-3 Dip -45° Started 5/11/81 Elev.       

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 336° Mag. Completed 5/13/81  
NW 1/4 - on access road

Lithotype





LITHOLOGIC LOG

Project Lithologic T11-R7 Hole no. 117-4 Dip -45° Started 5/13/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 336° Mag. Completed 5/15/81

NW 1/4 - about 1000' W of 117-3

Lithotype

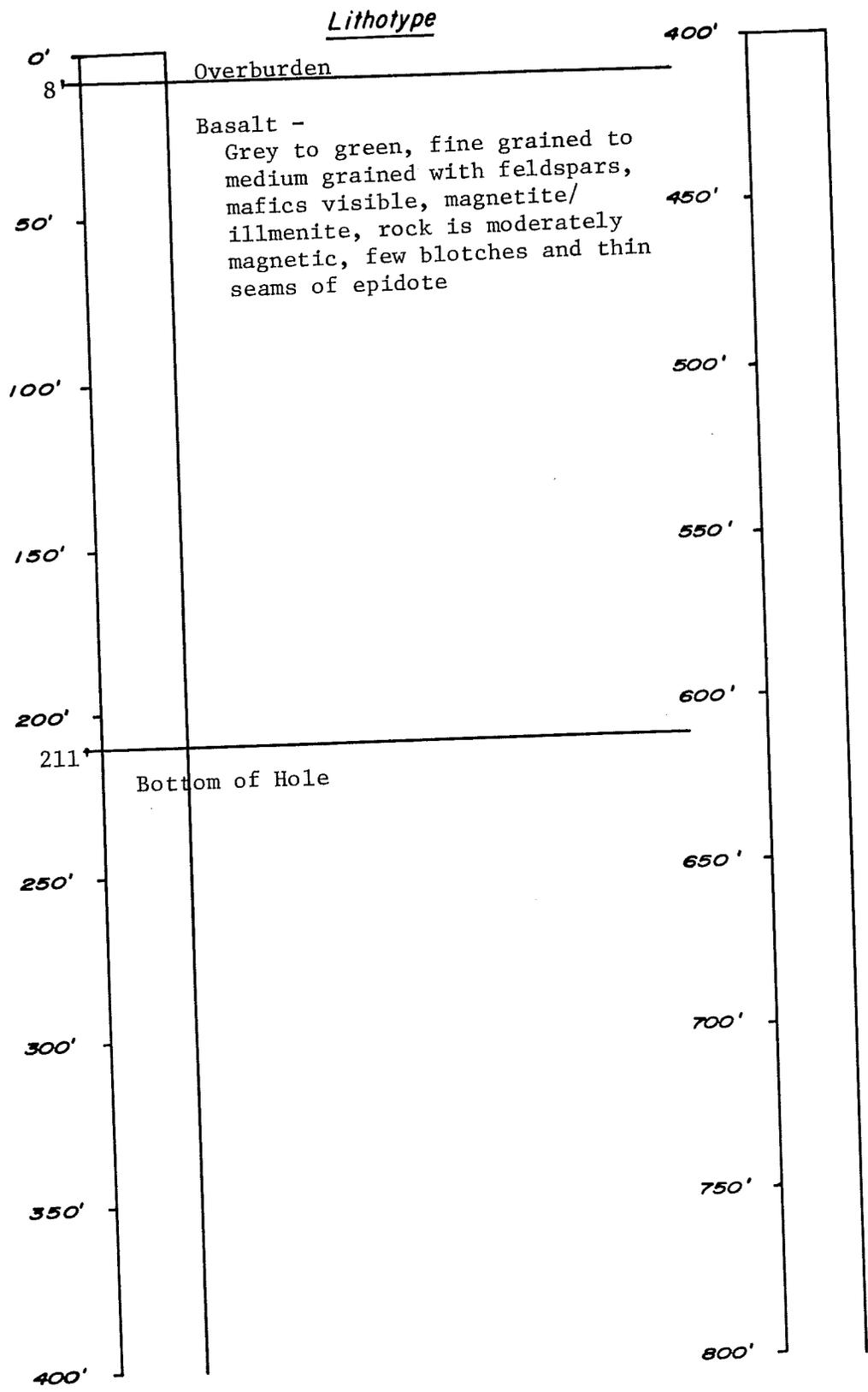
0'	Overburden
13'	Basalt - Grey-green, fine grained, weakly magnetitic
47' 50'	Mixed Rhyolite and/or Chert and Layered Sediment (probable chert and layered siliceous siltstone)-TCW
83'	Felsic Gritty to Lapilli Tuff - sericitic, weakly layered at +45° to core axis, 2" of red hem. chert at 81' (good looking rock)
89'	Chert - grey-green and pink colored, very fine grained, badly broken
93'	Felsic Tuff - green, weakly layered, +20° to core axis (with grit, sericite, minor chlorite)-TCW
100'	Mixed Chert and Sericitized Sediment - super fine grained
109'	Chert - red, hematitic, very fine grained, locally brecciated, faint layering?
124'	Mixed grey-green, super fine grained sediment, layered 90° to 20° to core axis. (tuffaceous <del>to</del> siltstone?)- TCW
134'	Mixed red and grey chert and green tuffaceous sediment Some of the red hematitic chert is very fine grained, faint layering in places at +30° to core axis. (tuffaceous siltstone?)-TCW
149' 150'	Chert (or Rhyolite)- dark grey to light grey to green, very fine grained, layered in places from 45°-60° to core axis, short sections show brecciation (probable chert)-TCW
186'	Bottom of Hole
200'	
213'	
250'	
300'	
350'	
400'	



LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-5 Dip -45° Started 5/17/81 Elev.       

Job no. 277 Township T11-R7 See Sketch Coord. 277-4 Direction 111° Mag Completed 5/18/81  
NW 1/4 - about 1000' W of 117-4





J.S. Cummings Inc.

LITHOLOGIC LOGProject T11-R7 Lithologic Hole no. 117-6 Dip -45° Started 5/19/81 Elev. \_\_\_\_\_Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Ma Completed 5/27/81  
NW 1/4 - about 1000' NW of 117-5Lithotype

0'	Overburden
6'	Basalt, Altered - Grey, fine to medium grained with cream to beige colored altered feldspars, clear plagioclase laths
50'	
69'	Rhyolite to Dacite (or Chert) - Grey, very fine grained, very siliceous in most sections with couple short shaley places, locally cracked and brecciated
100'	
124'	Rhyolite Breccia (or Chert) - Grey, fine grained, qtz and calcite rich groundmass surrounding good angular to wedged shaped fragments of grey rhyolite from 160'-163' - grey basalt, similar to upper section
172'	
180'	<del>Basalt - grey-green, fine to medium grained, altered feldspars</del>
185'	<del>Rhyolite - grey, fine grained, cracked (or Chert?)</del>
200'	Basalt - green, fine to medium grained with altered and unaltered feldspars, clear plagioclase laths, disseminated flecks of chlorite
203'	Bottom of Hole
250'	
300'	
350'	
400'	



LITHOLOGIC LOG

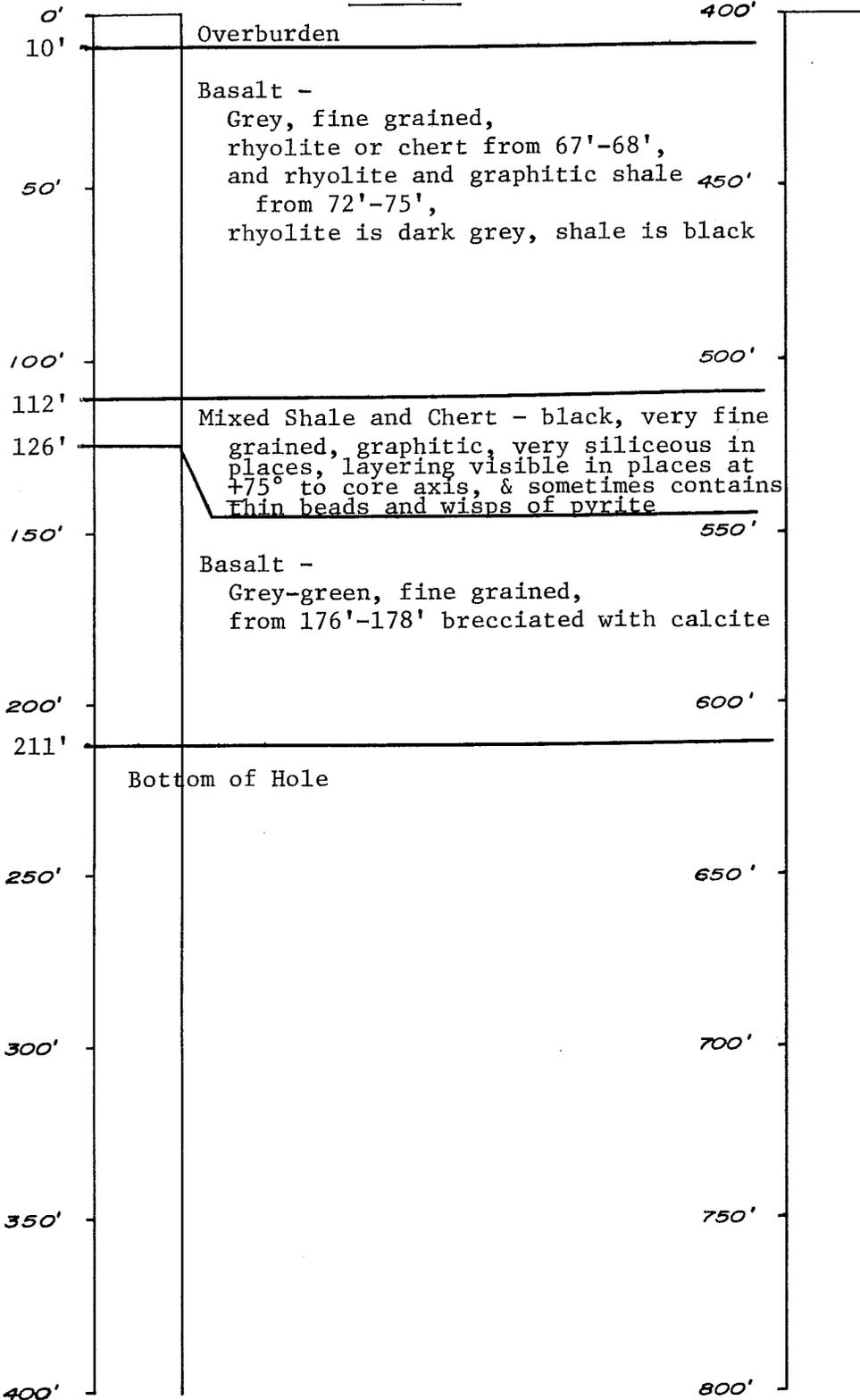
Project T11-R7 Lithologic Hole no. 117-7 Dip -45° Started 5/27/81 Elev. \_\_\_\_\_

See Sketch

Job no. 277 Township T11-R7 Coord. 277-4 Direction 111° Mag Completed 5/29/81  
 NW 1/4 - about 1000' NW of 117-6

Lithotype

Lithotype



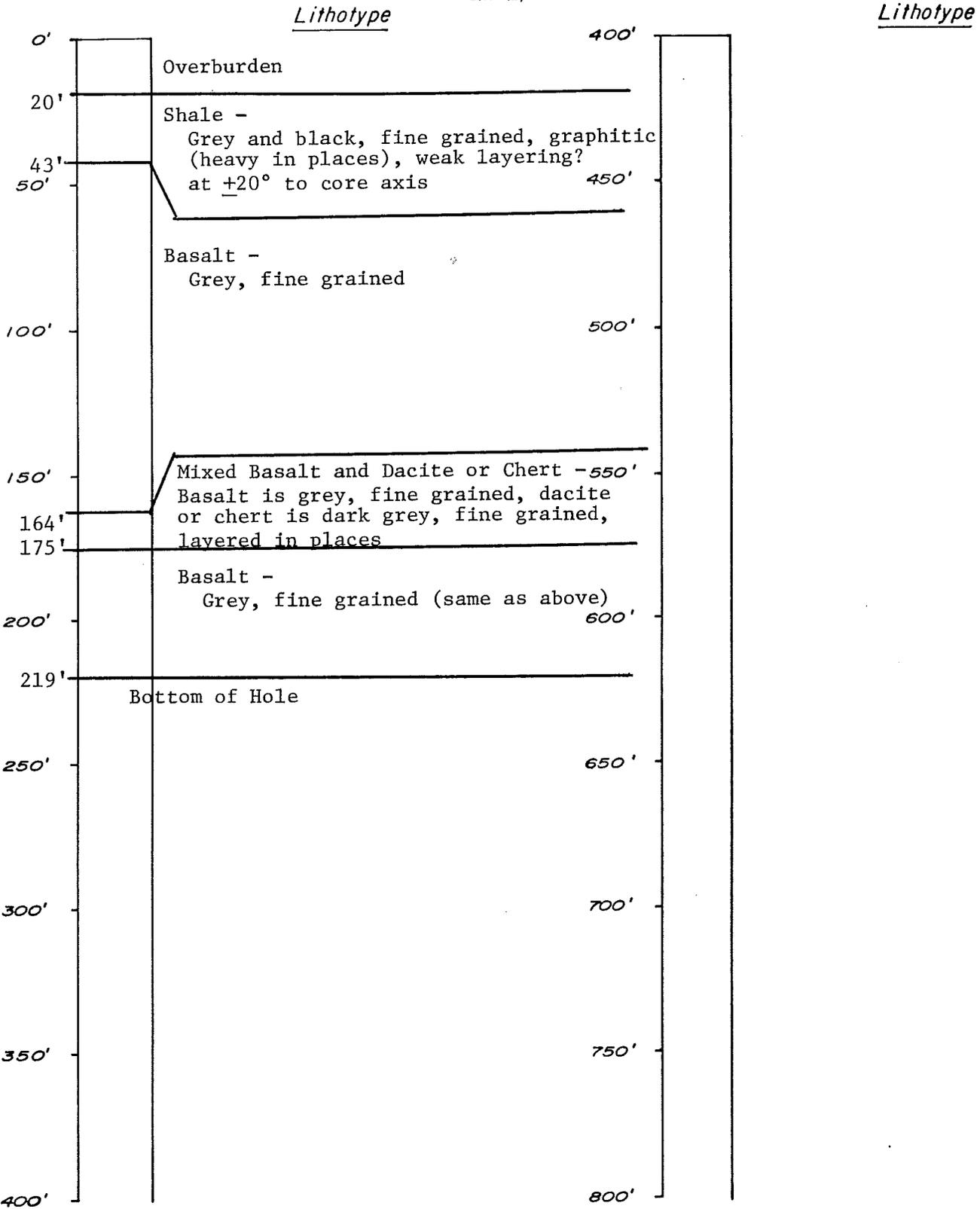


LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-8 Dip -45° Started 5/30/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Mag Completed 5/31/81

NW 1/4 - about 1000' W of 117-7





LITHOLOGIC LOG

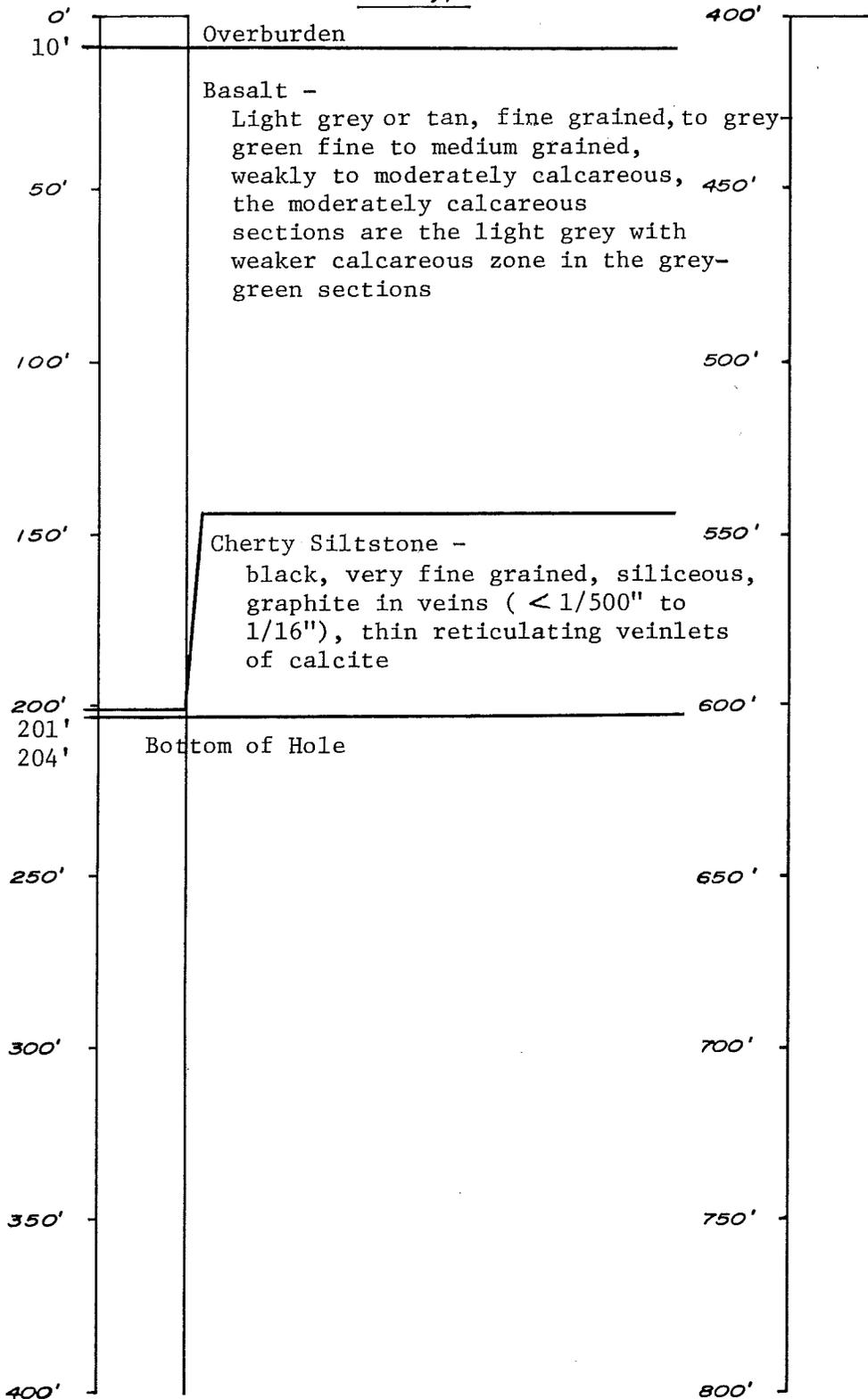
Project T11-R7 Lithologic Hole no. 117-9 Dip -45° Started 6/1/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Mag Completed 6/8/81

NW 1/4 - about 1000' W of 117-8

Lithotype

Lithotype





LITHOLOGIC LOG

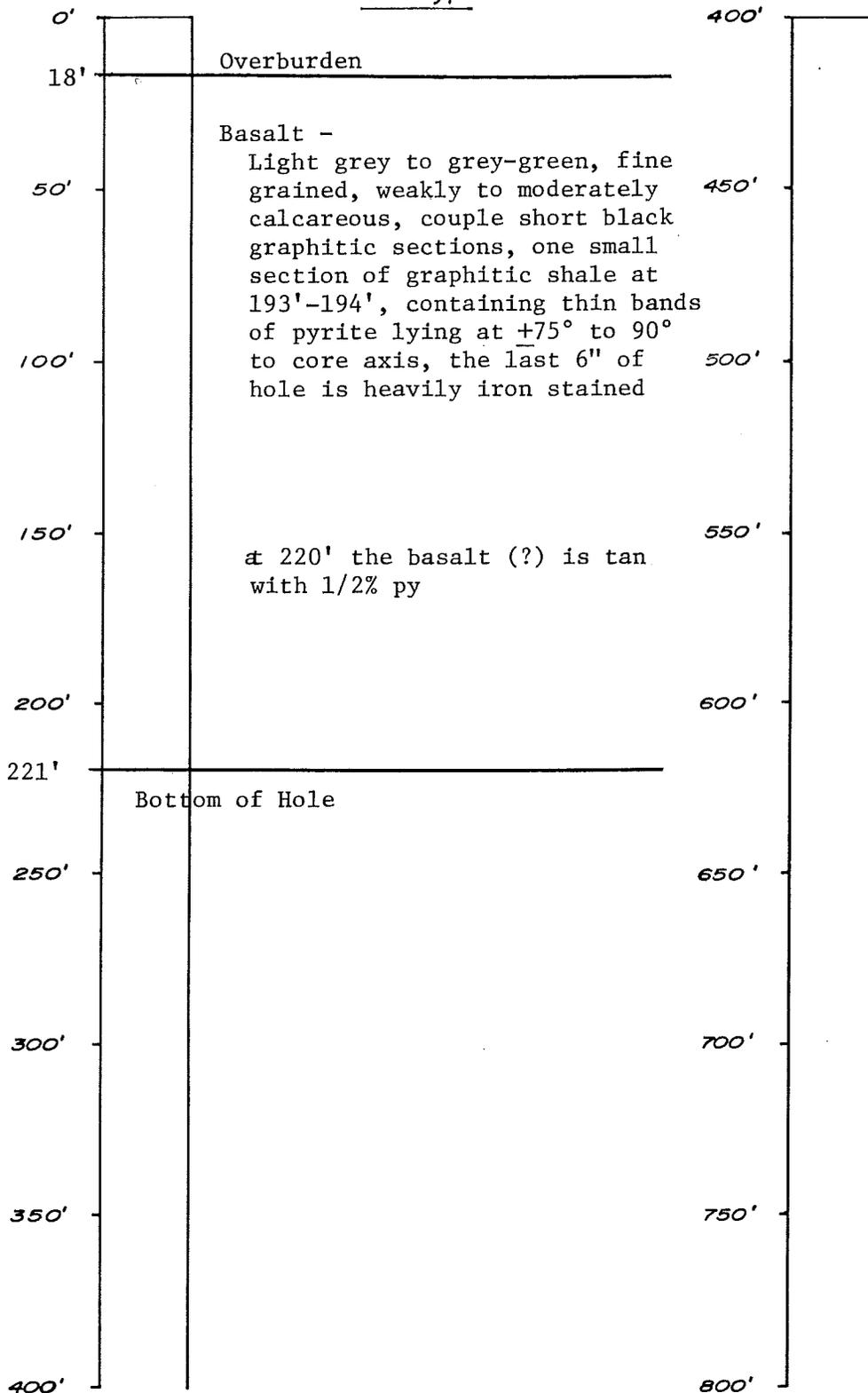
Project T11-R7 Lithologic Hole no. 117-10 Dip -45° Started 6/8/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111° Mag Completed 6/9/81

NW 1/4 - about 1000' W of 117-9

Lithotype

Lithotype

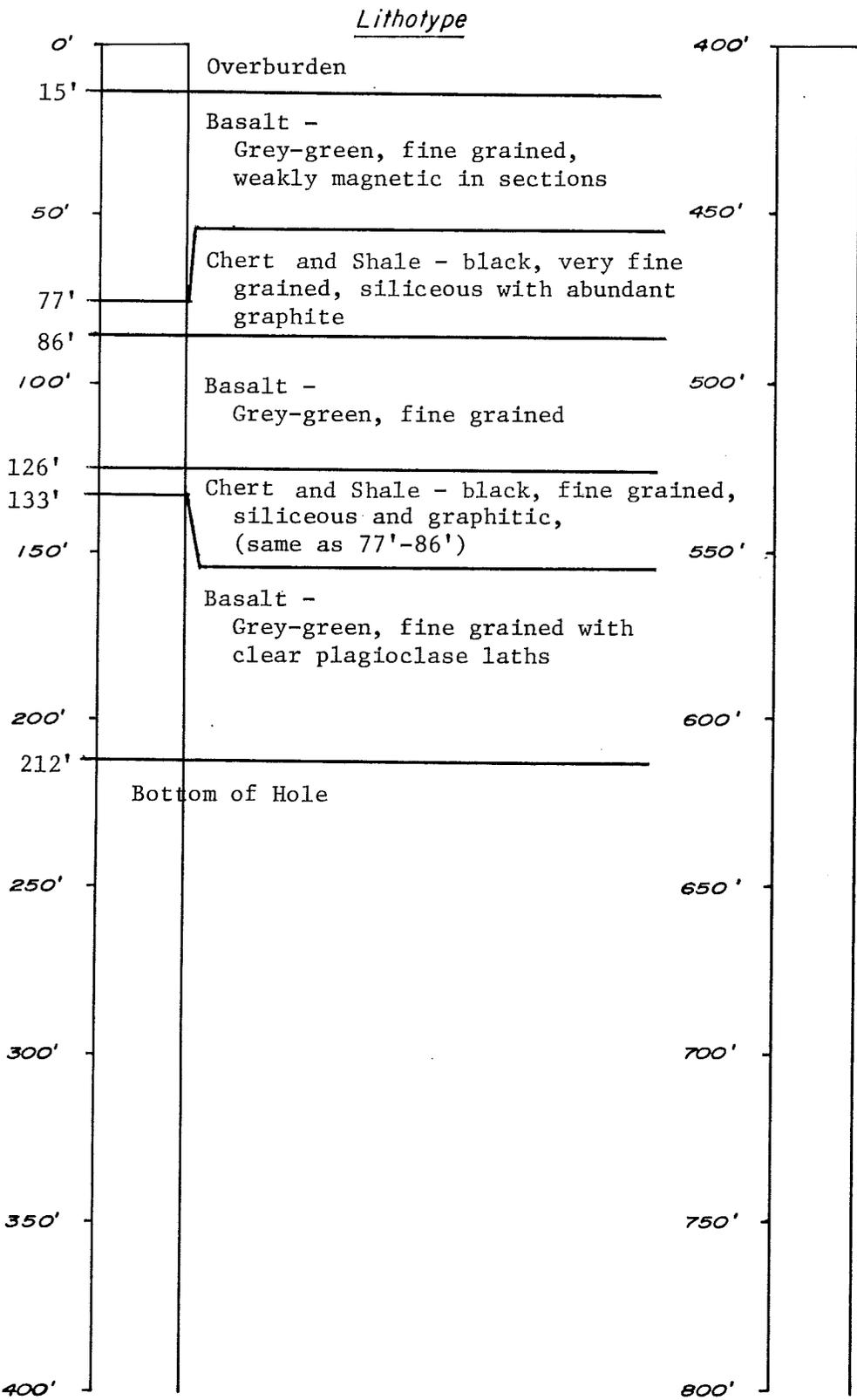




LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-11 Dip -45° Started 6/10/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Mag Completed 6/12/81  
NW 1/4 - about 1000' W of 117-10





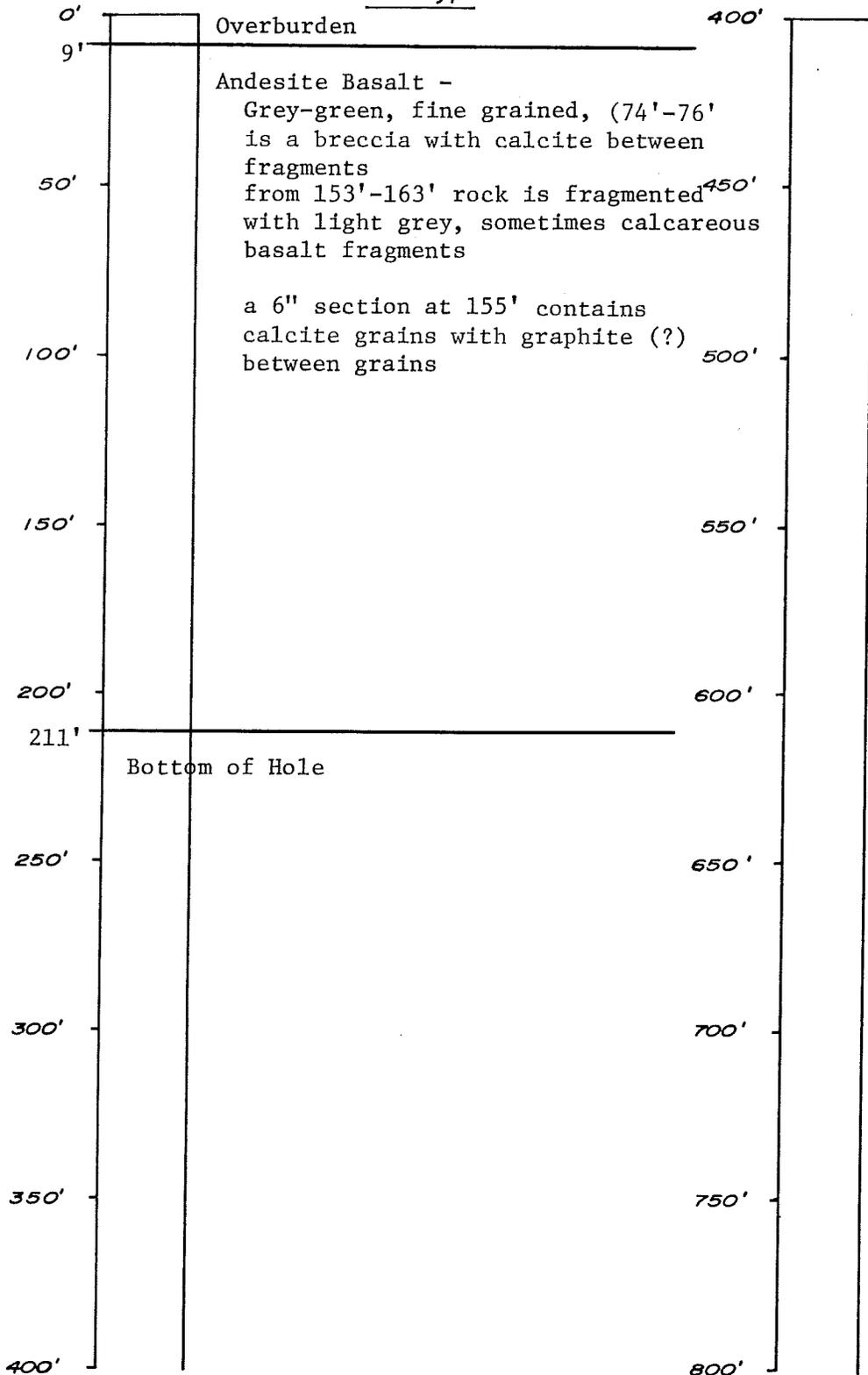
LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-12 Dip -45° Started 6/13/81 Elev.         

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Mag Completed 6/14/81  
NW 1/4 - about 1000' W of 117-11

Lithotype

Lithotype





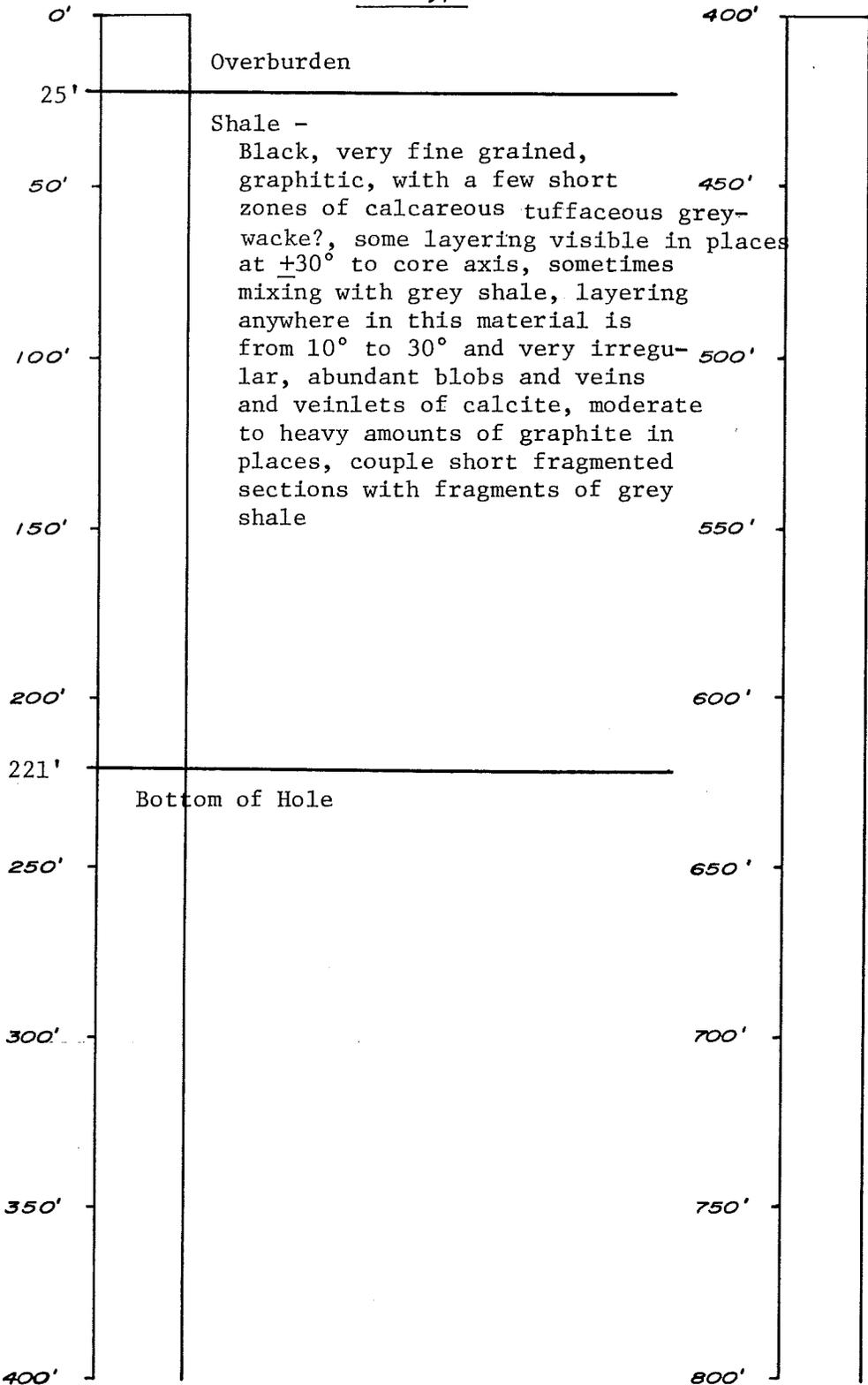
LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-13 Dip -45° Started 6/15/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111° Mag Completed 6/16/81  
 NW 1/4 - about 1000' W of 117-12

Lithotype

Lithotype





J.S. Cummings Inc.

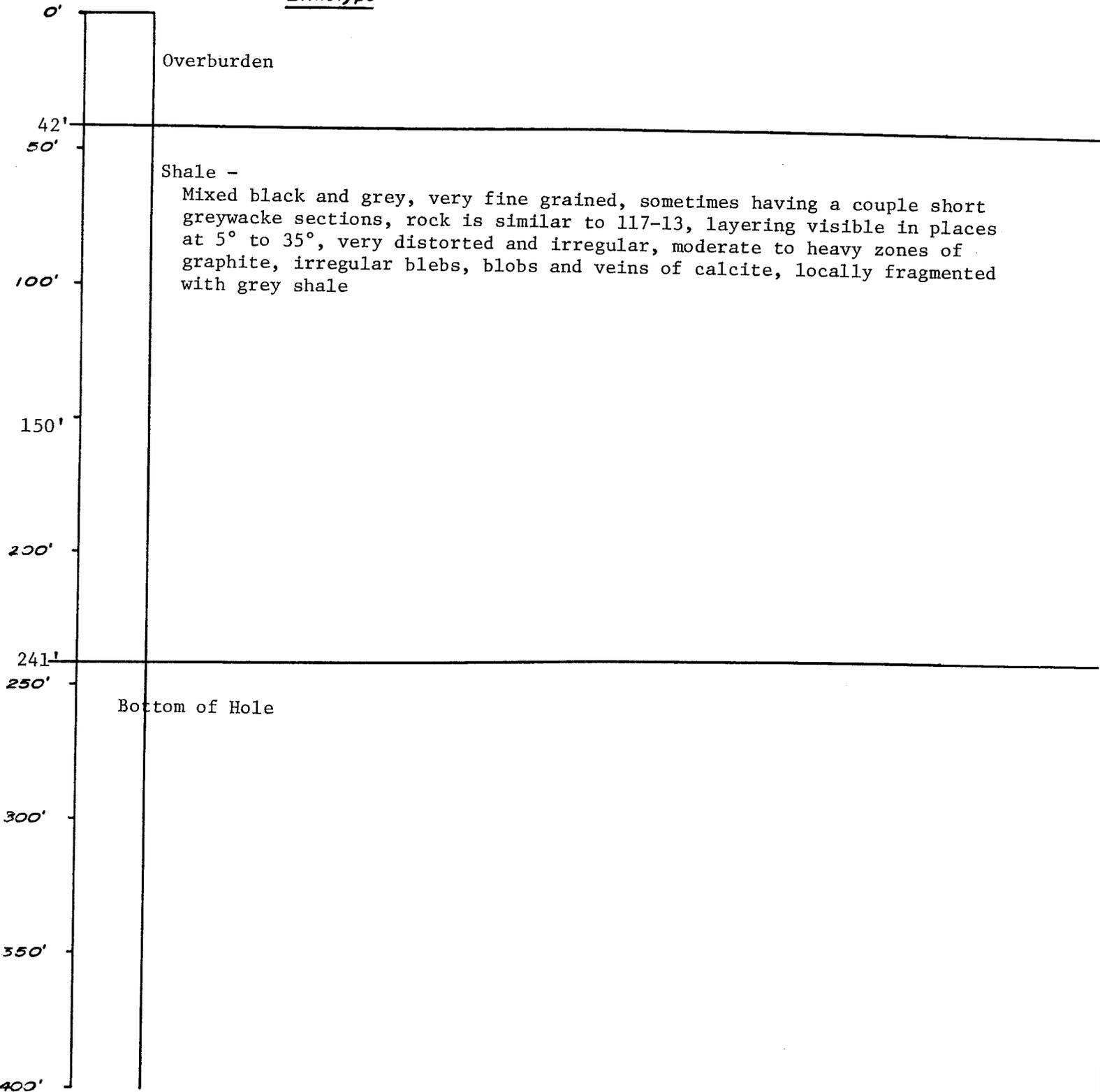
LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-14 Dip -45° Started 6/16/81 Elev.         

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111° Mag Completed 6/22/81

Lithotype

NW 1/4 - about 1000' W of 117-13

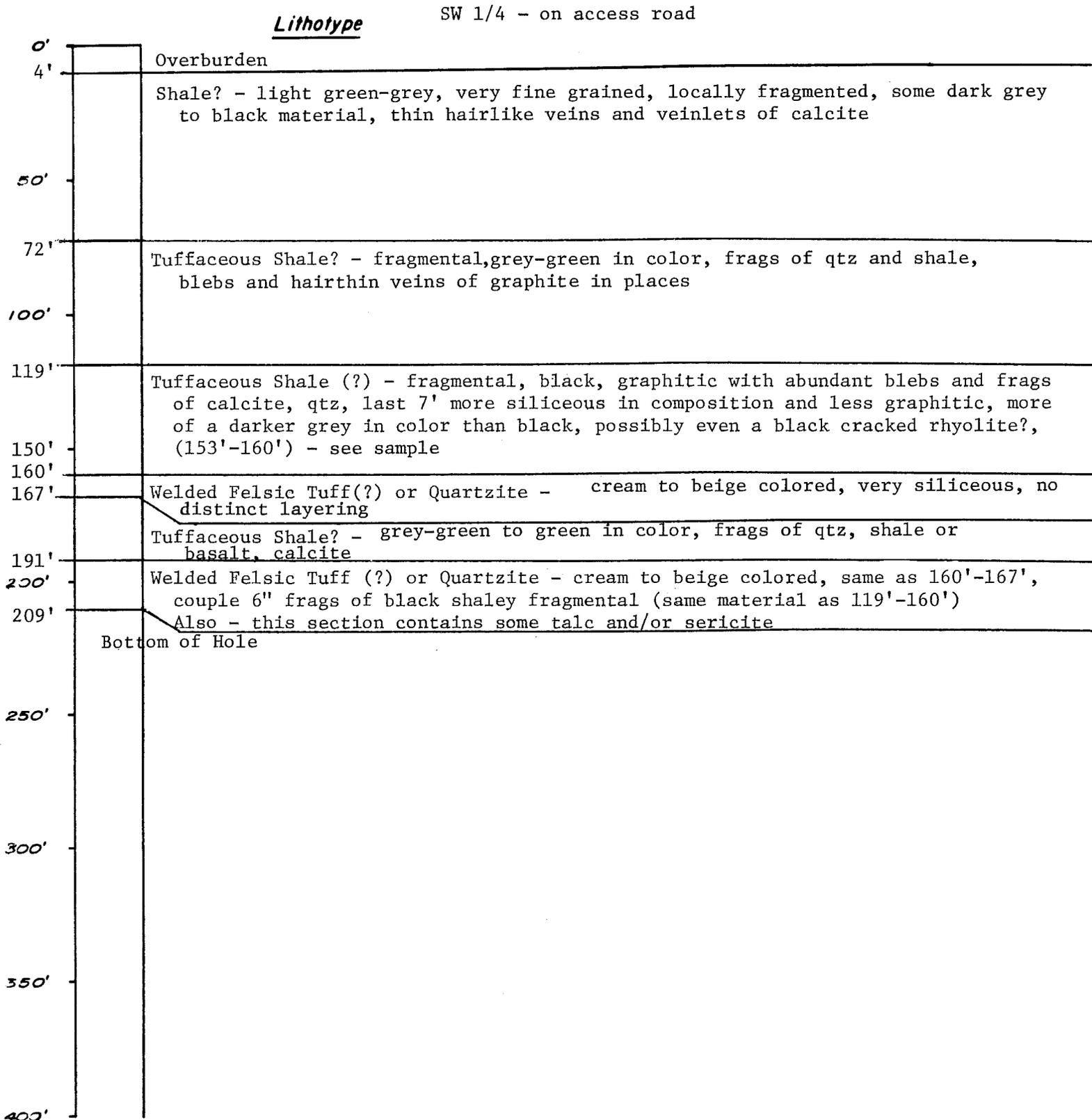




LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-15 Dip -45° Started 6/24/81 Elev.         

Job no. 277 Township T11-R7 See Sketch Coord. 277-4 Direction 111° Mag          Completed 6/25/81





J.S. Cummings Inc.

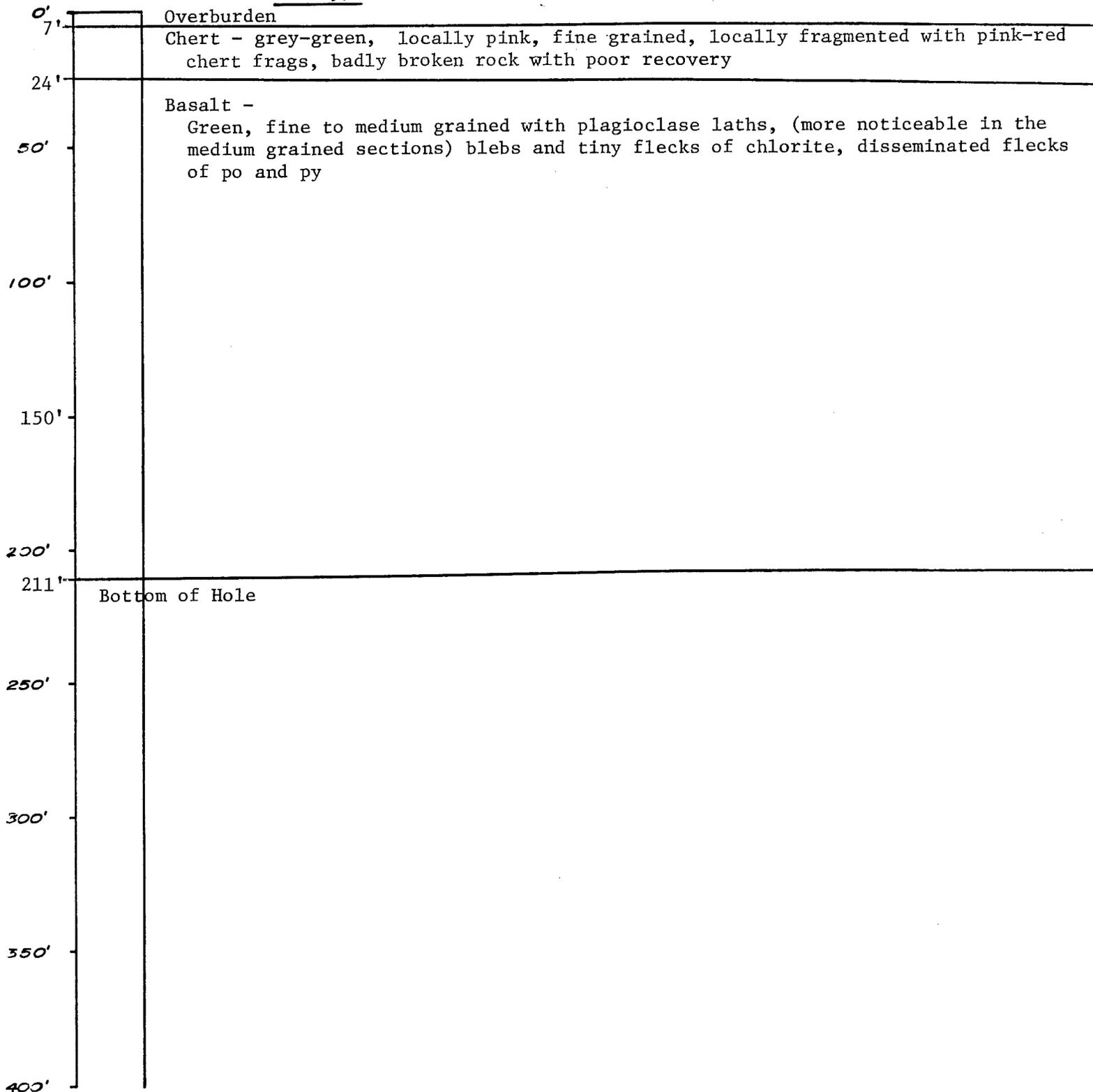
LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-16 Dip -45° Started 6/26/81 Elev.         

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111° Mag Completed 6/27/81

SW 1/4 - about 1000' NW of 117-15

Lithotype





LITHOLOGIC LOG

Project T11-R7 Lithologic Hole no. 117-17 Dip -45° Started 6/28/81 Elev.       

Job no. 277 Township T11-R7 See Sketch Coord. 277-4 Direction 111° Mag Completed 6/30/81

SW 1/4 - about 1000' NW of 117-16

Lithotype

0'	Overburden
10'	Basalt - grey-green, fine gr. with chlorite filled amygdules and flecks
23'	Shale - grey-black, fine grained, no distinct layering, no fragments
31'	
50'	Basalt - Grey, fine grained with thin veins and veinlets of black chlorite, sometimes mixing with graphite
100'	
127'	Shale - grey to black, very fine to fine grained, locally graphitic, no distinct layering
145'	
150'	Basalt - grey, fine gr., moderately calcareous, calcite veins and blebs, chlorite and graphite veins
165'	
168'	Shale - black, fine grained, graphitic, non-layered
200'	Basalt & Shale - mixed calcareous light basalt (?) and black graphitic shale, grey to black, fine to medium grained, minor chert or rhyolite at 204'
204'	Bottom of Hole
250'	
300'	
350'	
400'	

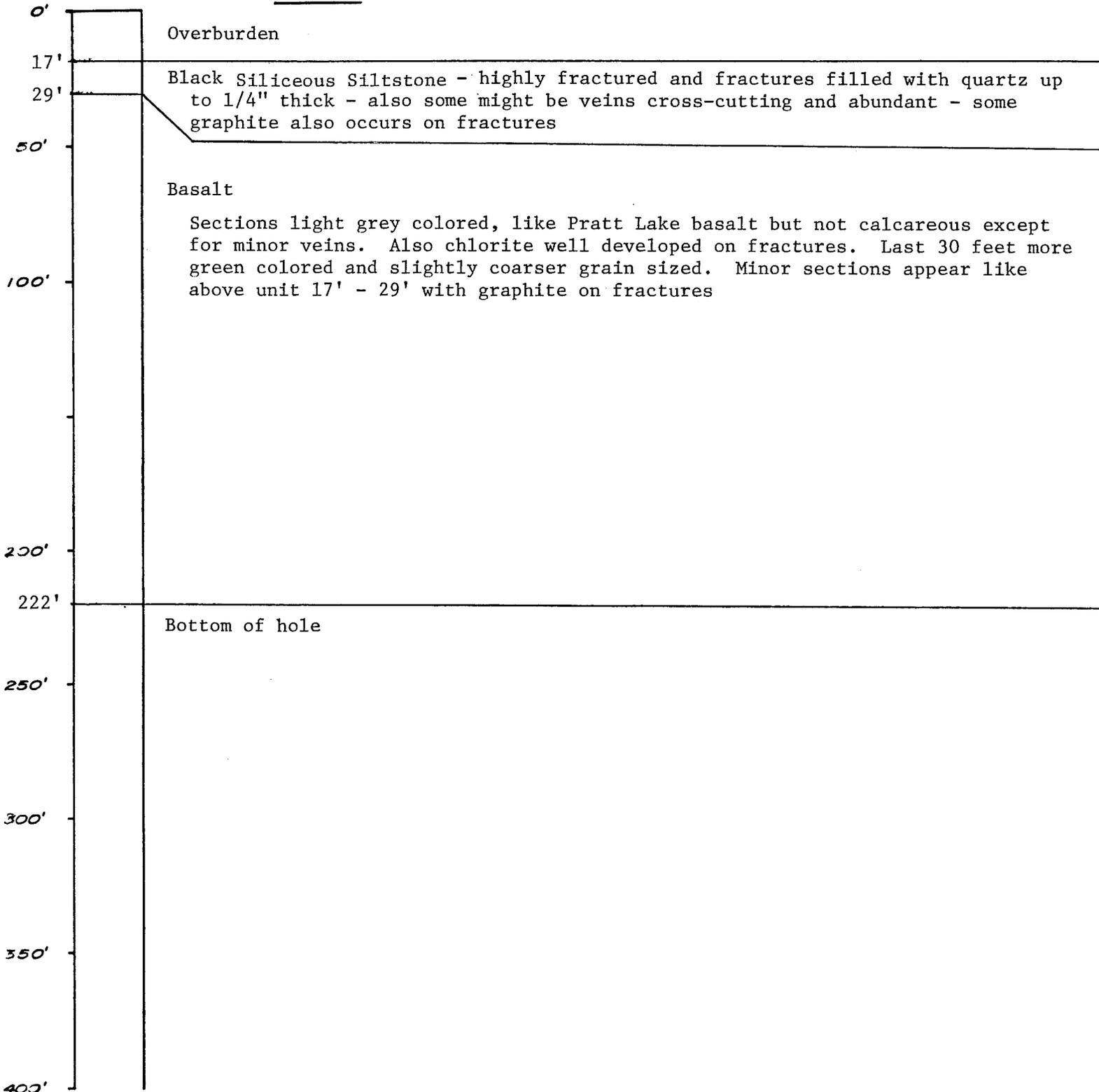


LITHOLOGIC LOG

Project 11-7 Lithologic Drilling Hole no. 117-18 Dip -45° Started 7/6/81 Elev.         

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 7/8/81  
SW 1/4 - about 1000' NW of 117-17

Lithotype





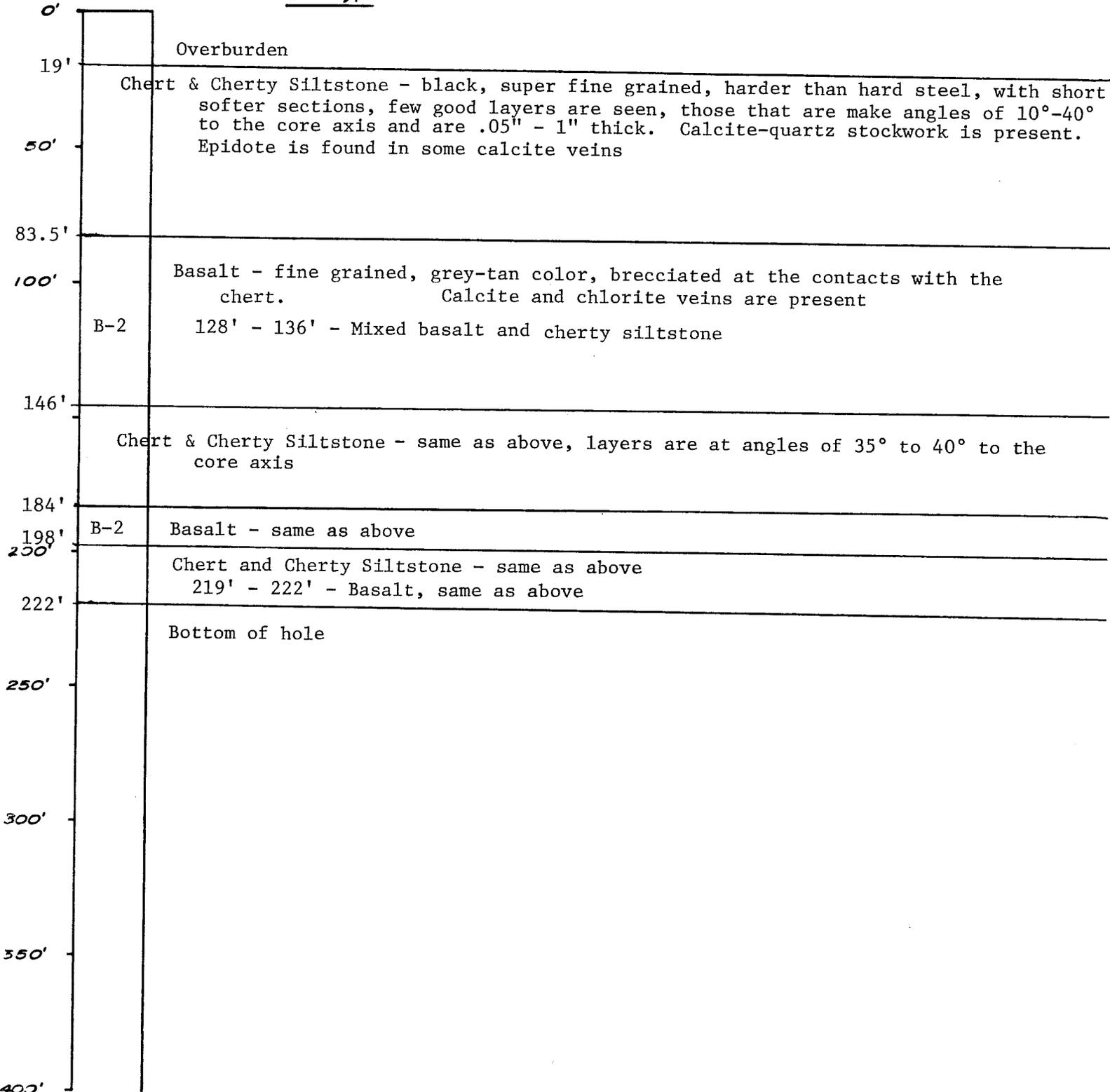
LITHOLOGIC LOG

Project 11-7 Lithologic Drilling Hole no 117-19 Dip -45° Started 7/9/81 Elev.       

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111°mag Completed 7/10/81

SW 1/4 - about 1000' NW of 117-18

Lithotype





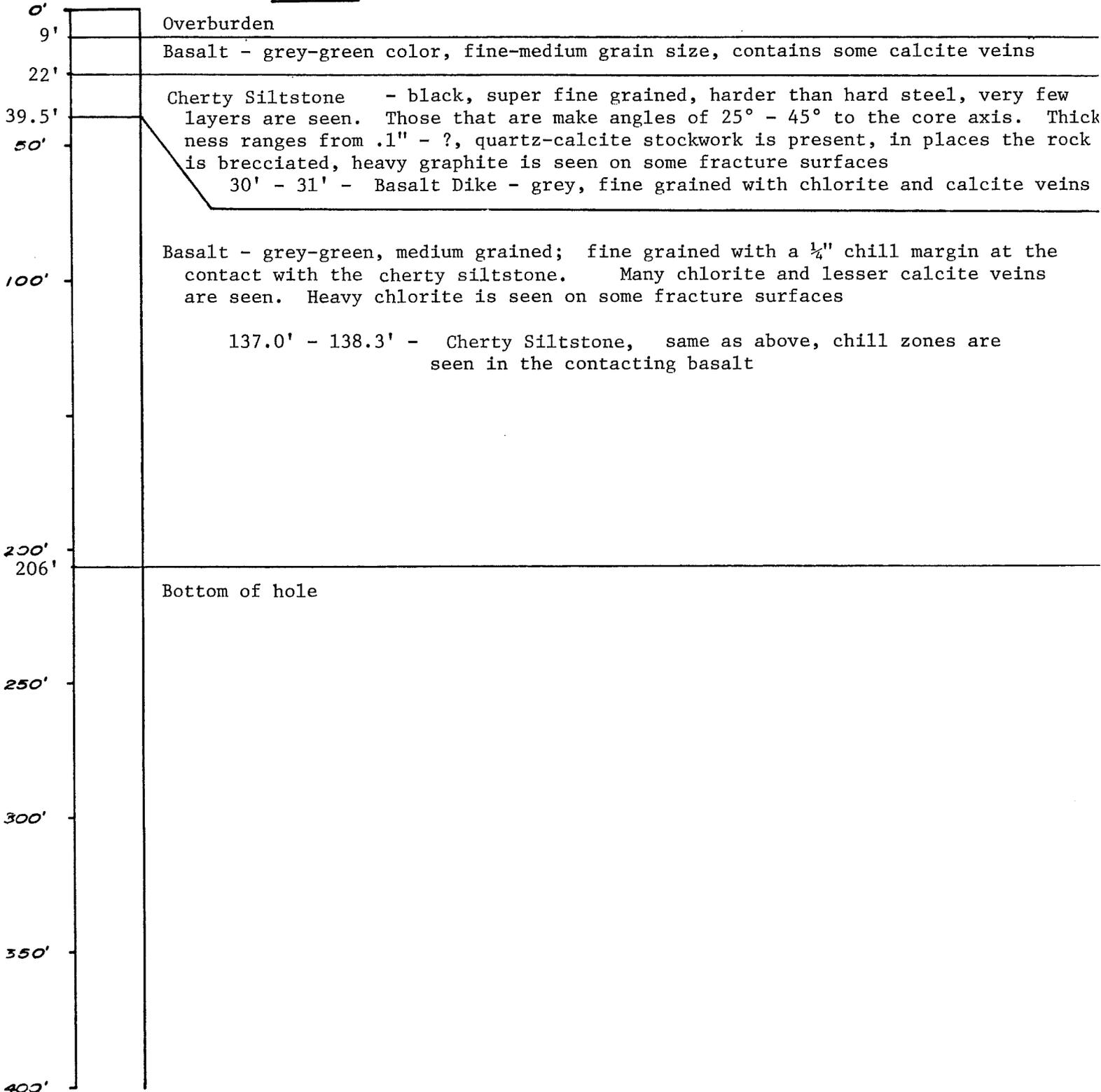
LITHOLOGIC LOG

Project 11-7 Lithologic Drilling Hole no. 117-20 Dip -45° Started 7/11/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 7/12/81

SW 1/4 - about 1000' NW of 117-19

Lithotype





LITHOLOGIC LOG

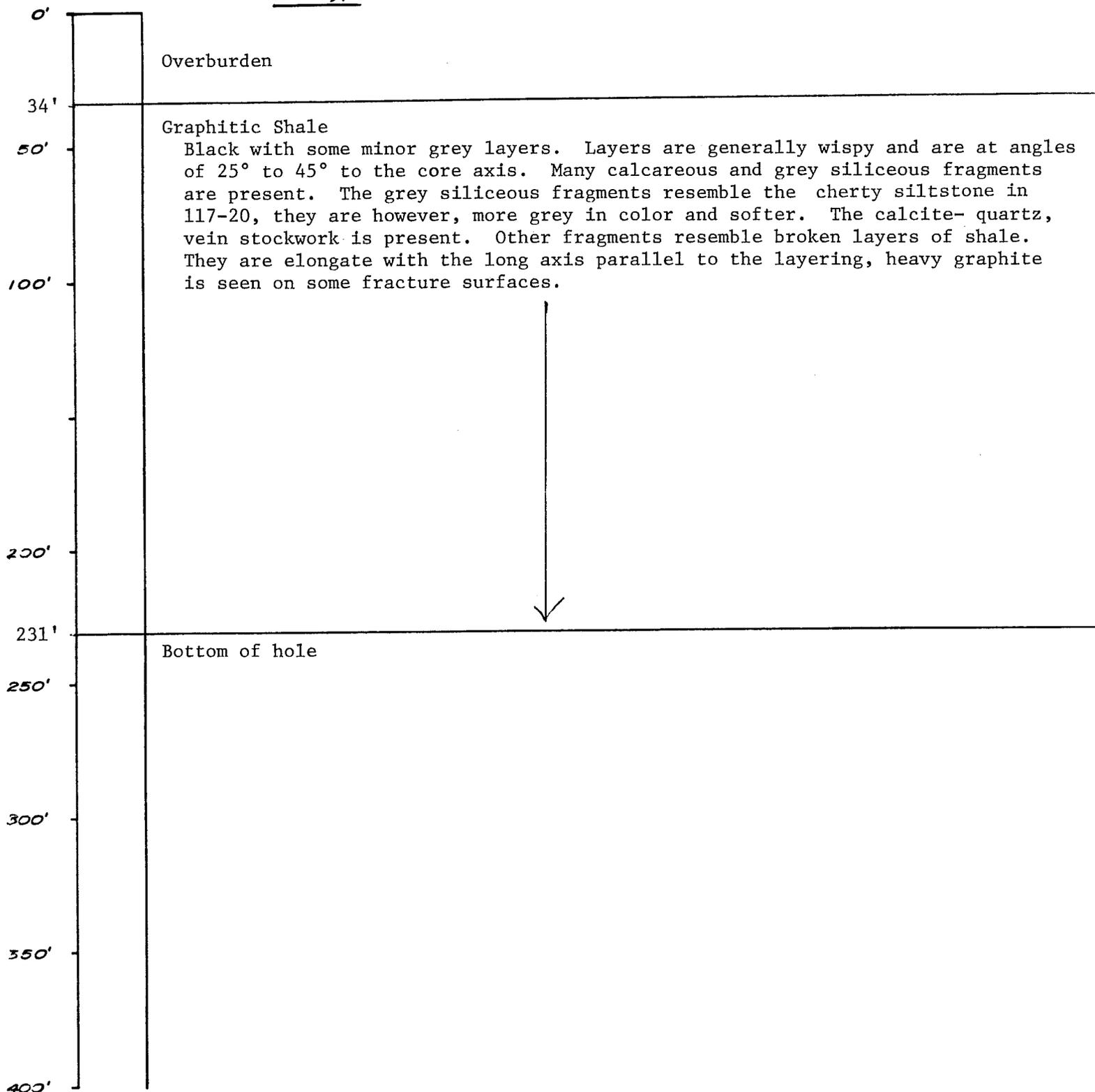
Project 117 Hole no. 117-21 Dip -45° Started 7/13/81 Elev.       

See Sketch

Job no. 277 Township T11-R7 Coord. 277-4 Direction 111°mag Completed 7/15/81

SW 1/4 - about 1000' NW of 117-20

Lithotype



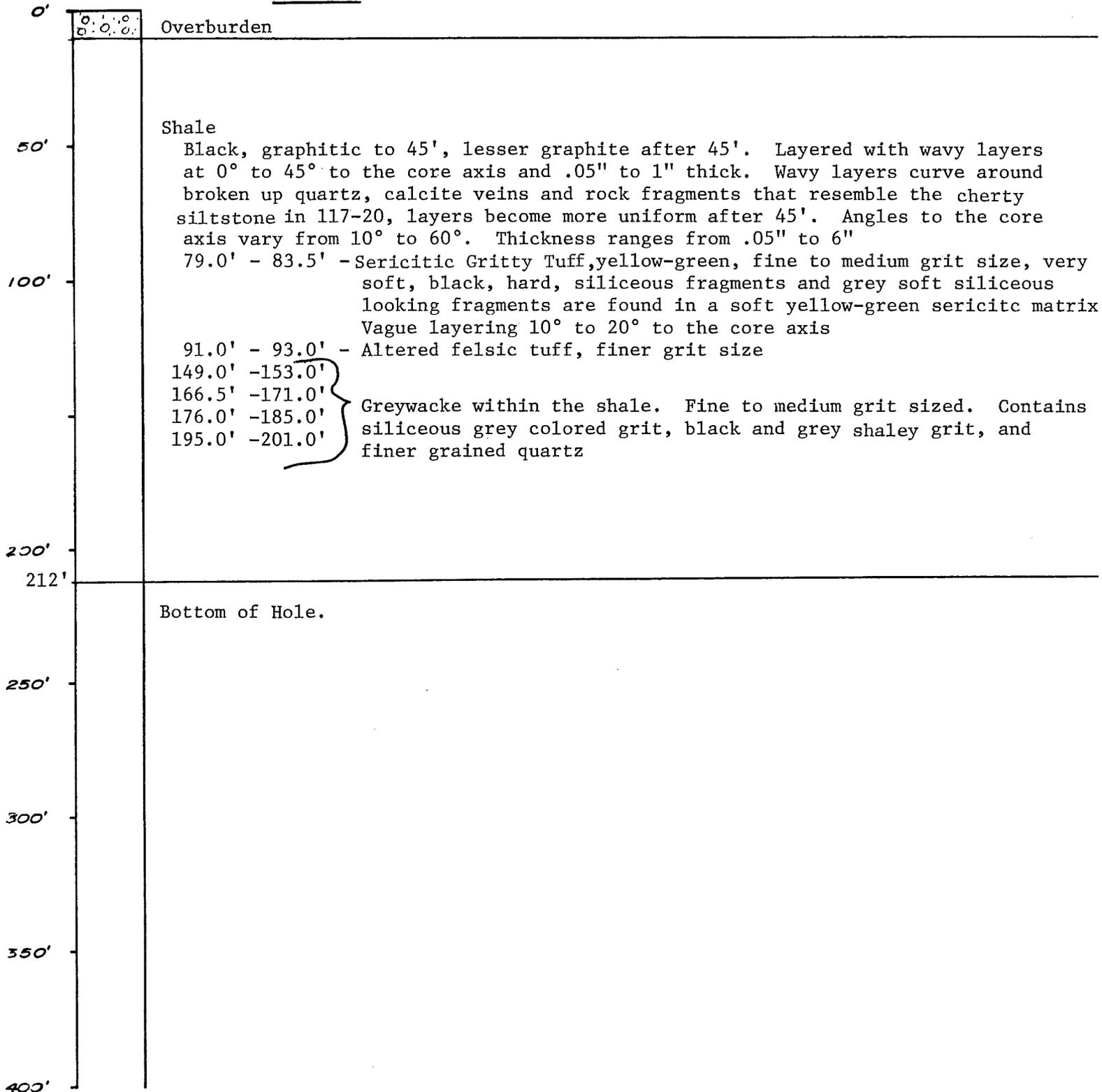


LITHOLOGIC LOG

Project 117 Hole no. 117-22 Dip -45° Started 7/15/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111°mag Completed 7/21/81  
 SW 1/4 - about 1000' NW of 117-21

Lithotype





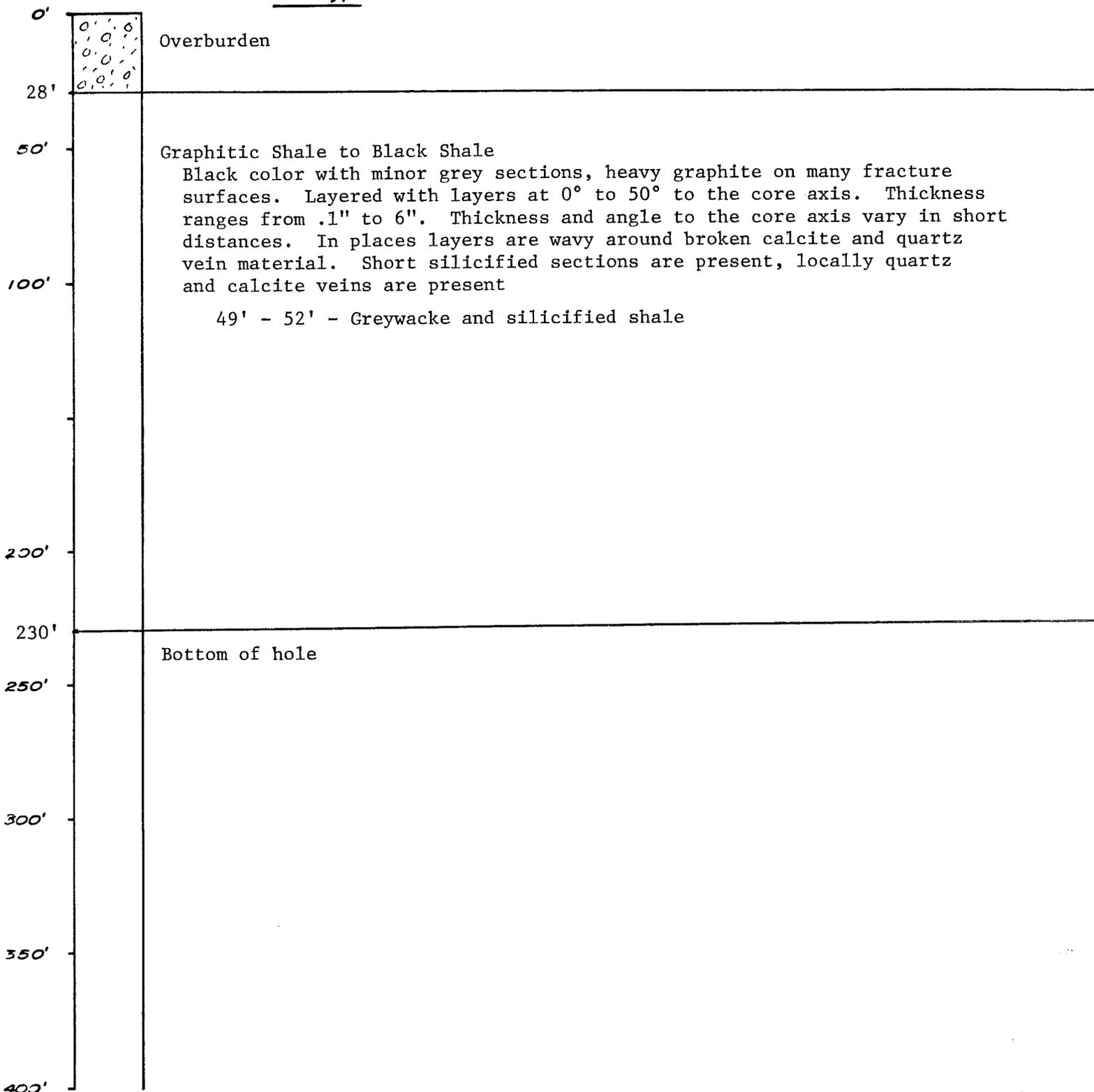
LITHOLOGIC LOG

Project 117 Hole no. 117-23 Dip -45° Started 7/21/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 7/23/81

SW 1/4 - about 1000' NW of 117-22

Lithotype





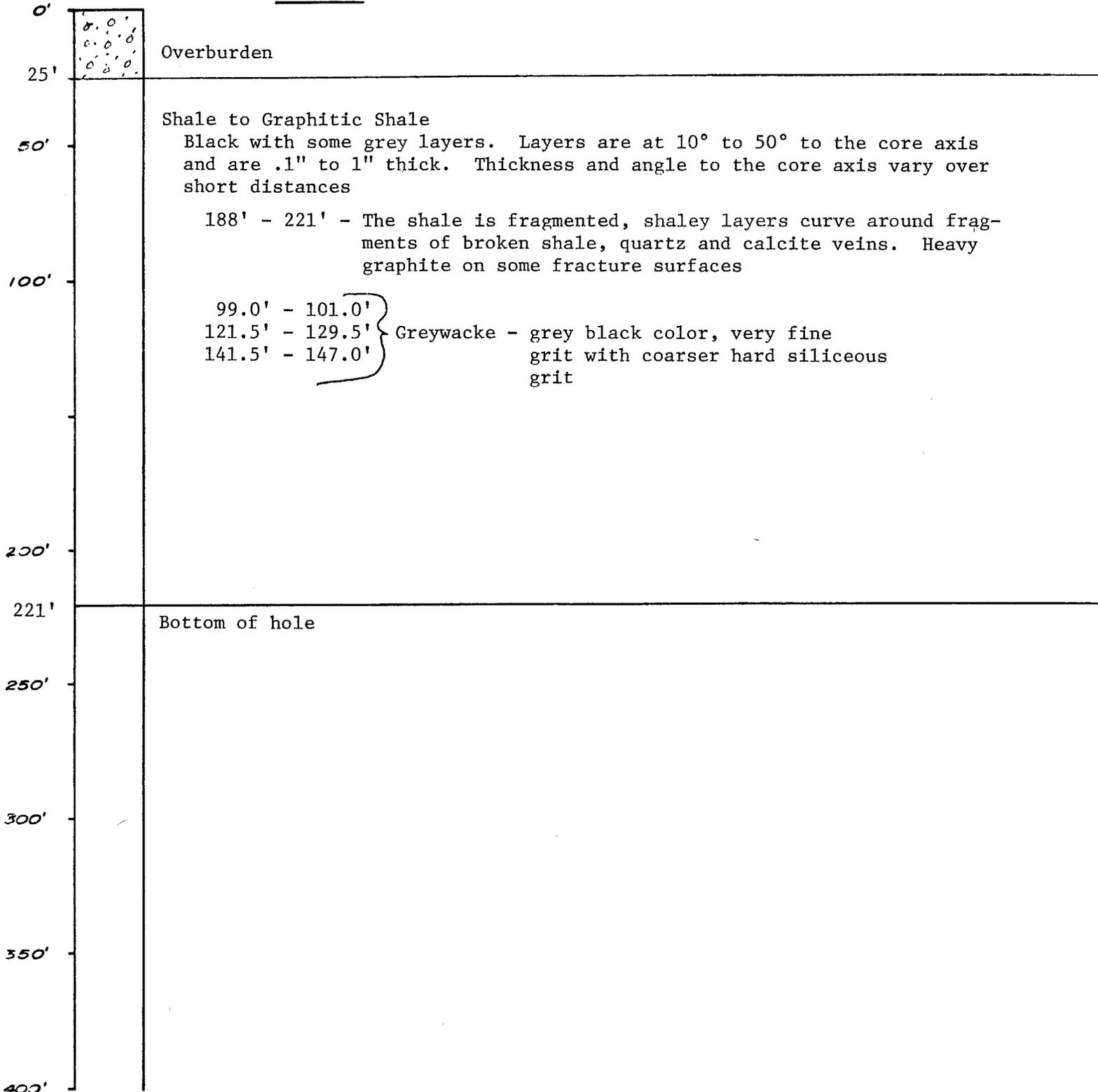
LITHOLOGIC LOG

Project 117 Hole no. 117-24 Dip -45° Started 7/24/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 7/25/81

SW 1/4 - about 1000' W of 117-23

Lithotype





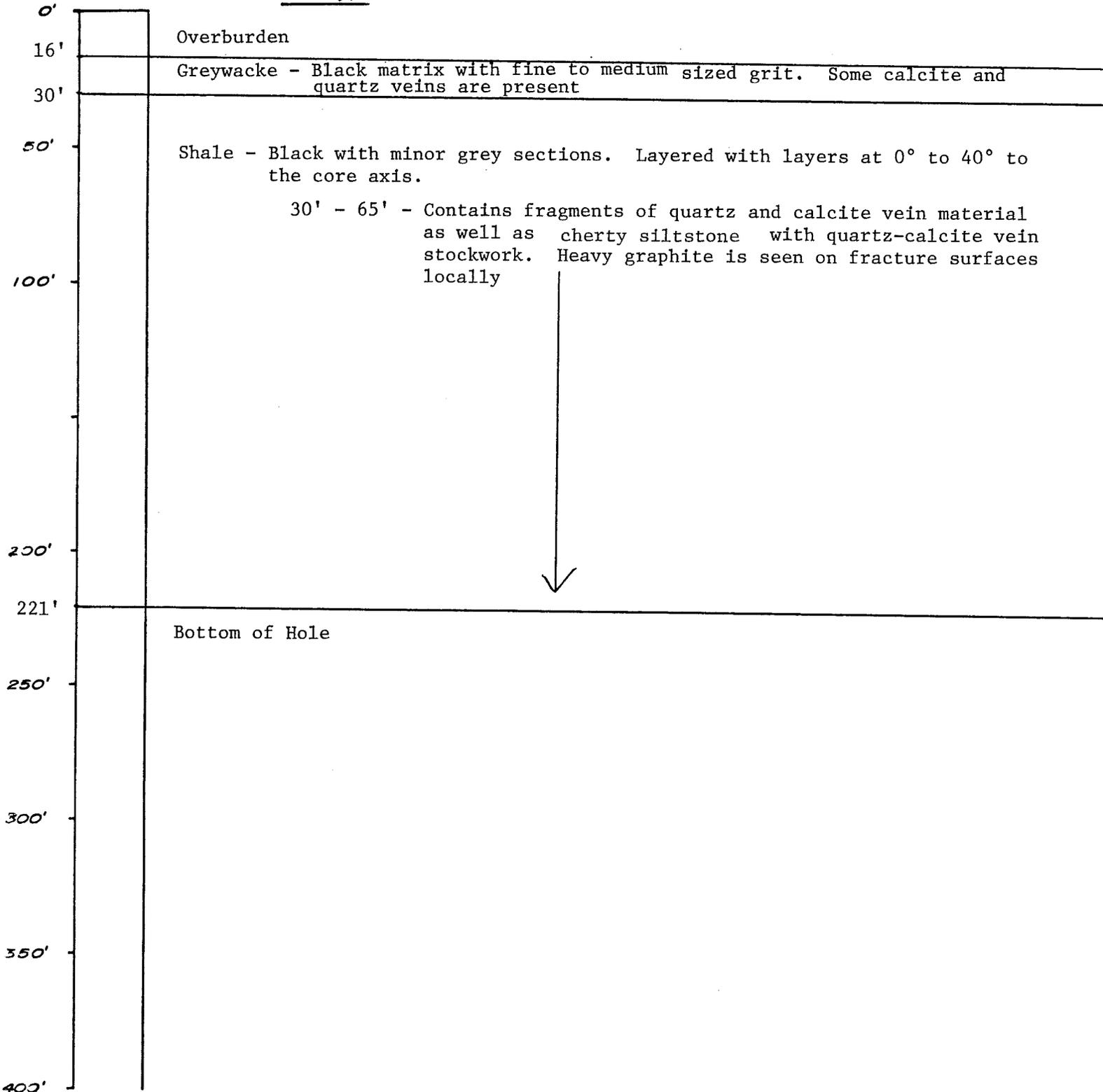
LITHOLOGIC LOG

Project 117 Lithologic Drilling Hole no. 117-25 Dip -45° Started 7/24/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 7/27/81

SW 1/4 - about 1000' W of 117-24

Lithotype



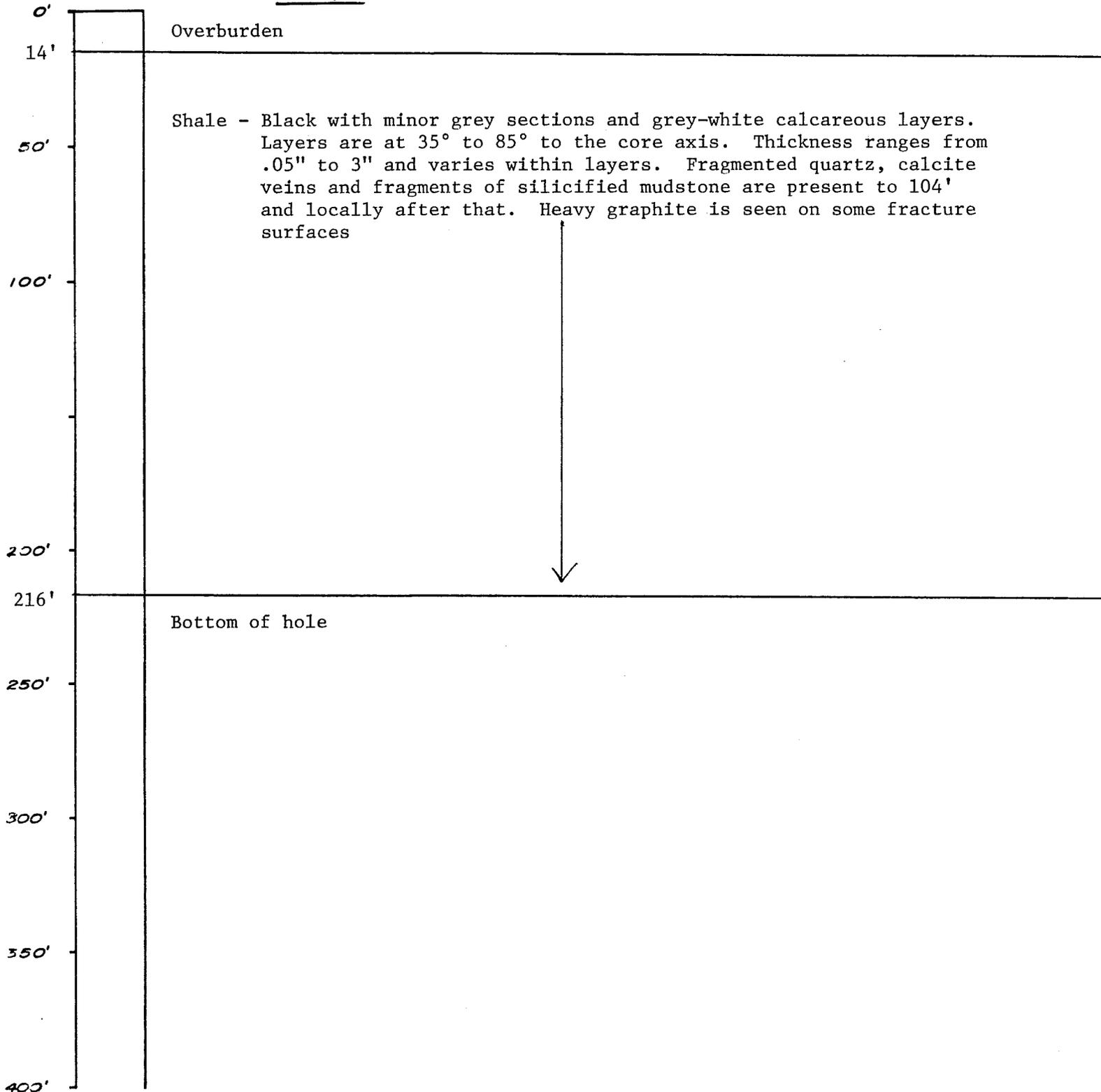


LITHOLOGIC LOG

Project 117 Lithologic Drilling Hole no. 117-26 Dip -45° Started 7/28/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 291°mag Completed 7/28/81  
SW 1/4 - about 1000' SW of 117-25

Lithotype





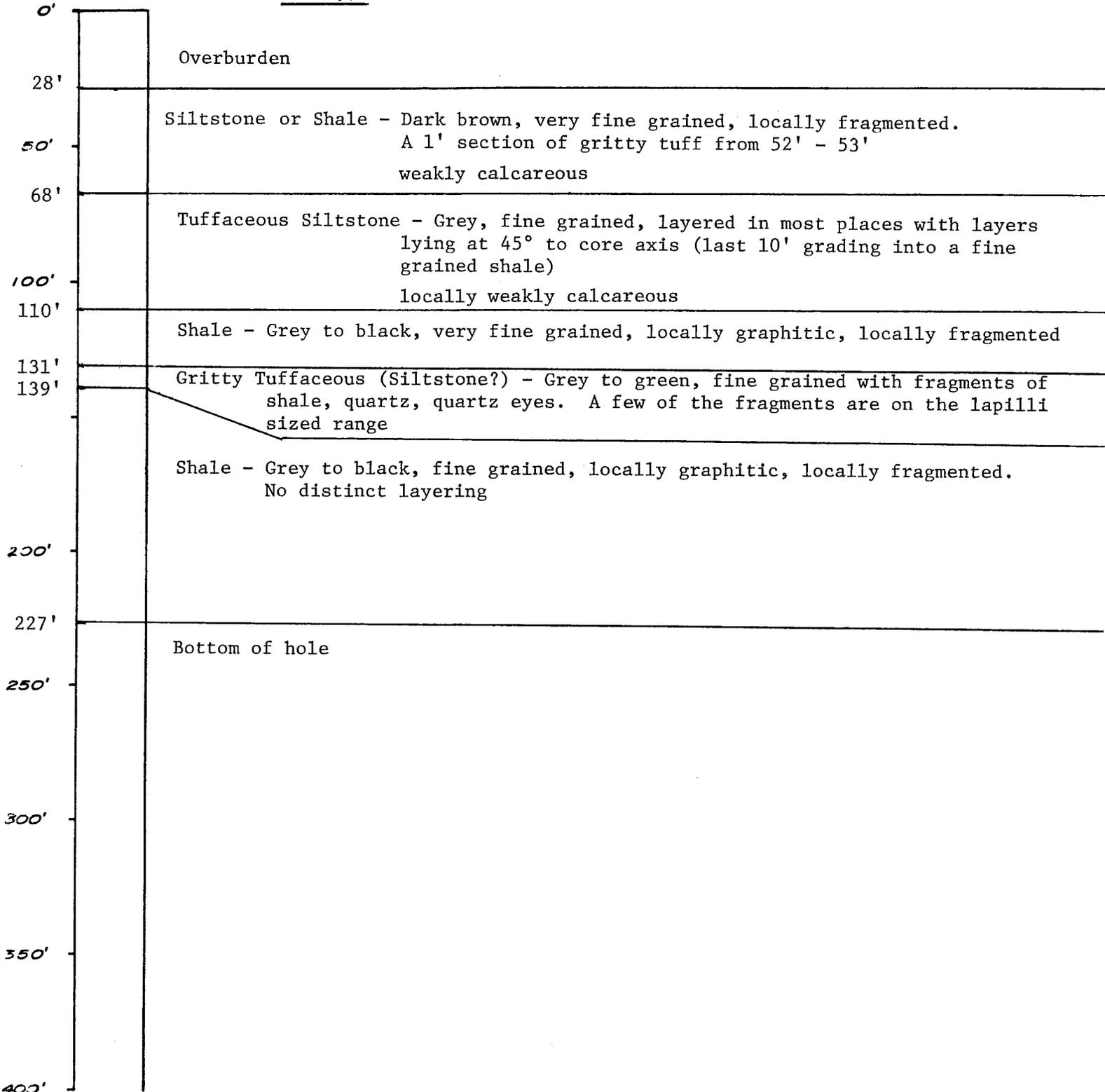
LITHOLOGIC LOG

Project 117 LITHOLOGIC DRILLING Hole no. 117-27 Dip -45° Started 8/4/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch  
 Coord. 277-4 Direction 111° mag Completed 8/6/81

NW 1/4 - about 1000' SE of 117-3

Lithotype





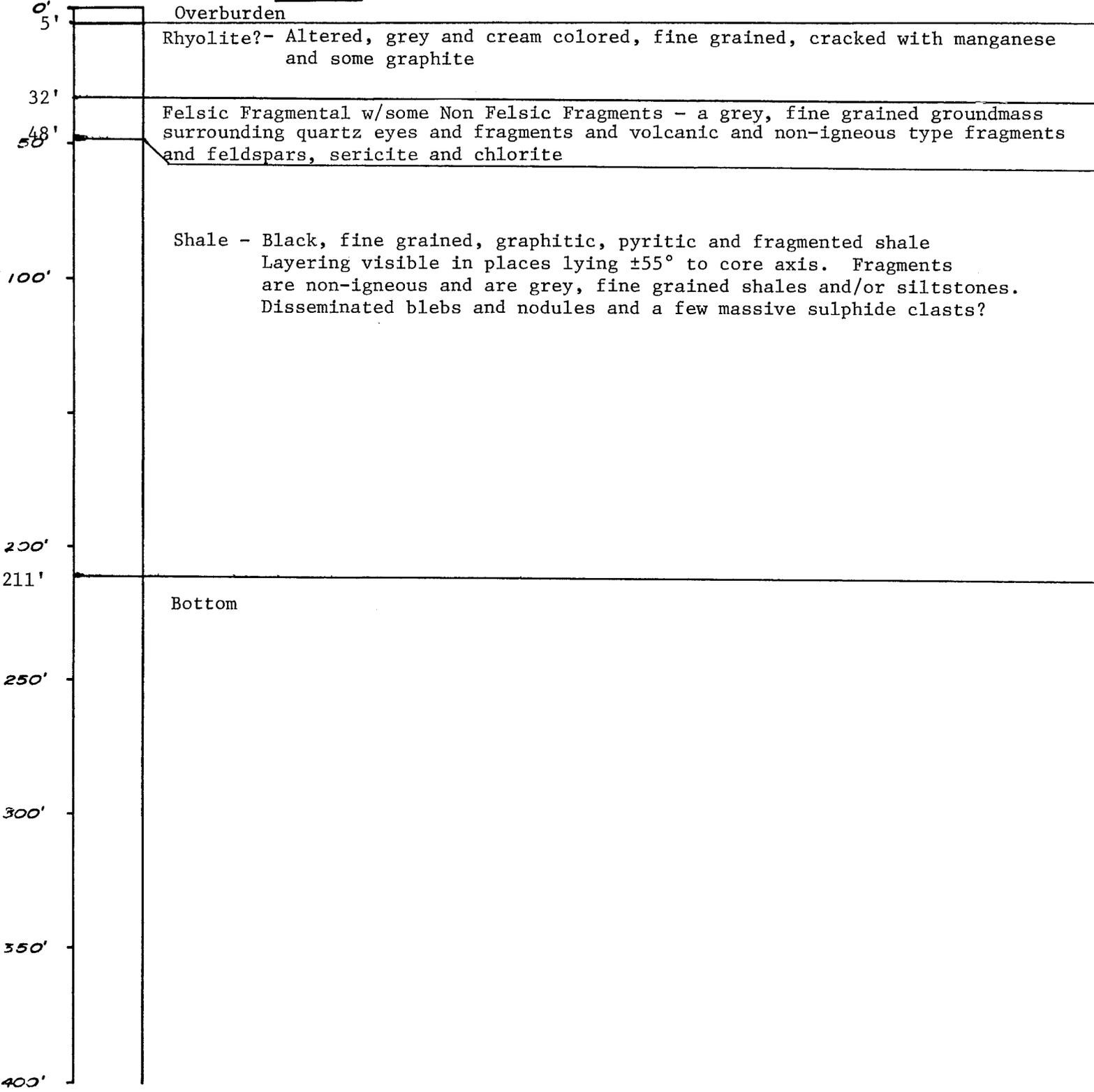
LITHOLOGIC LOG

Project 117 LITHOLOGIC DRILLING Hole no. 117-28 Dip -45° Started 8/6/81 Elev.       

Job no. 277 Township T11-R7 See Sketch  
Coord. 277-4 Direction 111°mag Completed 8/7/81

NW 1/4 - about 1000' SE of 117-27

Lithotype



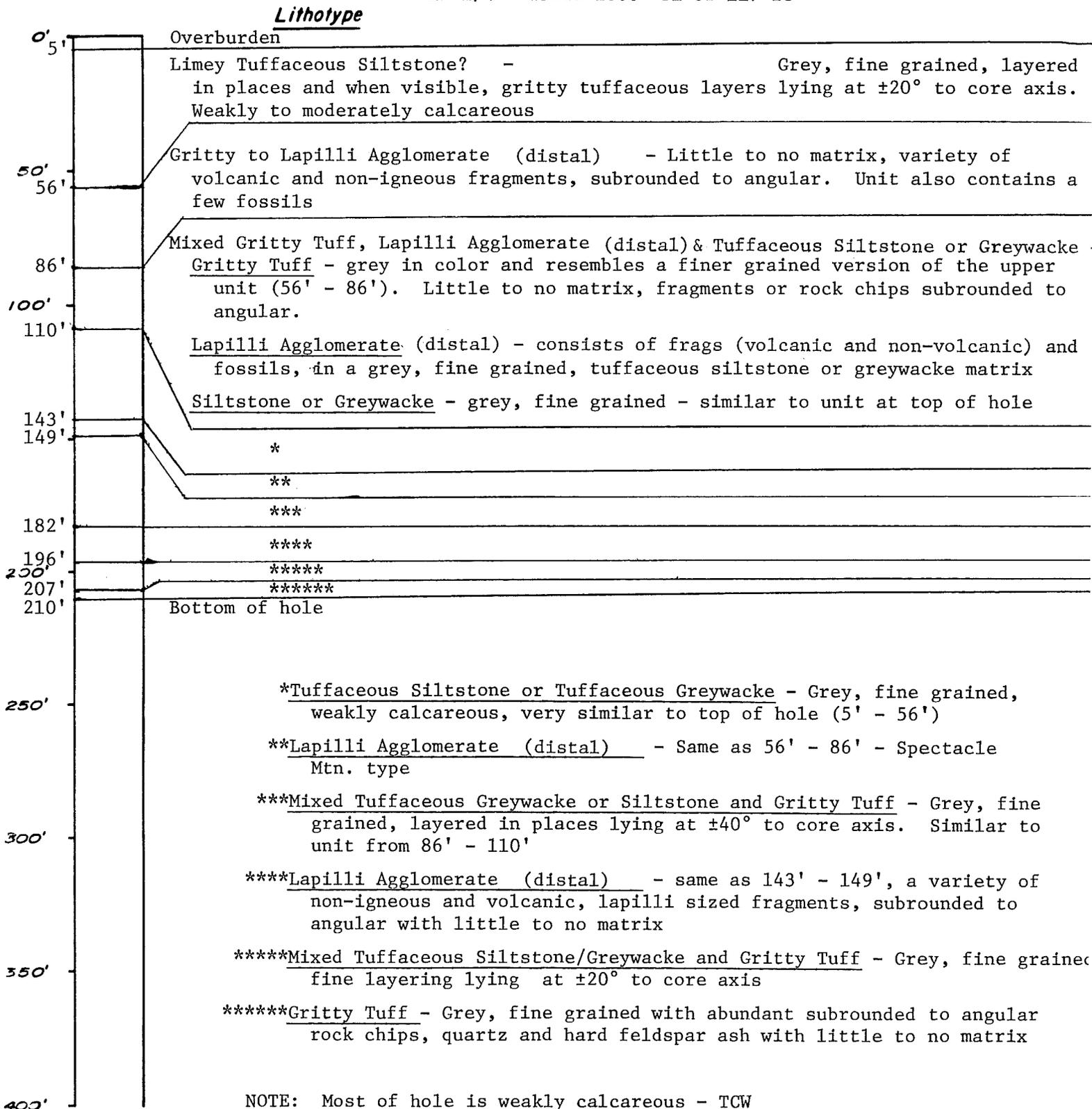


LITHOLOGIC LOG

Project 117 LITHOLOGIC DRILLING Hole no. 117-29 Dip -45° Started 8/8/81 Elev. \_\_\_\_\_

Job no. 277 Township T11-R7 See Sketch Coord. 277-4 Direction 111°mag Completed 8/9/81

NW 1/4 - about 1000' SE of 117-28



NOTE: Most of hole is weakly calcareous - TCW



HOLE #	COORDINATES	DATE COLLARED	DATE COMPLETED	DIP	MAGNETIC BEARING	DEPTH	DRIILLED BY
117-1	See Sketch 277-1	10/15/79	10/17/79	Vert.		108'	
117-2	See Sketch 277-1	10/22/79	10/22/79	Vert.		111'	
117-3	See Sketch 277-4	5/11/81	5/13/81	-45°	336°	237'	County
117-4	See Sketch 277-4	5/13/81	5/15/81	-45°	336°	213'	County
117-5A	See Sketch 277-4	5/16/81	5/17/81	-45°	111°	Abandoned 38'	County
117-5	See Sketch 277-4	5/17/81	5/18/81	-45°	111°	211'	County
117-6	See Sketch 277-4	5/20/81	5/27/81	-45°	111°	203'	County
117-7	See Sketch 277-4	5/27/81	5/29/81	-45°	111°	211'	County
117-8	See Sketch 277-4	5/30/81	5/31/81	-45°	111°	219'	County
117-9	See Sketch 277-4	6/01/81	6/08/81	-45°	111°	204'	County
117-10	See Sketch 277-4	6/08/81	6/10/81	-45°	111°	221'	County
117-11	See Sketch 277-4	6/10/81	6/12/81	-45°	111°	212'	County
117-12	See Sketch 277-4	6/13/81	6/14/81	-45°	111°	211'	County
117-13	See Sketch 277-4	6/15/81	6/16/81	-45°	111°	221'	County
117-14	See Sketch 277-4	6/16/81	6/22/81	-45°	111°	241'	County
117-15	See Sketch 277-4	6/24/81	6/25/81	-45°	111°	209'	County
117-16	See Sketch 277-4	6/26/81	6/27/81	-45°	111°	211'	County

T11-R7 LITHOLOGIC DRILLING

HOLE #	COORDINATES	DATE COLLARED	DATE COMPLETED	DIP	MAGNETIC BEARING	DEPTH	DRIILLED BY
117-17	See Sketch 277-4	6/28/81	6/30/81	-45°	111°	204'	County
117-18	See Sketch 277-4	7/06/81	7/08/81	-45°	111°	222'	County
117-19	See Sketch 277-4	7/09/81	7/10/81	-45°	111°	222'	County
117-20	See Sketch 277-4	7/11/81	7/12/81	-45°	111°	206'	County
117-21	See Sketch 277-4	7/13/81	7/15/81	-45°	111°	231'	County
117-22	See Sketch 277-4	7/15/81	7/21/81	-45°	111°	212'	County
117-23	See Sketch 277-4	7/21/81	7/23/81	-45°	111°	230'	County
117-24	See Sketch 277-4	7/24/81	7/25/81	-45°	111°	221'	County
117-25	See Sketch 277-4	7/25/81	7/27/81	-45°	111°	221'	County
117-26	See Sketch 277-4	7/27/81	7/28/81	-45°	291°	216'	County
117-27	See Sketch 277-4	8/04/81	8/06/81	-45°	111°	227'	County
117-28	See Sketch 277-4	8/06/81	8/07/91	-45°	111°	211'	County
117-29	See Sketch 277-4	8/08/91	8/09/81	-45°	111°	210'	County

T11-R7 LITHOLOGIC DRILLING