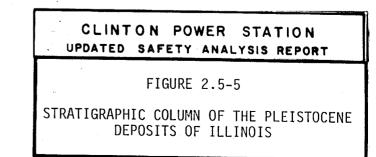
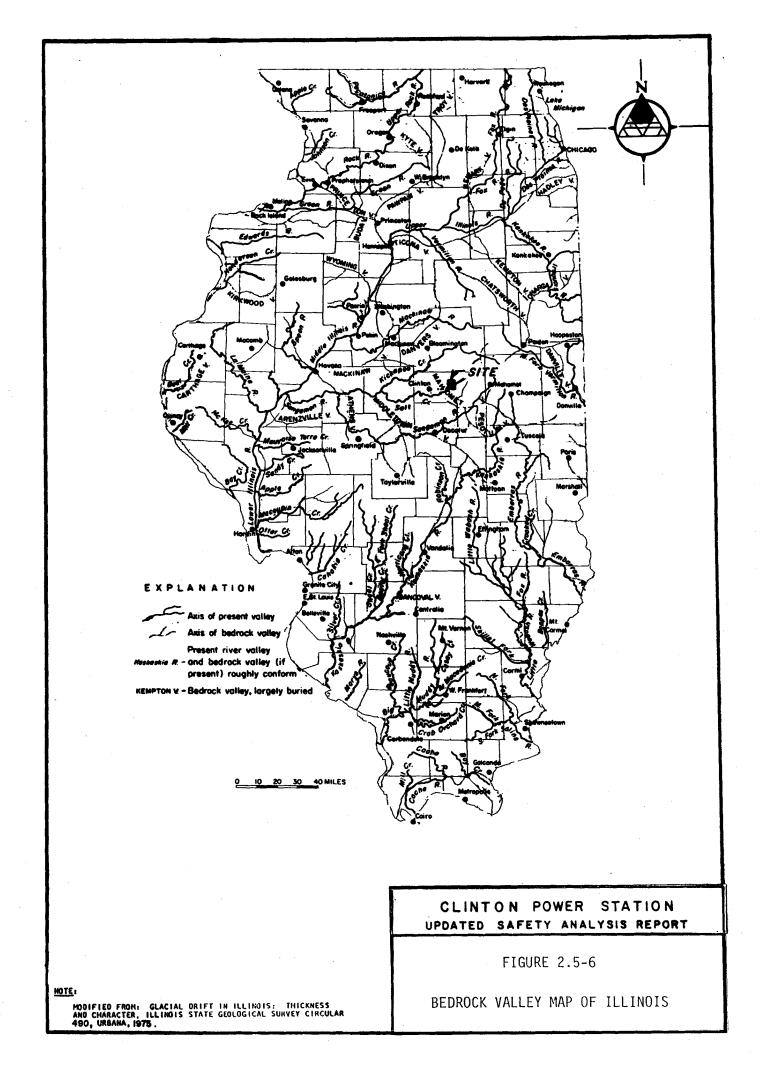


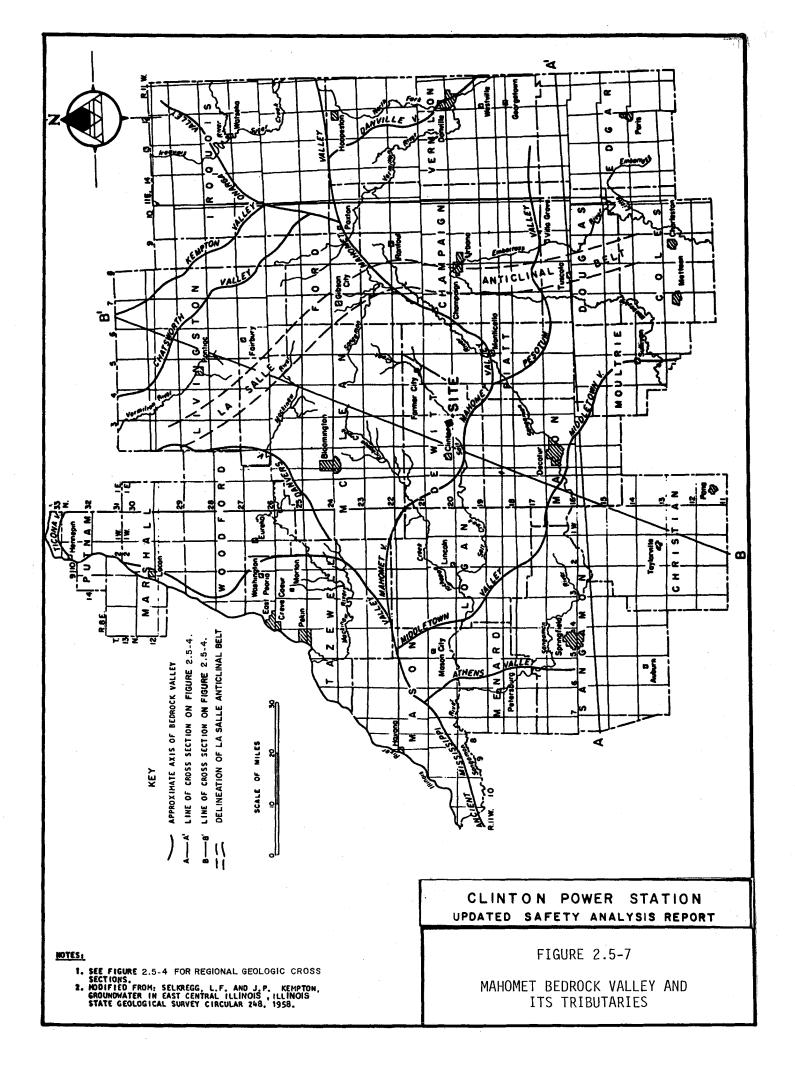
1	ГІМ		RATIGRAPHY				ROCK STRATI	GR	API	łY				SOIL STRATIGRAPHY
		HOLOCENE				ligan Fm.	Ravinia Sand M. Waukegan M. Lake Forest M. Winnetka M.	Sond	Peat	Formation	Calluvium			Modern Soil
			VALDERAN SUBSTAGE		1	e Michi		Perklend S	Grayslake F					
		AGE	TWOCREEKAN SUBSTAGE		4 L045	Loke	Sheboygan M. o Wilmette B. South Haven M. G	Pork	Groy	Locon	Peyton		Members	
¥	RIES	INAN ST	WOODFORDIAN SUBSTAGE	Peorio L	D D D D D D D D D D D D D D D D D D D	Wedron Fm.	Wadsworth T.M. Haeger T.M. Yorkville T.M. Malden T.M. Tiskilwa T.M. Delovan T.M. Lee Center T.M. Esmond T.M.	Snider T.M. Batestown T.M. Glenburn T.M. Oakland T.M. 5 5				e, and Wasco	Jules Soil	
STE		S N O	FARMDALIAN SUBSTAGE		bein jilt	P	eddicord Fm.					Formation nd Datton	Fermation D. Mackina	Formdole Soil
RY SY	ENE SEI	WISC	ALTONIAN SUBSTAGE	ono Si	Meadow Loess M. McDonough Loess M. Markham Silt M	Winnebago Fm.	Capron T.M. Plano Silt M. Argyle T.M.					Equatity For Cormi and	Henry Form Balavia, Ma	Pleasant Grove Sail Chapin Sail
RNA	TOC		IGAMONIAN TAGE			Ī.	Berry C	07	Mem	ber				Songamon Soil
QUATEI	PLEIS	ILLINOIAN STAGE	JUBILEEAN SUBSTAGE MONICAN SUBSTAGE LIMAN	Loveland Silt	Teneriffe Site	Glasford Fm	Radnar T.M. Sterlin Taulon M. Winsla Roby Sitt M. Hulick T.M. Ogle T Duncan Milts M. Ketterville T.M.	ŚŴ T.	M. H V N	and Iulb	alia ' erry (		Peorl Fm.	Pike Soil
			SUBSTAGE	╞╴	Peters- Durg Silt		Kellerville I.m.			*****		<b>9</b> 1.1 <b>M</b> .	Ľ	Yarmouth Soil
		S KAR	TAGE ISAN TAGE		- -	Bonner Fm.	Lierle C Tilton T.M. Hillery T.M. Hormattan T.M. Belgium M. Hegeler T.M.	Ha Sa		56 : V	Silt N Mah	i. omet nd M.		
			ONIAN TAGE	1										Afton Soil
			RASKAN TAGE	1		ε	nion Fermation		und			over iravel		

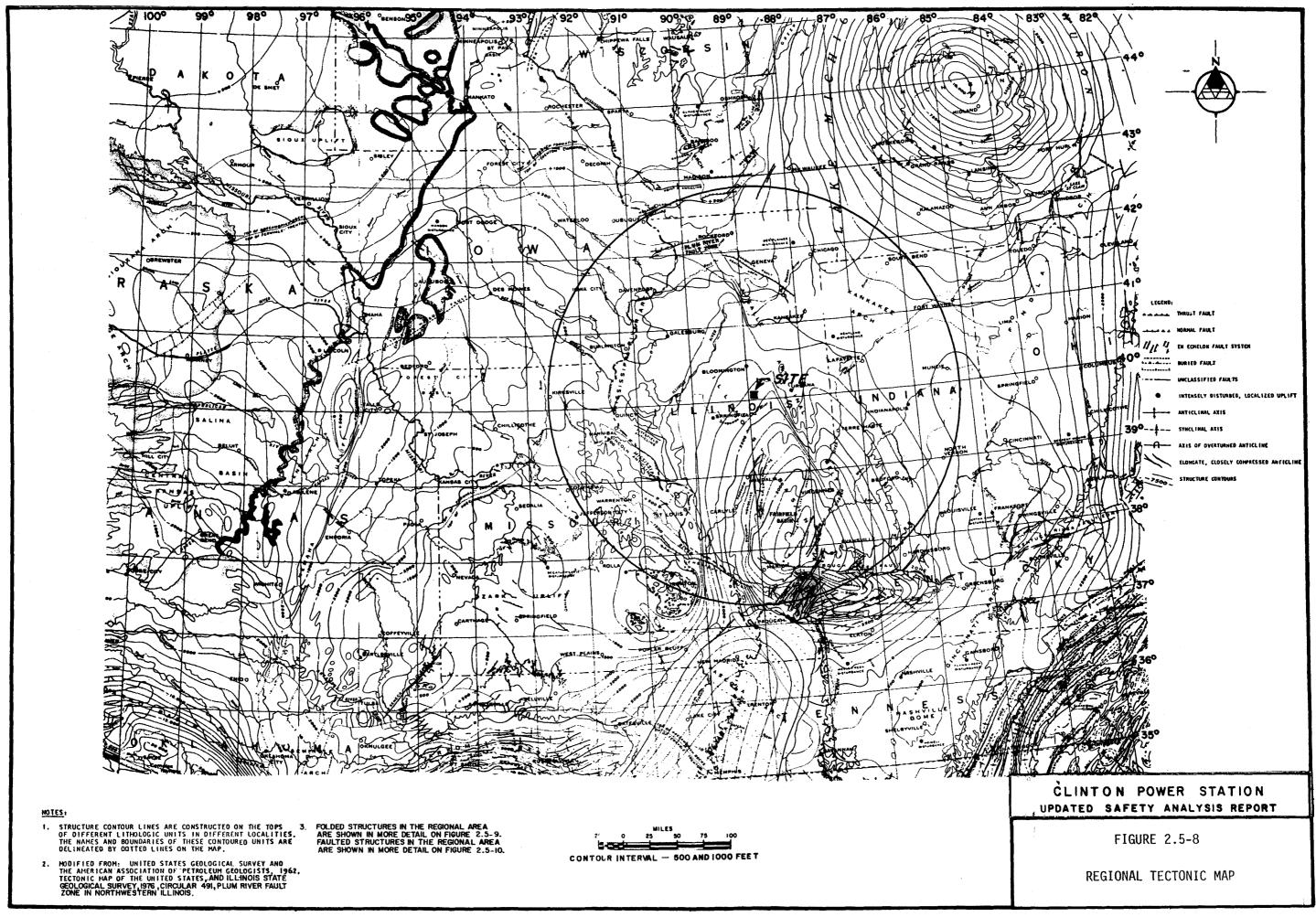
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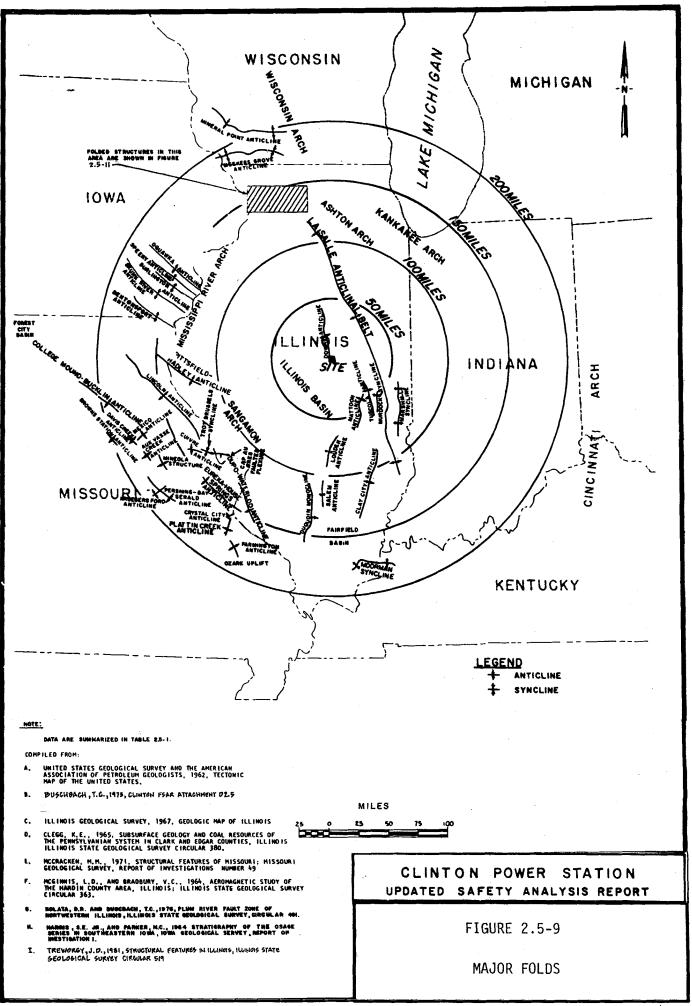
N.B. WILLMAN, ET. AL., NANDBOOK OF LLNOB Stratigraphy, Bulletin 95, Illmois State Geological Survey, Urbana, 1875.

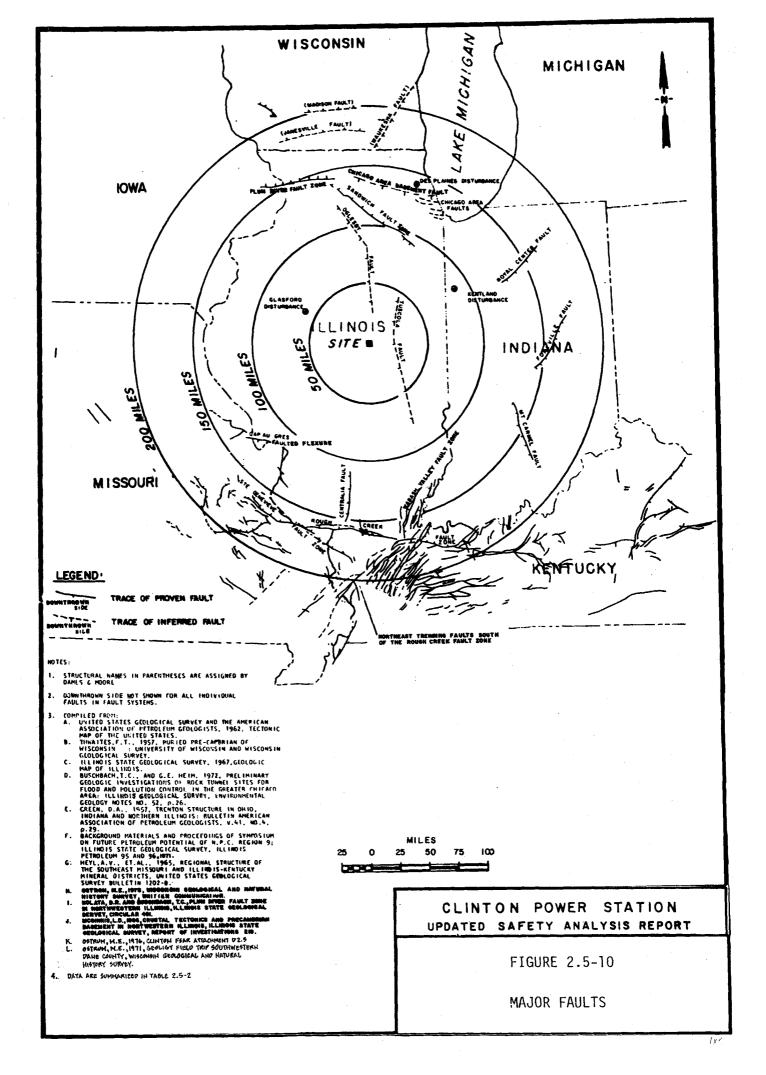


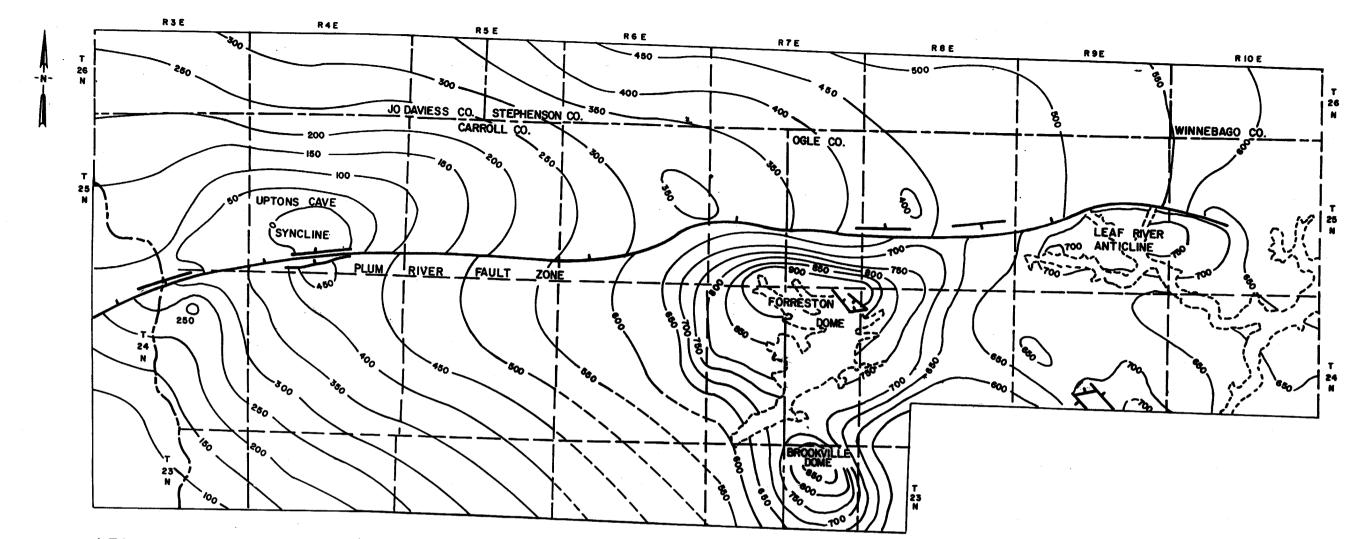












# LEGEND

——100—— Structure contours on top of Glenwood Formation, inferred

- ----- Top of Glenwood Formation eroded
- ----- State Line

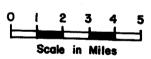
— — — Township Lines

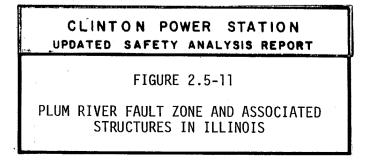
- ---- County Lines
- Trace of Fault

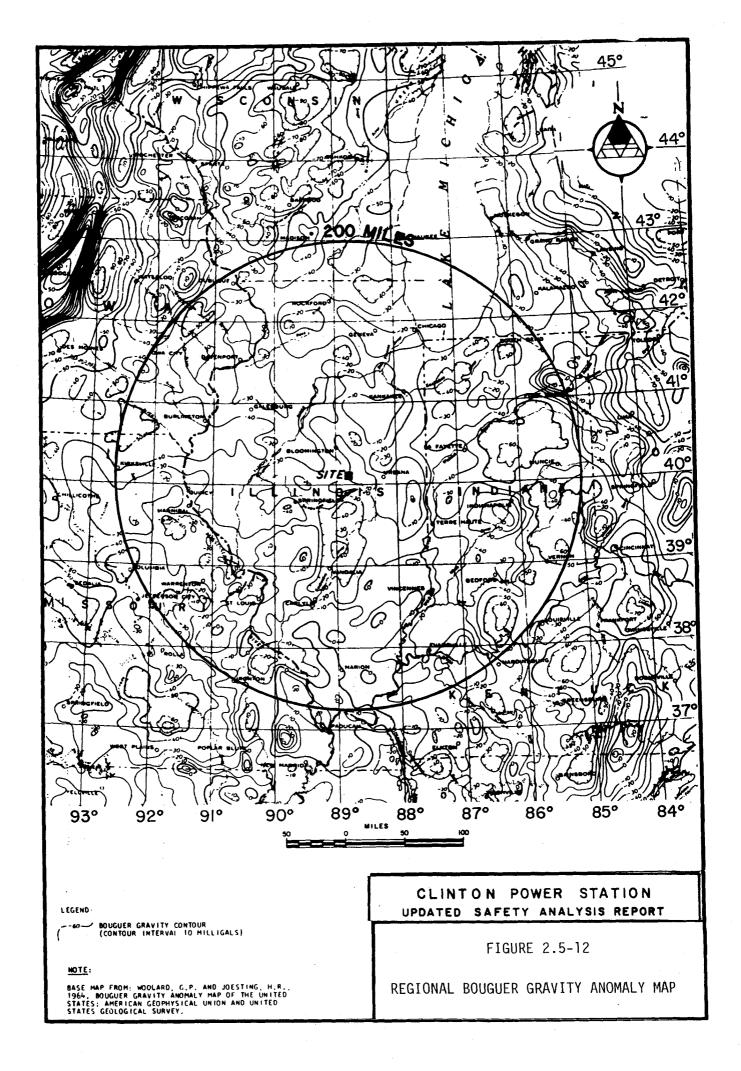
Downthrust Side

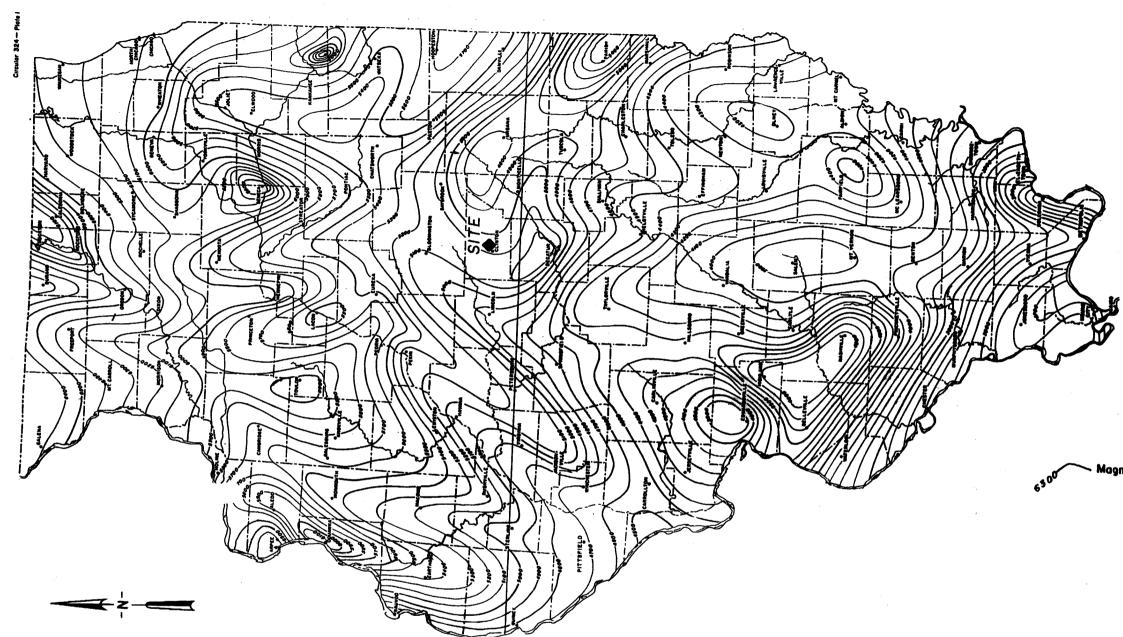
# NOTE

- I. Modified from Kolata D.R. and Buschbach T.C., Plum River Fault Zone of Northwestern Illinois, Illinois State Geological Survey Circular 491, 1976.
- 2. The location of this area with respect to the regional area is shown on Figure 2.5–9.





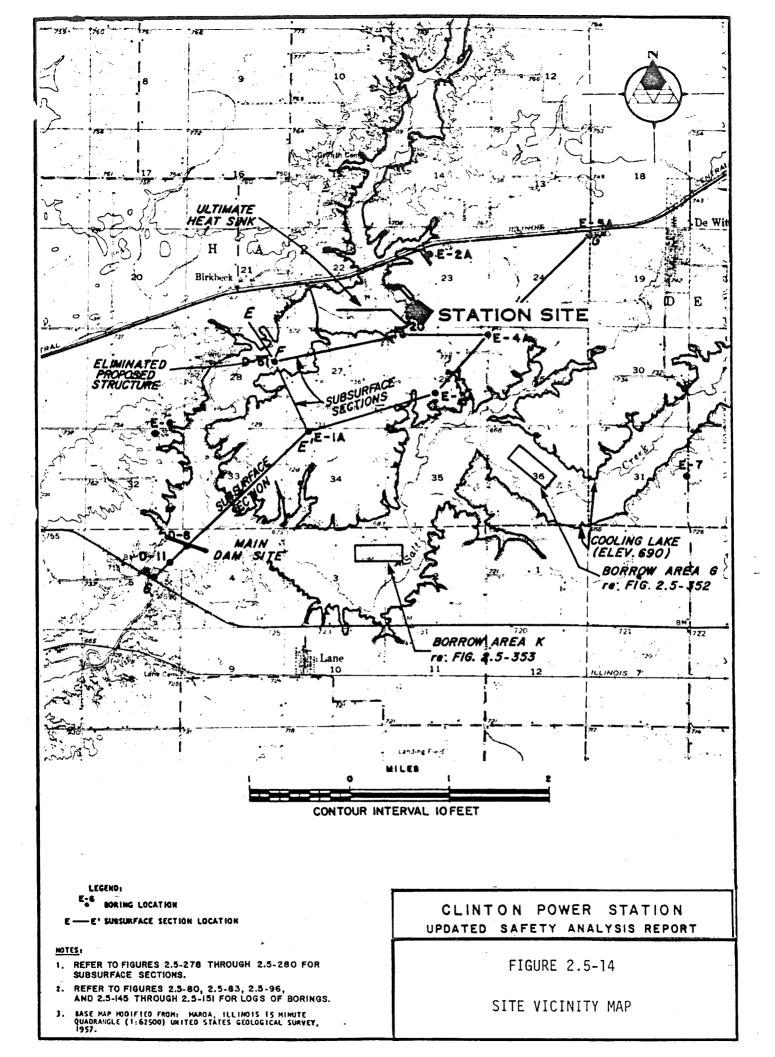


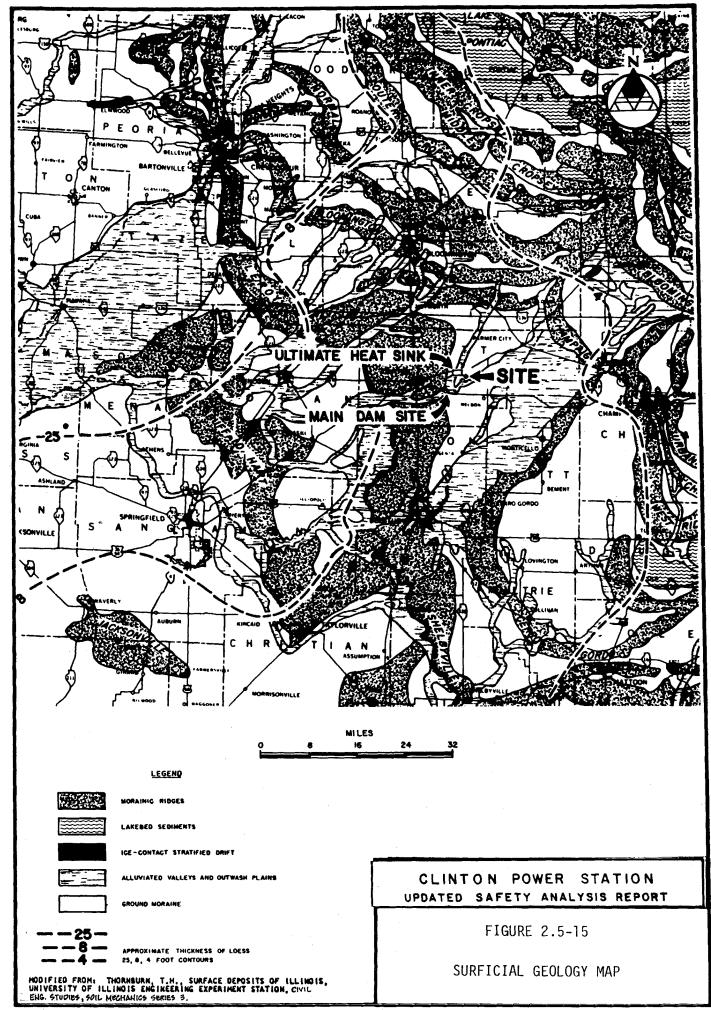


MODIFIED FROM: MCGINNIS, L, D., AND HEIGOLD, P.C., REGIONAL MAPS OF VERTICAL MAGNETIC INTENSITY IN ILLINOIS, ILLINOIS STATE GEOLOGICAL SURVEY CIRCULAR 324, 1961.

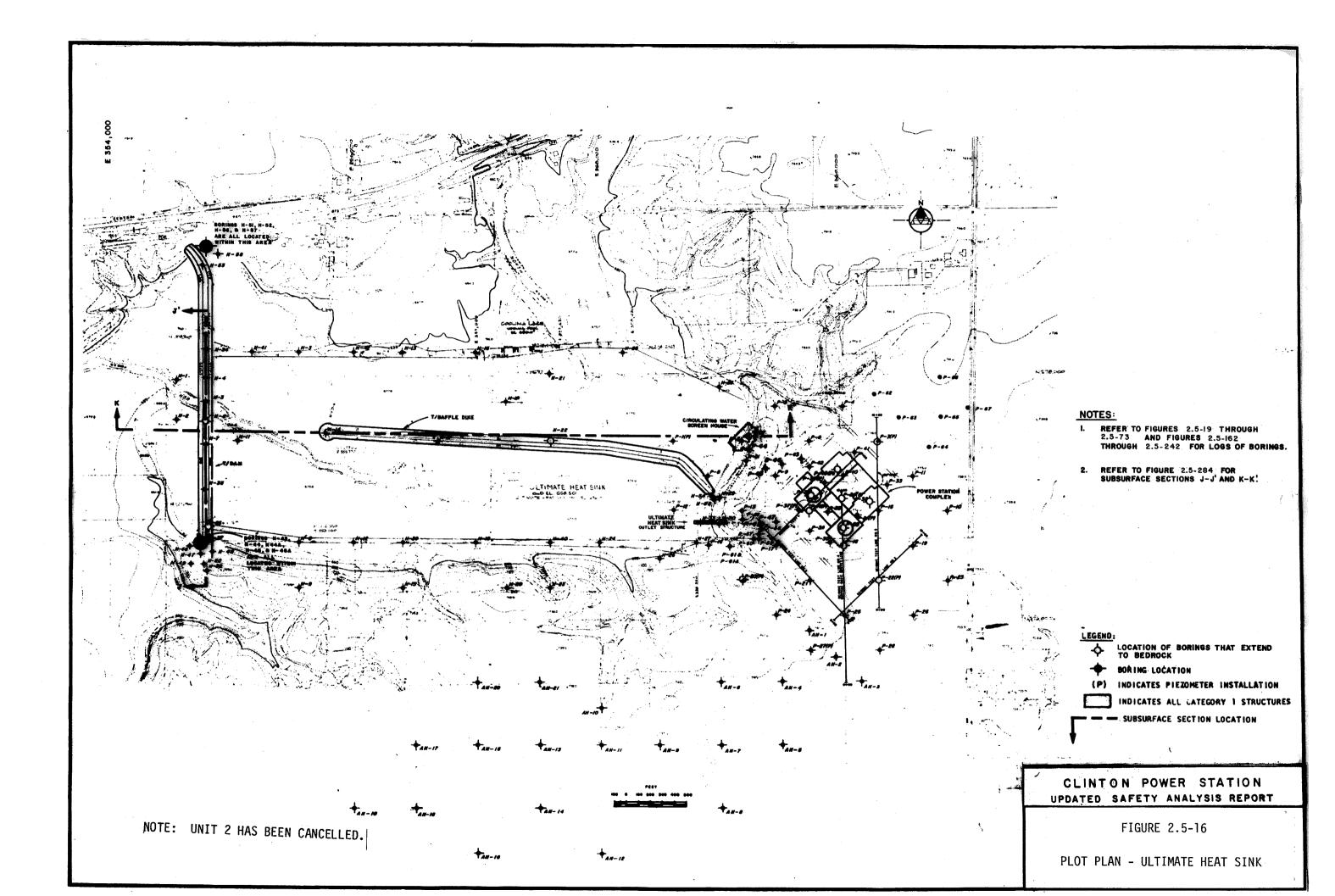
KEY Magnetic contour lines, interval 100 gammas,

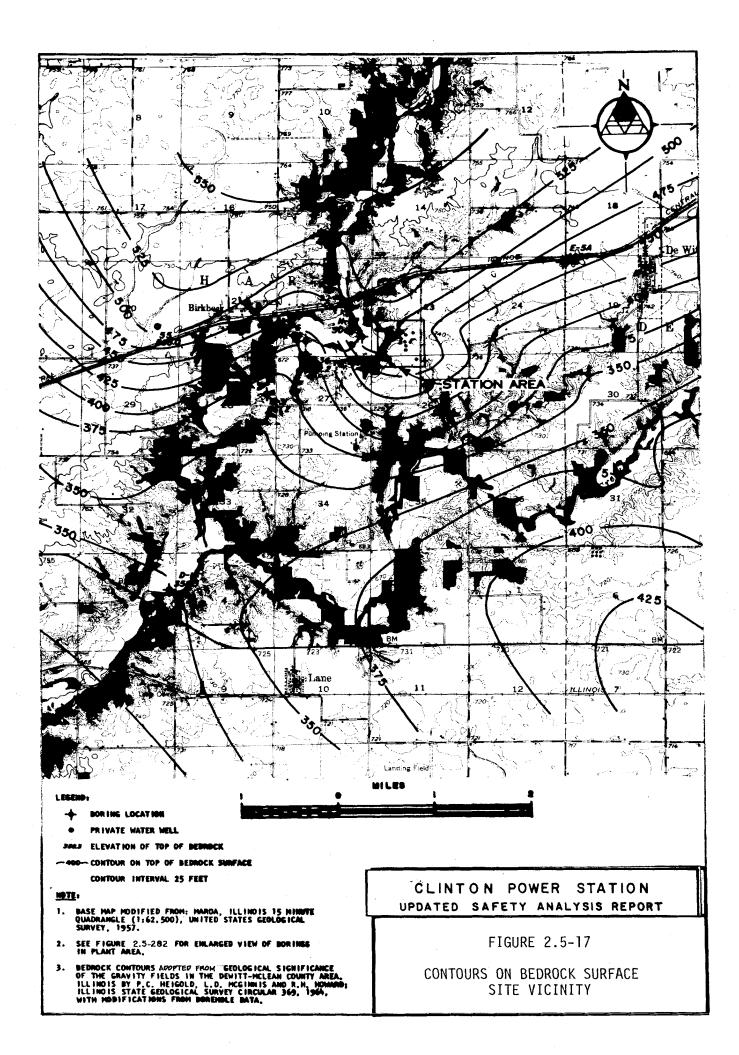
0 10 20 30 40 Scale in Miles CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT 1 FIGURE 2.5-13 REGIONAL VERTICAL MAGNETIC ANOMALIES





· , ·





		~		STRATIGRA	PHIC UNITS		STRAT	IGRAPHIC I		
		T	IME STRATIGRAPHY	UPLAND	VALLEY	STRATIGRAPHIC UNIT	APPROXIMATE THICKNESS*			
					Cahokia					
			Holocene Stage		Peyton	Cahokia Alluvium	0-35 ft.	Alluviu		
					Colluvium	Peyton Colluvium	0-10 ft.	ALLUVI.		
					Alluvium	Richland Loess	0-10 ft.	Loess,		
		Stage	Valderan Substage	Richland Loess		Henry Formation	0-35 ft.	Strati		
			Twocreekan Substage	Richland Loess		Wedron Formation	20-55 ft.	Till, ver		
System	eries	sconsinan	Woodfordian Substage	Wedron Formation	Henry Formation	weaton formation	20-55 10.	gra		
Sys	e o	sco				Robein Silt	0-2 ft.	Silt (		
τy		Wi	Farmdalian Substage	Robein Silt	-	weathered	······································	Silt a		
rna	stoc		Altonian Substage		4	Glasford	10-15 ft.	and		
Quaternary	leis	S	angamonian Stage			Formation		of		
ŏ	[¶		Illinoian Stage	weathered Glasford Formation		unaltered Glasford	90-140 <b>+ £t.</b>	Till, may		
					tered I Formation	Formation		gra		
		Y	armouthian Stage		· · ·	Demon Remetica	25-105 ft.	Comple		
			Kansan StageUncon	formity <u>Banner</u>	Formation	Banner Formation	25-105 It.	lac (ML		
				McLeansboro Group	Bond Formation			Sar		
			Pennsylvanian		Modesto Formation	McLeansboro	Not Completely	Altern		
			System	Kewanee Group	Carbondale Formation	·				

NOTES:

- 1. The stratigraphic units are discussed in detail in subsection 2.5.1.2 and Attachment C2.5.
- 2. Figure 2.5-274 shows a comparison of stratigraphic nomenclature used in the FSAR, PSAR, and boring logs.
- 3. Excavations for the Clinton Power Station did not extend below the unaltered Glasford Formation.
- Borings for the Clinton Power Station did not extend below rocks of 4. the Carbondale Formation.
- 5. Illinoian-age till of the Glasford Formation was subjected to a significant period of weathering during the Sangamonian Stage and Altonian Substage.
- 6. Deposits of Cahokia Alluvium and Henry Formation were not differentiated; reported approximate thicknesses of each unit represents a combined thickness for both deposits. The Cahokia Alluvium is Holocene and quite possibly, in part, Valderan/Twocreekan in age; the Henry Formation is Woodfordian (probably early) in age. The Wedron Formation is probably early Woodfordian.

- 7. The Holocene Stage is represented by a significant period of weathering and development of agricultural soil profiles.
- units or relative duration of time interval.
- 9. Standard Unified Soil Classification symbols are used.
- 10. Locally, the Peyton Colluvium rests directly on Glasford Formation.

\*Based on data from excavations and boring logs.

DESCRIPTION

### GENERAL DESCRIPTION

ium and silty clay (CL, SM or ML)

, clayey silt (ML or CL), may be leached, soft.

ified sand and gravel (SP, GP, SM).

clayey sandy silt till (ML or CL), stiff to ry stiff, with lenses of stratified sand, avel, or silt.

(ML or CL), black or dark brown, massive, soft.

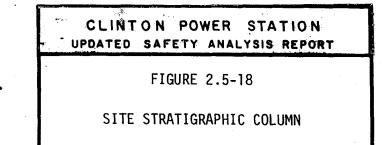
and silty clay (ML or CL), weathered, soft; d till (ML or CL), weathered, soft with lenses sand or silt; black, dark brown, green.

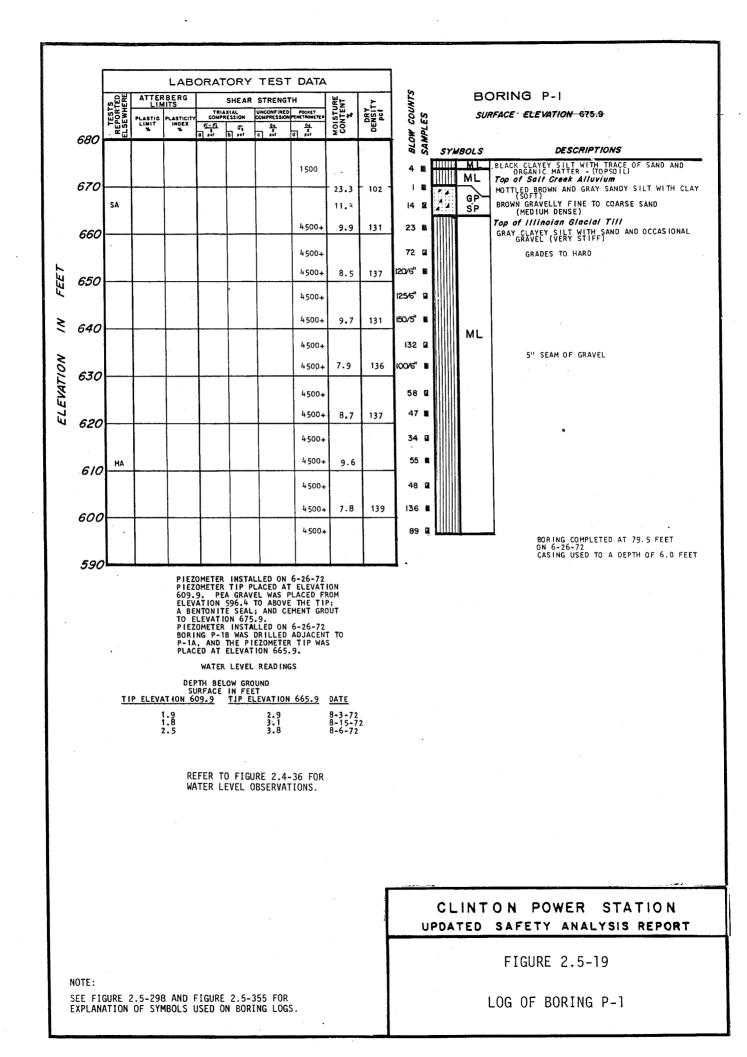
gray sandy silt (ML or SM), hard. Upper part y contain lenses of stratified sand, silt, or avel.

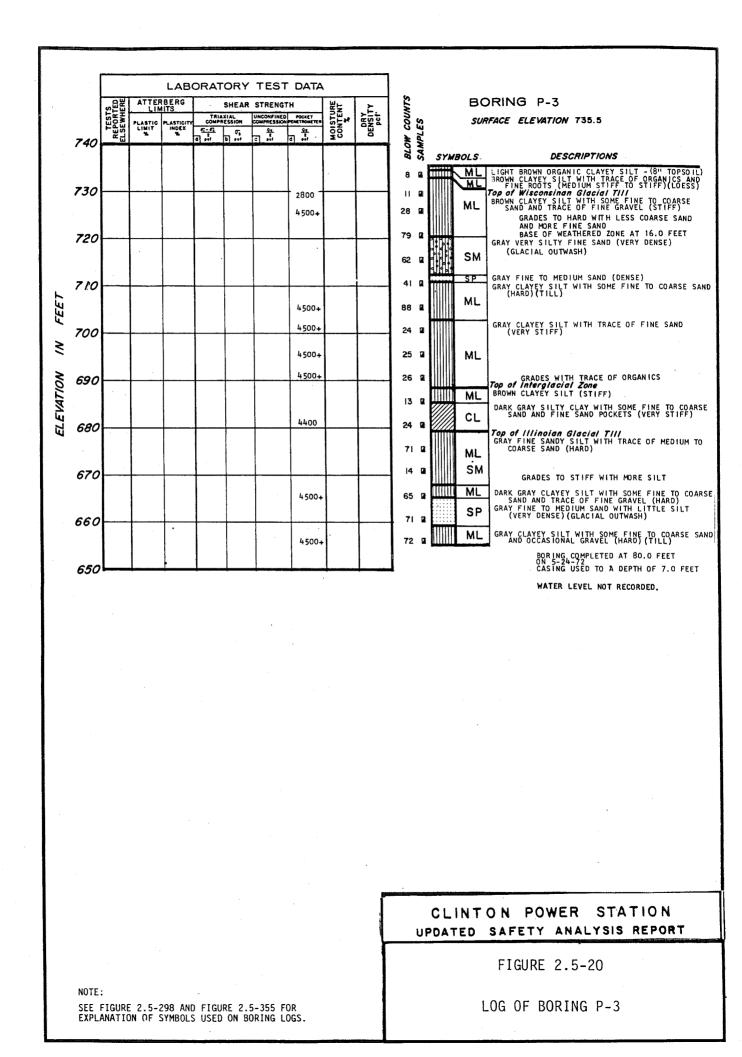
ex sequence, variably consisting of glacioctustrine silt (ML or CL), hard; clay till (L), hard; may be undelain by very dense sand (Mahomet and Member), 0-140 ft. thick.

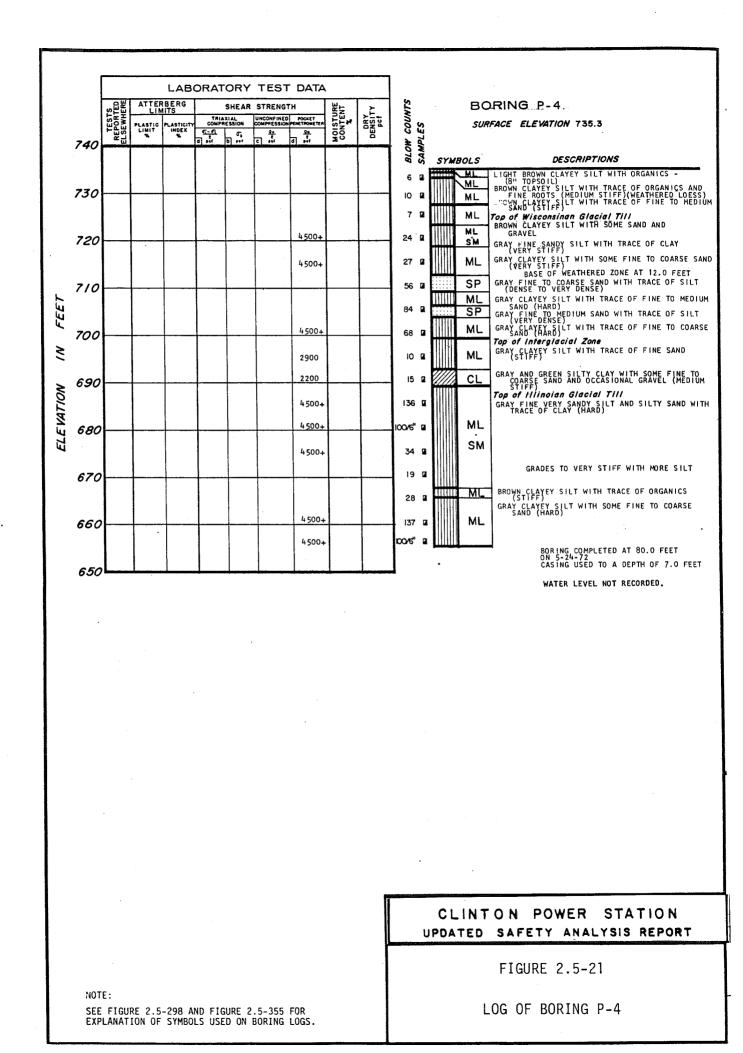
rnating beds of shale, siltstone, limestone, nd coal bedrock.

8. Vertical scale does not represent either relative thickness of stratigraphic









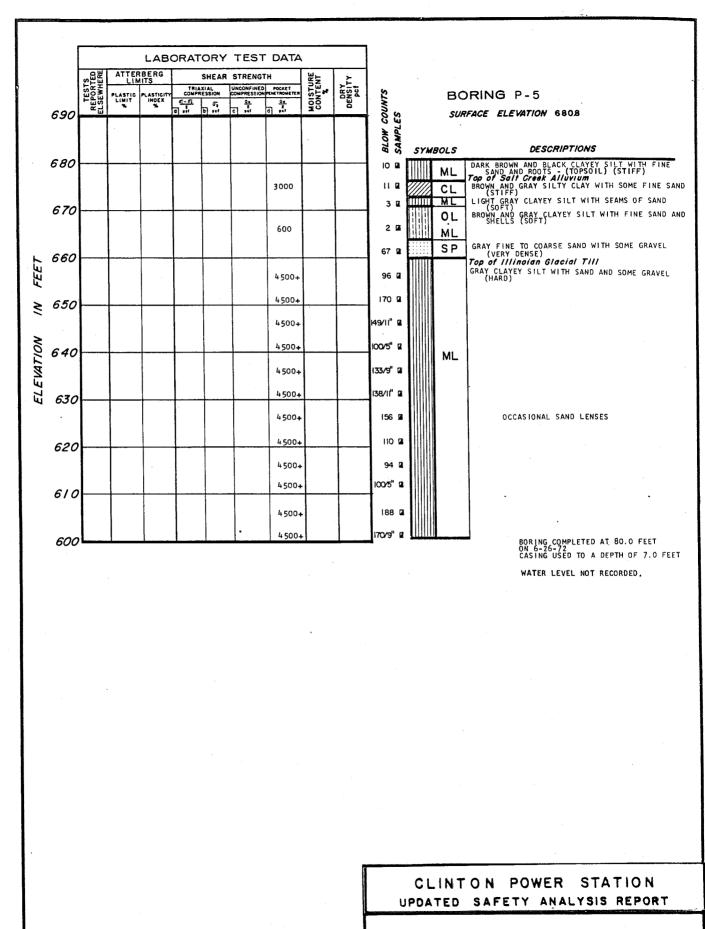
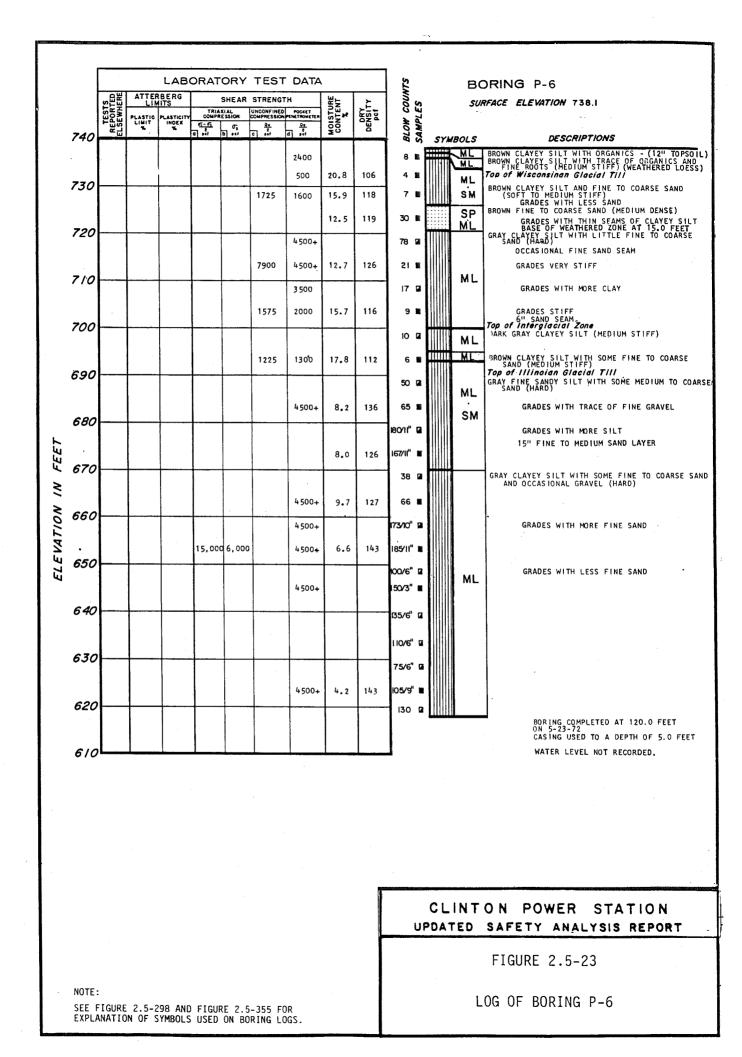


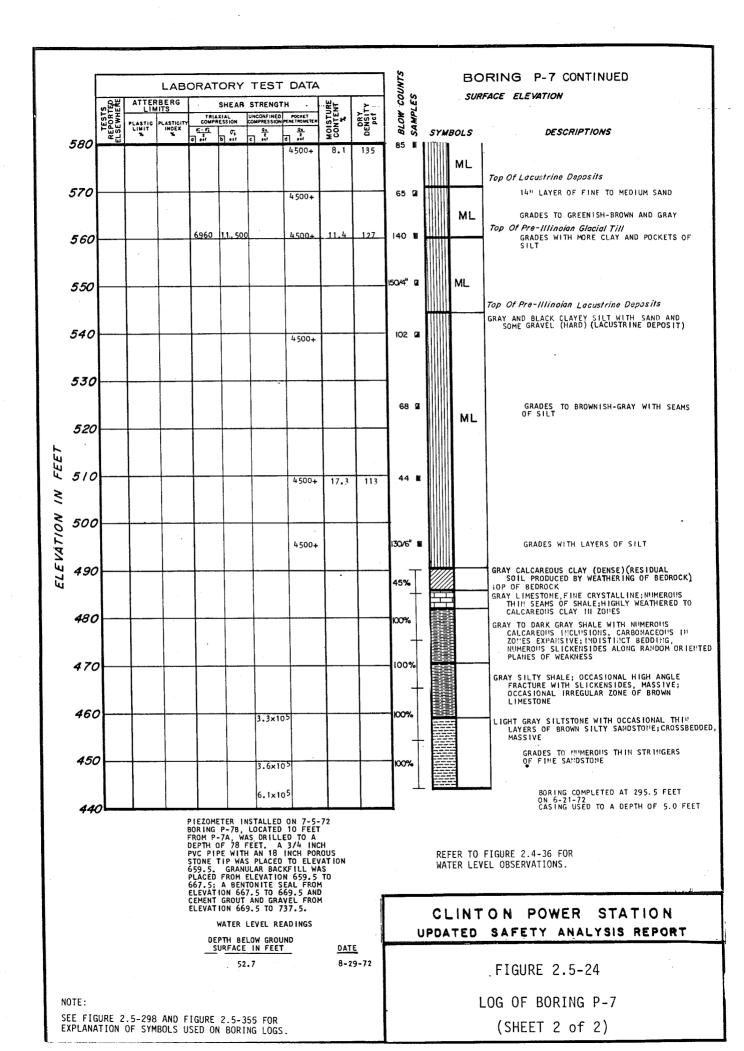
FIGURE 2.5-22

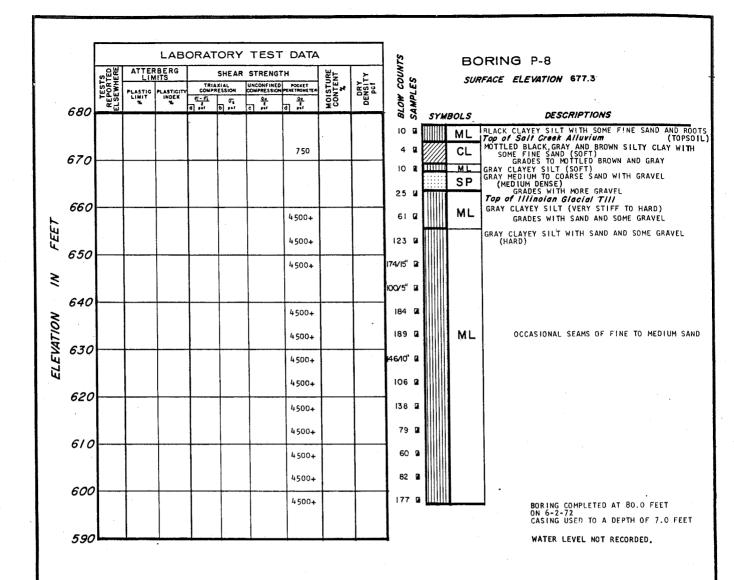
NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



				ORAT	ORY	TEST	DATA			ILS	BORING P-7					
	STS RTED /HERE		BERG	TRIA		STRENG	THL	ENT	255	ES		SUR	FACE ELEVATION 737.5			
	TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICITY	<u>a-a</u>		COMPRESSION	DENETROMETER	MOISTURE	DENSIT	BLOW COUNTS SAMPLES			· · · · · · · · · · · · · · · · · · ·			
740	Ĩ									111		BOLS	DESCRIPTIONS			
							2600	-				ML CL	BROWN CLAYEY SILT WITH FINE SAND AND ROOTS (TOPSOIL) LIGHT BROWN SILTY CLAY (STIFF) (WEATHERED Top of Wisconsingn Glacial Till Top of Wisconsingn Glacial Till			
730								11.0	118	6 🖬 🎹		ML	TAN AND BROWN FINE SANDT SILT (LOUSE)			
-							1700	11.5	120	10 1		CL	LIGHT BROWN SANDY CLAY WITH SILT AND SOME GRAVFL (STIFF) APPROXIMATE BASE OF WEATHERED ZONE AT			
720				ļ			4 500			19 🛛			GRAY CLAYEY SILT WITH SAND AND SOME GRAVE (VERY STIFF) LAYER OF REDDISH-BROWN FINE SAND WI			
										31 12			SOME GRAVEL LAYER OF BROWN SILTY CLAY WITH SOME SAND AND GRAVEL			
710							4500+	7.4	133	74 🛯		ML	GRADES TO HARD LAYER OF GRAY FINE TO MEDIUM SAND WI SOME GRAVEL			
							4500+			90 🖬			OCCASIONAL LAYERS OF FINE SANDY SILT WITH SOME GRAVEL GRADES TO BROWNISH			
-						3900	4500+	13.8	123	23 🛚			GRADES TO VERY STIFF Top of intergiacial Zone, Cray Clayey Suit and Siity Clay with Sand			
700							2700			8 🖬		ML	GRAY CLAYEY SILT AND SILTY CLAY WITH SAND SOME GRAVEL (MEDIUM STIFF TO STIFF)			
						3050	3300	18.2	111	14 🔳		ĊL				
690			+	1			+	<u> </u>		48 🖬 📢			Top of IIIinoian Glacial TIII LIGHT GREENISH-GRAY SILTY SAND AND SANDY WITH OCCASIONAL GRAVEL (VERY DENSE TO			
					1		4 500+	5.1	142	4ª 78 ∎ ª		SM	GRADES WITH MORE SILT			
680	ļ	<u> </u>	<u> </u>				4500+	<u> </u>		160 🖬 🖁		ML.				
										94 8	Jig r,	SP	GRAY FINE TO MEDIUM SAND WITH SILT AND SC GRAVEL (VERY DENSE)			
670										32 R		SM	GRAVEL (VERT BENSE) GRAY SANDY SILT WITH SOME GRAVEL AND TRAC ORGANIC MATTER (DENSE TO HARD)			
								4.3	138	121		ML	GRADES WITH MORE SAND			
660			<u> </u>			-	1	ļ.,,				SM	GRADES WITH LAYERS OF DARK GRAY FI TO MEDIUM SAND WITH SOME GRAVEL			
							4.500.			94 🖬			GRAY CLAYEY SILT WITH SAND AND SOME GRAVE (HARD) (SAND,SILT AND CLAY CONTENT VAR WITH DEPTH)			
650		<u> </u>			ļ		4500+									
										175/11" 🖬						
640					_		4 500+			200/5" 15						
										190/6" 2						
630							4500+			15540" 🖬						
000							4500+			160/10" 1						
							4 500+			105 🖬		ML				
620							4500+			118 90			3" LAYER OF GRAY FINE SAND			
													er -			
610	′ <b> </b>						4500+			112 <b>Q</b>						
								l								
600	<b>'</b>	+			-		4500+			85 🖬						
590	/—		+		-			+	+	75 🖬			6" LAYER OF FINE TO MEDIUM SAND			
	ŀ															
580	,∟								<u></u> [		• •		ON DOWED STATION			
												TED	ON POWER STATION SAFETY ANALYSIS REPORT			
									ſ				FIGURE 2.5-24			
												1.	OG OF BORING P-7			
												L.	(SHEET 1 of 2)			



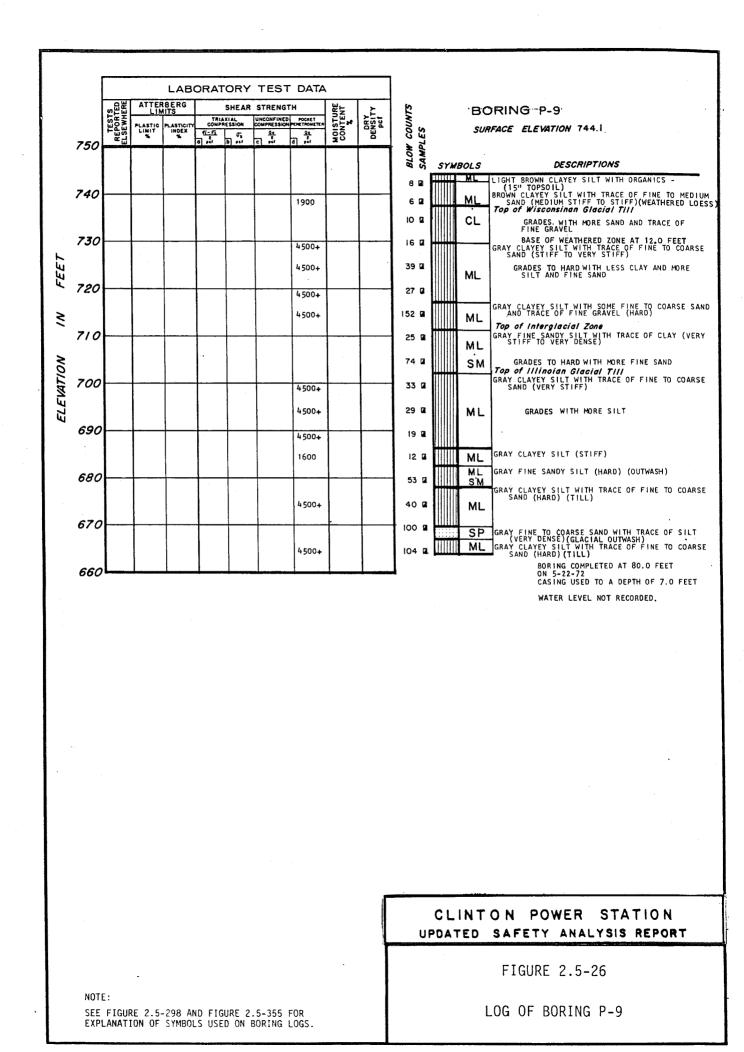


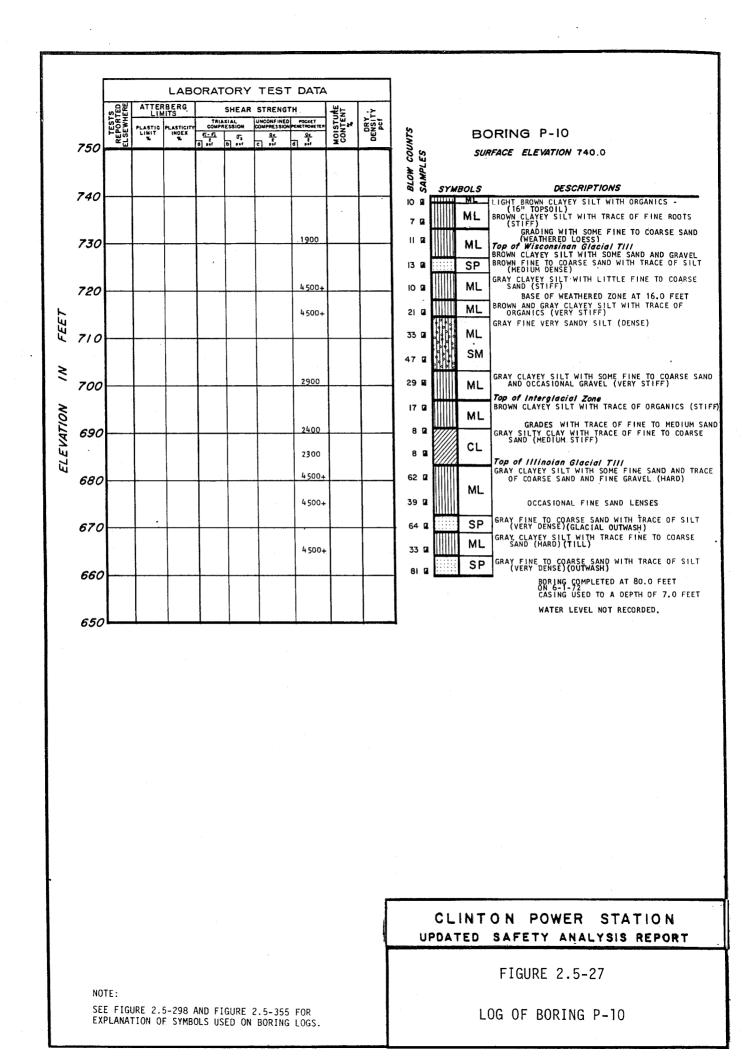
# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

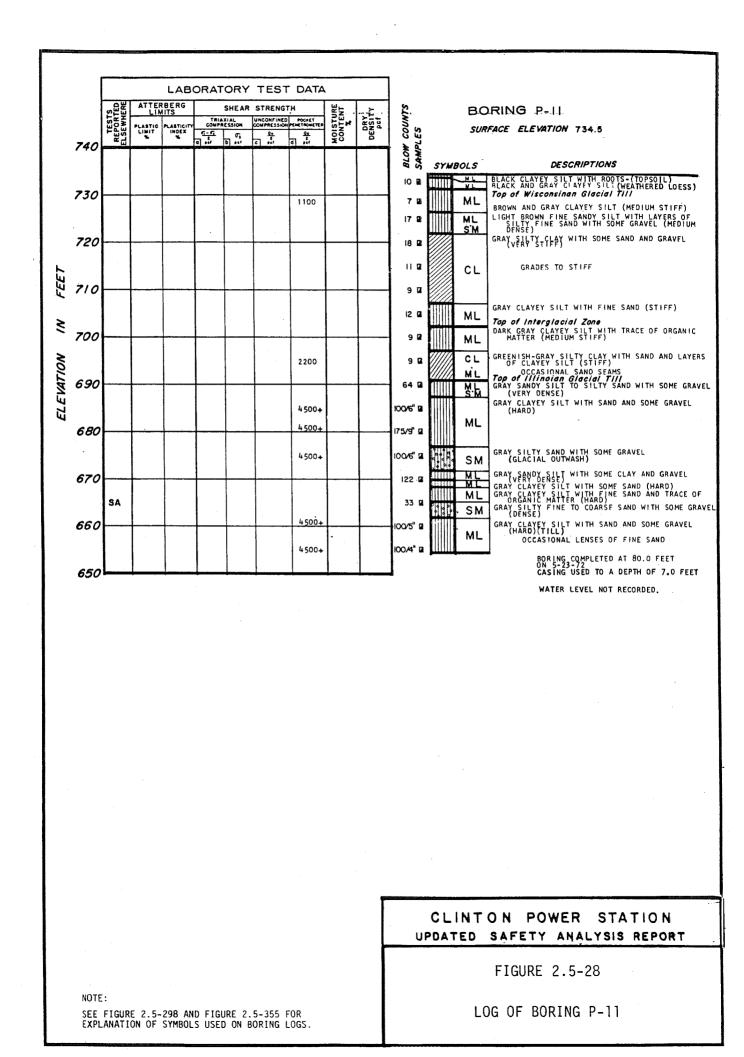
FIGURE 2.5-25

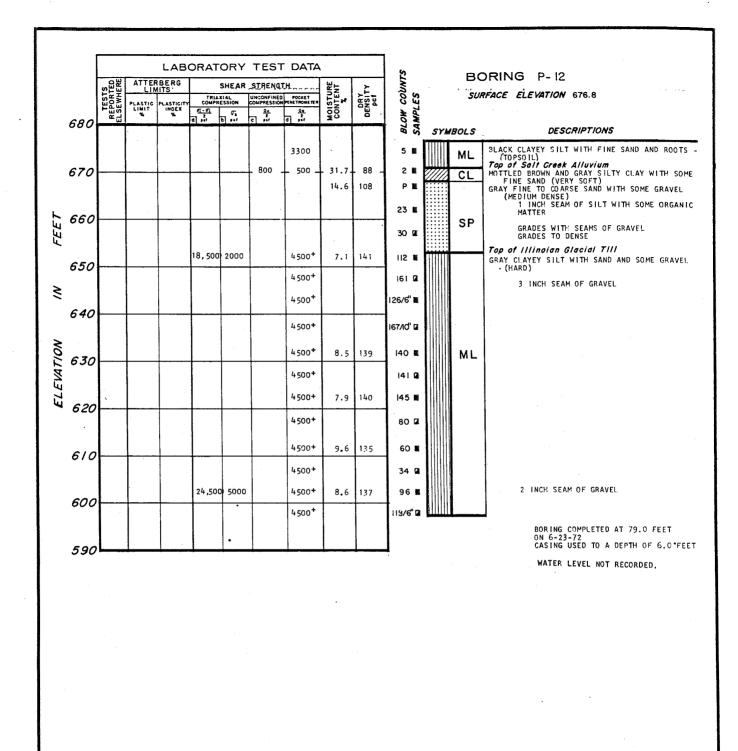
NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.









## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

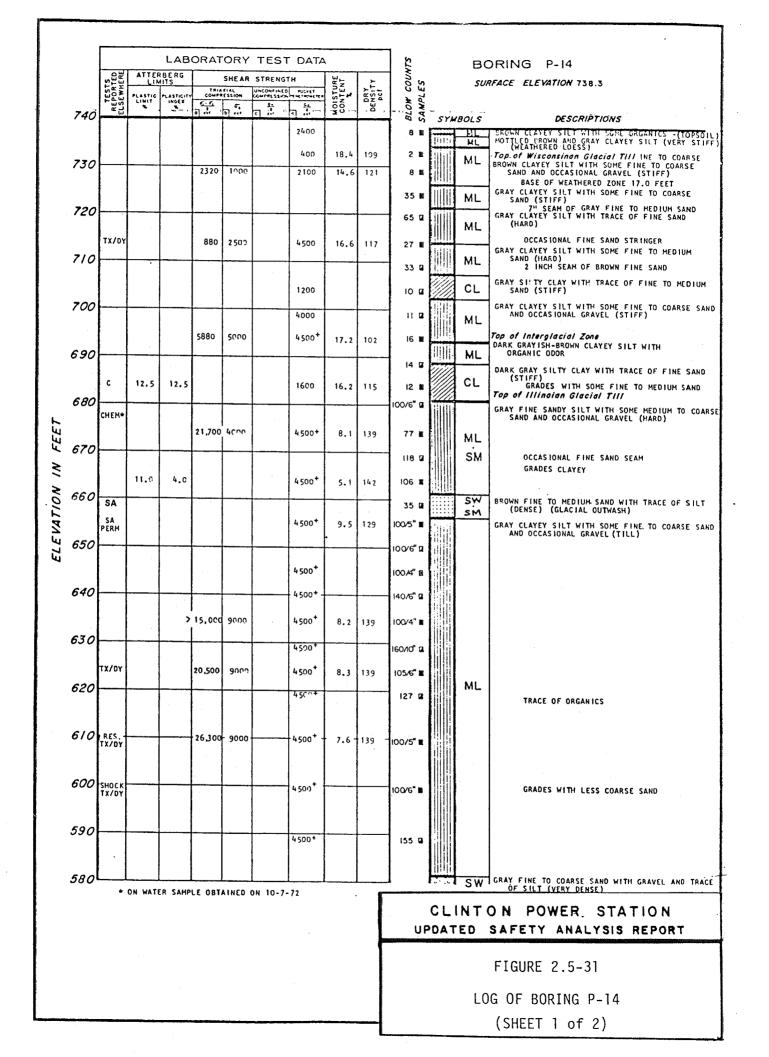
FIGURE 2.5-29

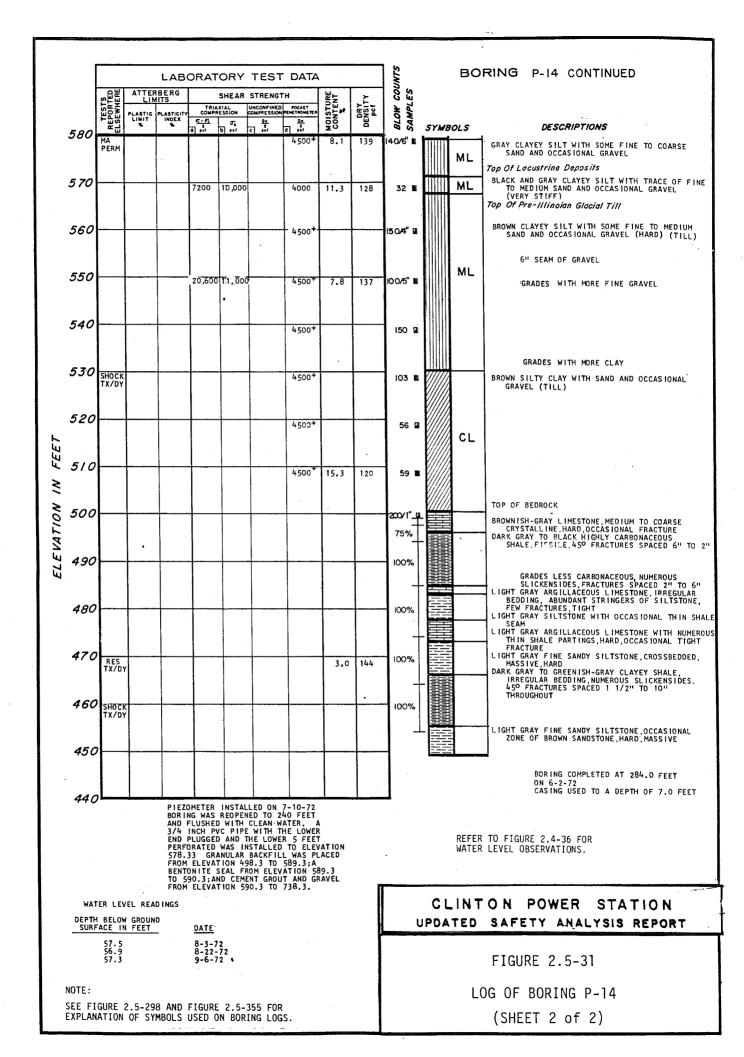
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

					ORAT	ORY	TES						
		TESTS REPORTED ELSEWHERE	LIN	BERG			STRENGTH		MOISTURE CONTENT	it'	6		
	·	TE: LSEW	PLASTIC LINIT	PLASTICITY INDEX	<u></u>		COMPRESSIO	NPENETROMETER	TNO:	MOISTURE CONTENT	COUNTS	BC	DRING P-13
	750	<u><u></u><u></u></u>			<u>ة</u> ،	b]	C 951	d pit	20		COL	SUR	PFACE ELEVATION 740.9
											HOTA SYN		
	740							100		102 -	Printer of	BOLS	DESCRIPTIONS
	/ 40							3500	20.0		7 1	ML	BROWN CLAYEY SILT WITH ORGANIC MATTER - (TOPSOIL) BROWN CLAYEY SILT WITH TRACE OF FINE ROOTS
							1425	2300	13.6		7	MIL	(Very STIFF)(WEATHERED LOESS) <i>Top of Wisconsinan Glacial Till</i> BASE OF WEATHERED ZONE AT 20.0 FEET
	730							4500+	11.4	113	18 🕷 📊	ML	BASE OF WEATHERED ZONE AT 20.0 FEET Grades to very stiff with more fine to coarse sand
				-					5.9	124	52 🛚 🛄	SP ML	SROWN FINE TO COARSE SAND WITH TRACE OF SILT (VERY DENSE)
	720				ļ			4500+			100/6" 🖬 🛄	SP	ROWN CLAYEY SILT WITH SOME FINE TO COARSE SAND AND OCCASIONAL GRAVEL (VERY STIFF)
								4500+	12.1	125	99 🛚	ML	SROWN FINE TO MEDIUM SAND (DENSE) BROWN CLAYEY SILT WITH SOME FINE TO COARSE SAND (HARD)
											29 🖬	M,L S M	GRAY FINE SANDY SILT (HARD) DARK GRAY CLAYEY SILT WITH SOME FINE TO COARSI
	710										23 6		SAND AND TRACE OF ORGANICS (VERY STIFF)
			1					4500+	14.3	117	64 🛍	ML	GRADES TO HARD WITH MORE SAND
	700					ļ		4500+	_		36 🖬		
								4500+	19.7	111	87 🗉	MI	Top of Interglacial Zone GRAY FINE SANDY SILT WITH SOME MEDIUM TO COAR
											36 12	<u>Š</u> M	SAND AND TRACE OF CLAY (HARD) GRAY SILT WITH TRACE OF FINE SAND AND CLAY
	690				<u> </u>			<u> </u>				ML	(HARD)
L L	:				6840	4001		4500	12.4	125	27 🖬		GRADES TO VERY STIFF WITH SOME FINE TO COARSE SAND
FEF	680		ļ							ļ	42 🖬 💠		GRAY FINE TO COARSE SAND WITH TRACE OF SILT AND OCCASIONAL GRAVEL (DENSE)
N		SA							18.1	109	168/11 <sup>#</sup> E	SP	3 INCH COBBLE GRADES TO VERY DENSE WITH MORE GRAVEL
								4500+			46 🖬		Top of Illinoian Glacial Till GRAY CLAYEY SILT WITH SOME FINE TO COARSE
ELEVATION	670				-	1	-					ML	SAND AND OCCASIONAL GRAVEL (HARD)
41								4500+	10.9	126	27 🖿		GRADES WITH MORE SAND
L.	660		ļ	ļ			<u> </u>		ļ		44 🖬 💠	SP	GRAY FINE TO COARSE SAND WITH TRACE OF SILT AND GRAVEL (DENSE)(GLACIAL OUTWASH)
E L									8.0	127	93 🔳 💠	ŚW	GRADES TO VERY DENSE
							1	4500+			100/6" 🛛		GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND OCCASIONAL GRAVEL (HARD)(TILL)
	650			1	27,900	6020		4500+	6.7	142	125/6" 🛯		
		Í			27,50	00.0				1-72			3 INCH COBBLE
	640		ļ		ļ	ļ		4500+		<b> </b>	100/3" 🖬	ML	
							1	4500+	7.0	129	150/5" 🗈		
								4500+	1	1	100/4" 17		
	630	<u> </u>	1	+	1	+	+	+500			1		GRADES DARKER GRAY WITH TRACE OF ORGANIC MATTER
			1		28,50	0) 8000		4500+	1	137	161/9" <b>1</b>		
	620							4 500+			00/6" 🖬		4
													VORING COMPLETED AT 120.0 FEET ON 5-25-72
													CASING USED TO A DPETH OF 5.0 FEET
													WATER LEVEL NOT RECORDED.
								•		pat			
													ON POWER STATION

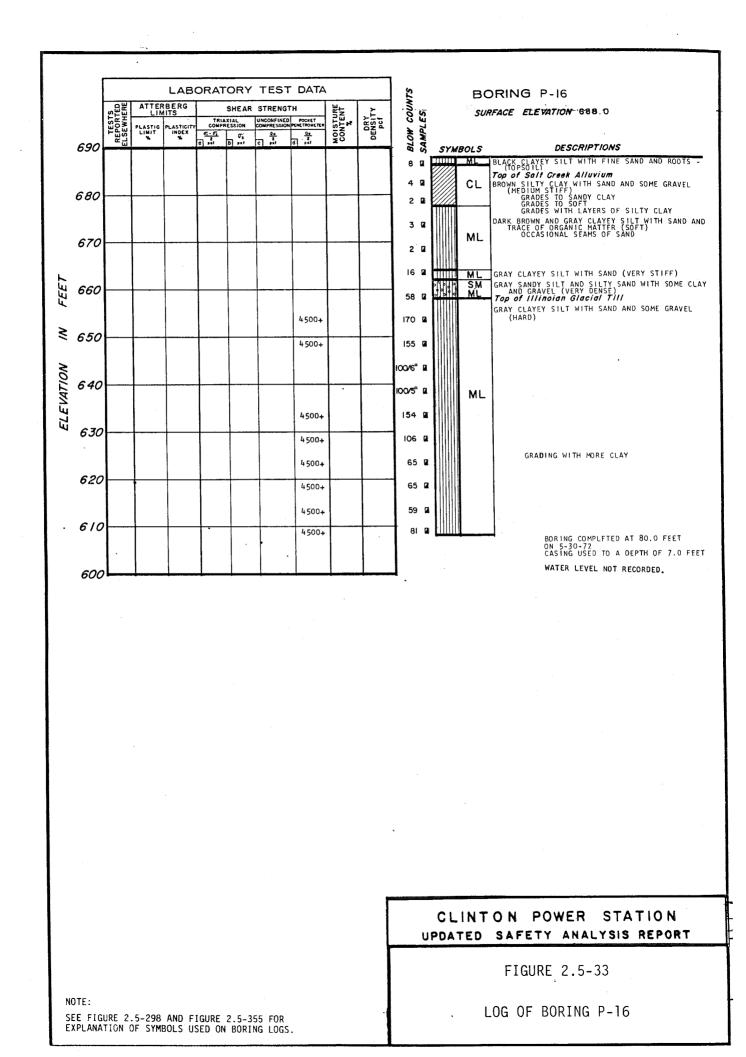
FIGURE 2.5-30

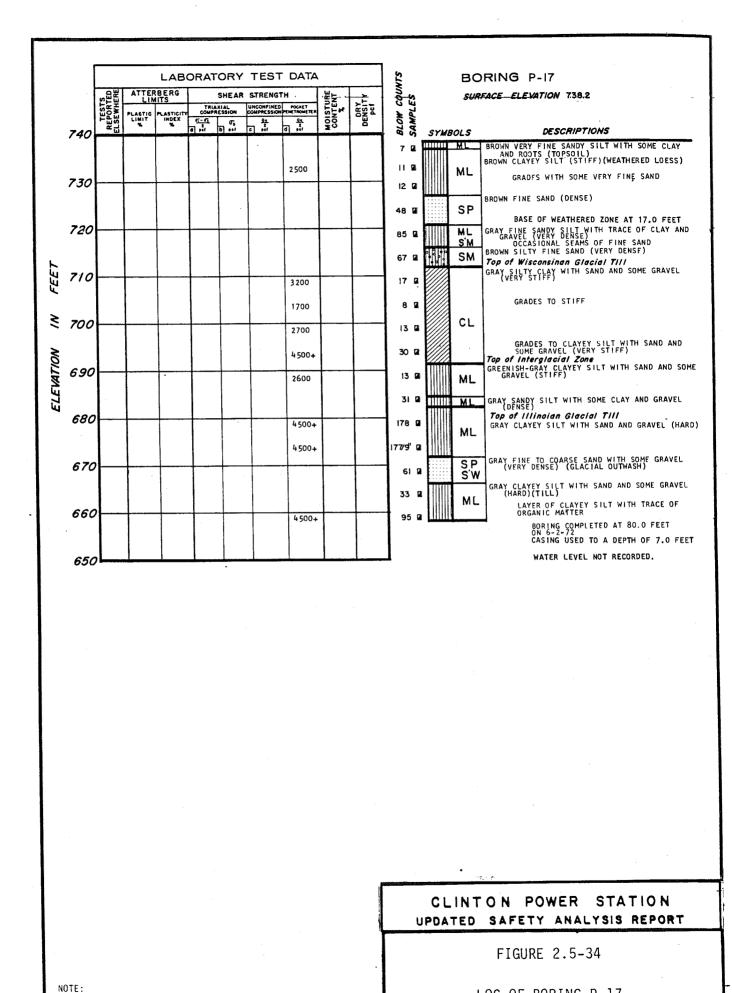
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.





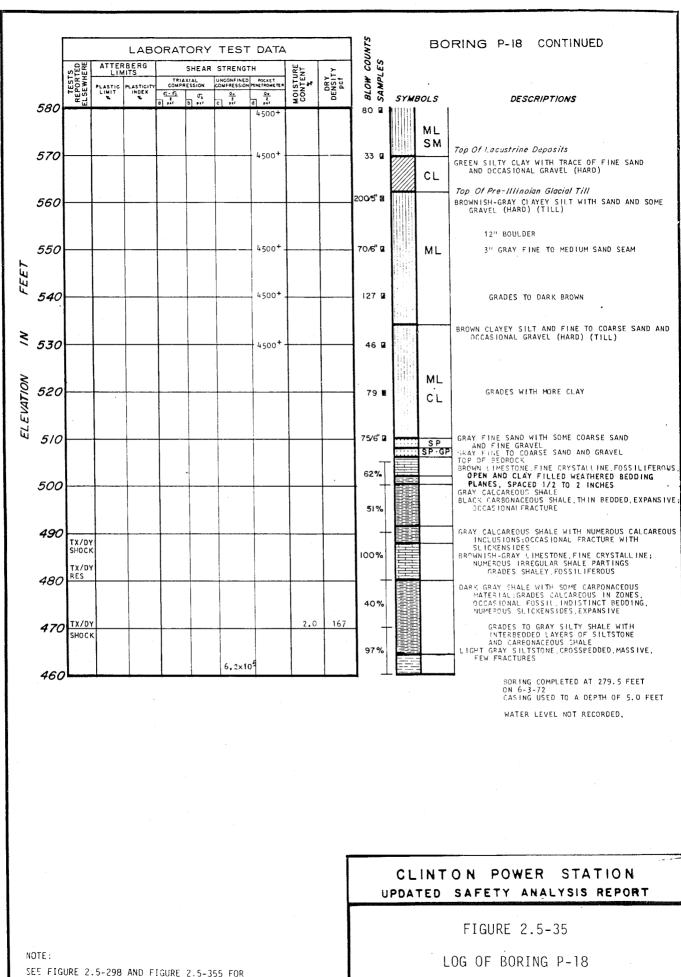
			1			T DATA			75		вс	RING P-15
STS RTEC		RBERG AITS	TRIA		STRENG	TH D POCKET NPENETROMETER	ENT	۲۲ ۲۲	NNO		SUR	FACE ELEVATION T36.3
TESTS REPORTED ELSEWHERE	PLASTIG LIMIT	PLASTICITY INDEX	<u>a-a</u>			d sof	MOISTURE	DENSITY DENSITY	BLOW COUNTS SAMPLES			· · · · · · · · · · · · · · · · · · ·
									BL SA	SYM	BOLS .	
						2600	25.2	98	7 E		<b>ML</b>	IGHT BROWN CLAYEY SILT WITH SOME ORGANIC (TOPSOIL) BROWN CLAYEY SILT WITH TRACE OF FINE ROOTS Top of Wisconsinan Glacial Till (STIFI
			1 2300	1000							ML	MOTTLED PROWN AND GRAY CLAYEY SILT WITH T
			2550	1000		1000					SP	OF FINE TO MEDIUM SAND (STIFF) GRADES TO VERY STIFF BROWN FINE SAND WITH TRACE OF SILT (MEDIU
'├──							21.2	105			SM	DENSE) GRAY SILTY FINE SAND (MEDIUM DENSE) GRAY CLAYEY SILT WITH SOME FINE SAND
									14 Wa			(MEDIUM STIFF) BASE OF WEATHERED ZONE 16.0 FEET
C	14.5	8.5	<u> </u>			2400	12.8	116	712		ML	GRADES WITH TRACE OF FINE TO Coarse sand and with more clay
									7 🖬			
,	L	·	1530	3000		2000	32.1	92	7 🖬	//////		<i>Top of Intergiacial Zone</i> GRAY SILTY CLAY WITH TRACE OF FINE SAND (MEDIUM STIFF)
									6 🖬		ĊĿ	
TX/DY			1980	3000		3200	18.0	111	111		K A I	GRAY CLAYEY SILT WITH SOME FINE TO COARSE
′	1				1	-			12 🖬			SAND AND OCCASIONAL GRAVEL (STIFF) Top of Illinoian Giacial Till
						1.000+	0.7	125			ML	GRAY FINE SANDY SILT WITH TRACE OF CLAY (STIFF) GRAY CLAYEY SILT WITH SAND AND SOME GRAVE
?├──					1	+		02				(VERY STIFF) GRADES TO HARD
	1					4500					MI	
<u>,                                    </u>			14,000	4000	<u> </u>	4500+	8.6	133	(70/10'			
						4500+			42 0			GRADES WITH LESS FINE SAND
SA SA					1		12.6	123	134/11"		SM	GRAY SILTY FINE TO COARSE SAND (VERY DEN
						4500+	Ì		77,1	ı		(GLACIAL OUTWASH) GRAY CLAYEY SILT AND FINE TO COARSE SAND WITH OCCASIONAL GRAVEL (HARD)(TILL)
						·	11.9	103	100/6" 1			
$\square$	1			1	-	4500+			100/5" 1	a <b>[</b>		
					-				100/7			1/2" LENSE OF SHALE HARD
Դ—			+	1		4 500+		1	1		ML	3" COBPLE
	1		1					120				GRADES DARKER GRAY
୬—					·	4		1,50	4			2" SEAM OF GRAY FINE TO MEDIUM
						4500			100/5			SAND
<u></u>	ļ	_	36,00	0 8,00	0	45004	7.4	140	100/5"	•		
						4500+			124	а ШШ		
												BORING COMPLETED AT 120.0 FEET ON 5/24/72 CASING USED TO A DEPTH OF 5.0 F
								•				WATER LEVEL NOT RECORDED.
	, ,, , ,, , ,, , , , , , , , , , , , , , , , , , , ,	C 14.5	C 14.5 8.5	C 14.5 8.5 C 14.5 8.5 TX/DY 1980 TX/DY 1980 14,000 SA C 14.5 36,00	C 14.5 8.5	C       14.5       8.5	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	-       -       -       1000       21.8       106.       5       5         2390       1000       1600       13.9       123       8       14       14         -       -       -       21.2       105       19       14       12       14       14       14       14       14       14       14       12       14       14       14       14 <td>c       14.5       8.5       1000       1600       13.9       123       8       9       14       10       14       &lt;</td>	c       14.5       8.5       1000       1600       13.9       123       8       9       14       10       14       <



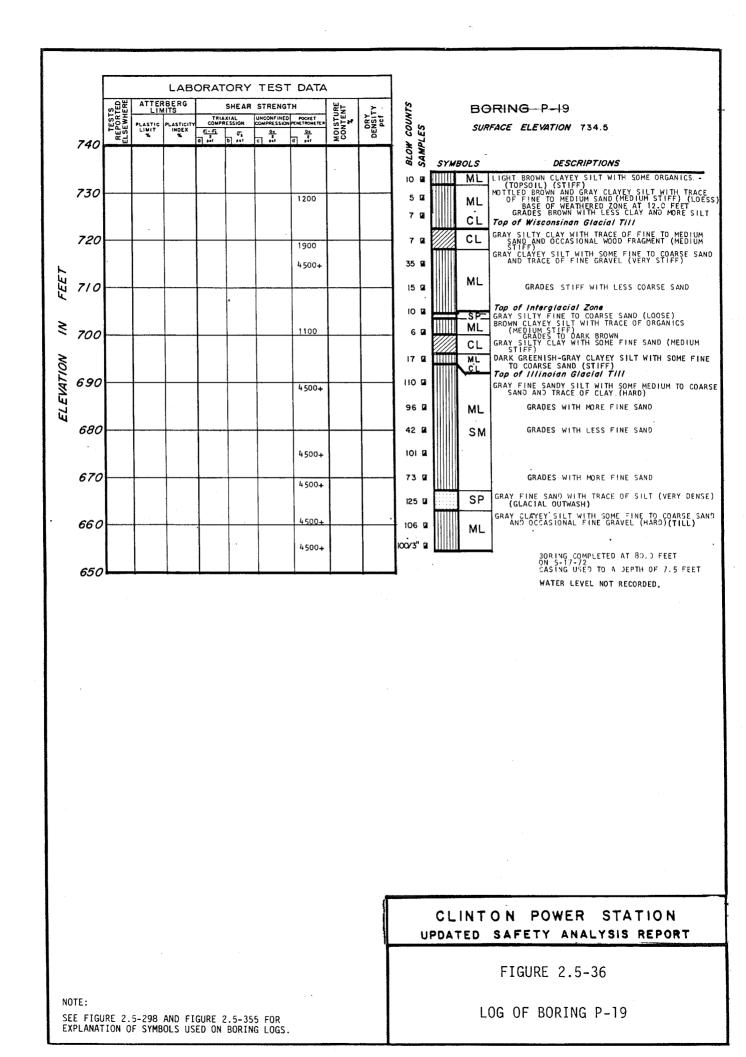


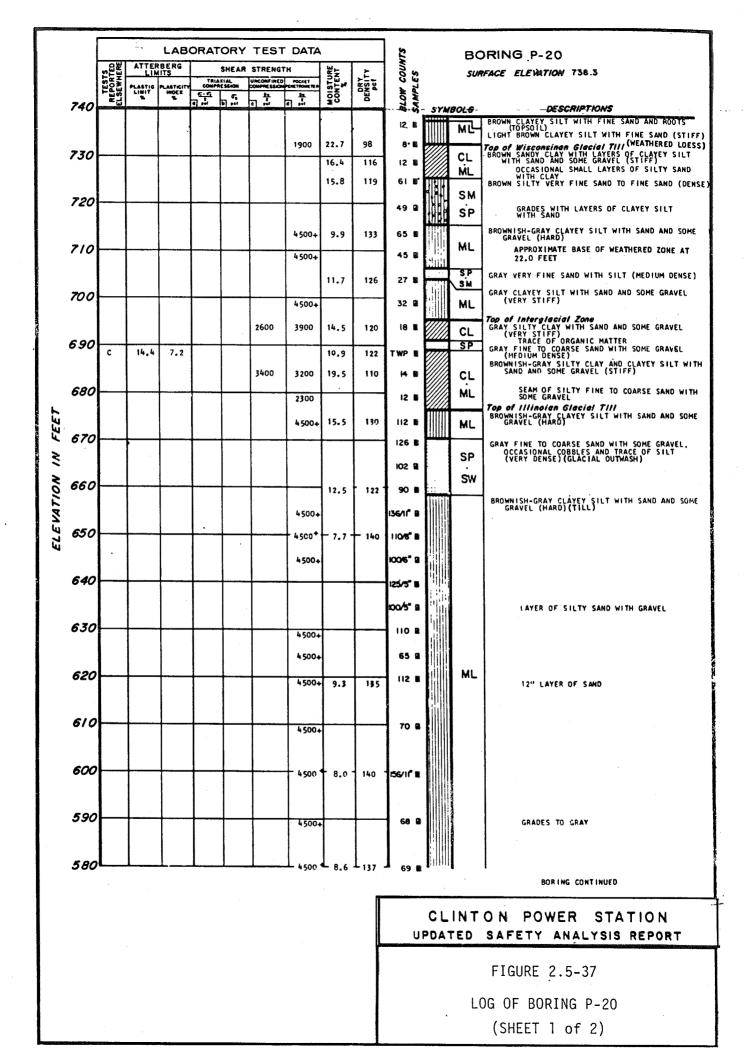
SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

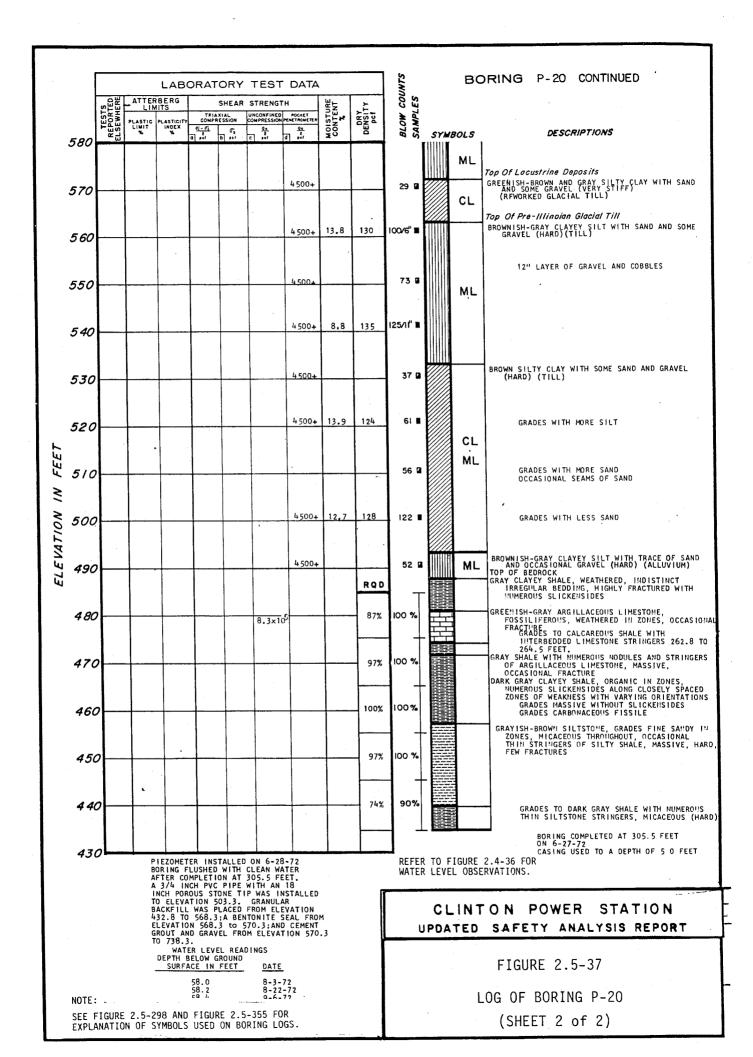
BLOW COUNTS SAMPLES LABORATORY TEST DATA BORING P-18 RTED HERE ATTERBERG MOISTURE CONTENT SHEAR STRENGTH SURFACE ELEVATION 738.2 Ł DENSIT COMPRESSION TES1 REPOR TRIAXIAL POCKET PLASTIC NDEX <u>ei-ei</u> 0; 94 94 5 Ы SYMBOLS DESCRIPTIONS 740 H L LIGHT BROWN CLAYEY SILT WITH ORGANICS (TOPSOIL) BROWN CLAYEY SILT (STIFF) (WEATHERED LOESS) 2 500 8 8 ML 2700 23.7 96 6 🖩 Top of Wisconsinan Glacial TIII 730 LIGHT BROWN SILTY FINE TO MEDIUM SAND (LOOSE) 15.5 114 9 18 SM BROWN FINE SANDY SILT WITH TRACE OF CLAY (STIFF) BASE OF WEATHERED ZONE AT 19.0 FEET GRAY SILT (STIFF) GRAY FINE TO MEDIUM SAND (DENSE) (GLACIAL OUTWASH) GRADES WITH OCCASIONAL FINE SAND 3360 1500 14.1 118 19 籠 ML SM 720 25 🖬 ML 42 👪 GRADES WITH OCCASIONAL FINE SAND 11.8 115 SP SEAM 710 38 🖬 GRAY FINE SANDY SILT WITH TRACE OF CLAY (HARD) ML SHOCU 3000 15 巖 GRAY CLAYEY SILT WITH TRACE OF FINE TO COARSE SAND (STIFF) Top of Interglacial Zone DARK GRAY CLAYEY SILT WITH TRACE OF ORGANICS (VERY STIFF) GRADES TO STIFF TX/DY ML 700 17 😫 CL ML 16.5 13.5 2000 17.7 104 10 8 LIGHT GRAY CLAYEY SILT WITH FINE TO COARSE SAND AND OCCASIONAL GRAVEL (STIFF) 690 ML 9 0 SM *Top of Illinoian Glacial Till* GRAY SANDY SILT WITH CLAY AND SOME GRAVEL (HARD) ŠA PERM 4500+ 66 🖪 10.3 131 680 00/4**¦**"⊒ ML FEET 4500+ 10.0 132 155/11" SM 670 45001 44 🖬 N 4500<sup>+</sup> 56 🖪 GRAY CLAYEY SILT (HARD) ML ELEVATION 660 4500+ 29 🖬 GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND OCCASIONAL GRAVEL (HARD) 175/6" 0 650 4500+ 100/6" 🖬 12" GRAVEL SEAM 200/6" 🛙 640 GRADES WITH MORE SAND 150/5<sup>11</sup> 🛙 119/6" 🛿 4500+ 630 95/6" 🖬 6" BROWN FINE TO MEDIUM SAND SEAM 112/6" 1 4500+ ML GRADES WITH MORE CLAY 620 SM 75 🖬 4500+ 75/6" 8 610 • 600 62/6 2 4500\* 6" GRAVEL SEAM 590 4500 65/6" 🛙 BORING CONTINUED 580 CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT FIGURE 2.5-35 LOG OF BORING P-18 (SHEET 1 of 2)



SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.







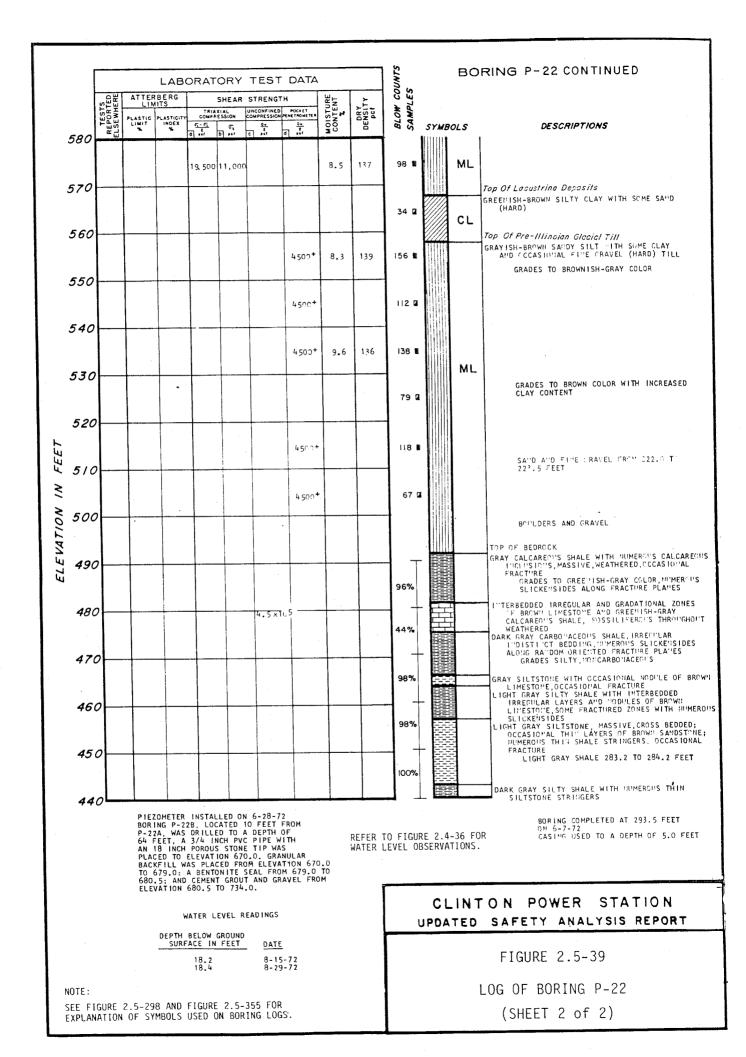
	1			LAB	ORAT	ORY	TES				1			
		S ERE	ATTER		T		STRENG				-			
		TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICIT	TRIA COMPA	IXIAL TESSION			MOISTURE	DENSIT	'TS		вс	DRING P-21
	750	Ľ.S	*	*		σ, δ)	04 2 31	0 4 4 4 4	NO N	ă	BLOW COUNTS SAMPLES		SUR	FACE ELEVATION 740.2
											HO			
	740										1		BOLS	DESCRIPTIONS
								2300	24.7	94	10 🗉		ML	DARK BROWN CLAYEY SILT WITH ORGANICS (TOPSOIL) BROWN CLAYEY SILT WITH TRACE OF FINE TO MEDIUM SAND (STIFF)(WEATHERED LOESS)
					2080	1000		1600 1600	16.5 14.9	113 120	5 .		ML	Top of Wisconsing' Glacial Till BROWN CLAYEY SILT WITH SOME SAND AND GRAVEL
	730							1000			1		CL	BROWN SILTY FINE SAND (DENSE)
									17.6	111	57 🖬			GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND OCCASIONAL GRAVEL (HARD)
	720									· · ·	58 🖬		ML	BASE OF WEATHERED ZONE 14.5 FEET
		•			6600	2000		4500+	10.6	128	31 🖬		IVI L.	
	710						ļ				28 🖬			12" LAYER OF GRAY FINE TO COARSE SAND
								4500+	10.1	130	27		SP GP	AND GRAVEL GRAY FINE TO COARSE SAND AND GRAVEL (MEDIUM DENSE)
											17 9		ML	GRAY CLAYEY SILT WITH TRACE OF FINE TO MEDIUM SAND (VERY STIFF) TOP Of Interglacial Zone
	700	<u> </u>			1								ĊĻ	DARK GRAY CLAYEY SILT WITH TRACE OF FINE SAND (MEDIUM STIFF TO STIFF)
		¢,	16.6	4.4				2000	18.4	114	8 🛙		ML	GRAY FINE SANDY SILT WITH TRACE OF MEDIUM TO
	690			-							13 🖬		ML	(VERY STIFF)
ET							1	4500+			90/6" 18			<i>Top of Illinoian Glacial Till</i> grades to hard with trace of clay
FEET	680		•		ļ			4500+			100/5" 🛛		ML	Stores to the with trace of clay
								4500+	8.7	134	78		SM	
2	670										46 🖬		SP	BROWN SILTY FINE TO MEDIUM SAND (MEDIUM DENSE)
710	670										1		ML	GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND OCCASIONAL GRAVEL (VERY STIFF)
Z											35		ML	GRAY AND BLACK CLAYEY SILT WITH FIME SAND AND TRACE OF ORGANICS (DENSE)
ELEVATION IN	660	······································			+	· ·				· · ·	42 0		S.P SM	GRAY SILTY FINE TO COÀRSE SAND (DENSE) GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND
41					12,600	6000		4500+	7.9	140	100/5"∎			AND OCCASIONAL GRAVEL (HARD)
	650		ļ				ļ				200/6" 🖬			
								4500+	6.8	146	100/5" 🖬			
	640							4500+			1 35/6" 🖬		ML	GRADES WITH MORE CLAY
	640		10.6	3.9				4500+	6.5	138	100/4" 🗉			
								4500+	0.1		130/6" 🖬			
	630	┣───									130/6 🖬			
					20,400	8000		4500+	8.6	136	100,4" 🗉			GRADES WITH TRACE OF FINE SAND
	620							4500+			97 🖬			BORING COMPLETED AT 120.0 FEET
														ON 5-19-72 CASIMG USED TO A DEPTH OF 7.5 FEET
														WATER LEVEL NOT RECORDED.
										ſ		<u> </u>		ON POWER STATION
														SAFETY ANALYSIS REPORT
										ŀ				and Conservation Arts Torres
														FIGURE 2.5-38

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

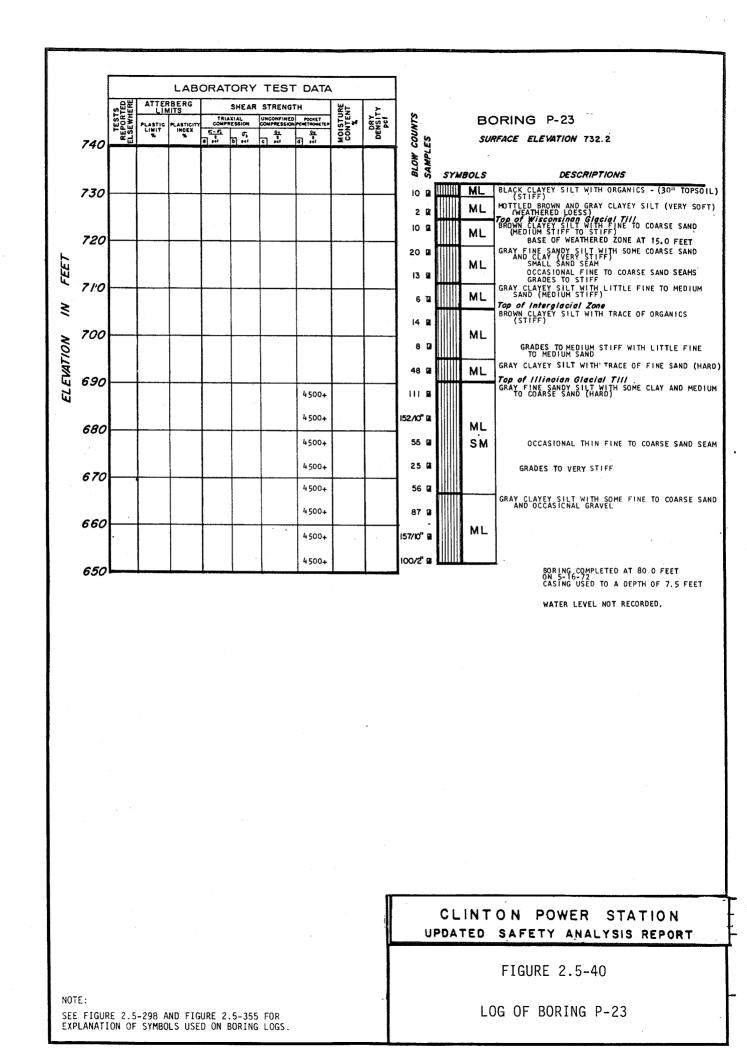
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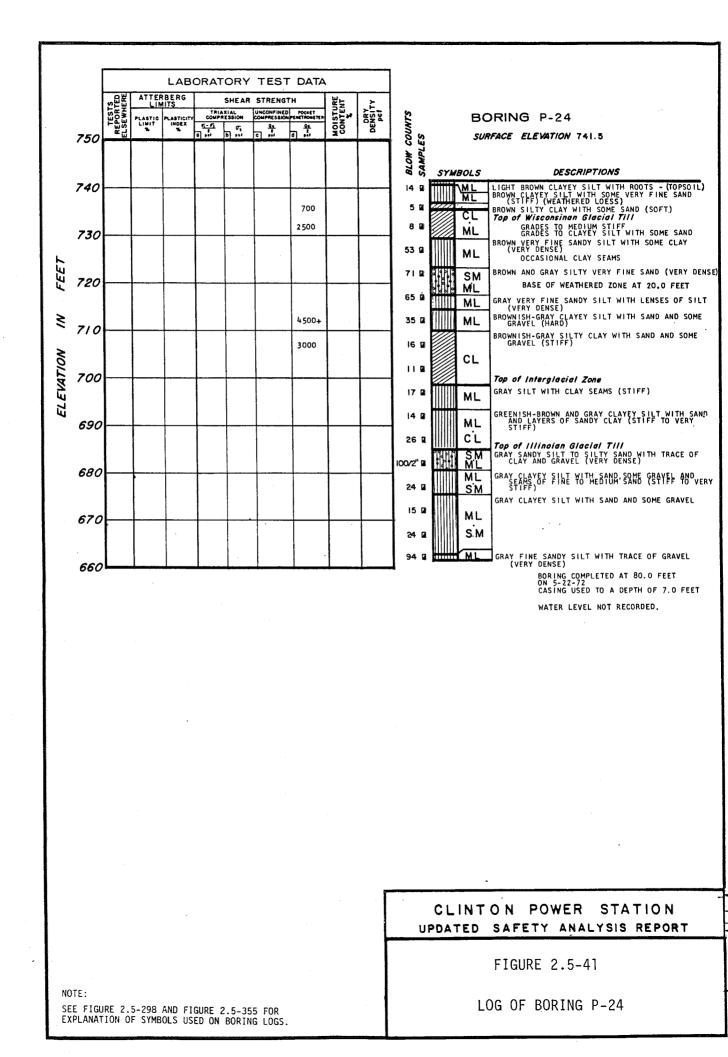
LOG OF BORING P-21

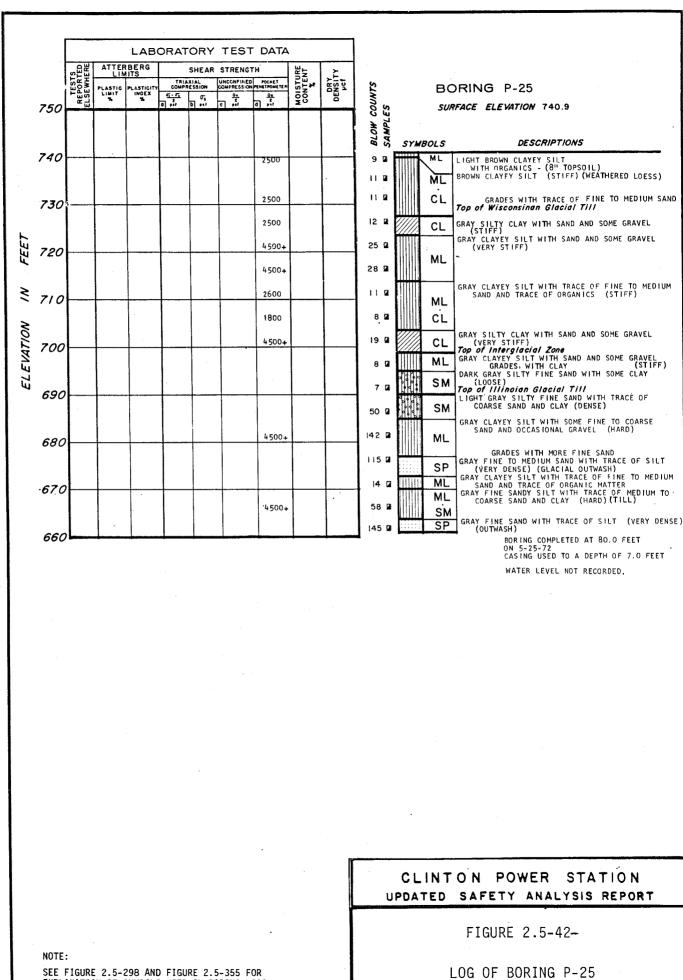
				LAB	ORAT	ORY	TEST	DATA					
		RTS RTED HERE	ATTER	BERG			STRENG		ENT	, <b>1</b>	NTS	вс	DRING P-22
		TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICITY INDEX %	TAIA COMPR <u>CFi</u> e] er		COMPRESSION	POCKET PENELTHOMETER Ba. T	MOISTI CONTE	DENSI	COUNTS	SUA	FACE ELEVATION 734.0
	740	<u>u</u>			o[ 94				_		MOTE SY	NBOLS	DESCRIPTIONS
												ML	DARK BROWNISH-GRAY SILT WITH TRACE OF CLAY
	730	c	22.8	17.3				1000	22.2	97	4 .	CL	AND FINE SAND ORGANICS DEBRIS(TOPSOIL) MOTTLED LIGHT BROWN TO GRAYISH-BROWN SILTY CLAY WITH TRACE OF ORGANIC DEBRIS AND FIN
									13.2	112	10 🔳	SP	SAND (SOFT) (WEATHERED LOESS) LIGHT BROWN FINE TO MEDIUM SAND WITH TRACE
	720							4000	16.2	118	i9 🔳 📗	<u> 3</u> 7	OF SILT (MEDIUM DENSF) Top of Wisconsingn Gigciol TIII Dark brownish-gray clayey silt with some san
								3500					AND TRACE OF GRAVEL (STIFF) GRADES WITH MORE CLAY
	710				2730	2000		1750	11.2	123	8 .	ML	GRADES TO MEDIUM STIFF
		CHEM*									7 0		GRADES TO REGION STOL
	700	c						ļ	36.8	74	a <b>a</b> 111		<i>Top of Interglacial Zone</i> DARK GRAYISH-BROWN SILT WITH FINE ORGANIC
		ľ						1600	1 30.0		6 12	ML	DEBRIS (LOOSE) GREENISH-GRAY TO BROWN SILTY CLAY WITH SOME
								1000	ļ			CL	SAND (MEDIUM STIFF) BLUISH-GREEN TO GRAY SANDY SILT WITH SOME
	690	C	12.4	5.0				2706	12.8	119	9 🖬	ML	CLAY (MEDIUM STIFF)
								4500+	1		97 🖬		GRAYISH-BROWN SANDY SILT WITH SOME CLAY AND OCCASIONAL GRAVEL (HARD)
	680	<u> </u>			13,700	64000	<u> </u>	4500+	8.8	+134	57 🛛	ML	
7001											24 🖬		DARK BROWN TO BLACK SILT WITH ORGANIC DEBRIS GRAY SILTY FIVE SAND WITH OCCASIONAL LAYERS
	670	SA	<u> </u>				<u> </u>	+	18.4	110	29 🖷	SP	OF SAMDY SILT AND ORGANIC DEBRIS (MEDIUM DENSE) (GLACIAL OUTWASH)
2											16 <b>B</b>	OL	DARK BROWN TO BLACK SILT WITH HIGH ORGANIC CONTENT (STIFF)
S	<b>6</b> 6 0	TX/DY			16,900	1 6000	}	4 590+	8.6	138	90 🖬 📗		GRAYISH-BROWN SANDY SILT WITH SOME CLAY AND OCCASIONAL GRAVEL (HARD) (TILL)
्र									1		120 🖬		OCCASIONAL SAND LENSES
ELE VALION	650	┣	<b> </b>	<u> </u>	 >15,00	: 0 6000	<b> </b>	4590+	8.2	140	107 🔳		
4						ł		4500+			1356 8		
	640		ļ	 		ļ		ļ	<u> </u>	<b></b>	100/5" 🖬		
								4500+			152 0		
	630					<u> </u>	1	4500+		<u> </u>			
					[			4500+			100 12		
	620		10.8	9.4				4500+	.,	141	136 8	ML	
	020					1		4500+	<b>, , , , , , , , , ,</b>		95 8		
								4500			95 u ()		
	610		1	1		<u>†</u>	1			1	┨ ┃║		
											110 🔳		
	600			<u> </u>	1	+	+		+	+	-1 [		
								4500+			. 79 🖬		
	590	1		╂			+		+	1			
		1						4 500+			96 🖬		
	580		L	<u> </u>	L	1		<u> </u>		1			BORING CONTINUED
		* 0	N WATE	R SAMPL	E OBTA	INED O	N 10-7-	72		1	-		
													ON POWER STATION
											040	MIEU	SAFETY ANALYSIS REPORT
												·	FIGURE 2.5-39
												1	_OG OF BORING P-22
												L	
													(SHEET 1 of 2)



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EXPLANATION OF SYMBOLS USED ON BORING LOGS.

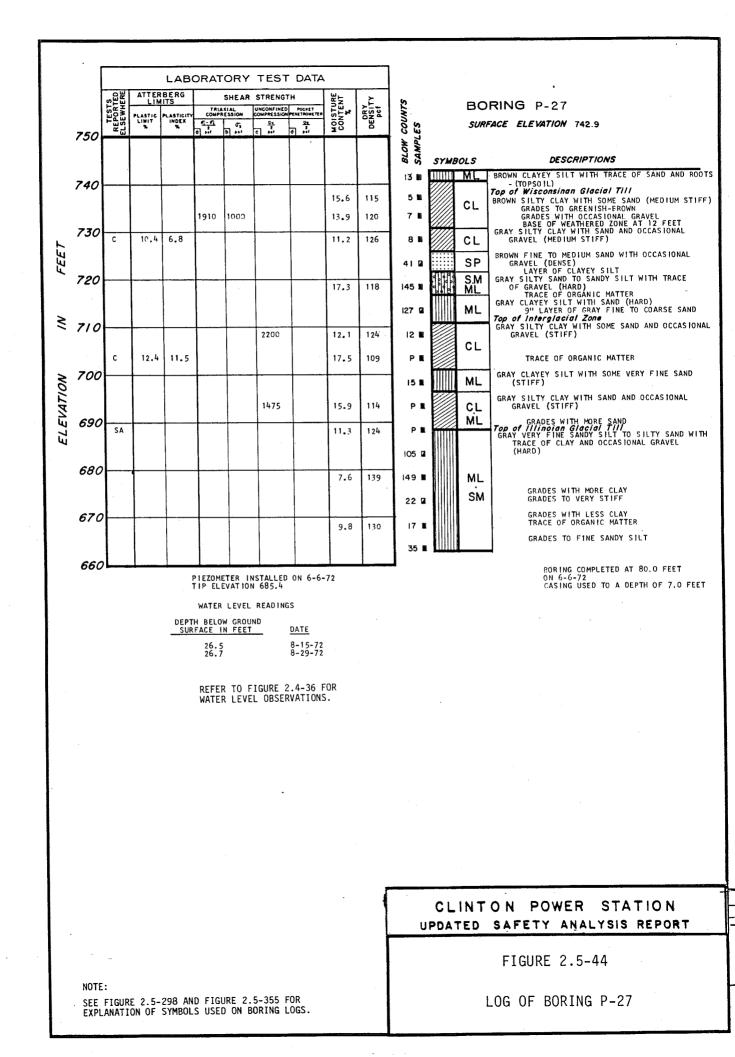
	. 1												
				LAB	ORAT	ORY	TES				ۍ ۲	BC	RING P-
		TESTS REPORTED ELSEWHERE		BERG	TRIA		STRENG		MOISTURE CONTENT	۶ ۲	COUNTS ES		FACE ELEVATIO
		TES SEW	PLASTIG LINIT	PLASTICITY	5-6		COMPRESSIO	D POCKET NPENETROMETER	TNO:	DENSITY	BLOW CO	50,	
	740	ш Ш			e	5	<u>ت</u>	រ ភ្	30		BLOW	SYMBOLS	DES
	-							2600			12 🗉	MUM ML	BROWN CLAYEY SIL ROOTS - (TOPSC
	730							1600 _	16.6	. 110 .	9 H	CL	BROWN SILTY CLAY WI (WEATHERED LOESS MOTTLED BROWN AND G
	, 50			±			525	1000	22.1	105	4 8	ML	OF VERY FINE SAN SEAM OF FINE GRADES TO SOF
								4 500+	10.9	124	38 🛍 -	SW SW	BROWN FINE TO CO (DENSE) BASE
-	720							4500+	1			ML	Top of Wisconsing GRAY CLAYEY SILT
FEEI								4500			27 13		GRADES WIT
	710					<u> </u>	ļ				11 🖩		GRAY SILTY CLAY A SOME GRAVEL (S
						1					10 🖬	CL	
Ś								2400			18 🖿	ML	GRADES WITH LAYER OF FIN
-	700				1						14 12		Top of Interglacial DARK GRAY CLAYEY S
												ML	GRAY SILTY CLAY WI (MEDIUM STIFF)
	690	c	9.8	11.6	<u> </u>			1800	14.6	120	8 🖿	CL ML	Top of Illinoian GI
101											72 🖬	SM	(HARD)
147	<u> </u>								9.8	126	134/6" 🛙	SP	GRAY AND BROWN FIN
EL EVATION	680										117 12	ML	GRAY CLAYEY SILT WI (HARD) (TILL)
Ę			ļ						5.2	138	182/11	S.P	GRAY FINE TO COARSE (VERY DENSE) (OUT
	670		┼──	-				+				SW	
								4500+		1	44 🖬	ML	GRAY CLAYEY SILT WI GRAVEL (HARD) (TI
	660				15700	a <mark>5</mark> 0.70			9.3	135	165/8"	SP	GRAY FINE TO MEDIUM
	000										156 K	ML	(VERY DENSE) GRAY CLAYEY SILT WI GRAVEL (HARD)
	<u>ce</u> r								-				BOR ING COM ON 5-16-72
	650										-		CASING USE

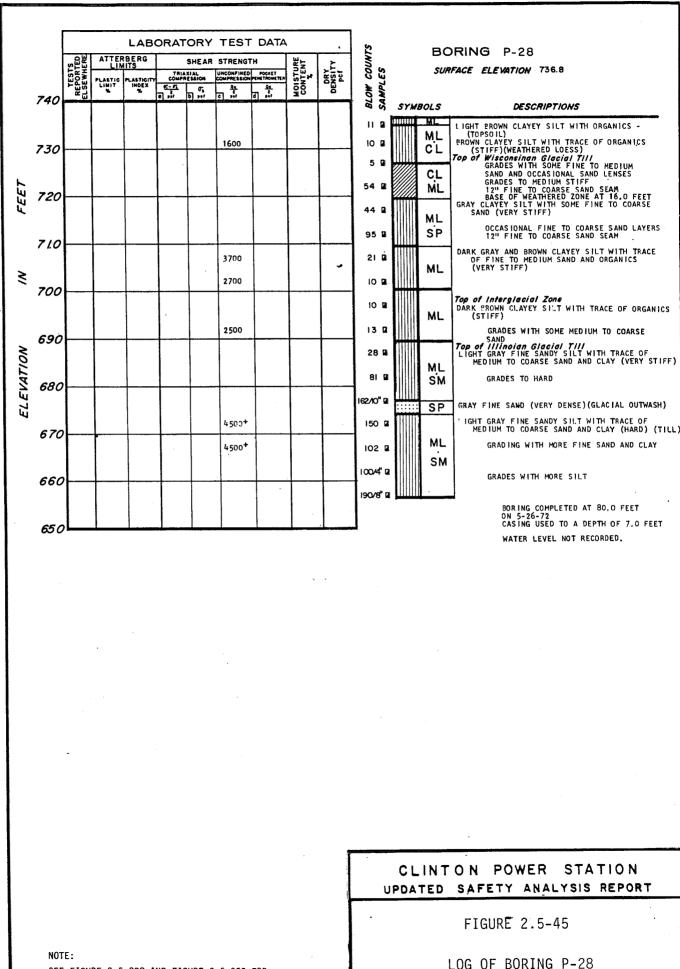
## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-43

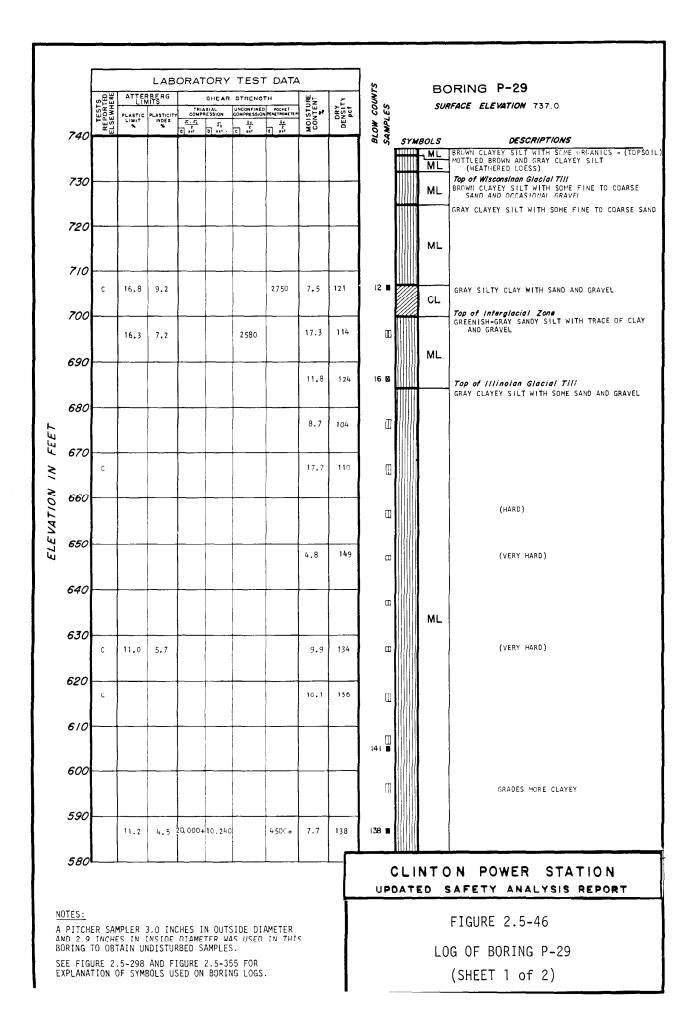
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

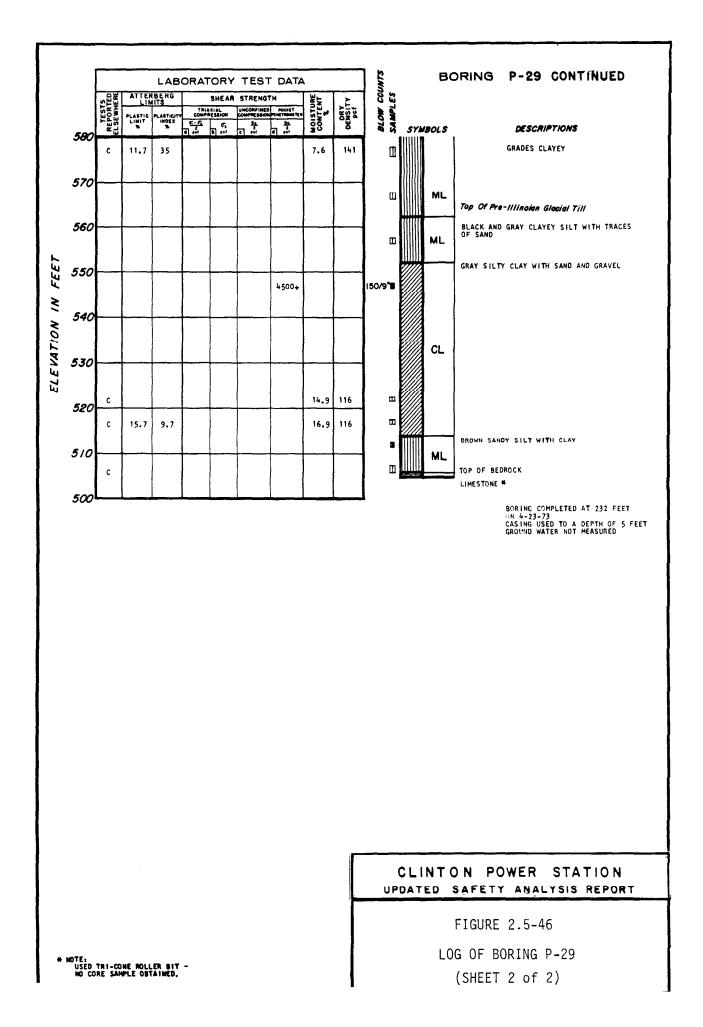
LOG OF BORING P-26



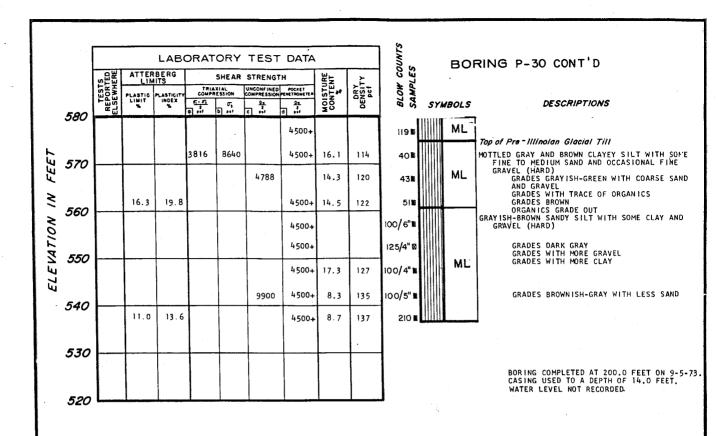


SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.





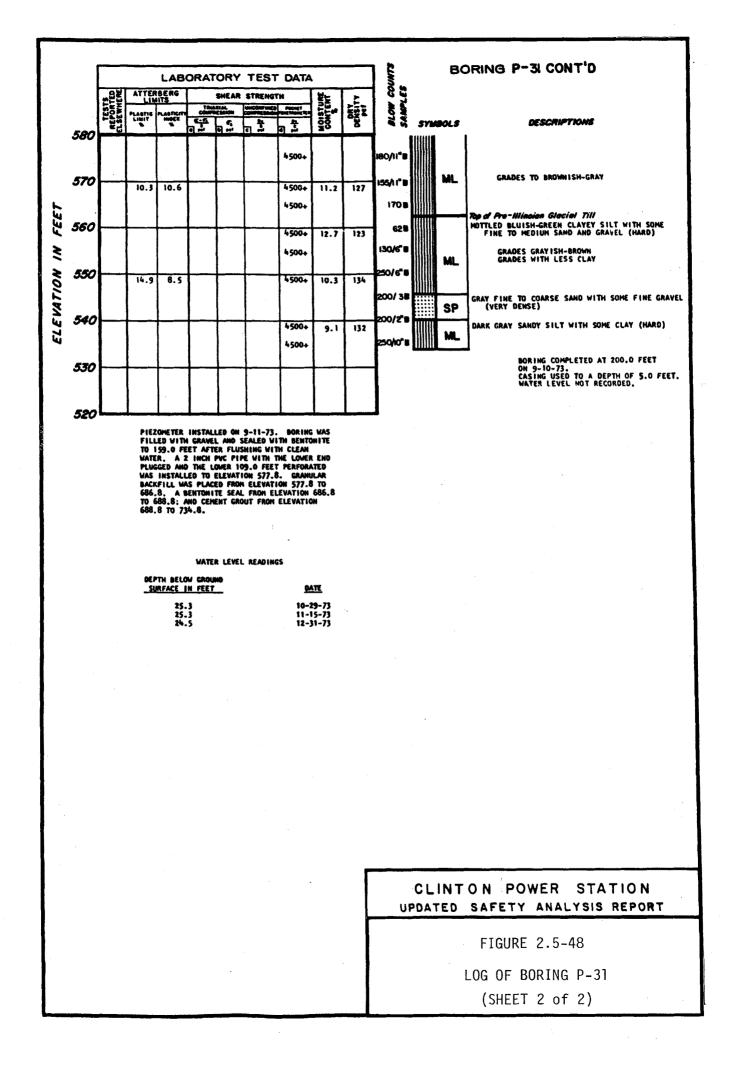
730         100 <th></th> <th>ļ</th> <th>~~~</th> <th></th> <th></th> <th></th> <th></th> <th>TEST</th> <th></th> <th></th> <th></th> <th>NTS</th> <th></th> <th>B</th> <th>ORING P-30</th>		ļ	~~~					TEST				NTS		B	ORING P-30
260         16.3         15.3         1700         24.6         99         1700         24.6         99           720         16.3         15.3         1700         24.6         99         18         ML         18         18         ML         18         18         ML         18         18         ML         18         18         18         18         15         18			ORTEC	LIN	ITS					TENT	RY SITY sef	COU!		50	RFACE ELEVATION 737.0
730         16.2         15.3         1700         24.6         99         18           730         10.2         15.3         1700         10.1         134         1700         10.1         134         1700         10.1         134         1700         10.1         134         136         136         10.1         134         136         10.1         134         136         10.1         134         136         10.1         134         136         10.1         134         136         10.1         134         136         10.1         136         10.1         136         10.1         136         10.1 <th></th> <th></th> <th>REPE</th> <th>LIMIT</th> <th>INCEX</th> <th>5.5</th> <th></th> <th></th> <th></th> <th>NON</th> <th><sup>o</sup><sup>N</sup></th> <th>AMPL NOW</th> <th></th> <th></th> <th></th>			REPE	LIMIT	INCEX	5.5				NON	<sup>o</sup> <sup>N</sup>	AMPL NOW			
730       16.3       15.3       1700       12.4       99         700       10.7       9.4       4500+       12.5       127       18       <		740												_	
20         10.1         10.1         10.1         10.4         10.1         10.4           720         10.7         9.4         4500.4         10.1         194         35         10.2         10.7         9.4         4500.4         10.3         10.4         10.7         9.4         4500.4         12.5         127         198         35         10.6         10.6         10.7         9.4         4500.4         12.5         117         198         35         10.7         10.7         9.4         4500.4         12.5         117         198         35         10.4         10.4         10.7				16.3	15.3				1700	24.6	99				(TOPSOIL) Mottled Yellowish-Brown and gray clay
200         4500+         10.1         134         35         To efficient Barle Tri Charles Status Barles Tri Charles Status Barles Tri Charles Status Barles Status Barles Charles Status Barles Status Barles Status Barles Charles Status Barles Charles Status Barles Status Barles Status Barles Charles Status Barles Charles Status Barles Charles Status Barles Status Barles Status Barles Charles Status Barles Charles Status Barles Status Barles Charles Status Barles Charles Status Barles Status Barles Status Barles Charles Status Barles Status Barles Charles Status Barles Status Barles Sta		730							.,					ML	
200         4000+         200 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4500.</td> <td>10.1</td> <td>196</td> <td></td> <td></td> <td></td> <td>GRADES WITH GRAVEL</td>									4500.	10.1	196				GRADES WITH GRAVEL
10.7         9.4         4500         12.5         127         198         ML         CLENES           700         10.7         9.4         4500         12.5         127         198         338         35P         GRADES WITH TRACE OF DR.           700         13.8         9.7         900         2250         15.7         118         17         ML         Trace of Read Prime To Course State And With To Course To Course State State And With To Course State And With To		720								10.1	134				GRAY CLAYEY SILT WITH SOME FINE TO CO (HARD)
710									4500+			28 🖬		ML	GRADES WITH OCCASIONAL THIN SA LENSES
700         13.8         9.7         900         2250         15.7         118         650         ML         CRUESS or GAN SINT THESE OF GAN SINT THE SAND WITH CARES WITH THE SAND WITH SINT THE SAND WITH		710	<u> </u>	10.7	9.4				4500	12.5	127	19 🕷			GRADES WITH TRACE OF ORGANICS
700         4500+         15.3         118         650         ML         Charter of mary slut Y file SA           690         13.8         9.7         16.1         116.1         16         17         ML         ML         ML Yes Sith With Sith Y file SA           690         962         3960         4500+         11.8         126         SM         ML         ML Yes Sith With Sith Y file SA           680         962         3960         4500+         11.8         126         SM         ML         ML Yes Sith With Sith Y file SA           680         962         3960         4500+         10.9         130         SP         ML         ML Yes Sith With Sith Y file SA           680         11.4         1.7         4500+         9.9         130         SP         ML         SP         ML Yes Sith With Tack OF         SP           680         11.4         1.7         4500+         9.9         130         SP         SP         ML         SP         SP <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>33 ∎</td><td></td><td><u>, SP</u></td><td></td></t<>												33 ∎		<u>, SP</u>	
630     13.8     9.7     16.1     116.1     116     17     ML       630     962     3960     4500+     11.8     126     SM     SM       630     962     3960     4500+     11.8     126     SM     SM       630     962     3960     4500+     11.8     126     SM     SM       630     11.4     1.7     4500+     9.5     136     27       660     11.4     1.7     4500+     10.9     130     58       660     11.4     1.7     4500+     10.9     130     58       660     11.4     1.7     4500+     10.9     130     58       660     11.4     1.7     4500+     10.9     130     58       660     11.4     1.7     4500+     10.9     130     58       660     10.4     500+     10.9     100     58     ML       660     11.4     1.7     4500+     10.9     100     58       660     11.4     1.7     4500+     10.9     100     58       660     10.6     10.0     130     160     10.0     10.0       610     10.4     10.5		700							4500+	15.3	118	65 🛙		ML	LAYERS OF GRAY SILTY FINE SAND (V
690       13.8       9.7       16.1       116.       178       SM		/00						900	22 50	15.7	118	17 🖿			GRAY CLAYEY SILT WITH SOME FINE TO C
650         952         3960         4500+         11.8         126         SP         24.8         2				13.8	9.7					16.1	116	17 🖿		ML	GRADES WITH GRAY SILTY FINE T
680         952         3960         4500+         11.8         126         24         Image: SP of Millionian Global 7/II           11.4         1.7         4500+         9.9         136         27         ML           660         11.4         1.7         4500+         10.9         130         59         800*         21         WI         Constance of SNML 5500ML 1500F         SNUP 51LT WITH GRAPT (CLAPEY SULT WITH GRAPT (CLAPEY S		690										14.8		- SM	BLUE-GREEN SILTY FINE SAND WITH TRAC
680       11.4       1.7       4500+       5.9       136       27       Interf GAY CLAPPS SILT VITH STREET OF SAMP SILT VITH STREET SAMP SILT VITH STREET OF SAMP SILT VITH STREE						062	2060		4500+	11-8	126			SP	(LOOSE) *
SAMU SLIT WITH GRAATICS         GF70       11.4       1.7       4500+       9.9       136       27 #       ML       SAMU SLIT WITH GRAATICS         GF70       11.4       1.7       4500+       9.9       136       27 #       ML       SAMU SLIT WITH GRAATICS         GF70       11.4       1.7       4500+       10.9       130       59 #       Se #       ML       Se #       ML       Se #        Se #       Se #		680		1		,,,,,	5500								LIGHT GRAY CLAYEY SILT WITH SOME FIN COARSE SAND AND OCCASIONAL FINE G
670       1720       4500+       10.9       130       59 II         660       44446       5400       2500       30.3       88       28 II         650       4500+       4500+       10.9       130       59 II         650       8.0       8.5       7.5       146       50 III       50 III         640       8.5       7.5       146       50/4* III       50 IIII       50 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ET											64 🛛			SANDY SILT WITH ORGANICS
660       4446       5400       2500       30.3       88       25       Image: Construction of the start o	FE	670		11.4	1.7	ļ			4500+	9.9	136	27 🖬		ML	
660       4446       5400       2500       30.3       88       26       ML       BROWN CLAVEY SILT WITH TRACE OF ON CLAVES SILT WITH TRACE OF ON SILT WITH TRACE OF ON CLAVES SILT WITH TRACE OF ON SILT	N							1720	4500+	10.9	.130	59 🛙			
0.00       8.0       8.5       7.5       146       00/4" 8       ISO/2" 0         640       150/2" 0       150/4" 8       150/4" 8       ISO/2" 0       ISO/2" 0       ISO/2" 0         630       150/4" 8       150/4" 8       150/4" 8       ISO/2" 0       ISO/4" 8       ISO/2" 0         620       9.3       4.1       4500+       6.8       150       ISO/6" 8       ISO/6" 8         620       9.3       4.1       4500+       6.8       150       ISO/6" 8       ISO/6" 8         620       9.3       4.1       4500+       8.1       136       200 8       ISO/6" 8         620       9.3       4.1       4500+       8.1       136       200 8       ISO/6" 8         610       8730       8640       4500+       8.0       136       IO3/9" 8       ISO         600       10.4       4.5       4500+       200 8       ISO 8       ISO 8       ISO 8         590       9.8       5.7       4500+       200 8       ISO 8       ISO 8       ISO 8         590       9.8       5.7       4500+       200 8       ISO 8       ISO 8       ISO 8         590       9.8       5	_	660				4446	5400		2500	30.3	88	26 🛙		ML	BROWN CLAYEY SILT WITH TRACE OF FINE
1       0000       8.0       8.5       7.5       146       000/6* 8       000/6*	110							•	4500+			_56 ∎		SP	GRAY FINE SAND
B.0       B.5       7.5       146       00/6" B       ISO/2" IL         640       150/2" IL       150/2" IL       ISO/2" IL       ISO/2" IL       ISO/2" IL         630       150/4" B       150/4" B       ISO/4" B       ISO/2" IL       ISO/4" B         630       150/4" B       150/4" B       ISO/4" B       ISO/4" B       ISO/4" B         620       9.3       4.1       4500+       150/6" B       ISO/4" B       ISO/4" B         620       9.3       4.1       4500+       6.8       150       ISO/6" B       ISO/6" B         620       9.3       4.1       4500+       8.1       136       200 B       ISO/6" B         610       8730       8640       4500+       8.0       136       IO3/9" B       ISO/6" B         600       10.4       4.5       4500+       8.0       136       IO3/9" B       ISO B         590       9.8       5.7       4500+       200 B       ISO B       ISO B       ISO B         590       9.8       5.7       4500+       ISO B       ISO B       ISO B       ISO B         590       9.8       5.7       4500+       ISO B       ISO B       ISO B	14	En						-				100/5" 🛙		1	AND OCCASIONAL GRAVEL (HARD) GRAY FINE TO MEDIUM SAND WITH TRACE
640 640 630 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 630 620 9.3 4.1 630 620 9.3 4.1 630 620 9.3 4.1 630 630 630 630 630 630 630 630		630		8.0	8.5	1		1		7.5	146	1			GRAY CLAYEY SILT WITH FINE TO COARSI
640       10.4       4500+       150/4" 8         630       9.3       4.1       4500+       150/4" 8         620       9.3       4.1       4500+       150/8" 8         620       9.3       4.1       4500+       6.8       150         620       9.3       4.1       4500+       8.1       136         620       9.3       4.1       4500+       8.1       136         610       8730       8540       4500+       8.0       136       103/9" 8         600       10.4       4.5       4500+       8.0       136       103/9" 8       0RGANICS GRADE OUT         590       9.8       5.7       4500+       8.1       140       160 8         590       9.8       5.7       4500+       136       100 8       100 8         580       9.8       5.7       4500+       139       100 8       100 8       100 8         CLINTON POWER STAT         UPDATED SAFETY ANALYSIS RI         FIGURE 2.5-47															GRADES WITH STRINGERS GRAY CL GRADES WITH OCCASIONAL COBBLE
630 630 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 600 610 610 610 610 9.8 730 8640 10.4 4.5 600 9.8 730 8640 10.4 4.5 600 9.8 134 150 136 136 136 136 137 200 B 1039'B 200 B 1039'B 200 B 1039'B 200 B 200 B		640							4500+	<u> </u>		i			GRAVEL
630 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 9.3 4.1 620 620 9.3 4.1 620 620 9.3 4.1 620 620 620 620 620 620 620 620															
620       9.3       4.1       4500+       6.8       150       150/6"       ML         610       8584       4500+       8.1       136       200       ML       GRADES WITH TRACE OF OR         610       8730       8640       4500+       9.8       134       157       GRADES WITH TRACE OF OR         600       10.4       4.5       4500+       8.0       136       103/9"       0RGANICS GRADE OUT         600       9.8       5.7       4500+       7.5       137       230       0RGANICS GRADE OUT         590       9.8       5.7       4500+       7.9       139       160       10.4         580       9.8       5.7       4500+       7.9       139       160       10.4         FIGURE 2.5-47       1000000000000000000000000000000000000		630										1			
620       8584       4500+       8.1       136       200 II       III         610       8730       8640       4500+       9.8       134       157 II       III       GRADES WITH TRACE OF OR         600       10.4       4.5       4500+       8.0       136       103/9" II       230 II       ORGANICS GRADE OUT         590       10.4       4.5       4500+       200 II       160 II       210 II       000 III       000 IIII       000 III       000 IIII       000 IIII       000 IIII       000 IIII       000 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII									4500+			150/7" 1			
610       4500+       9.8       134       157       GRADES WITH TRACE OF OR         600       8730       8640       4500+       8.0       136       103/9*       03/9*       0rganics grade out         600       10.4       4.5       4500+       7.5       137       230       0rganics grade out         600       10.4       4.5       4500+       7.5       137       200       0rganics grade out         590       9.8       5.7       4500+       8.1       140       160       210       210       100         580       9.8       5.7       4500+       7.9       139       160       210       100         580       9.8       5.7       4500+       7.9       139       160       100       100         580       9.8       5.7       4500+       7.9       139       160       100       100         580       9.8       5.7       4500+       7.9       139       160       100       100       100         580       9.8       5.7       4500+       7.9       139       160       100       100       100         580       9.8       5.7       45		620		9.3	4.1	<b> </b>		ļ	4500+	6.8	150	150/8" 2		ML	
6/0 6/0 10.4 4.5 8/30 8/30 8/30 8/40 4/500+ 4/500+ 4/500+ 4/500+ 4/500+ 8.1 1/40 160 200 10.4 10			Į					8584	4500+	8.1	136	200 🗉			
600       10.4       4.5       4500+       7.5       137       230 II       ORGANICS GRADE OUT         590       10.4       4.5       4500+       7.5       137       200 II       ORGANICS GRADE OUT         590       10.4       4.5       4500+       8.1       140       160 II       210 II       000 III         590       9.8       5.7       4500+       7.9       139       160 II       210 II       160 II         580       9.8       5.7       4500+       7.9       139       160 II       210 II       160 II       110 III         580       9.8       5.7       14500+       7.9       139       160 II       210 III       160 II       110 III       160 III       110 III       160 III       110 III       110 IIII       110 IIII       110 IIIII       110 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		610							4500+	9.8	134	157 🗉			GRADES WITH TRACE OF ORGANICS
600       4500+       200       200       0RGANICS GRADE OUT         590       4500+       8.1       140       160       210       2		0.0				8730	8640		4500+	8.0	136	103/9 <b>" I</b>			
590     4500+     200       590     4500+     8.1       9.8     5.7     4500+       7.9     139       160       170       180       180       180       180       180       180       180       180				10.4	4.5				4500+	7.5	137	230 🖬			
590 9.8 5.7 4500+ 580 CLINTON POWER STAT UPDATED SAFETY ANALYSIS RI FIGURE 2.5-47		600							4500+			200 🗉			ORGANICS GRADE UUT
590     9.8     5.7     4500+     210 II       580     9.8     5.7     4500+     7.9     139       CLINTON POWER STAT       UPDATED SAFETY ANALYSIS RI       FIGURE 2.5-47									4500+	8.1	140	160 1			
580 9.8 5.7 4500+ 7.9 139 160 II CLINTON POWER STAT UPDATED SAFETY ANALYSIS RI FIGURE 2.5-47		590	<u> </u>				+			+	<u> </u>	4			
580 CLINTON POWER STAT UPDATED SAFETY ANALYSIS R FIGURE 2.5-47				9.8	57			ł			120	1.			
UPDATED SAFETY ANALYSIS R FIGURE 2.5-47		580	ļ		,	1	<u> </u>	1	+5004	1 /.9	139				
UPDATED SAFETY ANALYSIS R FIGURE 2.5-47													CL	INT	ON POWER STATION
					•										
						·					ſ				
	Ni	OTF.		•								•			FIGURE 2.5-47
SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR LOG OF BORING P-30	S	EE FIG	URE	2.5-298	B AND F	IGURE	2.5-3	55 FOR						L	.OG OF BORING P-30
EXPLANATION OF SYMBOLS USED ON BORING LOGS. (SHEET 1 of 2)	E	XPLANA	TION	OF SYN	1BOLS (	ISED O	N BORI	NG LOGS	5.						



## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

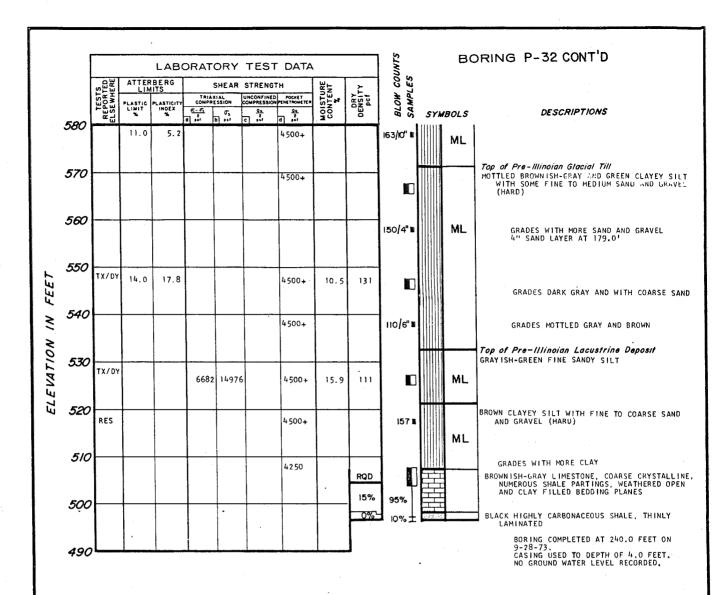
FIGURE 2.5-47 LOG OF BORING P-30

					ORAT	ORY	TEST	DATA			ي ي		B	DRING P-31
		TESTS TEPORTED SEWHERE	ATTER	BERG ITS			STRENG		FURE	ĬTY	S			RFACE ELEVATION 736.8
		TE: REPO ELSEW	PLASTIC LIMIT		TRIA: COMPR 01-01 0 per		COMPRESSION	POCKET PENETHOMETER <u>ON</u> 1 1 1	MOISTURE CONTENT	DRY DENSITY	BLOW COUNTS SAMPLES		•••	
	740										BLL	SYL	BOLS	DESCRIPTIONS
			-					3000						LIGHT BROWN CLAYEY SILT WITH SOME ORGANICS
	730			· · · ·				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			51		ML.	BROWN CLAYEY SILT WITH TRACE OF FINE SAND & OCCASIONAL GRAVEL (VERY STIFF) (WEATHERED LOESS)
											20 Ni		SM	YELLOWISH-BROWN SILTY FINE SAND WITH OCCAS Fine gravel Grades with trace of clay
	720	<b> </b>									49 🖬		SP	LIGHT BROWN FINE TO MEDIUM SAND WITH TRACE SILT AND GRAY CLAYEY SILT LAYERS (DENSE GRADES WITH LAYERS OF GRAY SANDY SILT
											55 B			WITH CLAY GRADES WITH TRACE OF FINE GRAVEL AND MORE SILT
	710		11.8	11.3				3000	15.1	120	12 🗉			Top of Wisconsinan Giaciai Till DARK GRAY CLAYEY SILT WITH SOME FINE TO MEL SAND AND OCCASIONAL FINE GRAVEL (VERY S
							2340	3000	13.4	122	13 🛙			SAND AND UCLASIONAL FINE GRAVEL (VERT S
	700							3000	14.2	121	12 🖬		ML	
								4500+			22 🗉			(HARD)
	690		15.5	11.0				2000	21.2	106	13∎			<i>Top of Interglacial Zone</i> DARK GREEN SILTY CLAY WITH SOME FINE TO MED
											36 N		CL ŞP	SAND AND TRACE OF GRAVEL (STIFF) GRAY FINE TO COARSE SAND WITH TRACE OF SILT OCCASIONAL FINE GRAVEL (DENSE)
	680							4500+	8.0	138	126 🗉			Top of Illinoian Giacial Till DARK GRAY SANDY SILT WITH SOME CLAY AND TRA
r								4500+			148∎			OF FINE GRAVEL (HARD)
FEE	670		15.2	4.5					ļ		100/6" 🛙			LAYER OF GRAY SILT WITH TRACE OF CLA
N	0/0										34			GRADES WITH COARSE SAND AND OCCASION
					9036	5000		4500+	9.8	134	150/10" 🖬			COARSE GRAVEL GRADES WITH GRAY SAND LAYERS
ELEVATION	660		1				<u> </u>	-			65∎			LAYER OF GRAY MEDIUM TO COARSE SAND
Z			9.6	6.9				4500+	7.1		150/6" 🛙			TRACE OF SILT AND FINE SAND
ELE	650		1				•	4500+			150/6" 8		ML	
													1.	
	640	<u> </u>			<u> </u>		+				200/6" 🛙			
											100/4" 🗉			GRADES WITH POCKETS OF GRAY FINE TO MEDIUM SAND
	630	-	NON-F	ASTIC				4500+			150/4" 🛙			GRADES WITH MORE CLAY
								4 500+			180/9" 🛙			
	620	' <b> </b>						4500+	+		100/6"			
								4500+			140			
	610		10.5	7.3				4500+	8.2	137	180/10" 🗉		]	
											160/6" <b>•</b>		SP	GRAY FINE SAND WITH TRACE OF SILT AND FINE GRAVEL DARK GRAY SANDY SILT WITH SOME CLAY AND FI
	600				<u> </u>			4 500 +	7.2	140	103/6"1	▖▋║║║		GRAVEL (HARD)
								4500+			106 /6"			
	590	, <u> </u>	10.6	5.9	<b> </b>	<u> </u>		45004	7.4	141	195/10" 1		ML	
					18500	8640		45004		139	180/10"			GRADES WITH MORE FINE SAND AND CLAY
	580			 				45004	7.9	139	180/11			
											•	CL	INT	ON POWER STATION
														SAFETY ANALYSIS REPORT
										Γ				
														FIGURE 2.5-48
	NOTE: SEE FI	GURF 3	2.5-209		TGUPF	2 5-3	55 FO	,					1 (	G OF BORING P-31
	EXPLAN													(SHEET 1 of 2)



	ŀ		ATTER								NTS		B	ORING P-32		
		TESTS REPORTED ELSEWHERE	LIM PLASTIC	ITS PLASTICITY	TRIAS		UNCONFINED	POCKET PENETAONETER	MOISTURE	DENSITY DENSITY Pcf	COUNTS		S	URFACE ELEVATION 737.4		
;	740	ELSE ELSE	LIMIT	INDEX	<u>a-a</u>			0 <b>91</b> 0 <b>1</b>	NON CON	- GE	BLOW CO	<b>6</b> Y	WBOLS	DESCRIPTIONS		
								3000			101	ШП	ML.	BLACKISH-BROWN CLAYEY SILT WITH ORGANIC		
								1000			8 🛯		ML	(TOPSOIL) BROWN CLAYEY SILT WITH TRACE OF FINE S. (STIFF) (WEATHERED LOESS)		
4	730							2 500	13.9	123	14 🖬			TOP OF Wisconsinan Glacial Till		
								1.500			20 🕷			SOME FINE TO COARSE SAND AND GRAVEL (MEDIUM STIFF)		
	720							4500+	15.5	115	9 8		CL	GRADES TO LIGHT BROWN GRADES DARK GRAY AND WITH MORE S		
											· · [			CORDIE LAVED AT 21 01		
	710							ļ			90			COBBLE LAYER AT 24.0'		
								2250	15.9	119	9 🖬		SM	GRAYISH-BROWN SILTY FINE SAND WITH TRA CLAY AND POCKETS OF GRAY SANDY SILT		
7	700							1 500			78			Top of Interglacial Zone GRAY SILTY CLAY WITH SOME FINE TO MEDI		
								1500			12 🛙		CL	AND GRAVEL AND ORGANICS GRADES WITH OCCASIONAL COBBLE		
			-					2 500			7∎			ORGANICS GRADE OUT		
	<i>590</i>				10437	3888			8.8	137	20 🗉		<u>sw</u>	BROWNISH-GRAY FINE TO COARSE SAND WITH OF SILT		
								4500+			50 N		ηCL	Top of Illinoian Glacial Till GREEN SILTY CLAY WITH TRACE OF FINE AN		
	680							4,0004	12.8 14.5	123	ю≝		ML SP	SAND AND GRAVEL GRAY SANDY SILT WITH SOME CLAY AND GRA (HARD)		
FEET				ĺ	1				14.5	120			JF	BROWN AND GRAY MEDIUM TO COARSE SAND N TRACE OF FINE SAND AND SILT (LOOSE LIGHT GRAY SANDY SILT WITH TRACE OF CI		
<u> </u>	670	SA						4500+			59 <b>H</b>			FINE GRAVEL (HARD) GRADES WITH OCCASIONAL SAND STR		
N		с	11.3	10.8				4500+	8.4	136				6" COBBLE AT 69.5'		
NO V	660			<u> </u>				4500+			II5 E			GRADES WITH TRACE OF ORGANIC IN		
47/		TX/DY						4500+	7.9	135				GRADES WITH MORE SAND AND GRAVE		
ELEVATION	650						-	4500+			140/6" 🖬					
EL		с	11.3	6.6	7697	6480		4500+	6.7 6.4	138 138				GRADES WITH OCCASIONAL COBBLES		
	640		9.9	4.7				4500+	7.0	126	150/4"∎			GRADES WITH LESS GRAVEL		
								4500+						COBBLE AT 101.0'		
								4500+	7.3	135	163 S		ML			
	630	c	10.9	8.9				4500+	6.9	140						
				-	Į.			4500+	7.1	139	167/11" 1					
4	620	דא/סו	<u> </u>		<u> </u>			4500+	1	133						
		1,7,0						4500+		139	∎ 131/9" ∎					
	610				<u>+</u>		+	4,004			1			GRADES WITH MORE CLAY		
														3" LAYER OF SILTY FINE SANDY AT		
	600				19720	10008-		4500+	25.2	100	154/11" 🖬					
					107204			45004	25.2	120	13-7/11			GRADES WITH LESS CLAY		
	590					<u> </u>			╂───							
		с	10.6	5 7.8				4500+	. 8. 5	136				-		
•	580								<u> </u>	└₋┍						
				-										ON POWER STATION SAFETY ANALYSIS REPOR		
										F						
														FIGURE 2.5-49		
NOTE:											LOG OF BORING P-32					
SE	EFIC	SURE 2	2.5-298 OF SYN	B AND I	FIGURE	2.5-3	355 FOR	t		(SHEET 1 of 2)						

1 ... <u>...</u> ..

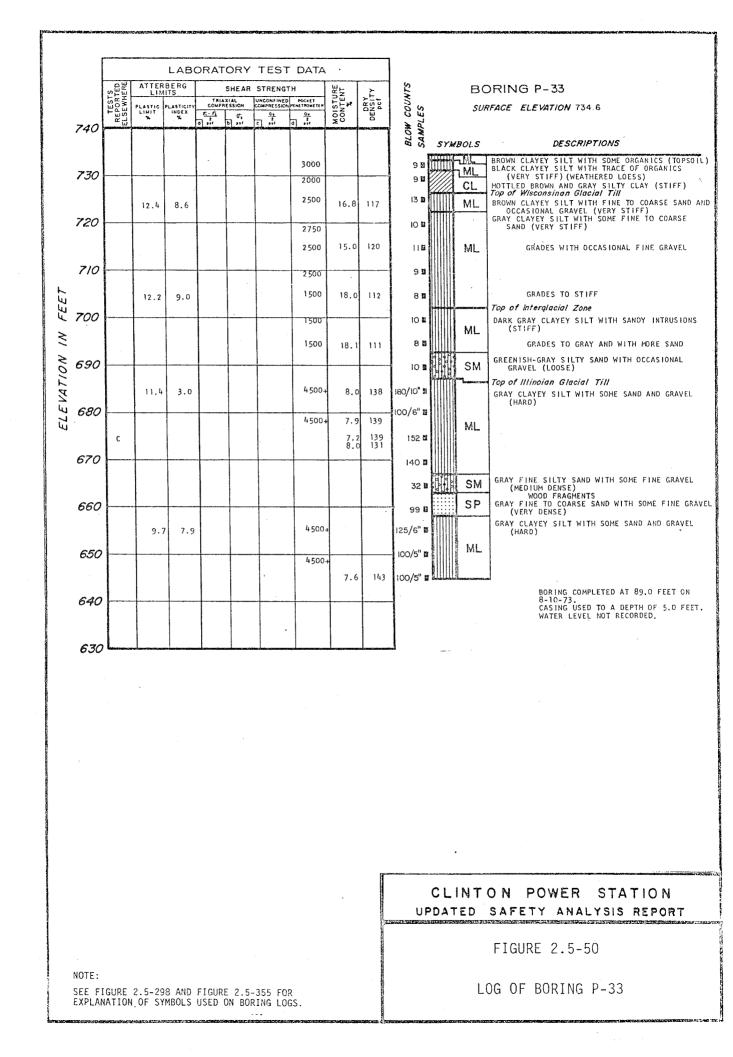


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## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-49

LOG OF BORING P-32 (SHEET 2 of 2)



										WTS		вС	DRING P-34
	TESTS REPORTED SEWHERE	ATTERE LIMI PLASTIC	LASTICITY	TRU COMPI	XIAL ESSIGN	STRENGT UNCONFINED COMPRESSION	POGKET PENETROMETER De	MOISTURE CONTENT	DENSITY DENSITY pcf	BLOW COUNTS SAMPLES		SUF	RFACE ELEVATION 737.2
10	۳ž			a]	6		a	ΣO		BL(	SY.	WBOLS	DESCRIPTIONS
							4200			24 B		7 <u>ML</u> ML	DARK BROWN CLAYEY SILT WITH ORGANICS (TO MOTTLED TAN AND GRAY CLAYEY SILT WITH TH OF FINE SAND (HARD) (WEATHEFED LOESS)
30										6 1		ML	GRADES WITH LESS CLAY LIGHT BROWNISH-GRAY CLAYEY SILT WITH FIN COARSE SAND GRADES WITH TRACE OF FINE GRAVEL
20										61 11		SM	BROWN SILTY FINE SAND (VERY DENSE) Top of Wisconsinan Glacial Till
							4500+	9.12	148	56 <b>Q</b>			GRAY CLAYEY SILT WITH SOME FINE TO COARS
10					1		4500+			25 13			GRADES WITH OCCASIONAL FINE GRAV
10		10.9	12.0					7.5	133	26 Ø		ML	
00						3888	4500+	13.7	121	19 🖬		1716	GRADES WITH MORE SAND AND GRAVEL
		11.0	2.1					10.5	132	4 13			
							4500			រ3ត	╈┿┿┿	ML	<i>Top of Interglacial Zone</i> GRAY CLAYEY SILT WITH TRACE OF FINE SAN
90		10.4	6.5	+	-		1100	15.8	118	89			(HARD) BLUISH-GREEN SILTY CLAY WITH FINE SAND TRACE OF FINE GKAVEL (STIFF)
		10										3	Top of Illinoian Glacial Till
80	ļ	<u> </u>		ļ		1984	4500+	8.7	132	180 🖬		ML	LIGHT GRAY CLAYEY SILT WITH FINE TO COA SAND AND TRACE OF FINE GRAVEL (HARD)
										200/6" 🗉		SM	LIGHT GRAY SILTY FINE TO COARSE SAND WI TRACE OF FINE GRAVEL (VERY DENSE) LIGHT GRAY CLAYEY SILT WITH TRACE OF FI
										209/6" Ø		ML	SAND (VERY DENSE)
70							4500+	13.8	120	33 A			GRAY CLAYEY SILT WITH FINE TO COARSE SA
			ļ							180 73		ML	AND OCCASIONAL FINE GRAVEL (HARD) GRADES WITH MORE SAND AND GRAVEL GRAY FINE TO COARSE SAND WITH SOME FINE
660	-		+	-								SP	GRAVEL (VERY DENSE) GRAVEL (VERY DENSE) GRADES MORE COARSE
								16.5	111	68 7			GRADES MORE COARSE
550							4500+	-		170 🖄		ML	GRAY CLAYEY SILT WITH SOME FINE TO COAF FINE GRAVEL AND STRINGERS GRAY FINE (HARD)
		10.3	7.4				4500+	6.9	146	180 🖬			
540										]			BORING COMPLETED AT 90.0 FEET ON 8-27-73. CASING USED TO A DEPTH OF 5.0 F
													WATER LEVEL NOT RECORDED.

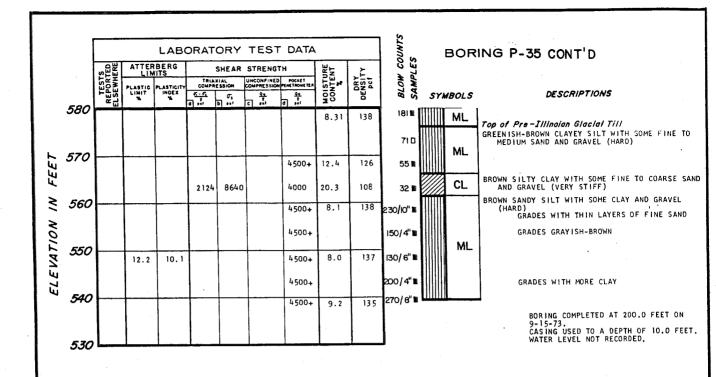
CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-51

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

LOG OF BORING P-34

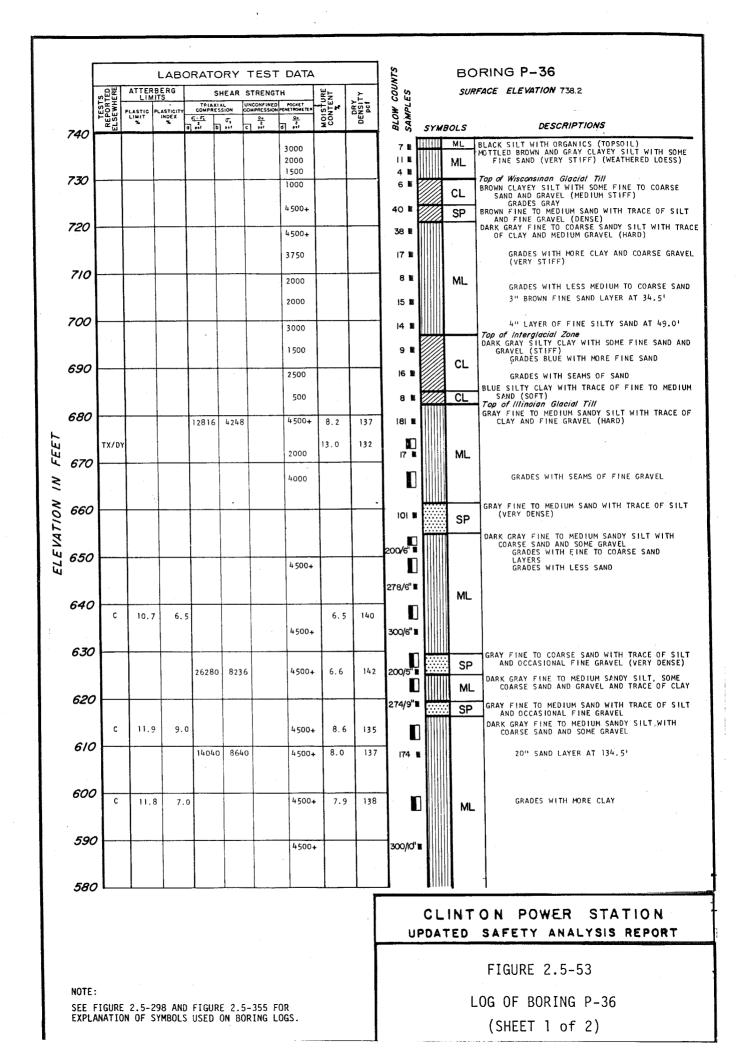
			LAB	ORAI	TORY	TEST				VTS		в	DRING P-35
	RTS RTED HERE	ATTER		TRU	SHE AR	STRENG	TH POCKET VPENETROMETER	ENT	۲ ۲۲	ES .		su	RFACE ELEVATION 737.8
740	TESTS REPORTI ELSEWHE	PLASTIC LINIT	PLASTICITY INDEX	61-51 0 01	D PT	COMPRESSION	OTENETROMETER	MOISTURE	DENSITY DENSITY	BLON COUNTS SAMPLES			
740											574	BOLS	DESCRIPTIONS BROWN CLAYEY SILT WITH TRACE OF ORGANICS
							250			41		CL	(TOPSOIL) TAN SILTY CLAY WITH TRACE OF FINE SAND (WEATHERED LOESS)
730							2750			26 🛙		CL	Top of Wisconsinan Gacial Till BROWN SILTY CLAY WITH SOME FINE SAND AND GRAY
700							4500+			251			(VERY STIFF) GRAY CLAYEY SILT WITH SOME FINE TO COARSE SA AND GRAVEL (HARD)
720							4500+			37 🗉		ML	12" LAYÈR GRÀY SANDY SILT AT 14.0 FEE GRADES WITH LESS CLAY GRADES WITH THIN LAYERS OF SAND
710							4500+			24			12" LAYER OF SANDY SILT AT 24.5"
110		11.6	12.3					9.8	133	42 1			GRAY SILTY SAND WITH LAYERS OF GRAY CLAYEY
700										32 🛙		SM	SILT WITH FINE TO COARSE SAND AND GRAVEL GRADES WITH STRINGERS GRAY CLAY
							4500+	13.9	123	16 1		ML	GRAY CLAYEY SILT WITH SOME FINE TO COARSE SA AND GRAVEL (HARD) Top of Interglocial Zone
690							2800			91		CL	DARK GRAY SILTY CLAY WITH TRACE OF FINE SAND (STIFF)
		11.7	9.9				2000	15.1	120	71		CL	GREENISH-BROWN SILTY CLAY WITH FINE SAND AND TRACE OF MEDIUM TO COARSE SAND AND GRAVEL Top of Illingian Glacial Till
680		ļ	ļ	ļ			4500+	ļ	ļ	89 🛙			GRAY SANDY SILT WITH SOME CLAY AND GRAVEL (HARD)
							4500+	7.37	143	110/6"			GRADES WITH LAYERS OF GRAY SILT FINE
670	ļ			-		_			ļ	250		ML	SAND WITH TRACE OF COARSE SAND AND FINE GRAVEL
							4500+	10.0		230 8			12" BOULDER AT 173.0 FEET
660	<b> </b>	<u> </u>	. 		_				-	116 1			GRADES WITH TRACE OF ORGANICS GRAY FINE TO COARSE SAND WITH TRACE OF SILT
	ŀ					-				. 70		sw	(VERY DENSE) GRADES WITH FINE GRAVEL AND LESS FINE SAND
660 650	·						<u> </u>		<u> </u>	152/5"			GRAY SANDY SILT WITH TRACE OF CLAY AND GRAVE (HARD)
j ,								7.1	141	250 0	3		GRADES DARK GRAY
640	·							ļ		150/4" [	ין וויין די וויין איז		
		9.7	4.2				4500+	6.4	143	200/5" 1			
630	/├──				<u> </u>		4500+			150/6"			
							4500+	8.4	138	110/6"1		ML	
620	' <b> </b>						4500+			200/3"1			
		10.9	6.4				4500+	7.6	140				
610	' <b> </b>	111.					4500+			270/9"   - 200			
			1				4500+		22	250/10"			GRADES WITH THIN LAYERS OF FINE SAND
600	' <b> </b>			+		_	4500+		140	0230/10"			
							4500+		140.	250			GRADES WITH MORE CLAY
590	'	1			+		4500+			250			GRADES WITH LESS CLAY
							4500+			270			
580			- <b>-</b>					-	٦			····	
										UF			ON POWER STATION SAFETY ANALYSIS REPORT
									ŀ				and a second
									l				FIGURE 2.5-52
NOTE: SEE EI	GURF	2.5-29	8 AND	FIGUP	E 2.5-	-355 F01	2					L	.OG OF BORING P-35 .
						ING LO							(SHEET 1 of 2)

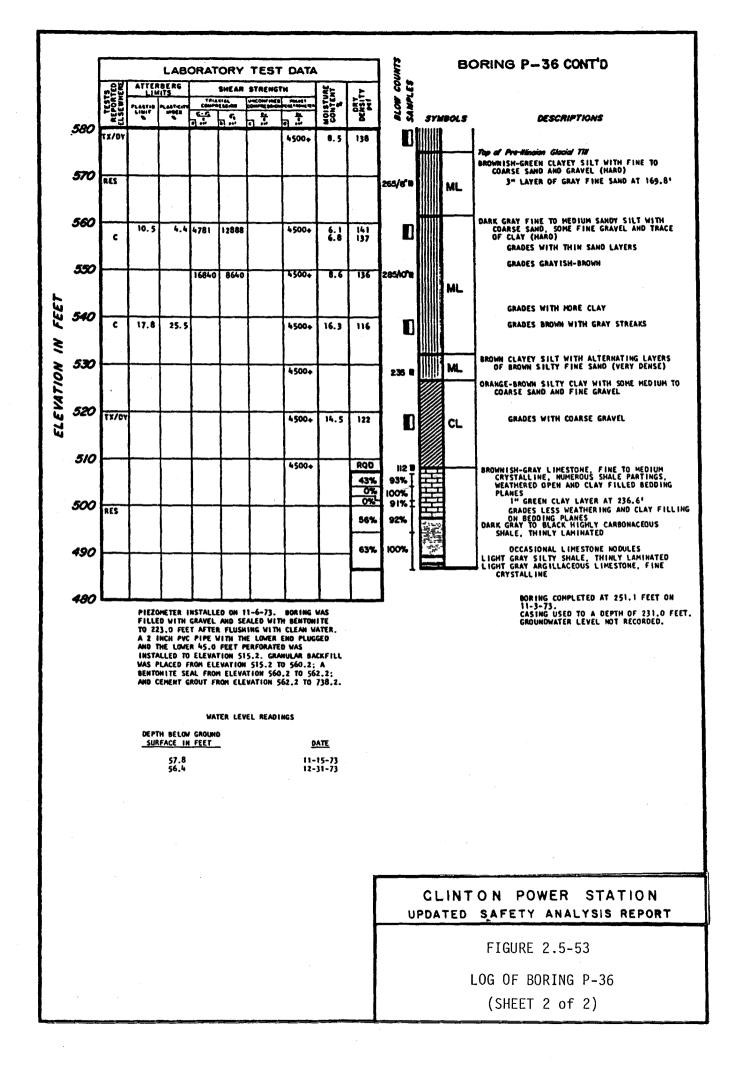


## CLINTÓN POWER STATION UPDATED SAFETY ANALYSIS REPORT

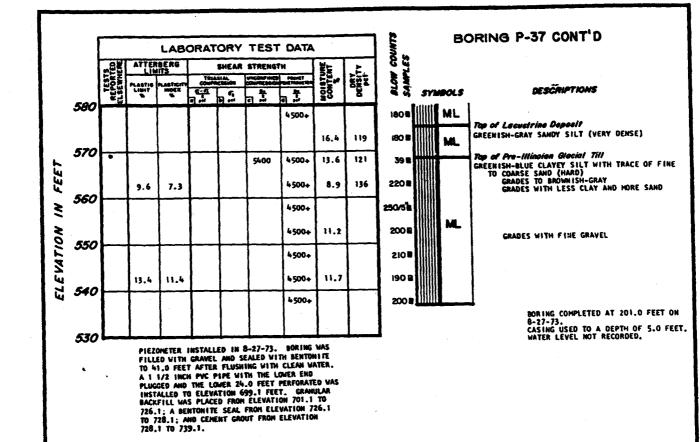
FIGURE 2.5-52

LOG OF BORING P-35





					ORAT	ORY	TEST	DATA			INTS			вс	DRING P-37
		STS RTED /HERE	ATTER LIM		TRU		STRENGT		ENT	<u>کر</u>	LES			SUR	PFACE ELEVATION 739.1
-		TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICITY INDEX	5-6		. मुख्य	QU.	MOISTURE	DENSITY DENSITY Pcf	BLOW COUNTS SAMPLES	5Y)	мвс	DLS	DESCRIPTIONS
	740	-													DARK BROWN CLAYEY SILT WITH TRACE OF ORGAN (TOPSOIL)
							-	1100			4 🖩			ML	YELLOWISH-BROWN CLAYEY SILT WITH TRACE OF B SAND (STIFF) (WEATHERED LOESS)
	730							2250			9 <b>N</b>				<i>Top of Wisconsinan Glacial Till</i> LIGHT GRAY CLAYEY SILT WITH SOME FINE TO C SAND (VERY STIFF)
-			-					4 500+			19 💵				GRADES TO GRAY (HARD)
	720							4500+	11.6	128	20 🛚			ML.	GRADES WITH FINE GRAVEL
	017							4500+			21 🖿				
	//0		12.5	2.7				4500+	13.3	117	19 🖥			E AI	GRAY CLAYEY SILT WITH FINE SAND (HARD)
7	00										33 🛛			ML	GRADES WITH OCCASIONAL COBBLES
,								4500+	13.5	124	32 🖿			ML	GRAY CLAYEY SILT WITH TRACE OF FINE TO MED SAND (HARD) GRADES WITH TRACE OF COARSE SAND AND
	590						1	2750			27 🛙			ML	FINE GRAVEL Top of Intergiacial Zone CRAN CLANEN SHIT WITH TRACE OF FINE SAND A
c			12.6	16.1					17.0	113	· 13 N				GRAY CLAYEY SILT WITH TRACE OF FINE SAND & OCCASIONAL GRAVEL GRADES WITH TRACE OF ORGANICS
	580		 	ļ							20 🛙			SM	BLUISH-GREEN SILTY FINE TO COARSE SAND WIT TRACE OF CLAY (MEDIUM DENSE) GRADES WITH LAYERS OF SILTY SAND
								4500+	8.0	140	147 🖿				Top of Illinoian Giacial Till GRAY CLAYEY SILT WITH SOME FINE TO COARSE
FEET	670		-		ļ	_	12064	4500+	8.2	138	177 <b>/</b> 1"∎			MI	AND OCCASIONAL FINE GRAVEL (HARD)
2	-		9.5	4.8				4500+	8.2	140	127 🖬			ML.	GRADES WITH TRACE OF ORGANICS
NO	660			 							46 ∎				LAYER GRAY FINE TO COARSE SAND AND I GRAVEL AT 79.5'
471								4.500.6		120	83 🖬		Ĩ l	SP	GRAY FINE TO COARSE SAND AND FINE GRAVEL GRAY CLAYEY SILT WITH SOME FINE TO COARSE
ELEVATION	650	<b>_</b>	ļ					4500+	8.0	139	175/10" 🕷				AND OCCASIONAL FINE GRAVEL (HARD) GRADES WITH OCCASIONAL COARSE GRAVE
L.			8.41	-				4500+			220				
	640	ļ	0.41	5.8	· <b> </b>			4500+	7.2	144	100/6"				
								4500+			200				
	630			+				4500+	8.1	137	105 /6" 1 250 /4" 1				
			10.4	9.5					10.6						
	620			3.5	<u> </u>		13410	4500+	1	137	≣ 08 ∎ "01\081			ML	
								4500+		138	200/10"				
	610	┣──		<u> </u>				4500+		<u> </u>	200/10				
			10.7	6.9	,			4500+		140	200				
	600		<u> </u>		+			4500+			220 1				GRADES WITH MORE GRAVEL
								4500+	7.5	140	100/5"				
	590	<u> </u>			+		-	4500+		1					
	<b></b>		10.9	6.0	,			4500+	7.3	140	130				
	580		1	 _		1.	<u> </u>	. I	- <b>I</b>	٢	_£				
															ON POWER STATION SAFETY ANALYSIS REPORT
	· ••			•						F	. 07		. 2		
															FIGURE 2.5-54
	DTE:	21105 *	2 5-204	ר מאח	FTCUD	5 9 5	355 FOR							L	OG OF BORING P-37
							ING LOG			(SHEET 1 of 2)					



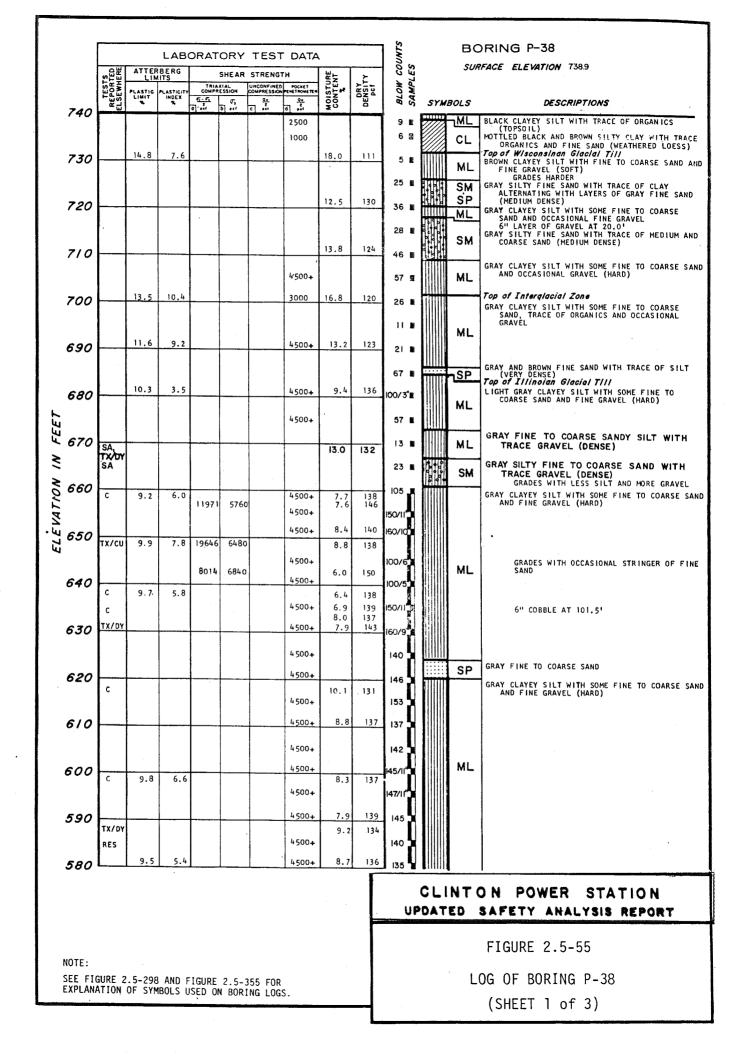
WATER LEVEL READINGS

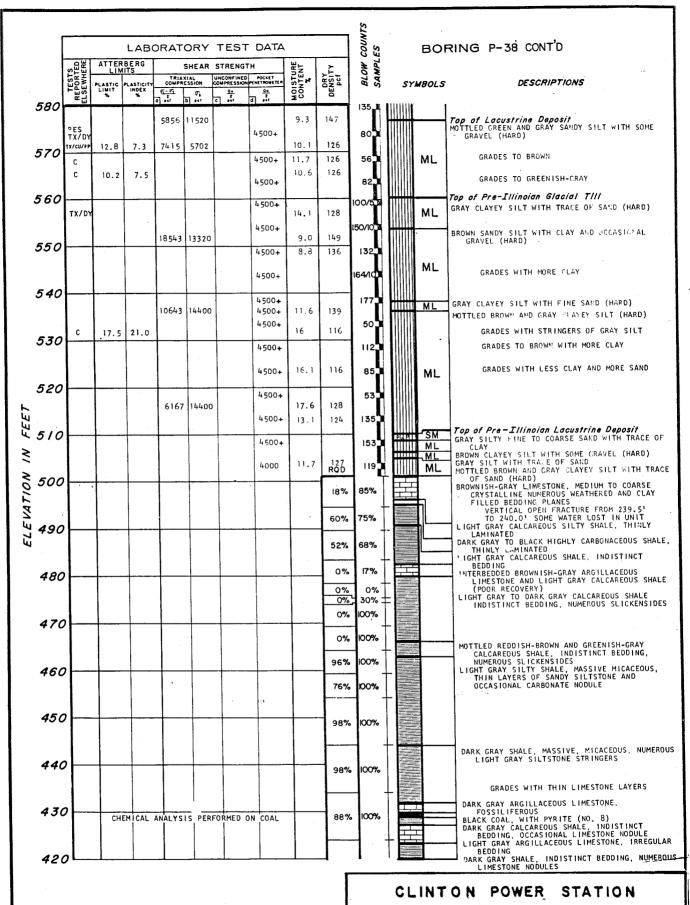
DEPTH BELOW GROUND SURFACE IN FEET	DATE
14.2	10-5-73
16.0	10-29-73
15.9	11-15-73

CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-54

LOG OF BORING P-37

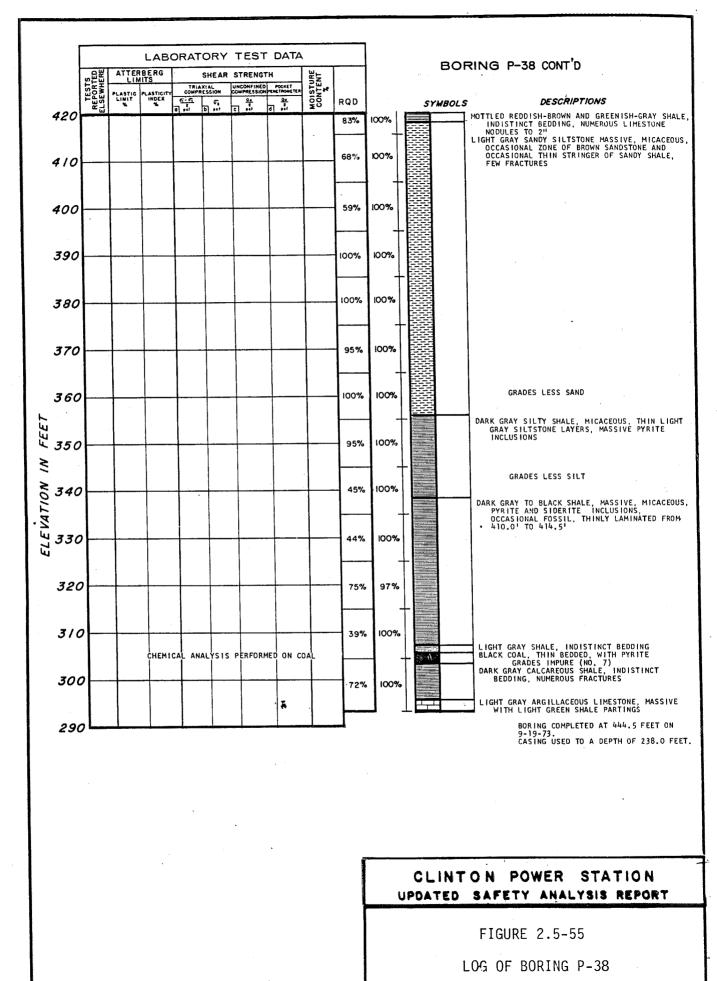




UPDATED SAFETY ANALYSIS REPORT

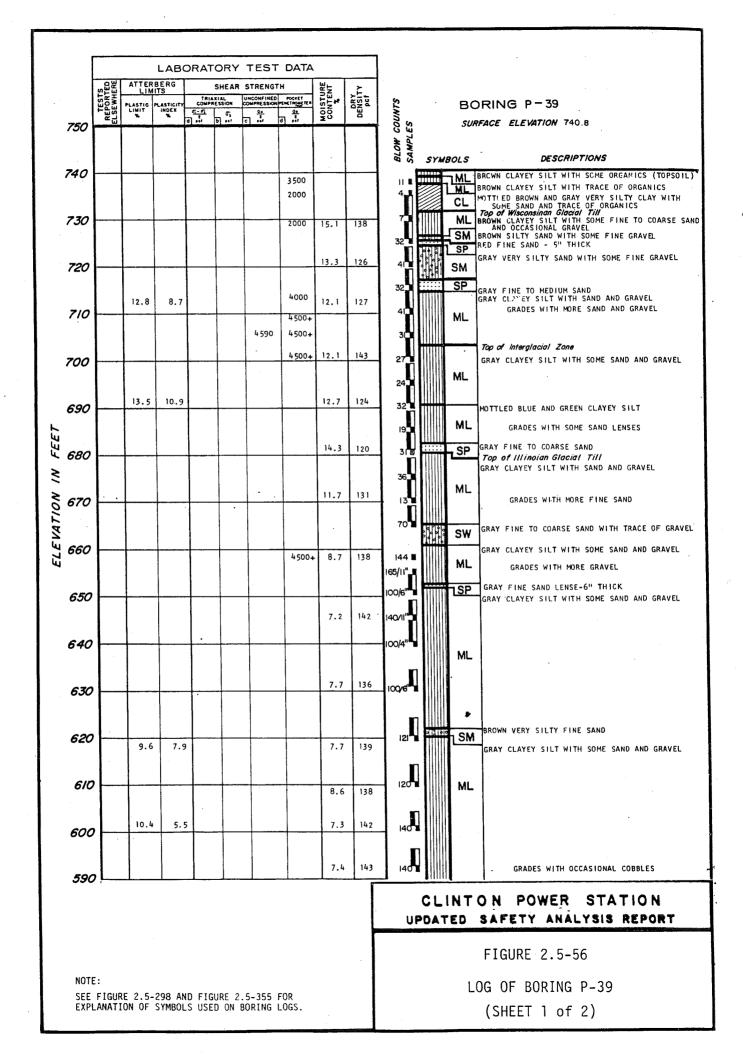
FIGURE 2.5-55

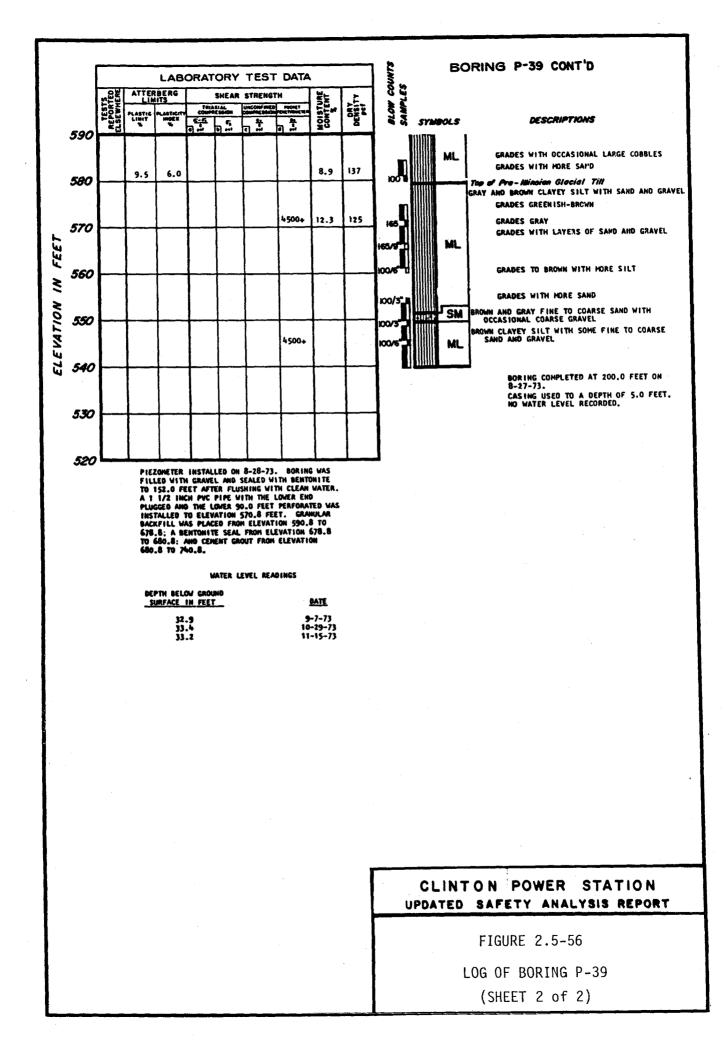
LOG OF BORING P-38

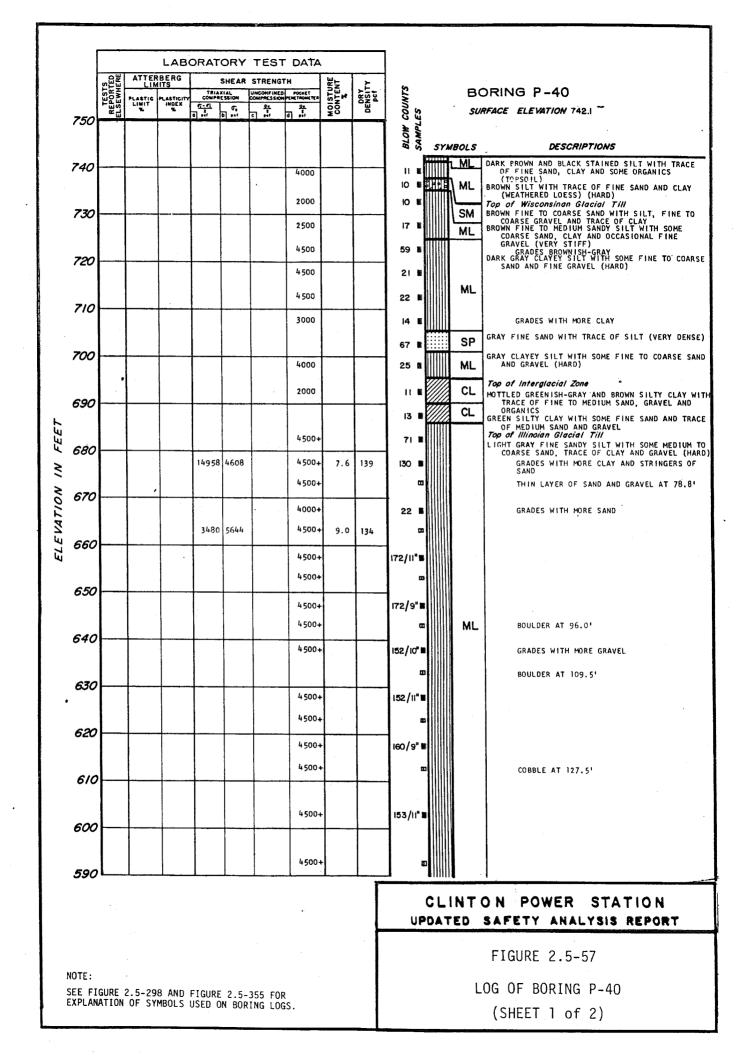


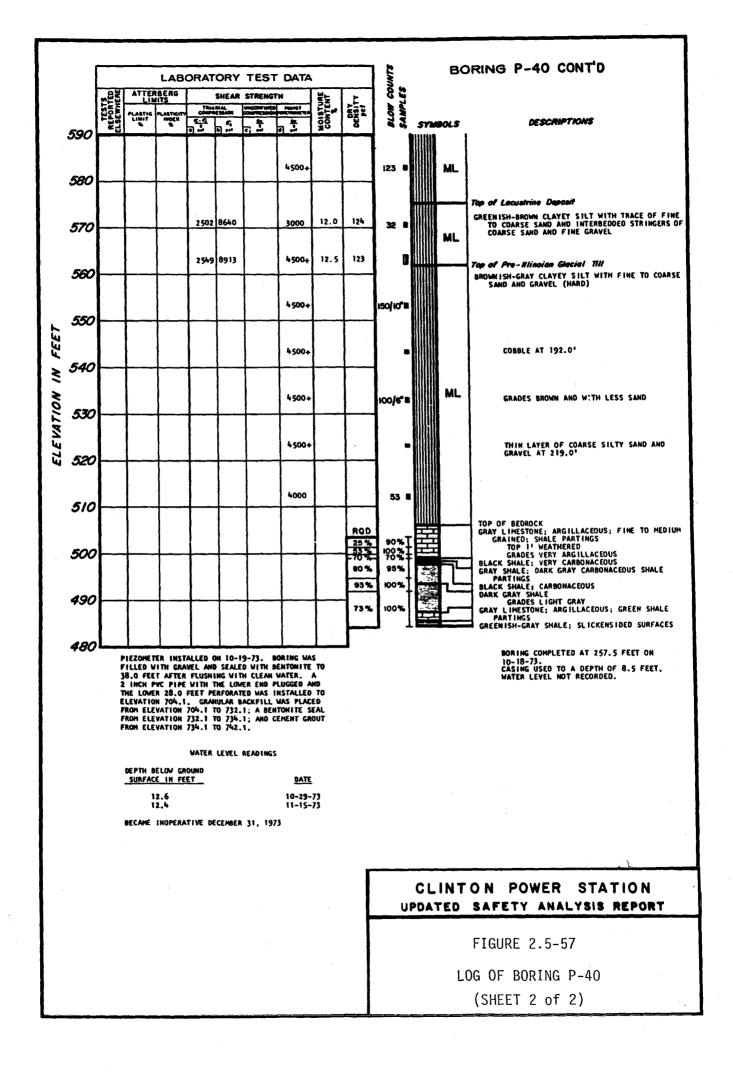
(SHEET 3 of 3)

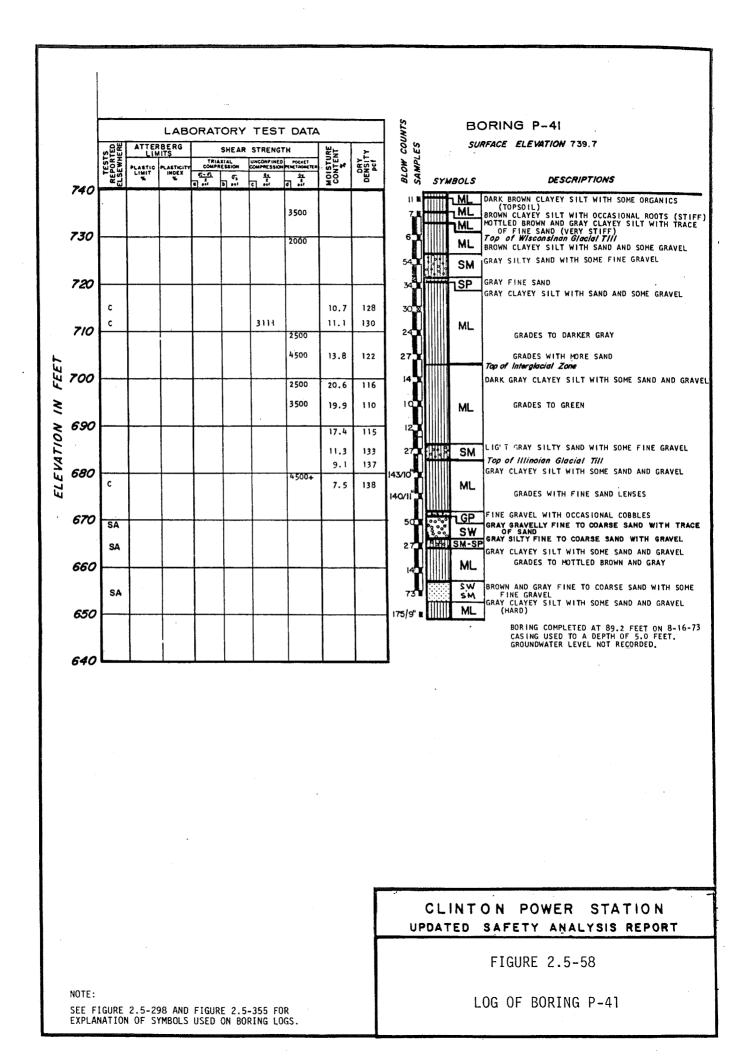
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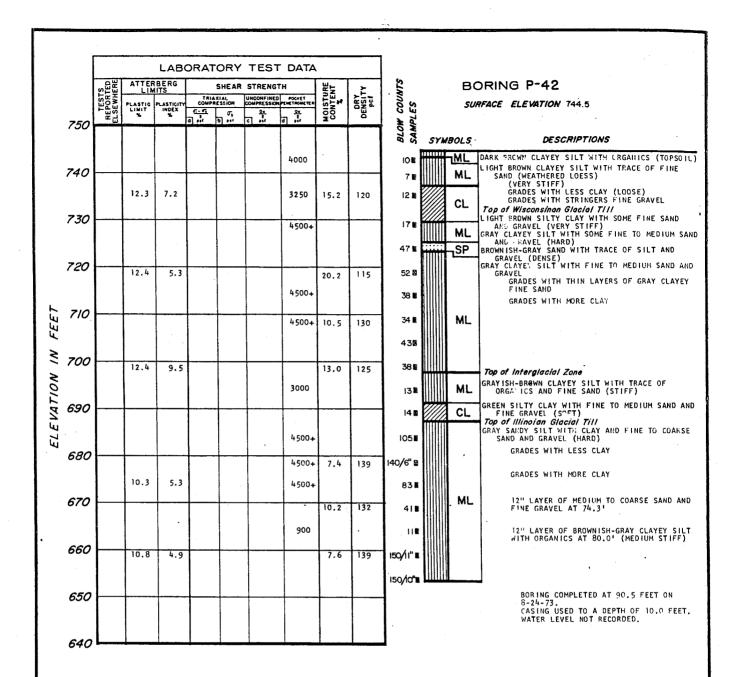


FIGURE 2.5-59

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

			LAB	ORA	TORY	TEST	DATA				
	TESTS TEPORTED SEWHERE		BERG.	TR		STRENG		MOISTURE CONTENT	, È.		х.
	TES	PLASTIC LIMIT	PLASTICITY	COMI 81-91	AXIAL RESSION	COMPRESSION	POCKET PENETROMETER ON 2 d par	AOISI	DENSIT	BORING	3 P-43
750	ER			a] ##	b	C 991	d	2-		SURFACE	ELEVATION 740.3
					- - -			-		BORING SURFACE I SURFACE I SURFACE I	DESCRIPTIONS
740	•			<u> </u>		<u> </u>	3750			11 M (TOP	OWN SILT WITH CLAY AND SOME OR SOIL)
730		12.5	6.7				2250 4400	16,2 14,4	118 121	7∎ ML SILT (VER	BROWN AND ORANGE WITH BLACK F WITH SOME SAND AND TRACE OF C Y STIFF) (WEATHERED LOESS) GRADES MOTTLED ORANGISH-BROWN Visconsingn Giaciai T/1/
							4500+	13.1	123	IS M BROWN W SILT	ITH ORANGE AND BLACK STAINING, WITH SOME FINE TO MEDIUM SAND SIONAL GRAVEL (VERY STIFF) GRADES WITH MORE FINE TO MEDIU
20							4500+			35 BROWN M	GRAVEL (HARD) GRADES WITH MORE CLAY EDIUM TO COARSE SAND WITH SOME GRAVEL
710		14.8	9.7			· ·	4500+	13.0	123	3 GRAY CL	GRADES WITH FINE TO MEDIUM SAN AYEY SILT WITH FINE TO MEDIUM FINE GRAVEL 4" LAYER GRAY MEDIUM SAND AT 2
							2500	14.3	118	9 E GRAY AN ORGA GRAY CL	D GRAYISH-BROWN SILT WITH SOME NICS AND TRACE OF CLAY AYEY SILT WITH FINE TO MEDIUM
700		12.6	7.1	-			1500	11.4	119	9 ML Top of DARK GR	GRAVEL AND CCCASIONAL SAND SE Intergiacial Zone AY AND BLACK CLAYEY SILT WITH
		11.1	9.4	+			1200 800	17.9 17.5			TRACE OF FINE SAND AYISH-GREEN CLAYEY SILT WITH F EEN FINE TO MEDIUM SANDY SILT AND FINE GRAVEL (MEDIUM STIFF
590							4500+	9.5	135	44 Top of I	<i>Hinolan Glocial Till</i> REEN FINE TO MEDIUM SANDY SIL
680		10.4	2.9	, 	_		4500+	8.8	137	35 ML	GRADES WITH MORE FINE SAND GRADES WITH MORE FINE SAND
670							4500+	7.9	140	95 E GRAY FI	INE TO COARSE SAND WITH GRAVEL
070							4500+ 4500+				4EDIUM AND FINE SAND RAY SILT WITH SOME FINE SAND / /EL (HARD) 12" LAYER GRAYISH-BROWN SILT N
660		NON-P	LASTIC					11.9	130	DARK GI	ORGANICS AT 73.6' GRADES DARK GRAY AND WITH GRA INE TO COARSE SAND WITH SOME S RAY CLAYEY SILT WITH FINE TO CO
650							4500+ 4500+	7.0 7.8		120 ML	SOME GRAVEL (HARD) GRADES WITH MORE SAND
000										•	BORING COMPLETED AT 89.0 FEET 9-25-73. CASING USED TO A DEPTH OF 3.0 GROUNDWATER LEVEL NOT RECORDE
640			<u> </u>					<u> </u>			
									Г	CL INTON	POWER STATIO
											ETY ANALYSIS REPO

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

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LOG OF BORING P-43

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			LAB	ORAT	ORY	TEST	DATA			S	BC	RING P-44
	rs TED IERE	ATTER	BERG			STRENG		URE	۲.	COUNTS ES		FACE ELEVATION 686.2
	TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICITY	6.6	σ,	0+	POCKET PEHETROMETER Qu 2 d pti	MOISTURE CONTENT	DENSITY			
690	<u> </u>			0 11	b]	in [5	a	<u> </u>		ro BLOW	YMBOLS	DESCRIPTIONS
		22.3	23.5				3 500 1800	20.8	101	14 L 8 L	ML_	DARK BROWN SILT WITH FINE TO MEDIUM SAND, SOME ORGANICS AND TRACE OF CLAY (TOPSO TOP OF Illingian Glacial Till MOTILED DARK GRAY AND BROWN SILT WITH
680							750	16.3	113	3 🛯	<u>ML</u> 	TINE TO MEDIUM SAND, SOME ORGANICS AND TRACE OF CLAY (VERY STIFF) GREENISH-GRAY CLAYEY STIFF) SAND, SOME COARSE SAND AND GRAVEL (STI LIGHT GREEN CLAYEY SILT WITH SOME FINE TO
670										48 🖬 👬	GP SW SP	MEDIUM SAND AND OCCASIONAL GRAVEL (MED STIFF) GRAY AND BLACK GRAVEL WITH FINE TO COARSE OCCASIONAL COBBLE
660				2950	1728		4500 <b>+</b>	13.3	126	56 ∎	ML	LIGHT GRAY FINE TO MEDIUM SAND WITH OCCAS COARSE SAND AND FINE GRAVEL LIGHT GRAY SILT WITH SOME FINE AND COARSE
000							4.500	8.0 8.1	126	. 112 🗉		(HARD) DARK GRAY FINE TO MEDIUM SANDY SILT WITH COARSE SAND, GRAVEL AND TRACE OF CLAY OCCASIONAL FINE SAND SEAMS (HARD)
650	<u>·</u>			4994	2764		4500+	8.1	133	₪ 171/11 <sup>0</sup> 16	ML	GRADES WITH MORE CLAY
640					 		4500+	6.4	144	∎		
										290/10" 11		BORING COMPLETED AT 49.8 FEET ON

FIGURE 2.5-61

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

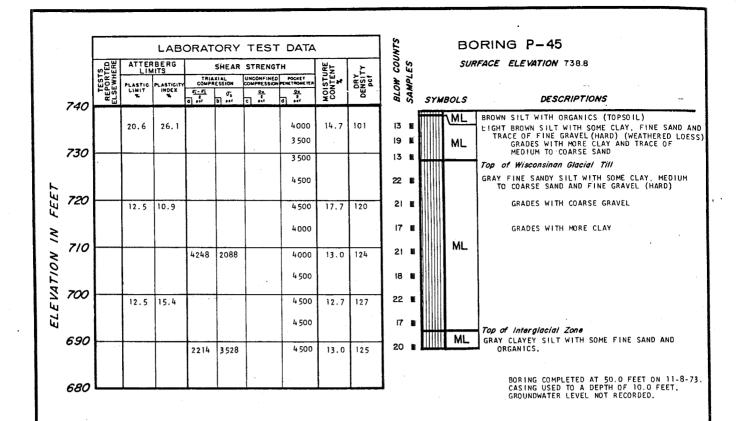


FIGURE 2.5-62

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

			LAB	ORAT	ORY	TEST	DATA			
	S ERE ERE	ATTER	BERG			STRENG		NT	1	
	TESTS REPORTED ELSEWHERE	PLASTIC	PLASTICITY	TRIAS COMPRI G G			POCKET PENETROMETER	MOISTURE	DENSITY	S BORING P-46
750	Er.R.	*	*		σ <u>,</u> Β,	04 2 21	04 2 1 101	¥ΰ	<u> </u>	SURFACE ELEVATION 741.1
									1	NOTA SYMBOLS DESCRIPTIONS
					1					
740				2229	432			23.4	95	7 ML BROWN SILT WITH ORGANICS, FINE TO COARSE SI
1		14.1	9.4					19.3	107	4 ML LIGHT PROWN SILT WITH TRACE OF FINE SAND A
730							750		ļ	IO ML Top of Wisconsinan Clacial Till BROWN FINE TO MEDIUM SANDY SILT WITH TRACE
750				3612	1008			13.3	122	44 B BROWN CLAYEY SILT WITH SOME FINE TO COARSE SAND AND GRAVEL (MEDIUM STIFF)
										BROWN SILT WITH STRINGERS OF FINE TO COARS SAND AND FINE GRAVEL (DENSE)
720		<u> </u>	<u> </u>		+		+		<b>+</b>	GRAVEL (VERY DENSE)
		13.3	7.4			1	4 500	22.0	118	30 ML GRAY CLAYET SICT WITH SOME FINE TO COARSE
7/0										GRAY FINE TO MEDIUM SAND WITH A TRACE OF F GRAVEL AND THIN LAYERS OF GRAY SILT
710							4000			22 B GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND GRAVEL
700				4662	2808		4000	11.7	126	25 B ML
700							4000			23 B
		12.6	7.9				4 500	13.6	125	GRADES WITH STRINGERS OF FINE TO CO

BURING COMPLETED AT 50.0 FEET UN 11-7-73. CASING USED TO A DEPTH OF 10.0 FEET. GROUNDWATER LEVEL NOT RECORDED.

# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-63

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

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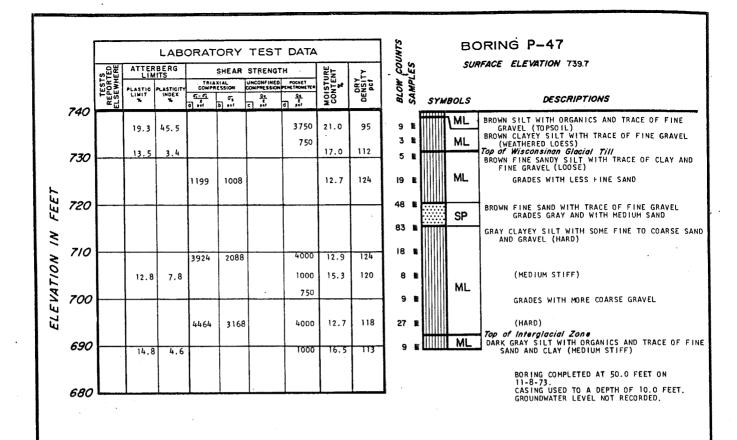


FIGURE 2.5-64

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

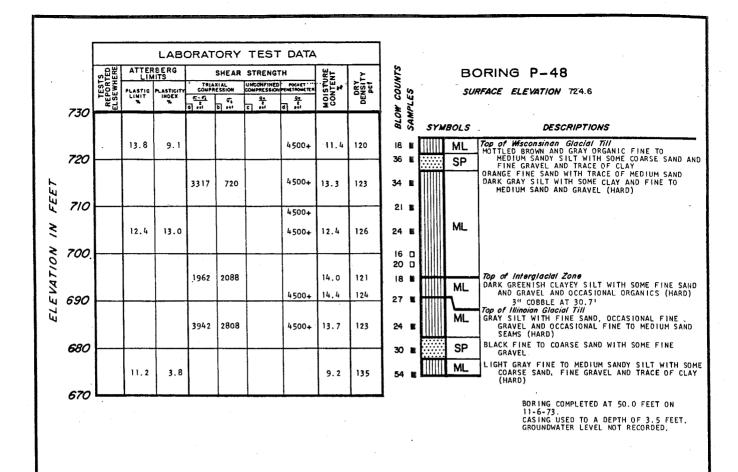


FIGURE 2.5-65

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

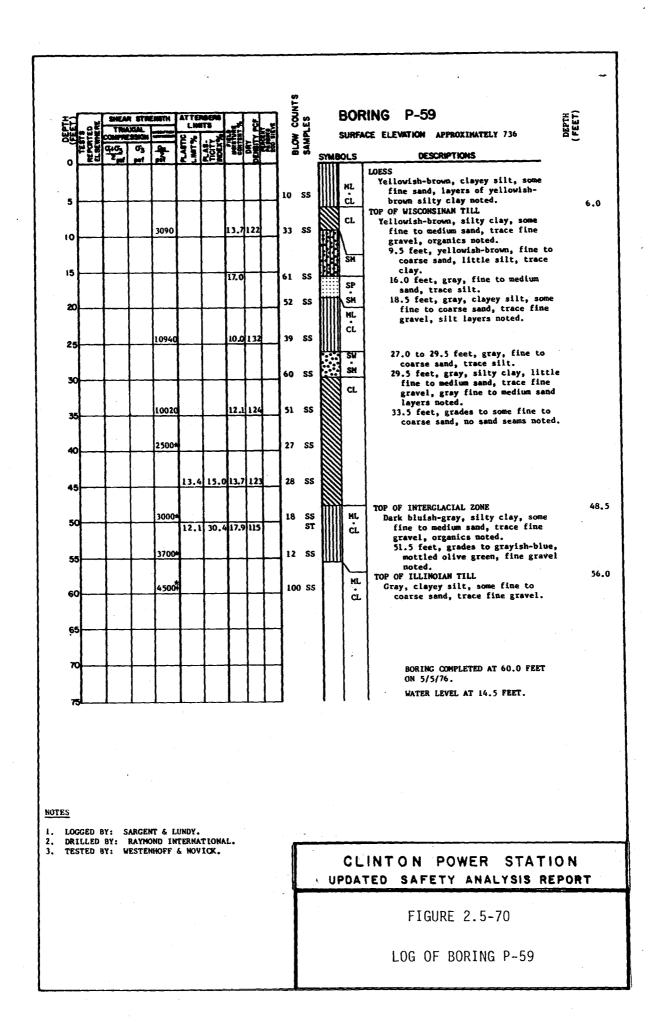
- j - w		R STR	ENGTH	ATTER			<u> </u>		ñ	ы Ш	1	BOF	RING P-49	FEET)
ST S	T RV COMPRI	AXIAL Ession		0.0	~ ~	EN TEN	۲ ۲۲	SIEV	₹	SAMPLES	1	SURFA	RING P-49	
REPOR	0,103 2 ml	σ <sub>3</sub> pst	Qui par-	PLASTIC LIMIT%	PLAS- TICITY	- BES	ESS -	£88	E G	SAI	SYMB	OLS	DESCRIPTIONS	
	- 1987	per	100	<u> </u>		$\neg$	┛				Î	MI.	TOP OF LOESS	
			800*			· 	_		8	SS		сі. 	Brown, mottled gray, silty clay, trace fine to medium sand, pockets of black organic material noted. TOP OF WISCONSINAN TILL 73	34.2
			1500*						13	SS		CL	Brown, silty clay, some fine to coarse sand, trace fine gravel, organic material noted.	
<b> </b>										SS		ML	Light grayish-brown, fine sand and silt, trace clay, thin sand scams noted.	
c			2100* 2000* 3800*	11.9	16.7	149 140	118			SS HR SS		CI.	Gray, silty clay, some fine to coarse sond, little fine gravel. -trace fine to coarse gravel, scattered organic material noted.	
		 	45004						35	SS			-little fine gravel.	
C	 		4500 <sup>4</sup> 2600*		14.0	105	128		14	HR SS		CL ML	Gray, claycy silt, some fine to coarse sand, trace fine gravel, tiny pockets of sand, thin silt seams, and coarse gravel noted.	
C		 	4070 2500*	NP		148 256			22	SS OB		CL	Gray, silty clay, some fine to coarse sand, trace fine gravel, thin clay seams noted. -silt and sand seams noted.	
			1500%						8	SS		<u> </u>	TOP OF INTERGLACIAL ZONE 70	0.7
С			<u> </u>	T	24.4	174 186	110		I	0B		ML CL	Greenish-gray, silt, trace fine to medium sand, trace clay. Greenish-gray, silty clay and fine to medium sand, trace fine gravel.	
)   			4500 <sup>*</sup>			9.2			$\frac{100}{4"}$	ss		SC CL ML	Gray, clayey silt and fine to medium	8.7
									100	,		SM	sand, trace fine gravel.	
		╂	4500	<u>†</u>	┼──	8.0		<u> </u>	5"	ss				
C			4500 <del>î</del>	10.3	8.0	7,1	13:	1	145	HR 5 SS			-some fine to coarse sand. -and fine to coarse sand.	
c c	<u> </u>	┼	4500	10.8	7.4	8.4	13:	1	1	HR		ML	Gray, silt, trace fine to coarse sand,	
	-	 				107		 	138	3 SS	TIT.	SM	trace clay. Gray, fine to coarse sand, little fine gravel, little silt, trace clay.	
5		<u> </u>	<u> </u>	<u> </u>	<u> </u>	1		<u> </u>	J			ļ	Boring completed at 70.0 feet on 4-7-75. Water level at 4.5 feet.	

FIGURE 2.5-66

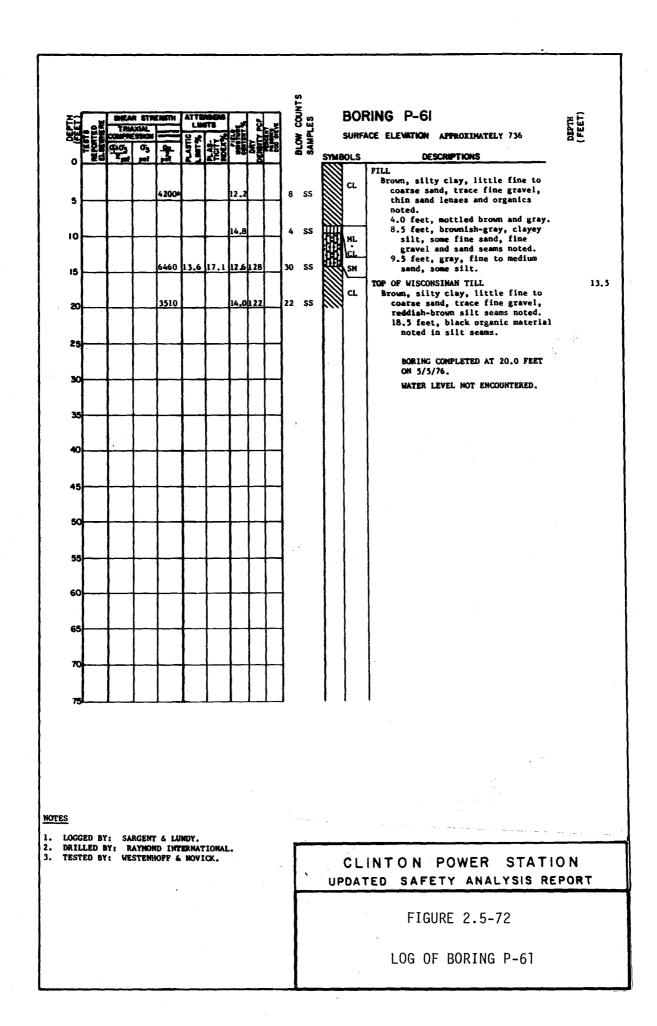
þ	_ ¥	in the second		ENGTH		RBERG		S.	W	COUNTS	ES		BOI	RING P-56 ହୁଁ ଜି
	TESTS PORTEO SEMMERI	COMPRE	_			<u>چر ا</u>		ΣĔ	ACENT SENS DEEV	. 3	SAMPLES		SURF	RING P-56
		<u>445</u>	03 pet	red Led	PLASTIC LIMIT %	PLAS TICT	28	DENS	252	B	SA	SYME	OLS	DESCRIPTIONS
ſ														TOP OF LOESS
				2400*						7	SS		CL	Yellowish-brown, mottled brownish-gray, silty clay, trace fine to medium sand,
ł				2400-				-		'	33			organics noted.
I											~~			TOP OF WISCONSINAN TILL 72
ľ				800* 800		<b> </b>	2 <u>56</u> 202			3	SS OB		CL	Yellowish-brown, silty clay, some fine to
ļ				2100*			153	127		17	SS		<u> </u>	coarse sand, trace fine gravel.
ł						<b> </b>				50	SS		sw	Yellowish-brown, fine to coarse sand, trace
													<u>SM</u>	to little silt.
아	с				12.1	13.1				39	SS		CL	Grayish-brown, mottled light gray, sinty
				5120 6640		l	118 125 149				HR			clay, some fine to coarse sand, tracg fine gravel, silt and fine to coarse
⁵┢				·		<u> </u>	149			49	SS			sand lenses noted.
										-			CL	Gray, clayey silt and fine to coarse sand,
ᡟ				45001						24	SS			trace fine gravel, silt and sand seams and coarse gravel noted.
				1420	12.9	14.2	156	128			HR			24.0-24.5, gray, fine to coarse sand,
ᢤ							40.5			12	SS		ML	trace to little silt. Gray, silt, trace clay, organics noted.
I				21 204			148	1 74						oray, since cray, organics notes.
ᆉ				<u>2130</u> 2500		ļ	140	120		19	SS		CL	Gray, silty clay, little fine to coarse
ļ														sand, trace fine gravel, thin silt seams and organics noted.
┢				3700*						26	SS			
				840			29.7	95			OB			TOP OF INTERGLACIAL ZONE 68
∤				1870			192	117		16	SS		CL	Gray, clayey silt, trace fine sand, silt seams and tiny organic pockets noted.
l	c	l		820	12.3	23.8	17,7	114			OB	111		
╞				2200			171	114		15	SS		CL	Bluish dark gray, silty clay, some fine to
														coarse sand, trace fine gravel, organics
╞				4 500						72	SS		ML	Gray, clayey silt and fine to coarse sand,
I													SM	trace fine gravel, thin sand seams noted.
╞┝				4500-						89	SS			
		1		3430	11.1	5.6	8.4	145			HR			
┢										40	SS			Boring completed at 70.0 feet
														on 11-19-75. Water level at 9.9 feet on
														11-20-75.
											Г			5
													C	LINTON POWER STATION
						۰.						1	JPD	ATED SAFETY ANALYSIS REPORT
ł	y:	Sarge	ent &	Lundy	y Eng	ineer	s							
	by:	Raymo	nd I	nterna	ation	al								FIGURE 2.5-67
	y:			£ & No										

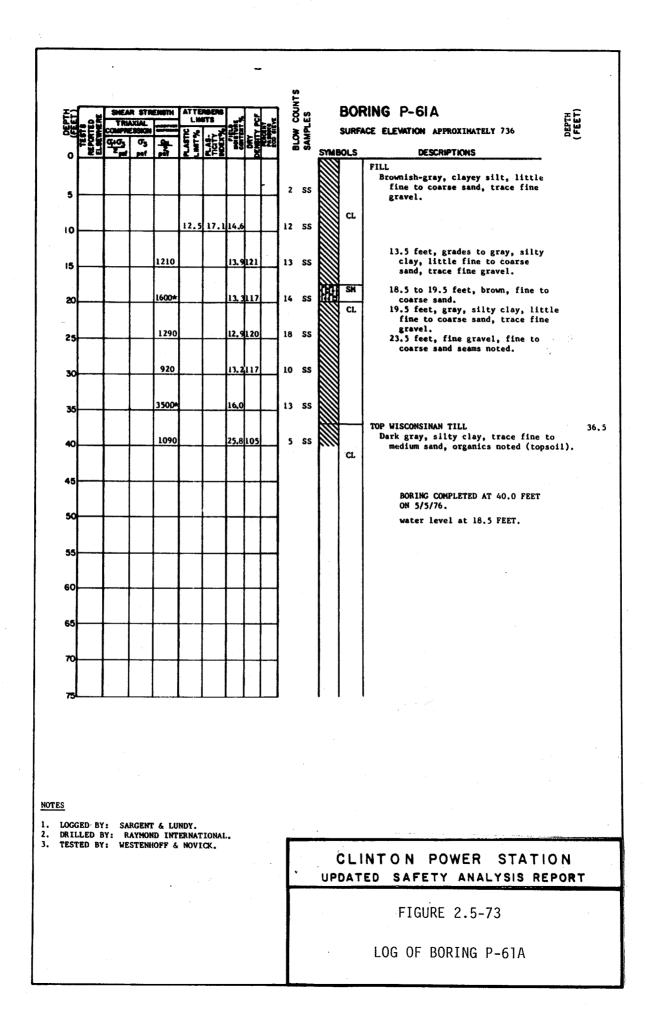
d	<del></del>	SHEA	R STR	ENGTH	ATTE			4		COUNTS	s	E	BOR	RING P-57	Ì
EE	TESTS PORTED SEWNER	COMPRE	XIAL		LIN LIN	its		۵ ۲	SIE VI	ž	SAMPLES	S	URFA	RING P-57	-
	TES Repor Elsen	403	σ3	Qu Z Pit	PLASTIC	PLAS- TICITY	E SEL	DRY	1202	BLOW	SAN	SYMBO	DLS	DESCRIPTIONS	
ו	20		pet	<b>PST</b>	67	2.72	$\square$							TOP OF LOESS	
													CL	Yellowish-brown, mottled light brownish- gray, silty clay, trace fine sand,	
5				3000*						10	SS			organics noted.	29
				1430			151	125					CL	Yellowish-brown, silty clay, some fine	27
0				3000-						14	SS			to coarse sand, trace fine gravel, sand seams noted.	
				32004			141	125		ļ	HR		P-SM		
5		<b> </b>		4500			9.2		┣	40	SS		<u>- 3m</u>	Brown, fine to medium sand, trace silt.	
	С			1850+			175				HR		CL	Brownish-gray, clayey silt, some fine to coarse sand, trace fine gravel, silt	
0				1 500		ļ	313			80	SS			seams noted. 17.0 to 17.5 feet, gray silt, some fine	
					]									to medium sand, trace clay.	
5				4000#			138			23	SS			18.5 to 20.0 feet, fine to coarse sand lenses.	
3				1320	12.9	13.4	150	126			HR				
		1								16	SS				
0		T				<b>[</b>									
				1600	J					12	SS		•	-organics noted.	
5		<u> </u>				11.7	143	12	1	1	OB			1	
					]						SS				
0		1		2600		<u>├</u> ──	<u>†</u>	$\square$	1-	1	33				
								ł							
5				3100			141	13	┢	29	SS OB		ML	TOP OF INTERGLACIAL ZONE Gray silt, little fine sand, clayey seams	69
		1					235						CL	noted. Dark gray, silty clay, trace fine sand,	
0	ļ			2500		24.7	180	1113	<del> </del>	16	SS OB			organics noted.	
				30004	1	1			1				CL	Bluish dark gray, silty clay, some fine	
5	L	$\downarrow$	L	2190	1	<b>_</b>	197	<u>109</u>	4-	15	SS			to coarse sand, sand seams noted.	
				{		{			1	1				TOP OF ILLINOIAN TILL	67
0		ļ	ļ	4500			<b>_</b>	$\downarrow$		111	SS		ML	Gray, clayey silt, some fine to coarse sand, trace fine gravel, coarse gravel	
	c			4500		5 7 0	90	138			HR			noted.	
5				10420		1		139		100	ss <u>s</u>				
				-			1.			7"					
70				6040			84 98	140		94	SS		SW SM	Gray, fine to coarse sand, little fine to coarse gravel, trace silt.	
U		1		Ī	Τ	Τ	Τ		Τ	1			<u> </u>		
													ML	Gray, clayey silt, some fine to coarse san trace fine gravel.	na ,
	<u> </u>	-*	<b>.</b>										-	Boring completed at 70.0 feet on 11-18-	75.
														Water level at 9.9 feet on 11-20-75.	
														and the second sec	
							- '				ſ			<u></u>	_
													C	CLINTON POWER STATION	I
													UPC	DATED SAFETY ANALYSIS REPO	R'
	by:			& Luna			rs								
	d by:	•		Inter			-							FIGURE 2.5-68	
1	byı	West	enho	ff & I	NOVIC	κ, In	c.							LOG OF BORING P-57	

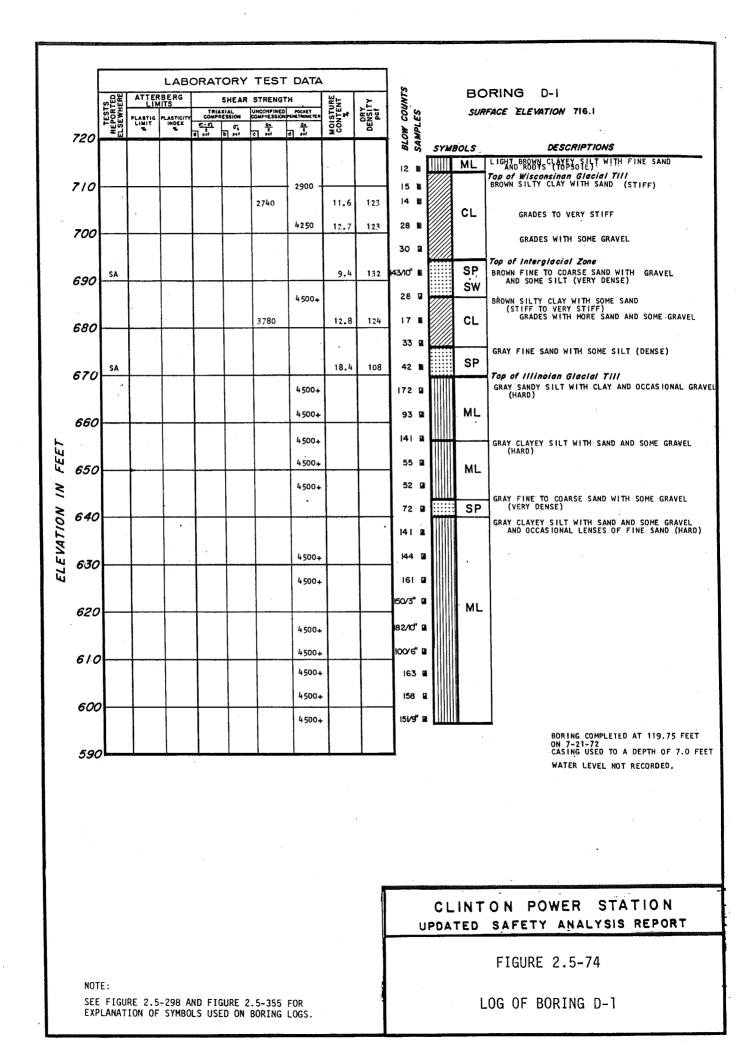
ĒF	<b>.</b>	<u> </u>	TRIA	AXIA	RENGTH,	ATT	ERBERG MITS	1.,	12	<u>ا</u> ا	<b>]</b> i	ខ្លុំ ដ៏	1	BO	RING P-58	ET)
	調		IPPE	ESSION			8	鰽	125		1	BLOW COUNTS SAMPLES	:	SURF	RING P-58	(FEET)
0		严	2	O3 pet	2			88	No.	1255	4 7	л SA S	SYMB	0 <u>LS</u>	DESCRIPTIONS	
•	Γ	Т	٦			Γ	T				1				TOP OF LOESS	
		1		l	2000*			h.,	102		8	SS		CL	Yellowish-brown, mottled light gray, silty clay, trace fine to medium	
5	<b> </b>	$\mathbf{t}$	1		4000	<u>├</u>	$\vdash$	<b>∦</b> ≥∠,	444	$\vdash$	1 °	30			sand, organic particles noted.	
1				ł	2 300*				'							
10		+-	1	i	2 <u>300*</u> 1720	_	9 14.2	24 58	120		8	SS ST		CL	TOP OF WISCONSINAN TILL Yellowish-brown, clayey silt, little fine	725.
				i	4 500 <b>‡</b>	1.		!	1 !			~~			to coarse sand, trace fine gravel,	
15		+	-				t	H		$\vdash$	53				organic particles noted. -grades to some fine to coarse sand.	
·	1				3070 4500 <b>#</b>		2 6.2	P.1	139	'		HR		ML	Gray, silt, some fine to coarse sand,	
20	-	+	+		4300-	<b> </b>		+	+-	$\vdash$	48	SS			trace clay, thin silt and sand seams noted.	
1				1										1	NOLEG.	
25	├──	+	+		4 <u>500</u> 3110	1	4 12.3	1 26			30					
		1		J	BII0	15	14.7	1 1	<sup>1</sup> 23	1		HR		CL	Gray, clayey silt, some fine to coarse sand, trace fine gravel, organics and	
30	$\vdash$	╉──	+	1		<b> </b> '	<u></u> ∕	-+	$\vdash$	$\vdash$	18	<b>S</b> \$	<b>i</b>	SW	sand seams noted. Brownish-gray, fine to coarse sand, some	
	1		1	1	1		'							SH	fine to coarse gravel, little silt.	
35	<u> </u>	╀─	+		<b>├</b> ──┦	'	–≀	$\vdash$	$\vdash$	⊢/	29	SS				
	1				!					11	1					
40	C	┢	+		3000* 3500*		<b>├</b>	143	122	11	22	SS ST		CL	Gray, silty clay, some fine to coarse sand, trace fine gravel, coarse gravel	
	I							$\left[ \right]$		11	ĺ				and organics noted.	
15	<b>—</b>	┢──	+		2900*	<u> </u> ]	<u> </u> ]	$\vdash$	$\vdash$	$\vdash$	25	SS		- 14		
	I								1	11	1				TOP OF INTERGLACIAL ZONE	688.
50		┢	+		1600*			$\vdash$	┍┥	<b></b>	22			CL	Dark gray, silty clay, trace fine to coars sand.	
	I				800* 2900*		17.1	218	.	i	14	OB SS				
55	·'	┢	4		1120	11.6	26.5	170	116	$ \square$		OB		CL	Dark bluish-gray, silty clay, little to some fine to coarse sand, trace fine	
	, ! I	1			]					i	1				gravel, thin sand seams noted.	4.76
50	<u></u>	┢	+		4 5007	<u> </u>	├	$\vdash$			50	SS		ML	Gray, clayey silt, some fine to coarse	678.
1	!				]					i	1				<pre>sand, trace fine to coarse gravel, cobbles noted.</pre>	
6 <b>5</b>	!	┣—	+	<u> </u>	4500	j,	<b>     </b>	i-t		<b> </b>	67	SS				
	!	1			, <b> </b>	,	i				l	HR				
ᆋ	]	$\vdash$	+	/	4 500	11.5	5.8	9.1	141	]	53				Boring completed at 70.0 feet	
							.				1		(		on 11-20-75. Water level at 9.2 feet on	
75L		L	$\bot$								I			l	11-21-75.	
													•		and the second	
												1		<u> </u>		
														Cl	INTON POWER STATION	
												L	U		TED SAFETY ANALYSIS REPOR	
çed	by:	Sa	irge	ent é	& Lund	iy En	gineet	rs				T				
	d by:				Intern		-								FIGURE 2.5-69	
ed	by:	We	ste	enho f	ff & N	lovici	s, Inc	с.								

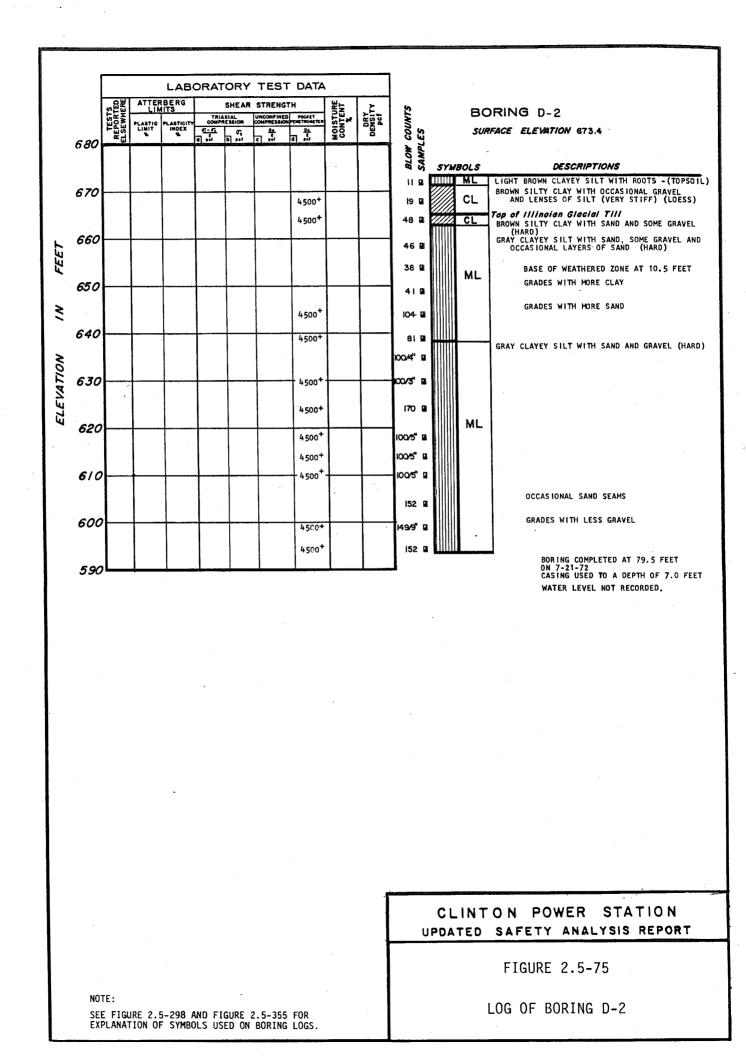


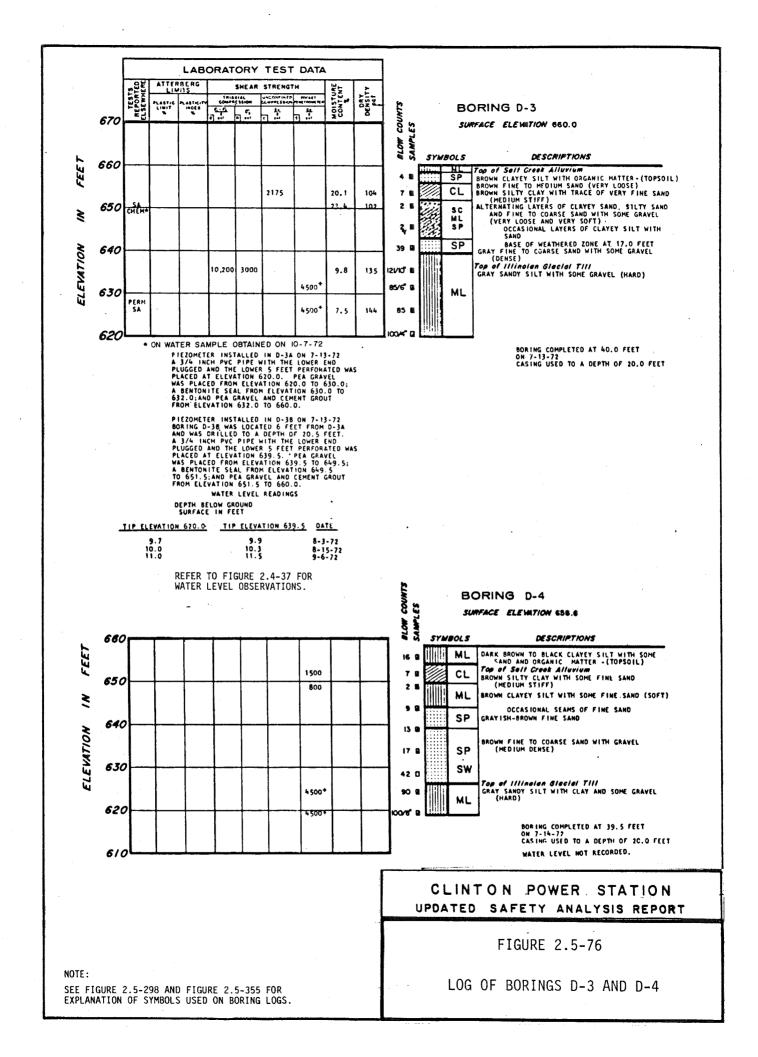
DEPTH	TTS TTED MERE		R STR		ATTE		141 141 141	Y PCF		W COUNTS	SAMPLES		-	CE ELEVATION APPROXIMATELY 736	
_		403	0'3 M1	-	FLAST PLAST	PICTY-		DRY	228	2	SAN	SYMB	OLS	DESCRIPTIONS	
Ĩ				4500						36	SS		ML CL	LOESS Yellowish-brown, clayey silt, little fine to medium sand, organics (roots)	
5				1300										noted. TOP OF WISCONSINAN TILL	4.
10				<u>4500</u> ‡					16.1	42	<b>S</b> S			Yellowish-brown, clayey silt, some to and fine to medium sand, trace fine gravel, organics noted. 9.5 feet, yellowish-brown, fine	
15							19,4			55	SS		SP SM	sand, trace silt. 13.5 feet, grades with little silt.	
20				4500			11.5			120	SS		CL	19.0 feet, grayish-brown, clayey silt, some fine to coarse sand, trace fine gravel, thin silt seams noted.	
25										75	SS		SW SM	22.0 feet, brown, fine to medium sand, little silt, fine gravel noted.	
30				4100*						30	SS		CL	28.0 feet, gray, silty clay, some fine to coarse sand, trace fine gravel.	
35				4140			14.3	125		15	SS ST			33.5 feet, organics noted.	
40				3920	14.1	12.6	14.0	119		18	SS		CL	38.5 feet, gray, clayey silt, little fine to coarse sand, trace fine gravel, organics and sand pockets	
45				2600*		·	13.2			35	SS		ML CL	gravel, organics and sand pockets noted. 43.5 feet, gray, silty clay, some fine to coarse sand, trace fine	
50				20004						17	SS		CL	gravel. TOP OF INTERGLACIAL ZONE Dark gray, silty clay, trace fine to	•7.0
					10.7	16.4	14.6	122		17	SS		CL	medium sand, thin sand seams noted. 53.5 feet, bluish-gray, silty clay, some fine to medium sand, fine	
55							18,7				SS		ML	gravel noted.	56.
60						, ,							SM	60.5 feet, gray, fine to coarse sand, some silt, trace fine gravel.	
65							15.9			8/	55	Liner)			
70														BORING COMPLETED AT 65.0 FEET ON 5/5/76. Water level at 13.5 FEET.	
<del>.</del>			L		<b></b> _	<b>I</b>	L	1	1	j		<b>1</b> •	I	1	
DRIL	LED B	Y: R	AYMO	r & Lu ND Int Hoff &	ERNAT		L.			ſ	- -		CL	NTON POWER STATION	
										$\mathbf{F}$		ÜP	DAT	ED SAFETY ANALYSIS REPORT	
														FIGURE 2.5-71	











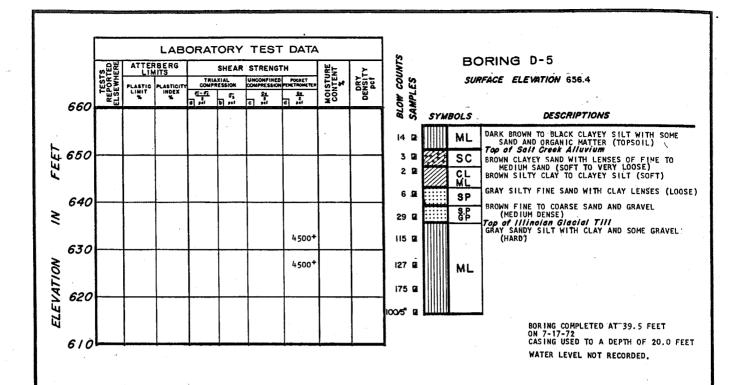


FIGURE 2.5-77

LOG OF BORING D-5

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

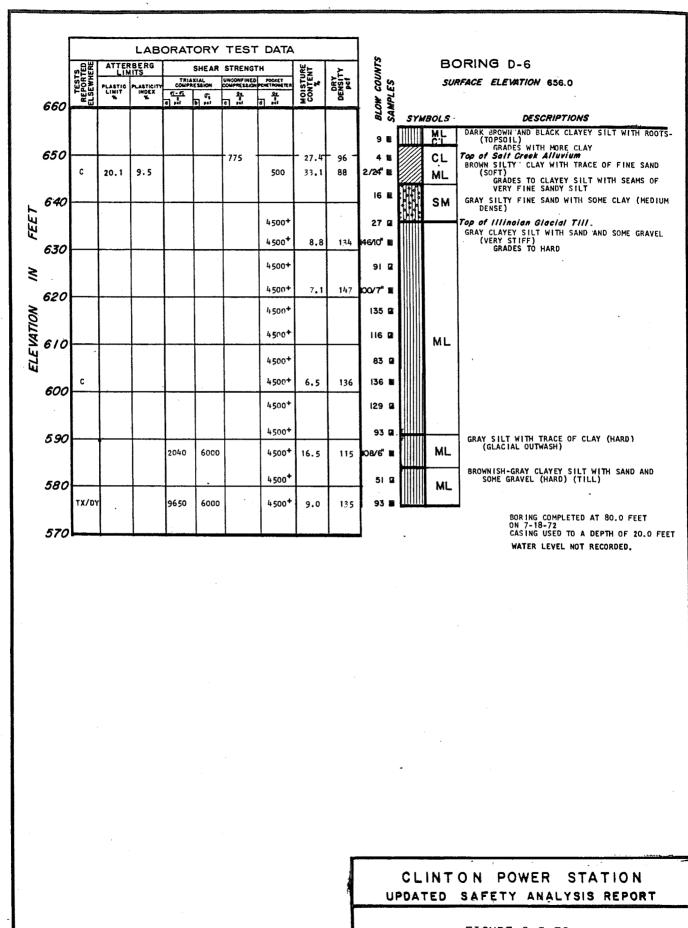


FIGURE 2.5-78

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

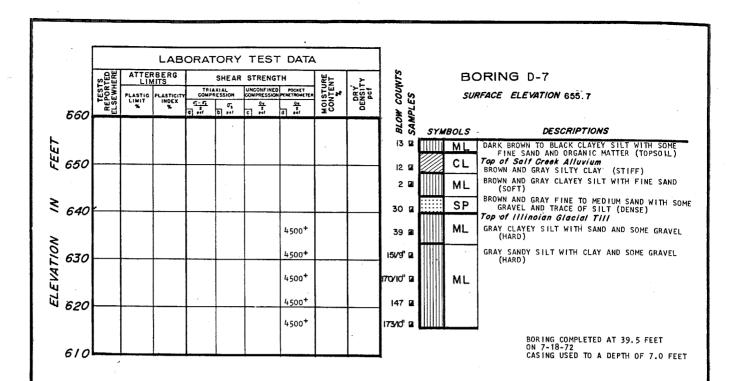
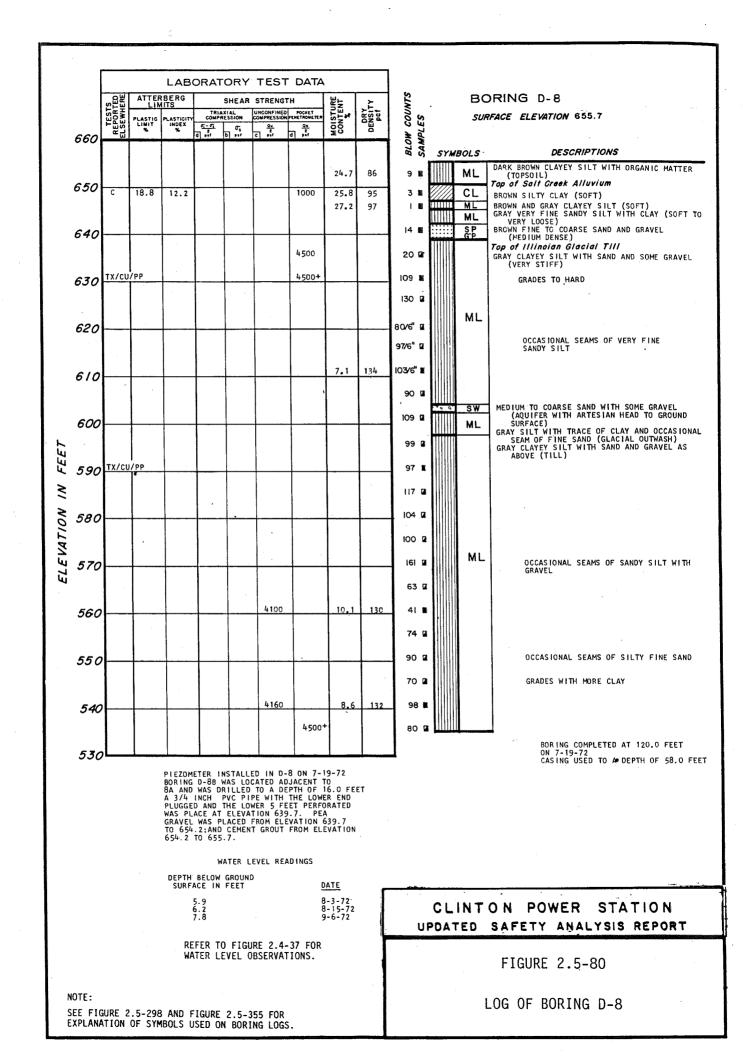


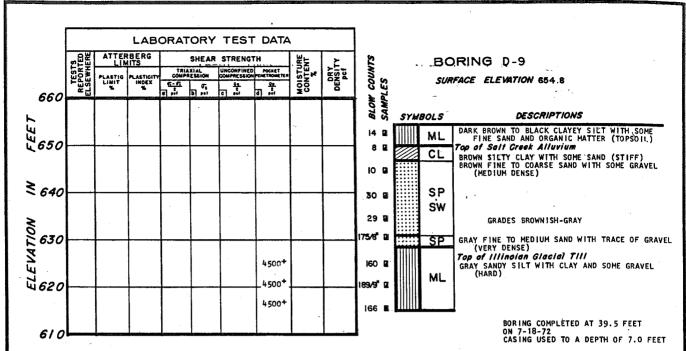
FIGURE 2.5-79

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

LOG OF BORING D-7

NOTE:





WATER LEVEL NOT RECORDED.

### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-81

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

LOG OF BORING D-9

NOTE:

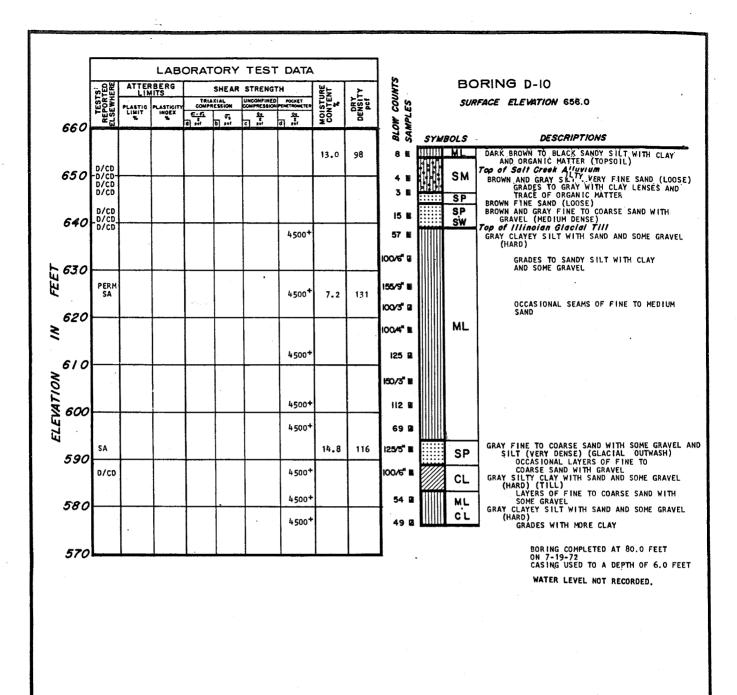
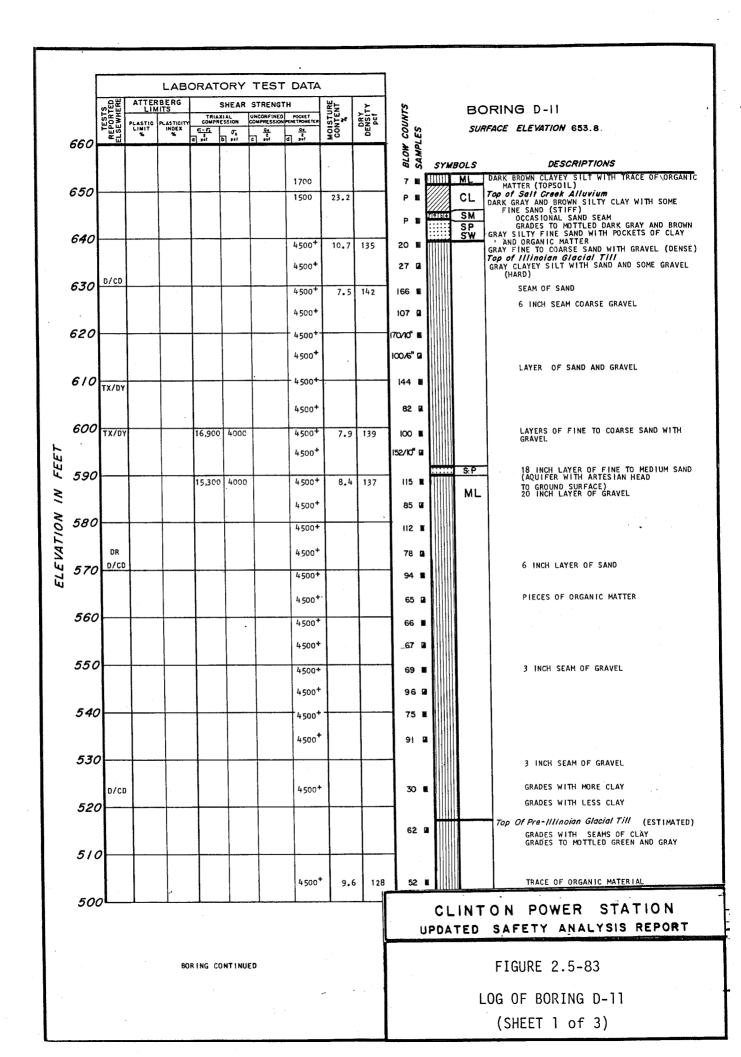
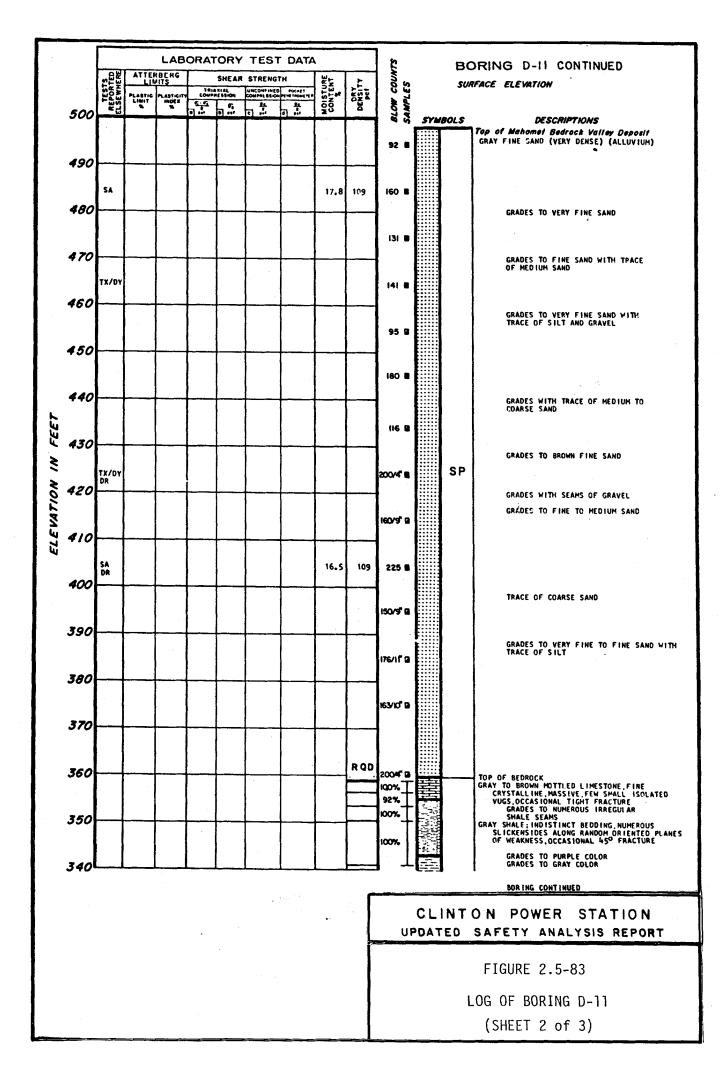
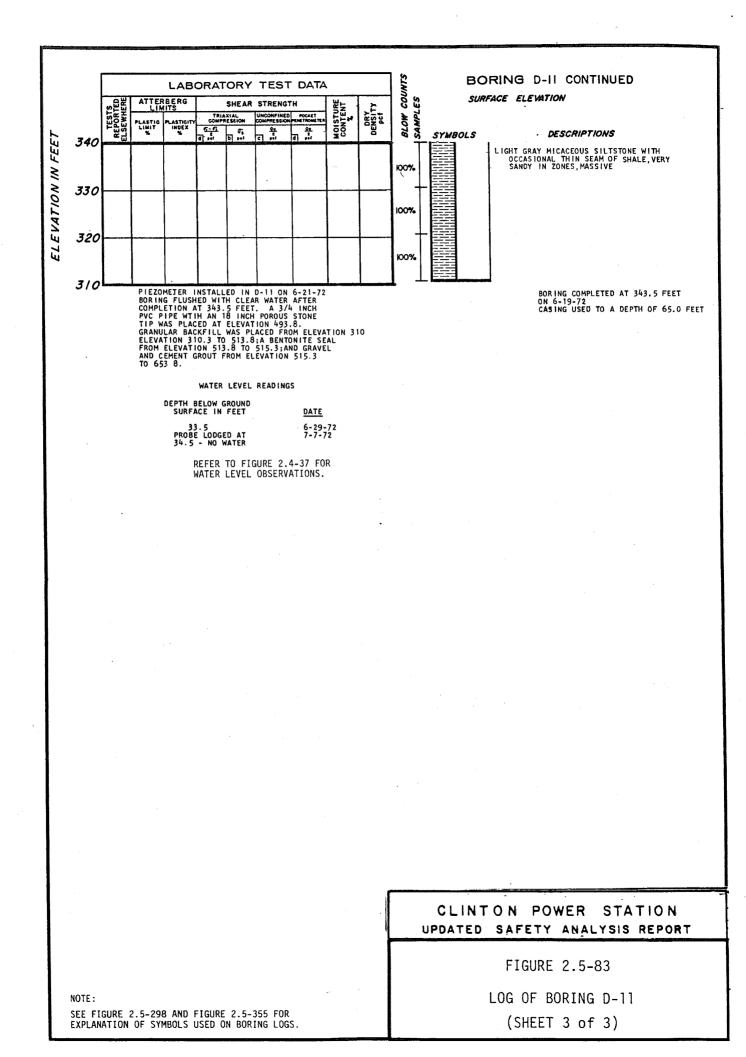


FIGURE 2.5-82

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.







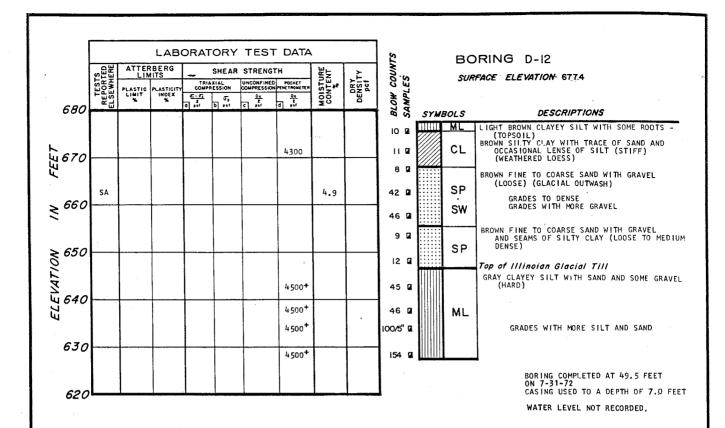
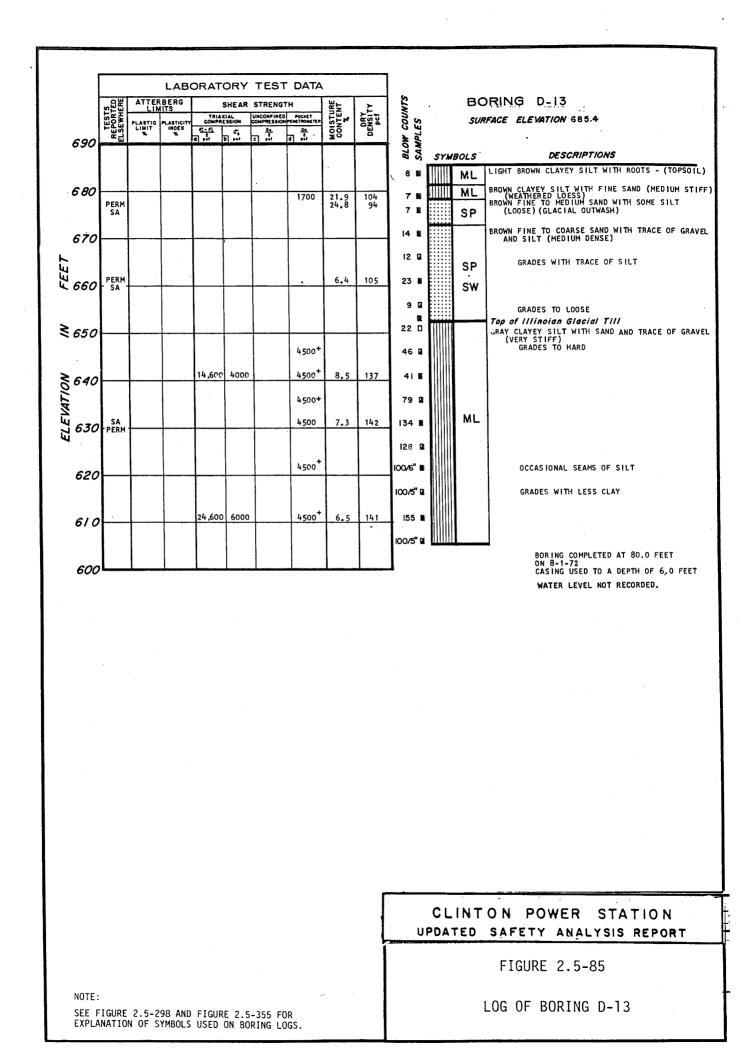


FIGURE 2.5-84

LOG OF BORING D-12

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



Ч			R STR	ENGTH	ATTE			R L	ų	S	SAMPLES		BOF	RING D-14	ELEVATION (FEET)
E	TESTS REPORTED ELSENNERE	COMPRE	SSION		TIC %		STUR STUR	2	NCEN BUIND	₹	MPL		SURF	ACE ELEVATION 701.1	ζĒ.
۶Ľ	283 283	45	σ <sub>3</sub> pef	ay por	PLASTIC	PLAS TICIT NOEX	20	DENS	E S	B,	S	SYME	OLS	DESCRIPTIONS	LU .
Ί													CL	TOP OF LOESS Brown, silty clay, trace fine to coarse	
										6	SS	ĬĬĬ		sand, trace fine gravel.	
•						<u> </u>				Ĵ	50			TOP OF WISCONSINAN TILL	698.6
													CL	Brown, silty clay, some fine to coarse sand, trace fine gravel.	
٥ł		<u> </u>					13.3	122		20	SS				
5							12.4			23	SS ST				
				6200	16.8	11.2	120	131			31				
0		[		L			11.0			25	SS			2 foot thick, fine sand lense.	
											66			-24.2 to 25.0 feet, boulder noted.	
ļ	MA						12.7	12/	<b>۵</b> 5۵	-	SS.			-24.2 to 23.0 ieet, bourder noted.	
5				[									sw	Brown, fine to coarse sand, trace silt.	
		1	ł			1					SS		1		
0		t	┝			<del> </del>	t	-	t	1 **	33		l		
		1				-		[							
5					┣	╂	7.5		┼	36	SS		1		
		1	{										]		
0	MA			<b> </b>		<b> </b>	9.5	137	66.5	56	SS	Ш		Light brown silt and fine to coarse	
		]											I ML SM	sand, trace fine gravel, trace clay trace organics.	
5							8.2	135		. зн	ss	H	MI.	TOP OF ILLINOIAN TILL Gray, silly clay, some fine to coarse	657.0
3		T											CL	sand. trace fine gravel.	
	PERM			2300	34.5	1.5	29.0	94.	<b>\$2.5</b>	1	ST	- 11111	ML	Gray, silt, trace fine sand.	
50		1		1	$\square$	1	Γ			46	s ss	Η	SM	Gray, silty, fine to coarse sand,	
					4	1							l	trace organics. Gray to greenish-gray, silt and fine to	
55		+		+	<u> </u>	+	11.5	13	4	1 "	2 55		N	coarse sand.	
									1	}				Gray, clayey silt, some fine to coarse	
:0		╂		╂	╂──	┼──	7.7	139	٩	94	4 SS		SM	sand, trace fine gravel.	
			ł		[	1									
55		<u> </u>	<b> </b>	ļ	<b> </b>		+	_	╂	4	8 55	: [[[[]]		Boring completed at 69.1 fee on 4-15-75.	t
													ll ll	Water level not recorded.	
2					<u> </u>					15	0 SS	; [[]]]	1		
Š				1	Γ		1								
			{												
75	L	<b>.</b>	<u>ا</u>	1	J	<b></b>	_ <b>_</b>	4	- <b>L</b>	1		•	•	•	
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<u>s</u>											ſ				
Lo	gged	by:	Sarg	ent &	Lund	y Eng	inee	rs					(	LINTON POWER STATIC	N C
Dτ	illed	l by:	Rауп	ond I	ntern	ation	al ,						UP	DATED SAFETY ANALYSIS RE	PORT
	sted	by:	Soil	Test	ing S	ervio		Inc	•		Ì				
Te		- ·												FIGURE 2.5-86	
۲e															
7.															
<b>.</b>		÷												LOG OF BORING D-14	

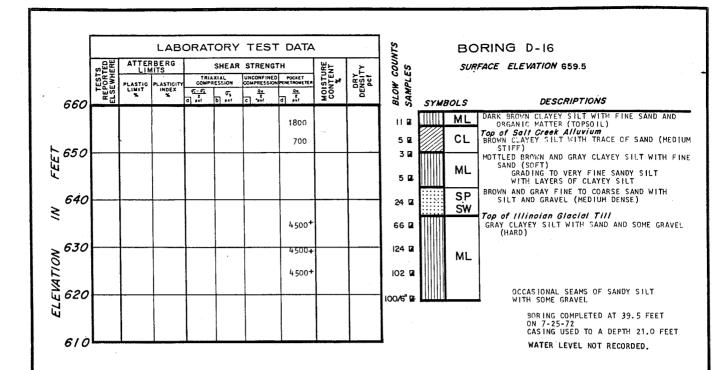
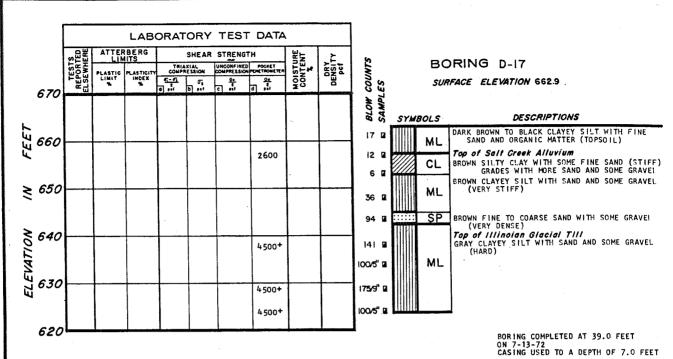


FIGURE 2.5-87

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



WATER LEVEL NOT RECORDED.

### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-88

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

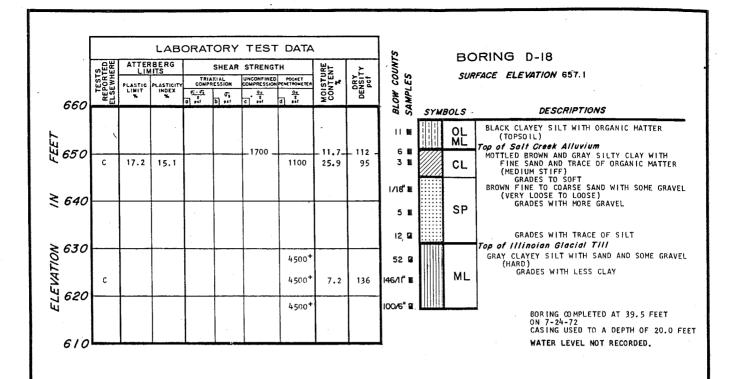
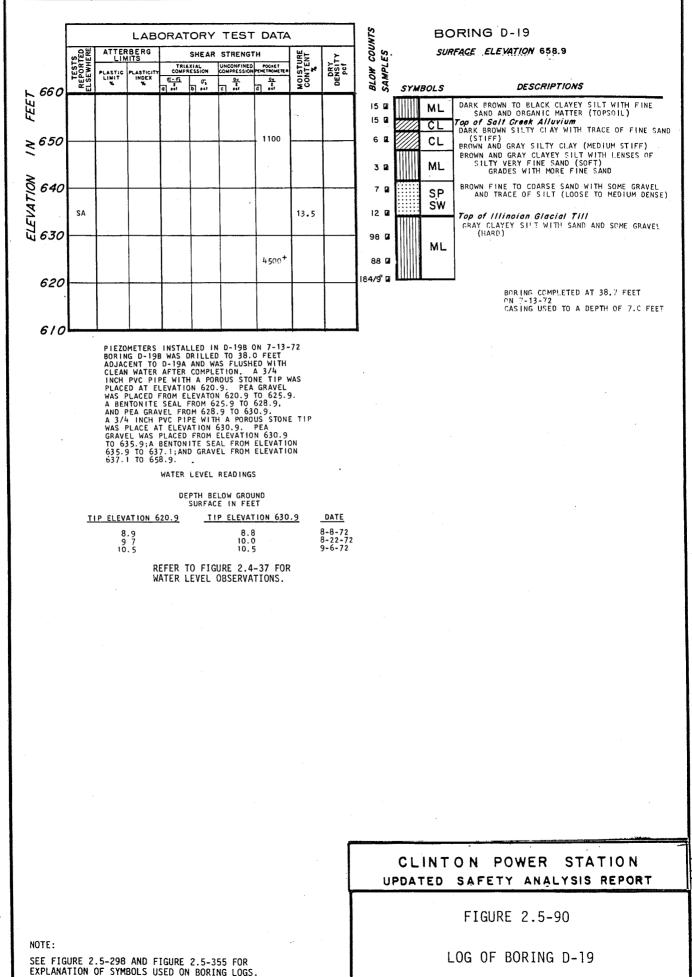
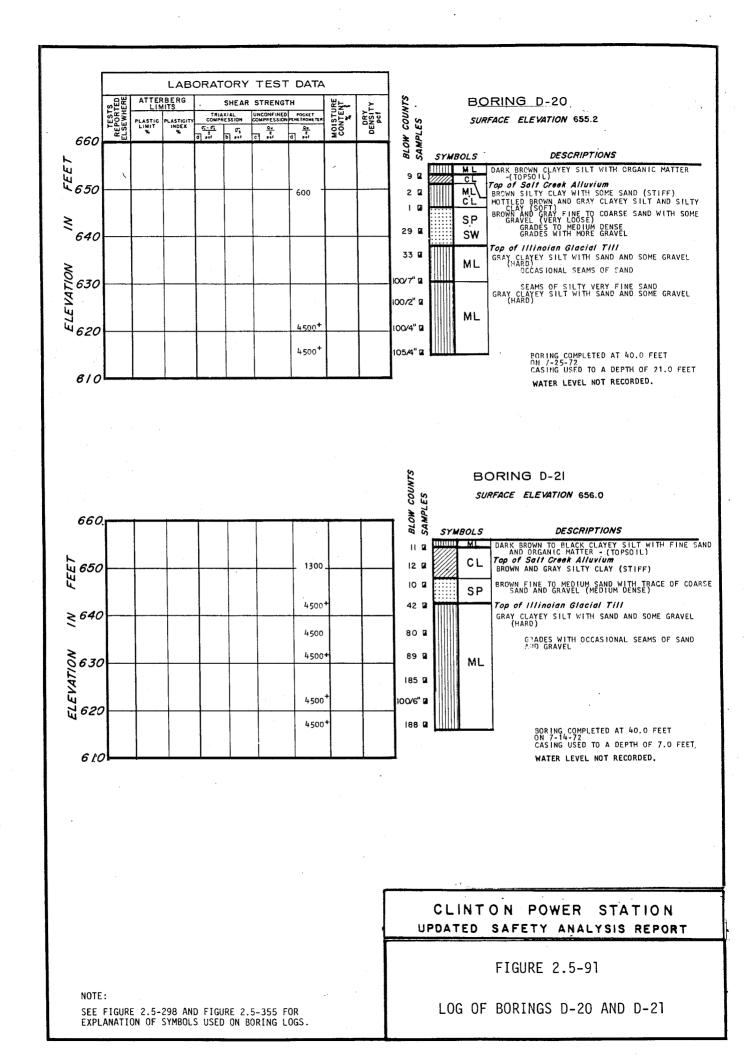
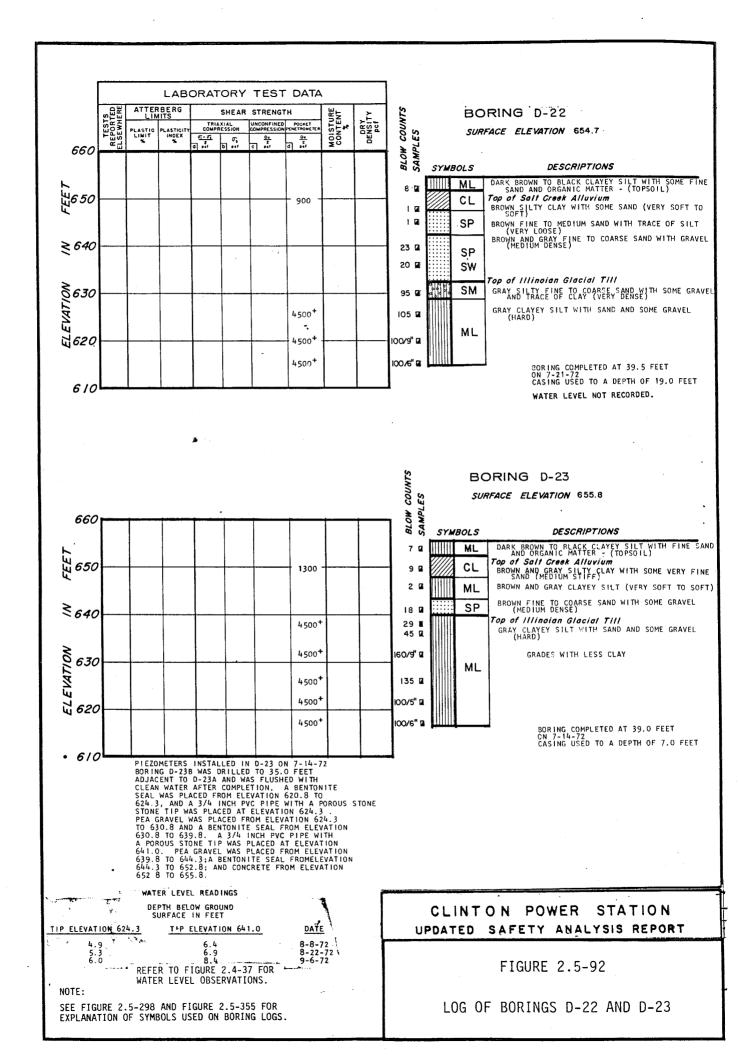


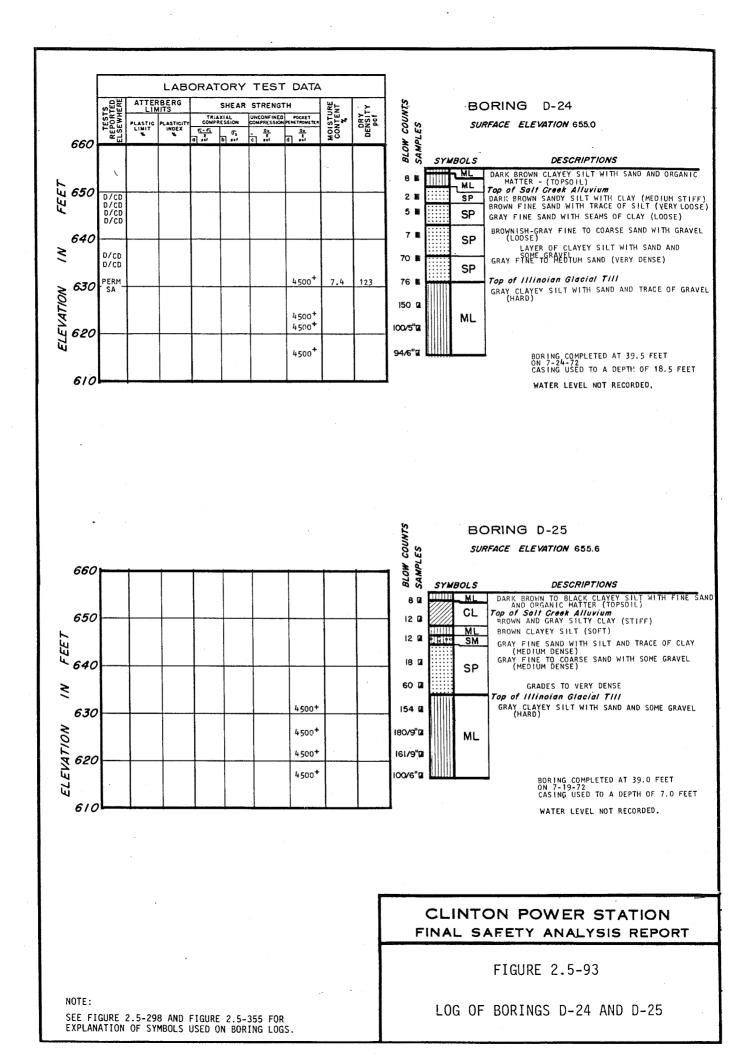
FIGURE 2.5-89

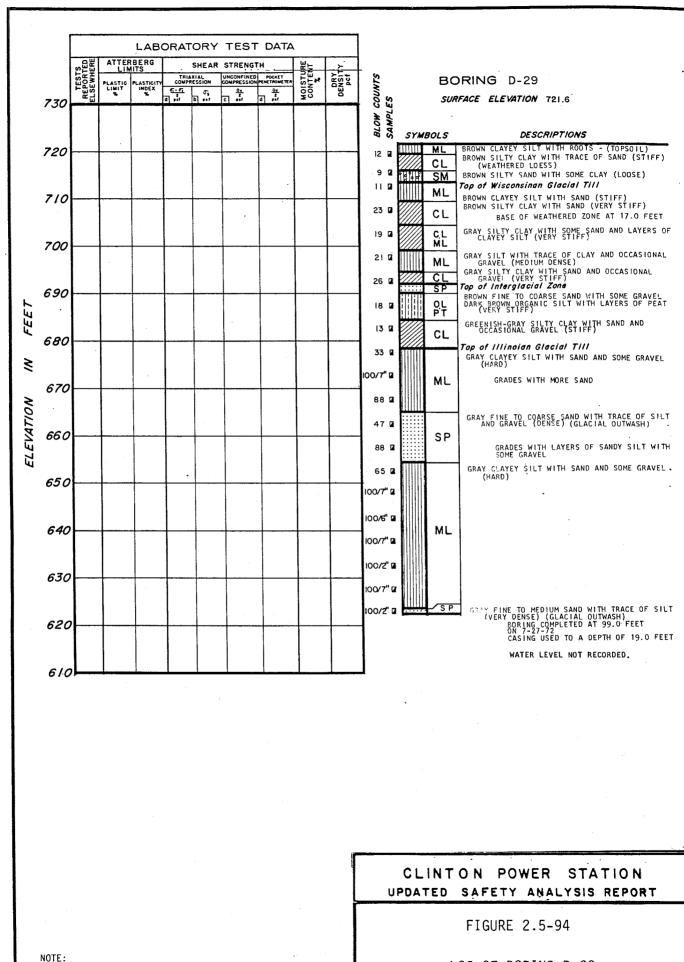
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



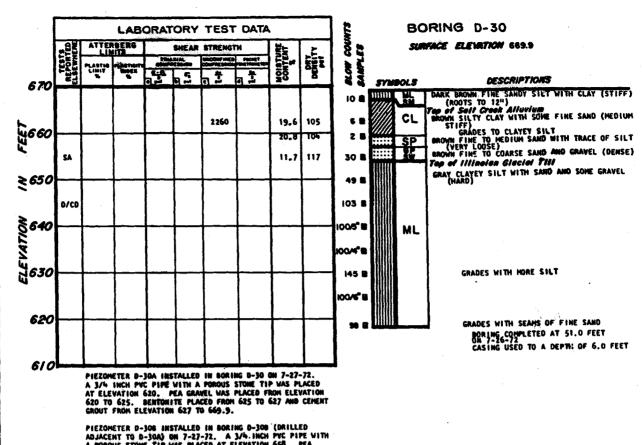








SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



PIEZOMETER D-308 INSTALLED IN BORING D-308 (DRILLED ADJACENT TO D-30A) ON 7-27-72. A 3/4-INCH PVC PIPE WITH A POROUS STONE TIP MAS PLACED AT ELEVATION 658. PEA GRAVEL WAS PLACED FROM ELEVATION 658 TO 666.4 AND CEMENT GROUT FROM ELEVATION 666.4 TO 669.9.

PIEZOMETER D-30C INSTALLED IN BORING D-30C (ORILLED ADJACENT TO B-30A) ON B-3-72. IS FEET OF 4 INCH CASING WAS USED TO SEAL OFF THE SALT CREEK ALLUVIUM. A 3/4 INCH PVC PIPE WITH A POROUS STONE TIP WAS PLACED FROM ELEVATION 620. PEA GRAVEL WAS PLACED PROM ELEVATION 625 TO 627 AND CEMENT GROUT PHEM ELEVATION 627 TO 669.9.

#### WHITER LEVEL READINGS

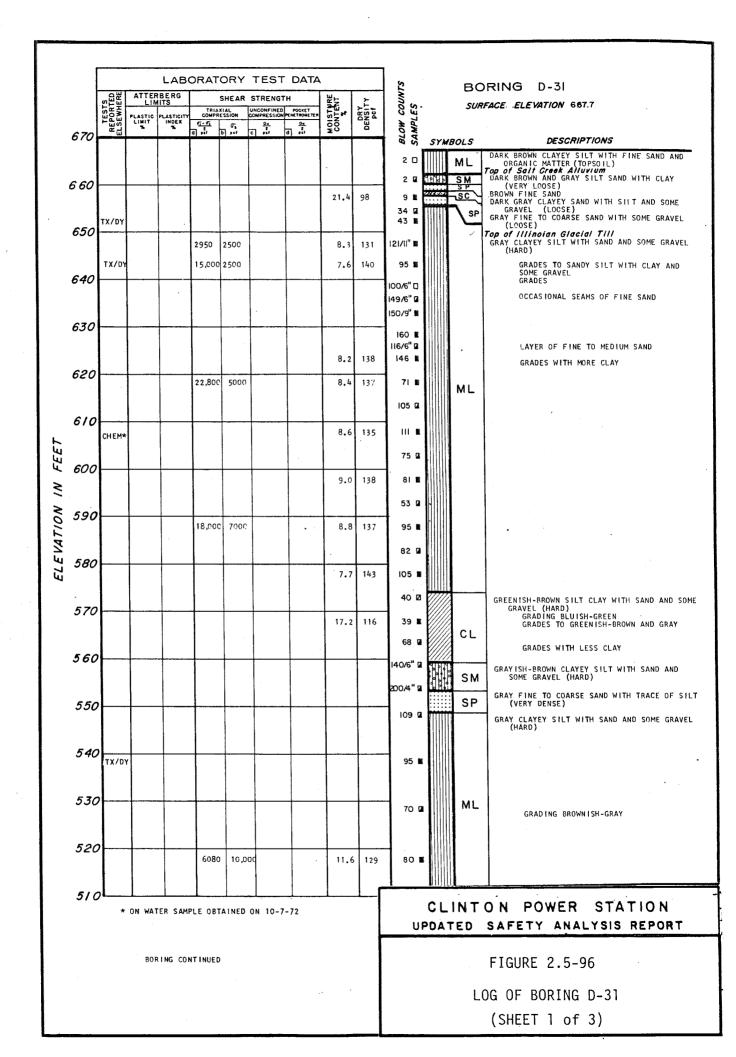
#### (DEPTH BELOW GROUND SURFACE IN FEET)

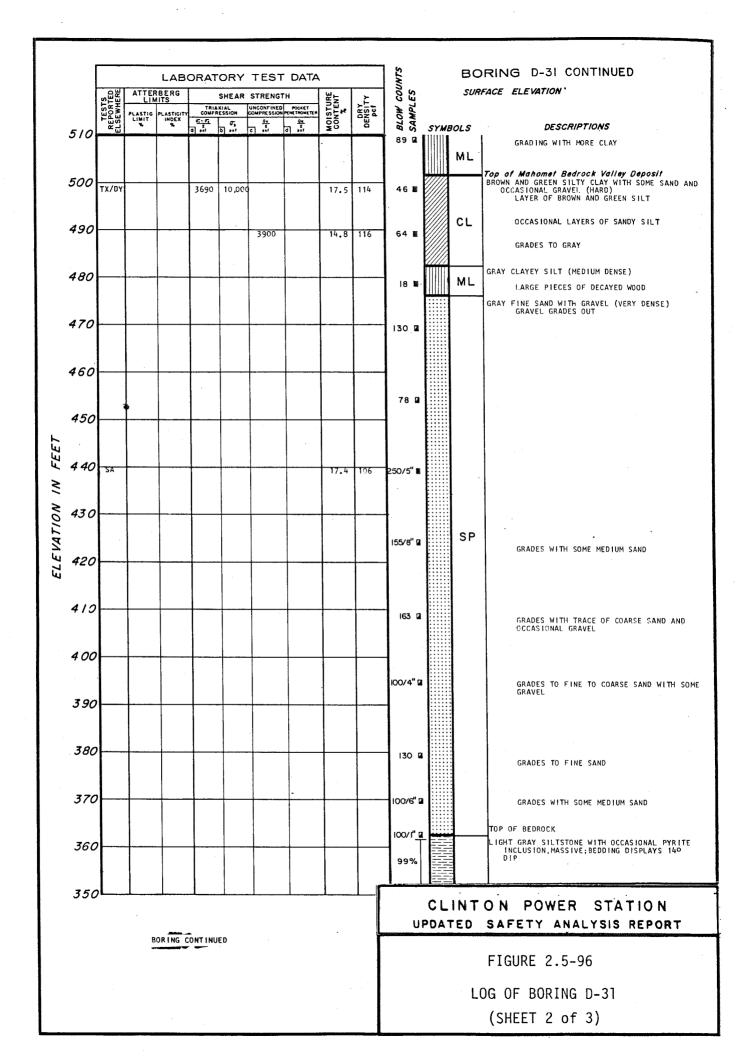
0-30A	<u>8-300</u>	0-30C	DATE
9.7	5.6	42.3	8-8-72
10.0	10.0	41.9	8-22-72
10.0	18.0	41.8	9-6-72

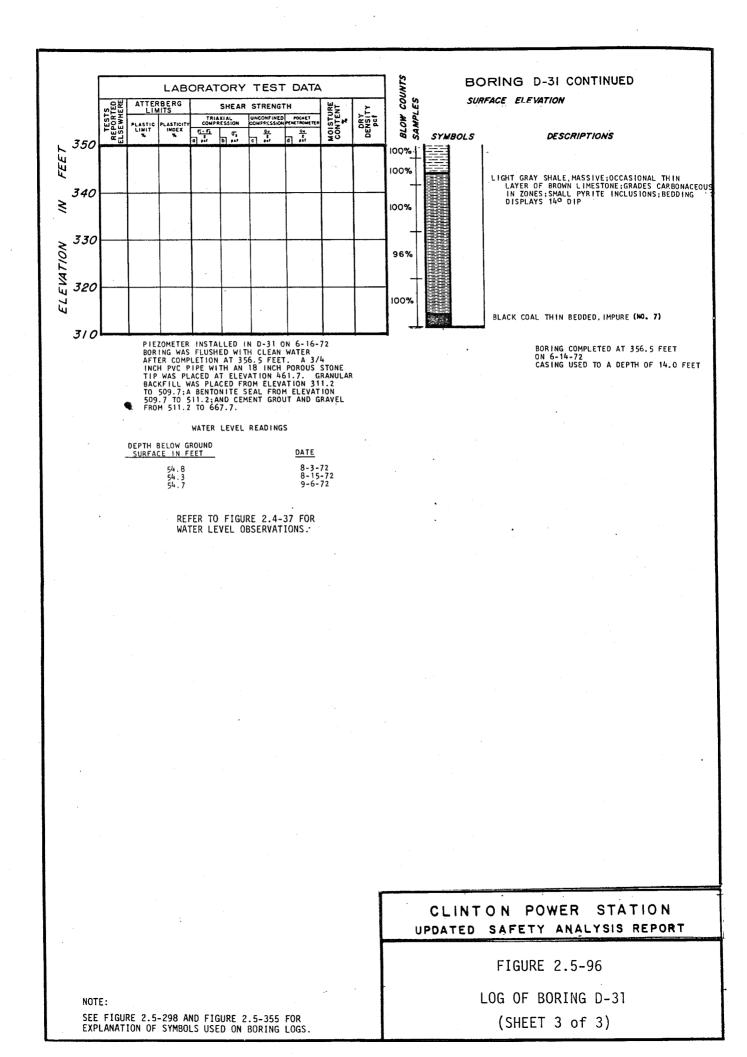
REFER TO FIGURE 2.4-37 FOR WATER LEVEL OBSERVATIONS.

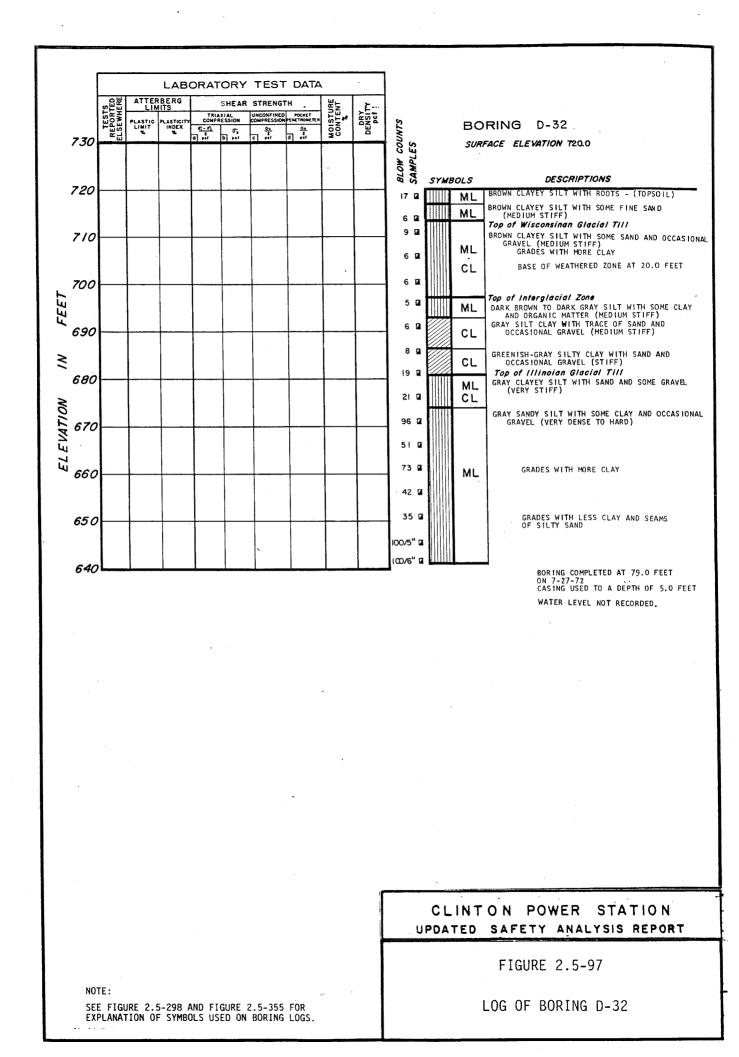
### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

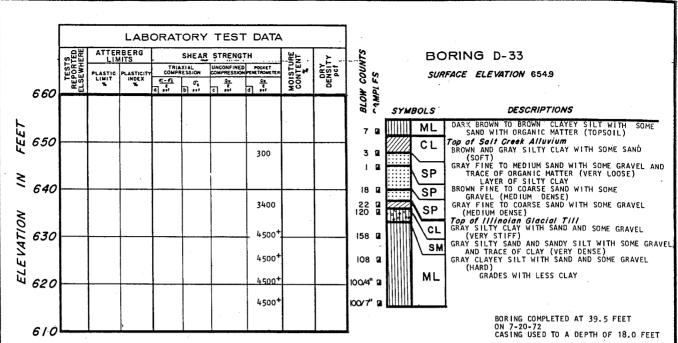
FIGURE 2.5-95











WATER LEVEL NOT RECORDED.

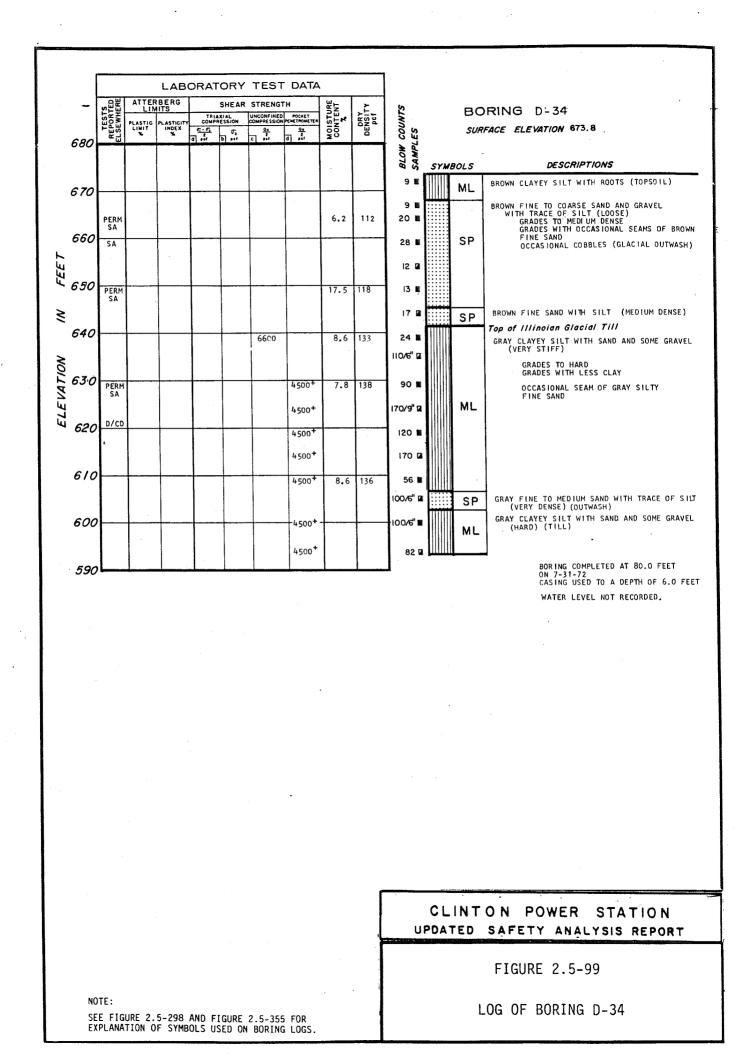
# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-98

LOG OF BORING D-33

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



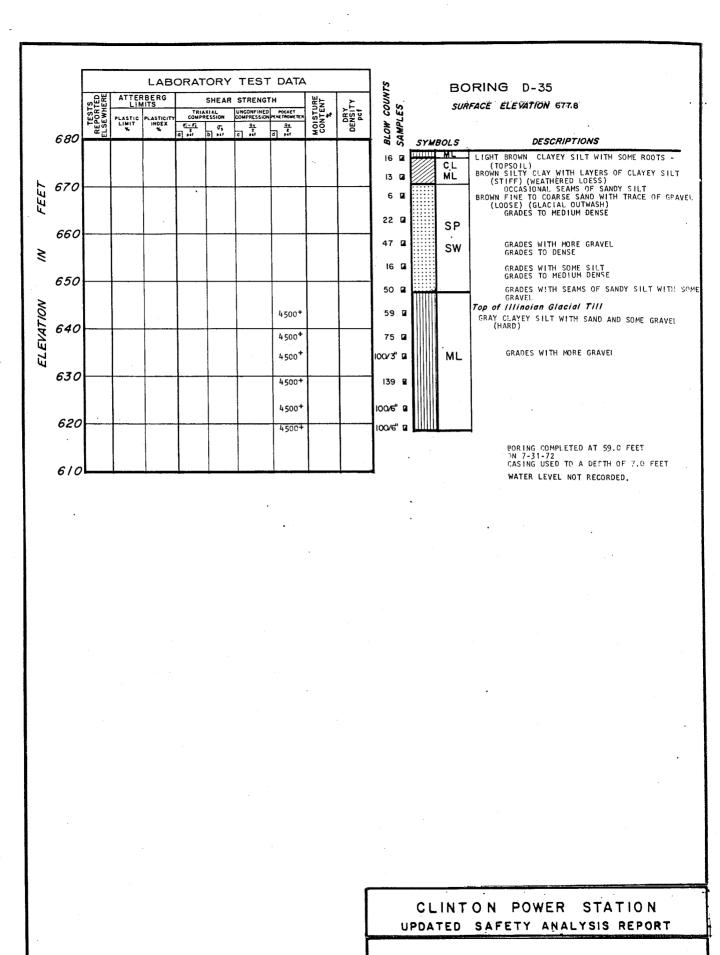


FIGURE 2.5-100

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

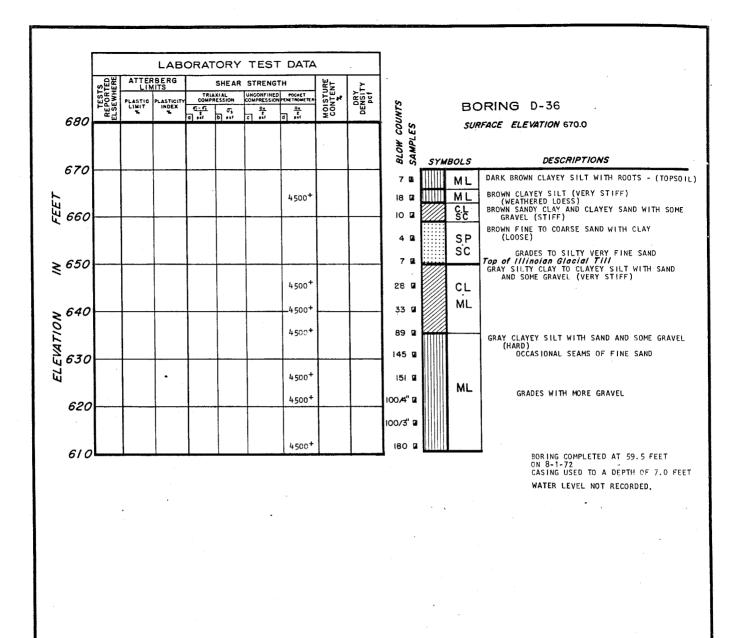


FIGURE 2.5-101

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

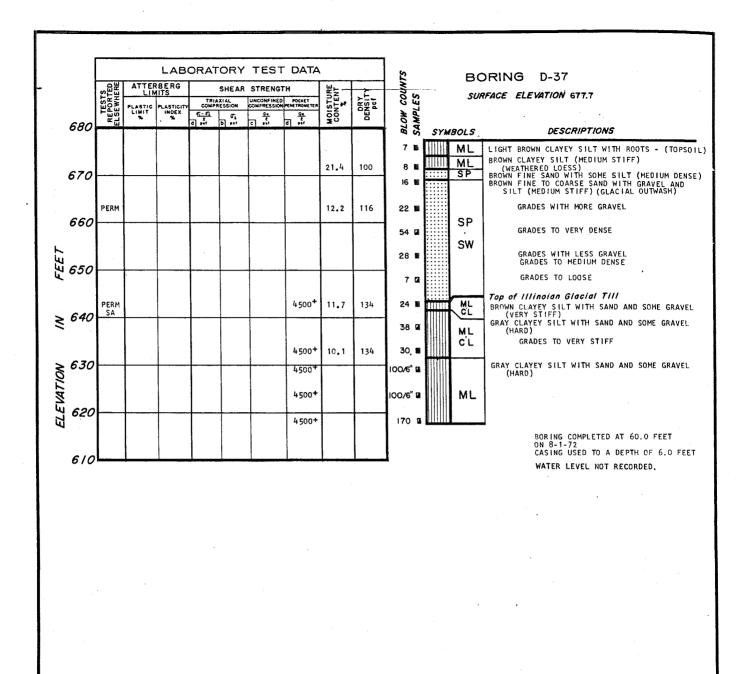


FIGURE 2.5-102

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

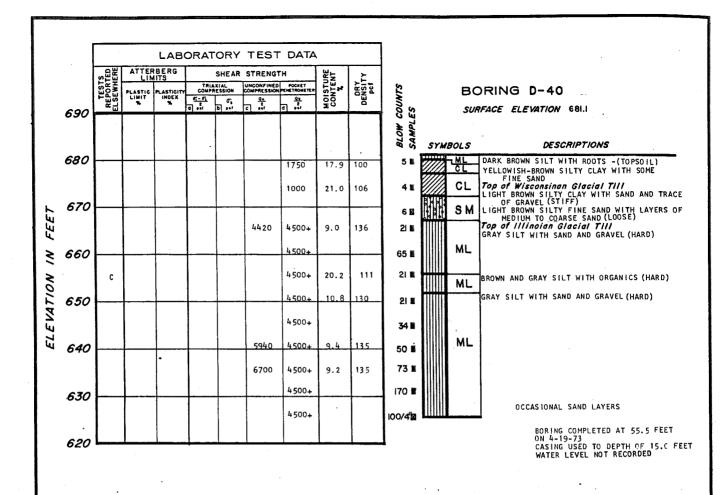
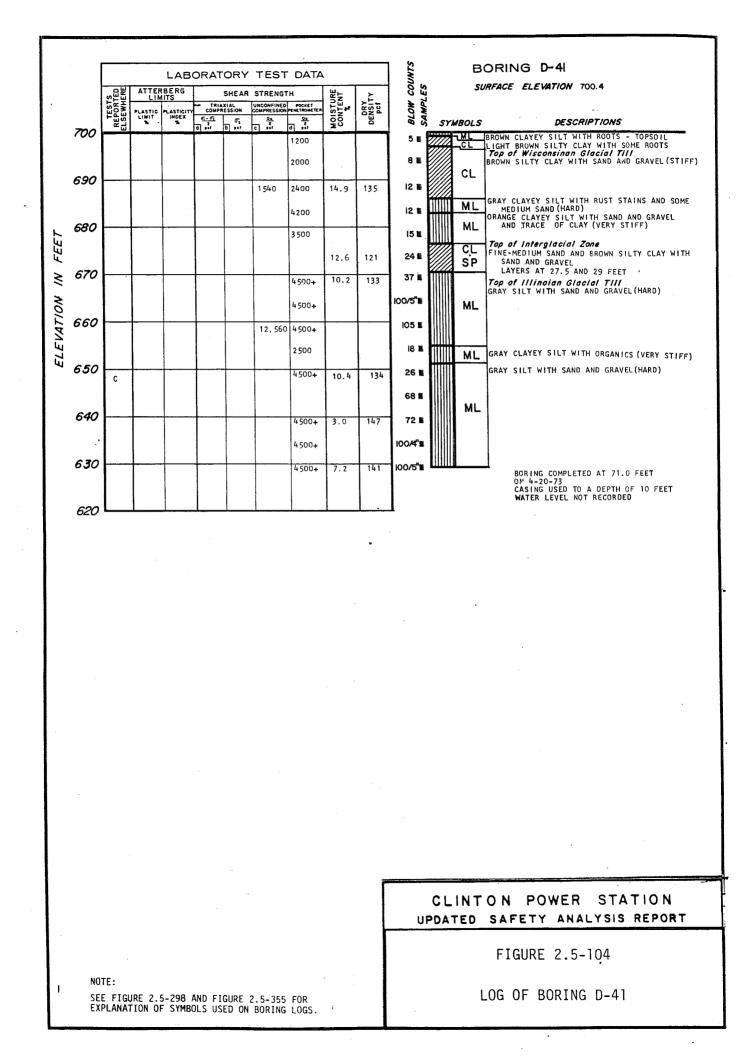
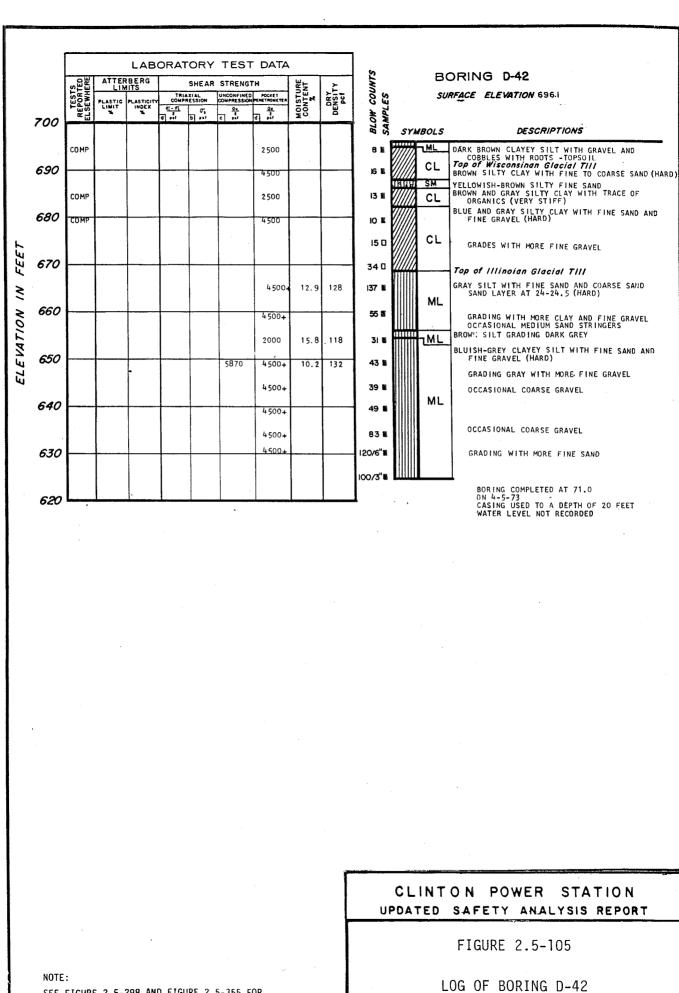


FIGURE 2.5-103

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.





SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

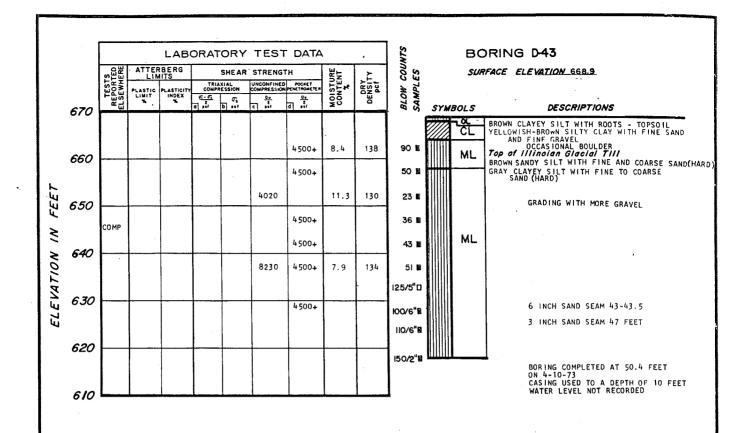


FIGURE 2.5-106

LOG OF BORING D-43

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

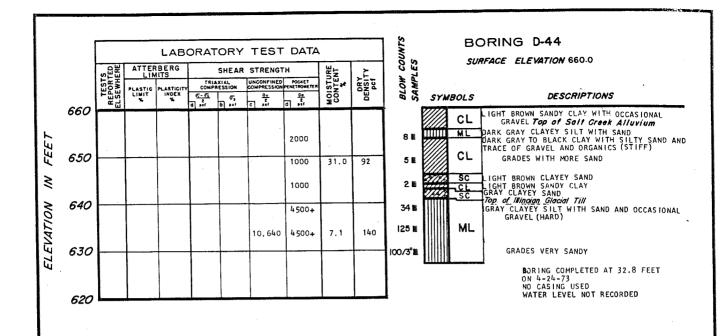
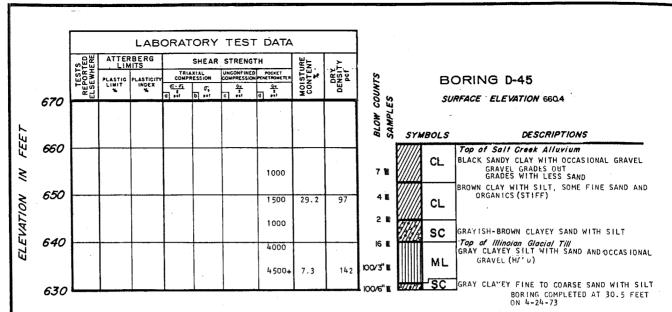


FIGURE 2.5-107

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

NOTE:

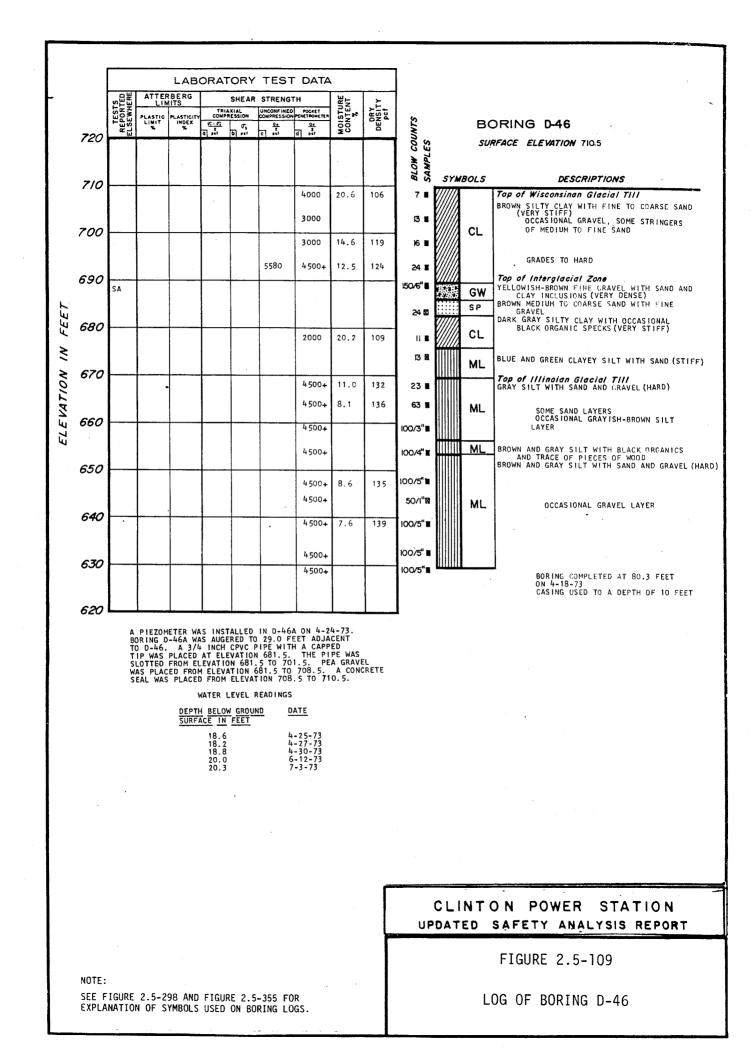


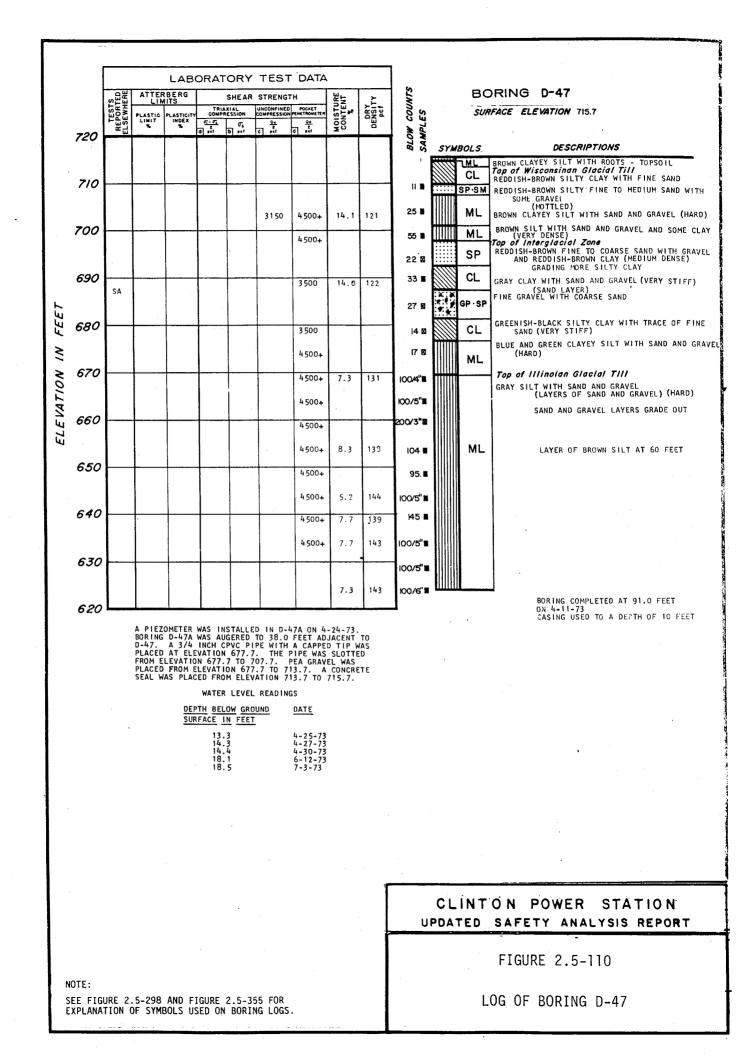
NO CASING USED WATER LEVEL NOT RECORDED

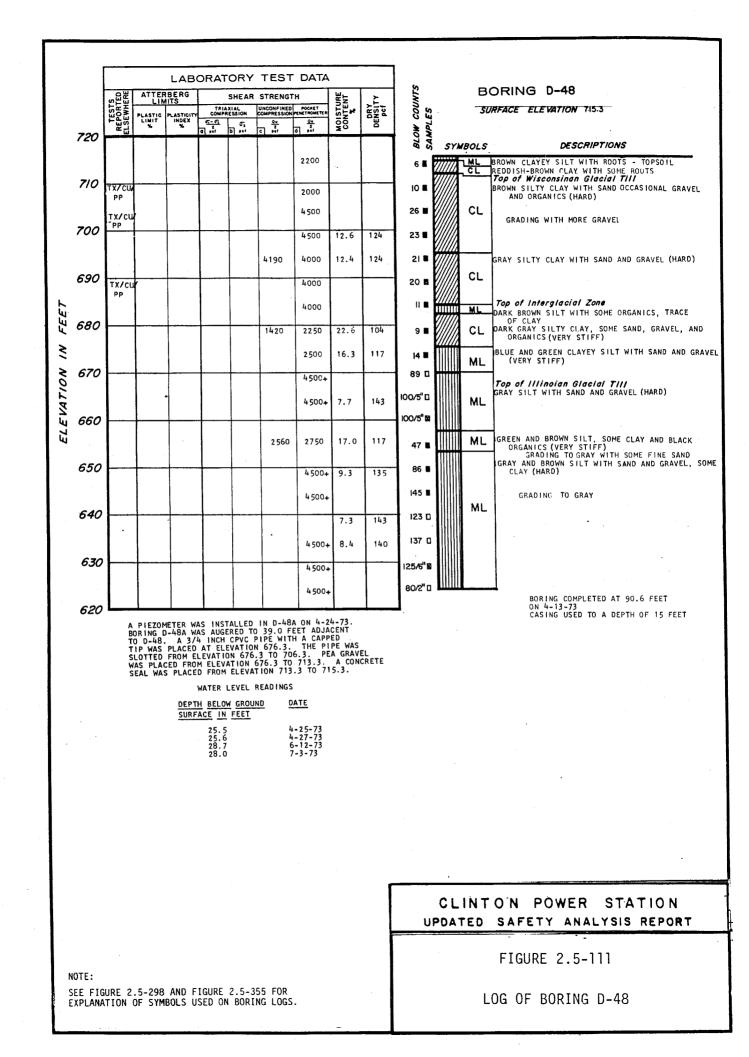
# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-108

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.







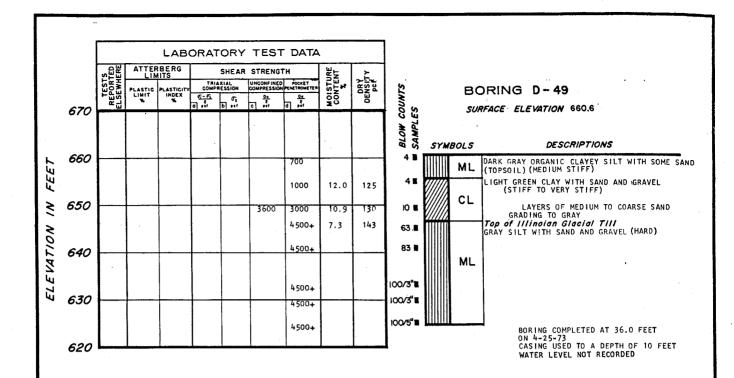
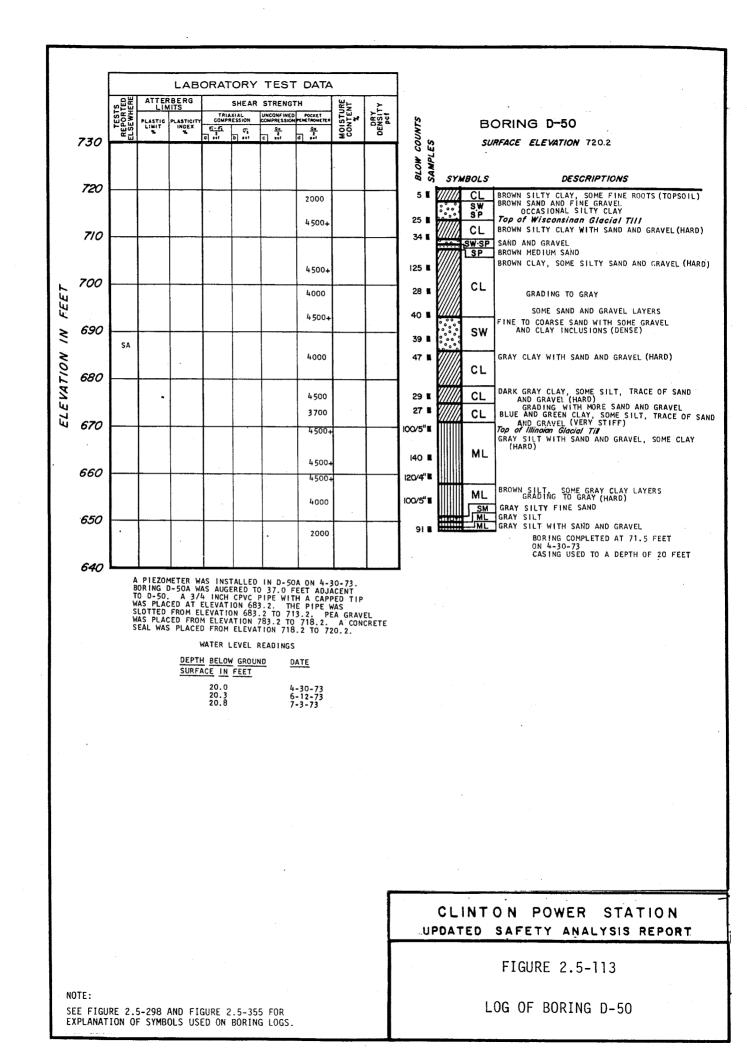


FIGURE 2.5-112

LOG OF BORING D-49

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

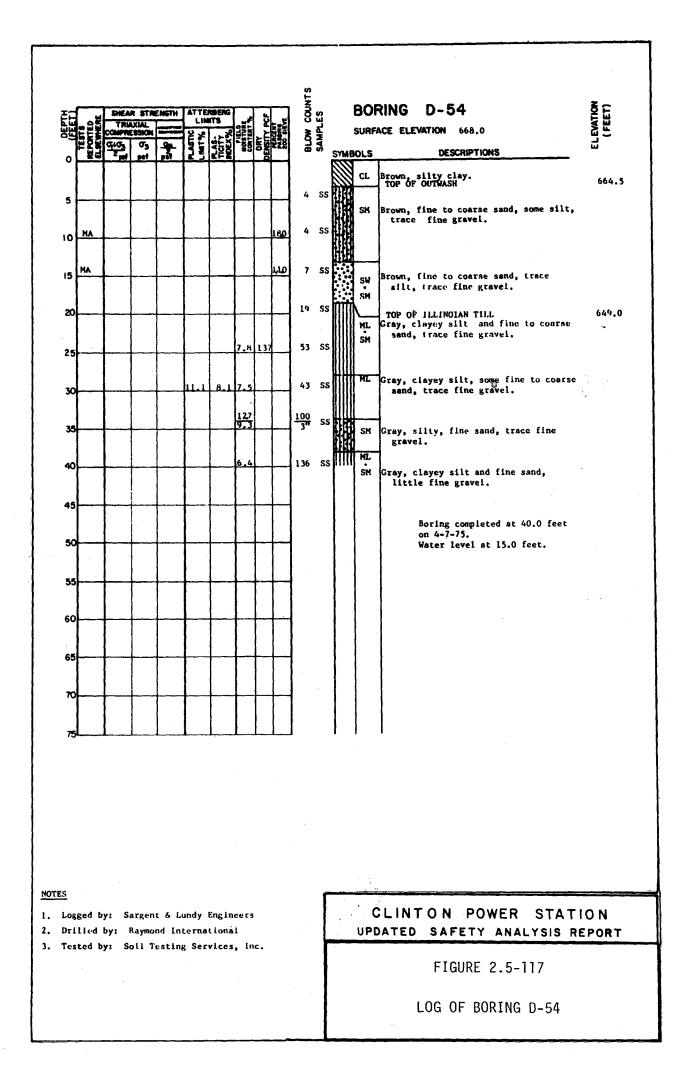
NOTE:

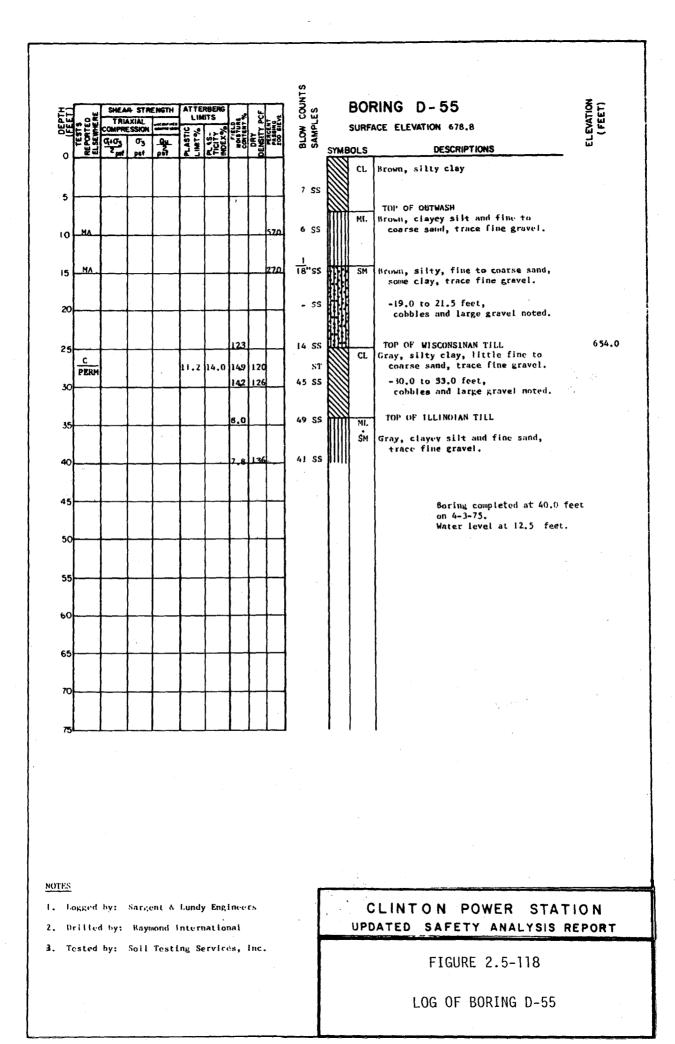


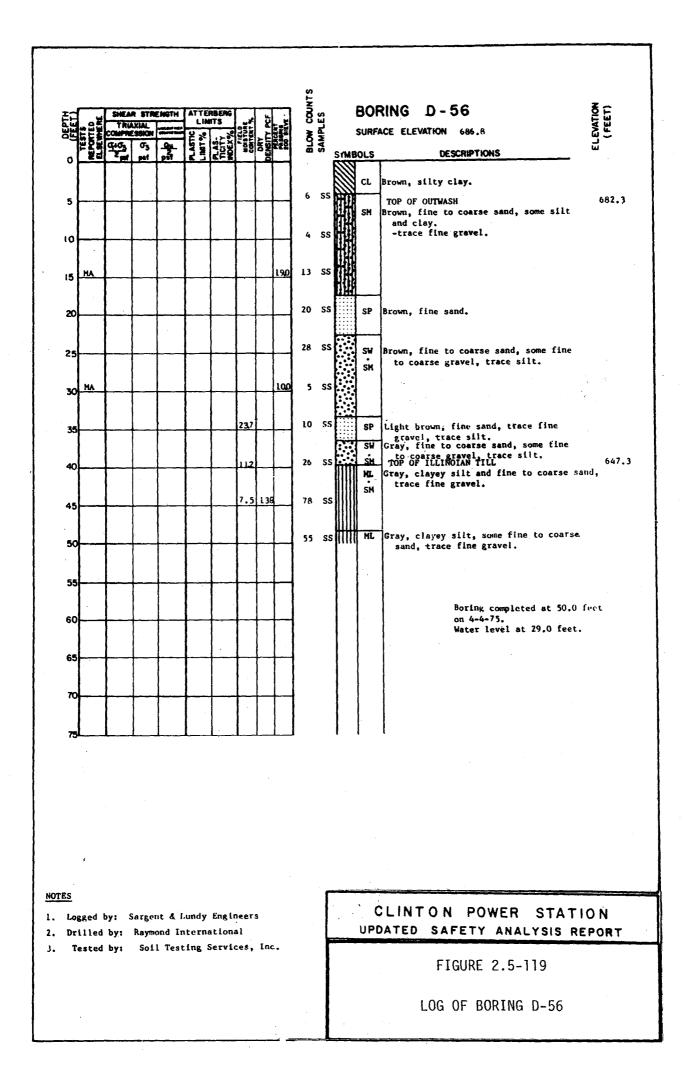
ĒÐ	س		A STR	ENGTH		RBENG UTS -				Ž	ŝ		BOI	RING D-51	EVATION
	ESTS ONTED		AXIAL ESSION		<b>—</b>	<u>.</u> 28	ALLO TOTAL	E E		Ę	SAMPLES		SURFACE ELEVATION 671.1	ACE ELEVATION 671.1	ELEVATION (FEET)
0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4405 1	03 paf	- Qu pat	PLASTIC Nut 9	A LOC			E 22	ā	S	SIM	OLS	DESCRIPTIONS	ш
Ĩ													CL	TOP OF LOESS	
5									$\square$	· ç	s s			Brown, silty clay. TOP OF OUTWASH	666
Ĩ					[							33	SC	Brown, clayey, fine to coarse sand,	
10	MA						4.8	<u> </u>	7.5	1	5 SS		SW	and clay, some fine to coarse gravel. Brown, fine to coarse sand and fine	
													SM	gravel, trace silt and clay.	
15	MA						3.8		6.0	24	4 SS		SP	Brown, fine to coarse sand, trace fine	
													SM	gravel, trace silt and clay.	
20							121			14	ss	hm		TOP OF ILLINOIAN TILL	651
													ML.	Gray, clayey silt, some fine to coarse sand, trace fine gravel.	
25					12.2	6.5	110	135		19	ə ss				
23					1									Boring completed at 39.0 feet on 4-8-75.	
30					<b></b>		8.7	137		3	5 SS			Water level at 17.0 feet.	1. B
30															
35					<u> </u>		6.2			3	5 SS			1	
~															
40					L		6.4	1.39		<u>12</u> 6	o ™ss				
45								L							
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50															
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Dril	i led 1	y: F	ayıno	nd In	terna	Liona	1				ļ		UP	DATED SAFETY ANALYSIS RE	POR
Test	ted by	ri 8	Soil 1	Testi	ng Se	rvice	s, 1	nc.						FIGURE 2.5-114	

		R STR	ENGTH	ATTE	RBERG				BLOW COUNTS	ŝ		BOI	RING D-52	ELEVATION (FEET)
	COMPR	LICIAL ESSION			<u>.</u>		Y P	Some Some	ð	SAMPLES		SURF	ACE ELEVATION 668.5	E E
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<u>44</u> 53	G3 pef	- 04 	PLASTIC LINIT%	Pict A	10	DENSI	255	6	SA	SYME	OLS	DESCRIPTIONS	ដ
												CL	TUP OF LOESS	sand
[									4	SS	33	GC	Brown, silty clay, trace fine to coarse TWP OF OUTWASH Brown, clayey, fine to coarse gravel.	666.0
				Γ						00		SW	Brown, fine to coarse sand, trace fine	ta
HA				1				120	24	<b>S</b> 5		SM	coarse gravel, trace silt.	
												ML	Cray, silt, some fine to coarse sand, Lrace fine gravel.	
				<u> </u>					2	SS		SW	Brown, fine to coarse sand, some fine	
				{								SM	gravel, trace silt. cobble; noted.	
									7	ss				
MA_	~					L		120	12	sł				
						[					liii		TOP OF LLENOIAN THE	642.
				11.0	8.3	8.4	140		54	SS		ML.	Gray, clayey silt, some fine to	
						Γ						CL	medium sand, trace fine gravel.	
MA						6.0	140		<u>100</u>	SS		SM		
HA.									-5"			ML	Gray, fine to coarse sand and clayey silt, trace fine gravel.	
						7.2			<u>100</u>	SS				
									4	•••				
				<b>]</b> .	· ·									
						1							Boring completed at 40.0 feet on 4-7-75.	
				Į									Water level at 8.5 feet.	
						1			ľ					
	· ·	•		ļ			ļ		ļ.					
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logged rilled							15			ŀ			ATED SAFETY ANALYSIS RE	
rilica ested							inc.			┢	. او رو است	570	TILU SAIGII MAALISIS RE	FUR
													FIGURE 2.5-115	
										1				
													LOG OF BORING D-52	

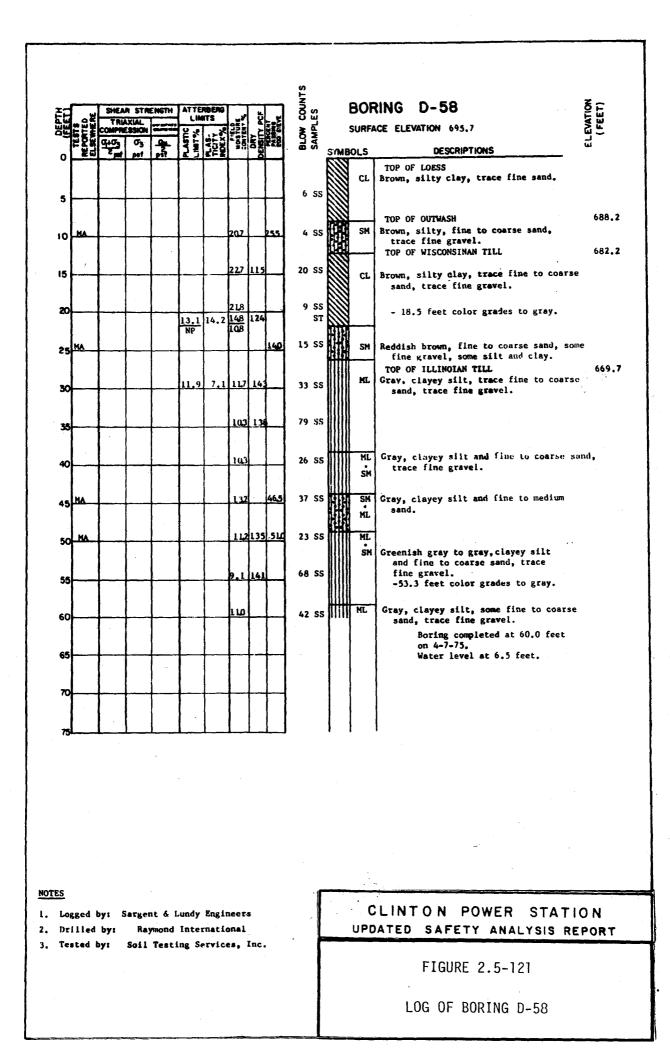
E	ų	_	R STR	ENGTH	ATTE	RBERG		<b>1</b> 1	7	BLOW COUNTS	ES		BOF	RING D-53	ELEVATION (FEET)
DEP	EST8 DATEC DATEC		ESSION		1		CONTENT		<b>T</b>	đ	L'AN		SURF	ACE ELEVATION 672.1	
o	E 2 4	15	03 per	PST PST	LEAN A	ALAS TOCT	88	28	22	ē	3	SYMB	OLS	DESCRIPTIONS	- -
													CL	Brown, silty clay.	
5					<b> </b>					6	SS			TOP OF OUTWASH	66
										57			SM	Brown, fine to coarse sand, some fine to coarse grave!, trace silt clay.	and
10	MA			<u> </u>	╂──	{		#	إعد	57	22			Clay.	
	MA								30	55	SS				
15									7						
20				<b> </b> .	<b> </b>	<b> </b>				24	ss		HL	Gray, silt, some fine to coarse sand	۱.
													SW SM	Gray, fine to coarse sand, some	
25	MA		<u></u>		╂			┝╌╢	90	14	<b>S</b> S		94	fine to coarse gravel.	
:												ΠĪ	N1	TOP OF ILLINOIAN TILL Gray, clayey silt and fine to coarse	6 sand
30				<u> </u>	+		2.4	┝╌╊	$\dashv$	52	SS		ML SM	trace fine gravel.	
	мл			ļ	1	6	9) 3		500	77	<b>SS</b>			Boring completed at 39.0 fe	et
35					1	[4								on 4-2-75. Water level at 17.5 feet.	
40					L	ļ				<u>100</u> 5"	<b>S</b> S				
-						1				7					
45	<b> </b>							$\left  - \right $							
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50			┠	<u> </u>	╂──	<u> </u>	┢─	┝╶╉	_						
55				<b> </b>	1		T	$\square$							
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OTES											٢				
		by: S dby:												LINTON POWER STA	
		a by: by: S									F		UPC	DATED SAFETY ANALYSIS	REPO
														FIGURE 2.5-116	

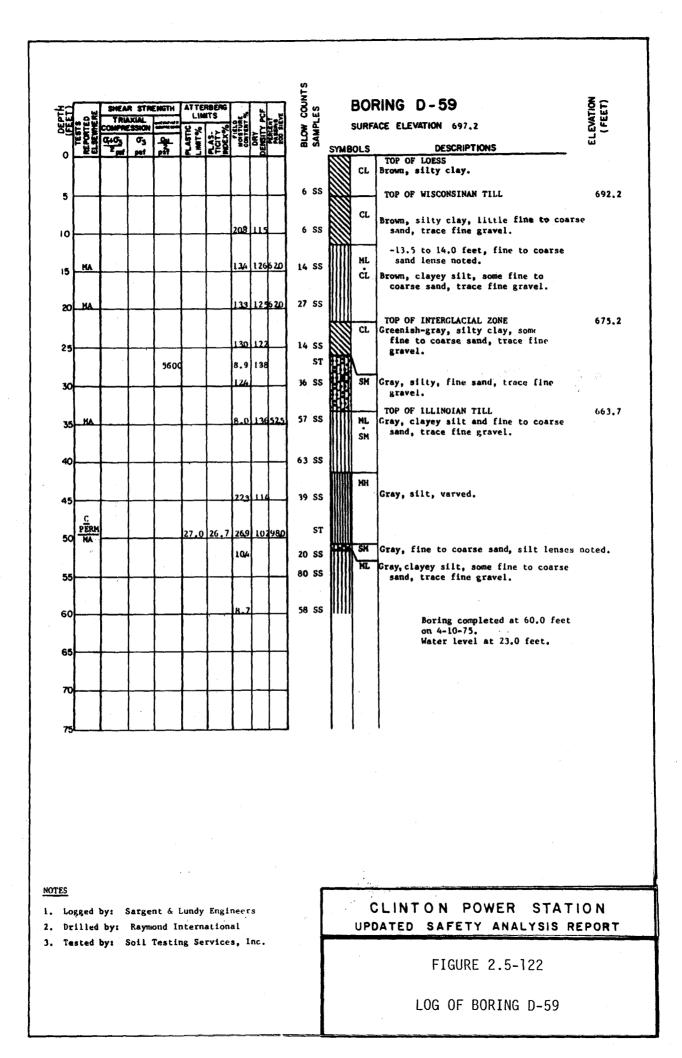


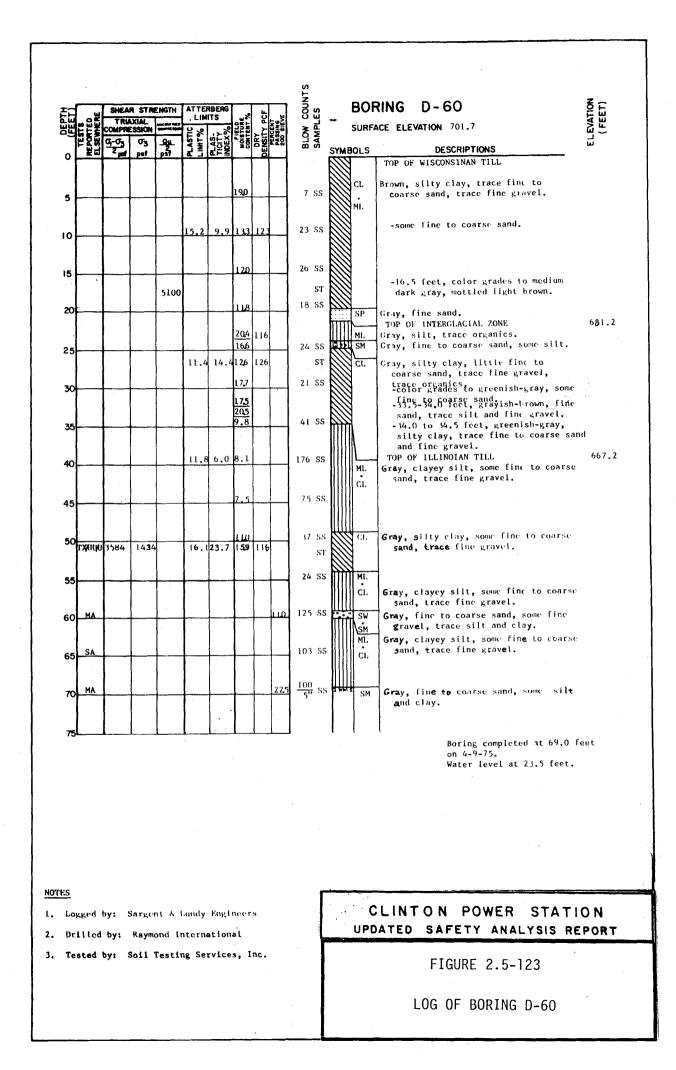




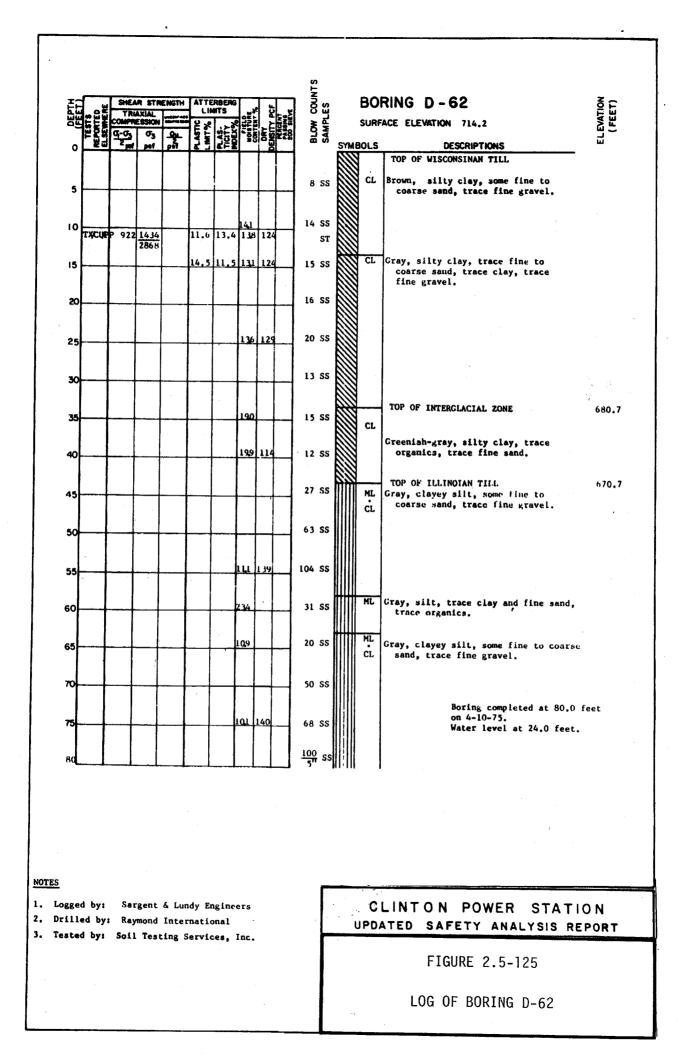
Ē			AR STR	RENGTH		ERBERG MITS		1 2			E S		I	BO	RING D-57	ET)
26	TEST PORTE	COMPR CL+O3			PLASTIC LINNT%	PLAS- TICITY NDEX%	FIELD MOISTUR	DRY WSITY	PERCEN PASSING 200 SIE	Ň	SAMPLES				ACE ELEVATION 694.0	ELEVATION (FEET)
0	20	2 per	pat	<u>  p57</u>	┟╣┋	₫₽₩	+					SY1	NB NB	OLS	DESCRIPTIONS	w
5							236				5 S	s 🗎	Ï	CL	Brown, silty clay, trace fine to coarse sand.	
5															TOP OF WISCONSINAN TILL	687.
10		<b> </b>	-	+	+	<u>+</u>	229	┟──		:	25	s	111	ML	Brown, clayey silt, trace fine to coarse sand.	
15	<b>-</b>						127	124		21	ls	\$		<b>CL</b>	-some fine to coarse sand, trace fine gravel.	
20				ļ	<b>_</b>	<u> </u>	<b> </b>	┟──┤		52	25	sЩ	ļ	SW	Brown, fine to coarse sand, some fine	
													-1	SM	to coarse gravel, trace silt.	
25	<u>MA</u>		• •						5-0	29	<b>)</b>	s		<u> </u>	-26.0 to 27.0 feet, cobbles and large gravel noted.	
30				<u> </u>	12.6	8.2	7.9	135		69	) s	s		ML	TOP OF ILLINOIAN TILL Gray, clayey silt, some fine to coarse sand, trace fine gravel.	
							7.1	127		79	) S	s			sondy crace line glavel.	
35												H			-37.0 feet, cobbles noted.	
10								$\square$	_	54	+ S	s		ML. SM		
	MA			·. ·			149		525	25	jS	s		-	Gray, cloyey slit and fine to medium sound.	
45																
50	MA	·					8.4	140	47.5	58	3 S:			•	Gray, clayey silt and fine to coarse sand, trace fine gravel.	
55							7.0			95	i S			ML	Boring completed at 60.0 feet	
														-	on 4-8-75. Water level at 12.5 feet.	•
60-				• •	·			-	$\neg$	80	) S		1			
65								$\square$								
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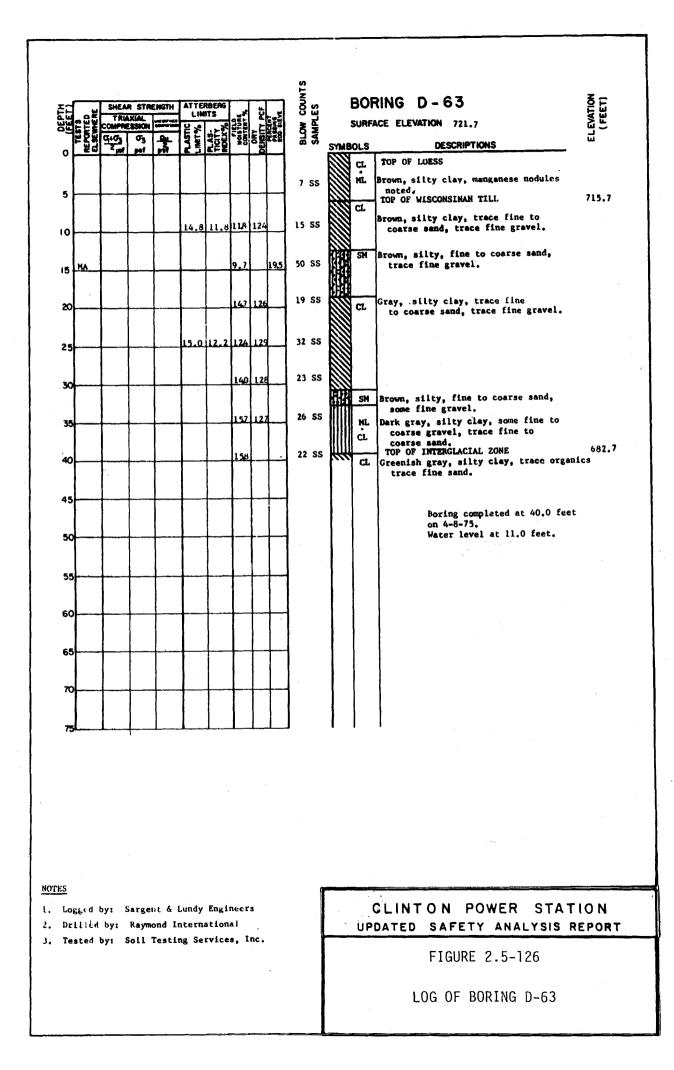


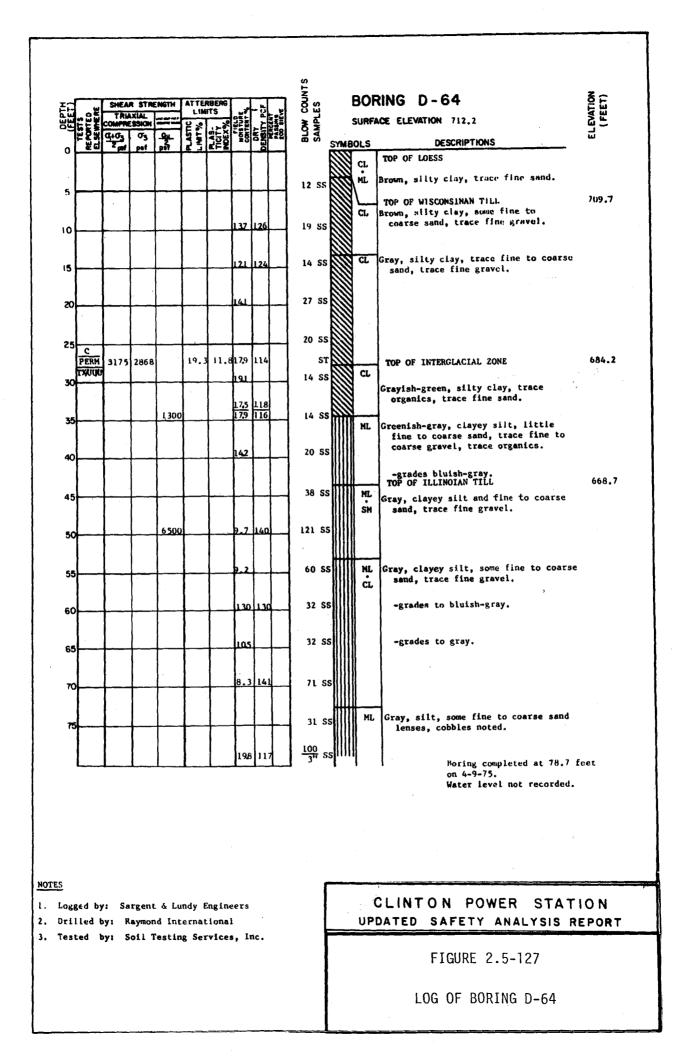


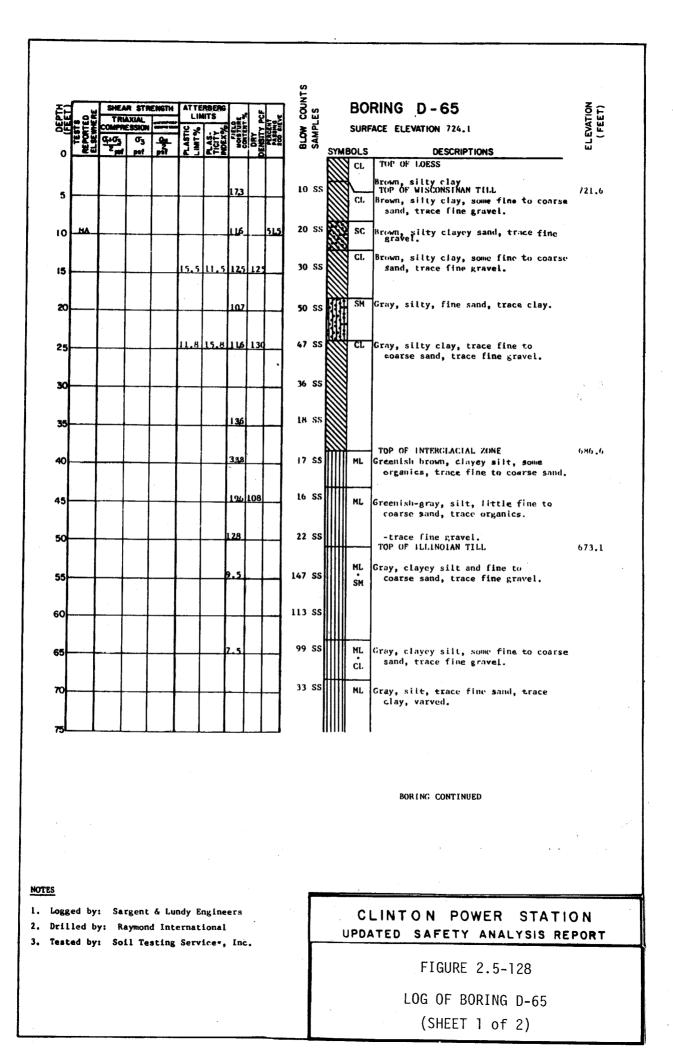


~		Char A	R STRE	MGTH	ATTE	RBERG		<b>_</b> .1		BLOW COUNTS	ю		1	BOF	NING D-61	ELEVATION (FEET)
Ξ.	• B¥		XIAL I		LIM	ITS	بر عدد	Y PCF	E : Ě	Ŭ ¥	Ĩ				CE ELEVATION 708.6	FEE
Ĩ		<u>ዋ</u> ሜ	σ3	<u>04</u> 21	PLASTIC	PLAS- TICITY NDEX%	PIN CONTE	N L	228 228	BLO	SAM	~~		OLS	DESCRIPTIONS	
∘⊦	发고	- <sup>2</sup> #	pat	pst	12 3	KFZ		ā	-				N		TOP OF WISCONSINAN TILL	
													3		TOP OF WISCONSTANT FIRE	
₅⊦					<b> </b>		178			10	SS			CL	Reddish brown, silty clay, some fine to coarse sand, trace fine gravel.	
					<b> </b>		128	126		13	ss				Braver,	
													ÌÌ	SM	Brown, silty, fine to coarse sand,	
5							124			31	SS			CL	trace fine gravel. Brown, silty clay, trace fine to	
															coarse sand, trace fine gravel.	
20							149	125		17	SS	Ï	Ï	CL	Gray, silty clay, some fine to coarse sand, trace fine gravel.	
															Saud, frace time graver.	
25		4199	1/3/			14.4	126	176		19	S		3			
ľ	uyuqu	4199	14 34		1	<sup>,</sup>					SI	ĥ			TOP OF INTERGLACIAL ZONE	6 <b>80.</b> (
30				·	<b> </b>	<u> </u>	210			10	SS ST			ML	Dark gray, silt, little fine to coarse sand.	
ľ	PERM	2151	2868		17.3	24.7	193	110			3	1		CL	Greenish-gray, silty clay, some	
35						┼──	197			14	S	5			organics. -organics grade out.	
															-grades to some fine to coarse	
40f					<del> </del>		129	1.37		29	S	⁵┣	ÌÌ	<u></u>	sand, trace fine gravel. TOP OF ILLINOIAN TILL	669.
							1				_			ni. Sm	Gray, clayey silt and fine to coarse sand, trace fine gravel.	
45					╂──		8.8	132		81	S	s				
											_					
50					╂──		9.1	-		100	) 5.	s				
							1	1.			) S	₋₩	Щ			
55					┼──	<del> </del>	28.2	┝╴		<b>*</b>	, 3	°		ML	Gray, silt.	
							<b>.</b> .,	13		27	s	sH	₩	ML	Gray, clayey silt, some fine to coarse	
60		<u> </u>			1	1	1				-			cL	sand, trace fine gravel.	
							8.8			67	7 S	s			Boring completed at 70.0 fect	
6 <b>5</b>							Γ	Γ	<b> </b>	1					on 4-11-75. Water level at 11.0 feet.	
							8.2			7	7 S	s		}		
70						-	1	Γ	Γ	]						
754		<b>_</b>	1	<b>.</b>					- <b>1</b>	-		-		•		
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-		-			Lundy niero			5							DATED SAFETY ANALYSIS RE	
		-	•		niero ng Se			nc,						<u>.</u>	DATED ONTETT NUMETOIS RE	
-		-													FIGURE 2.5-124	



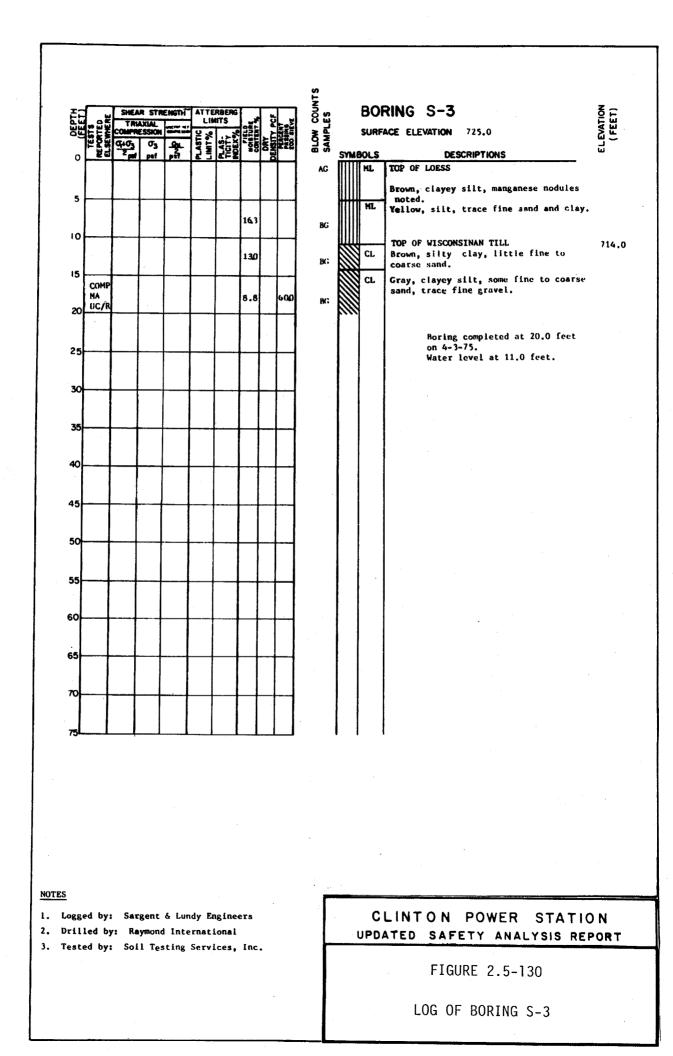


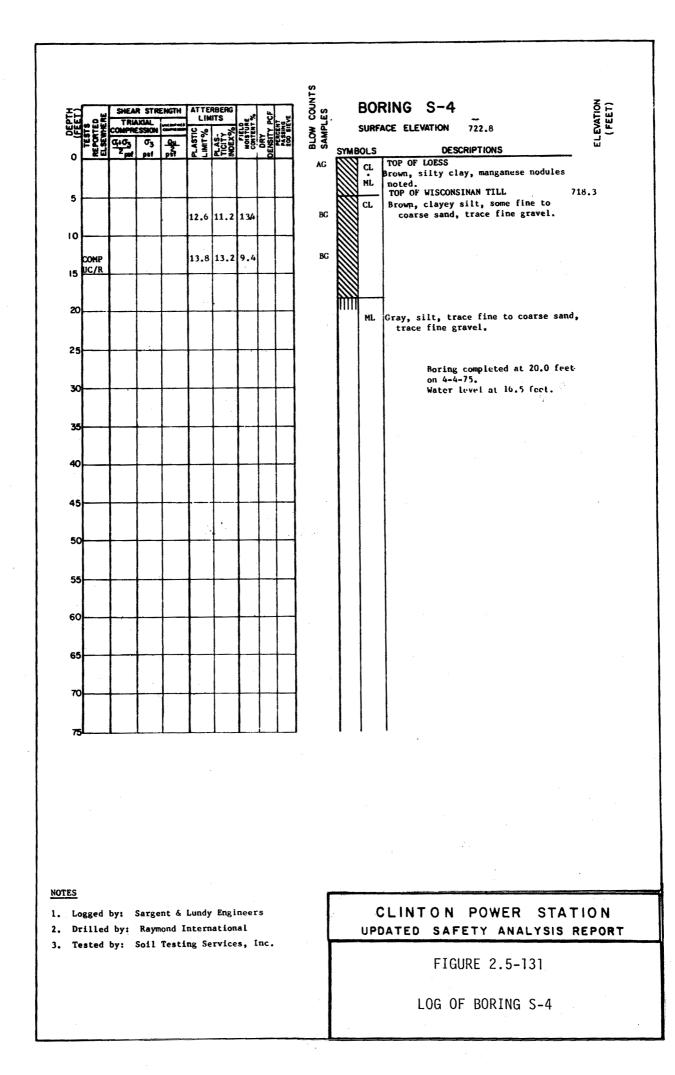


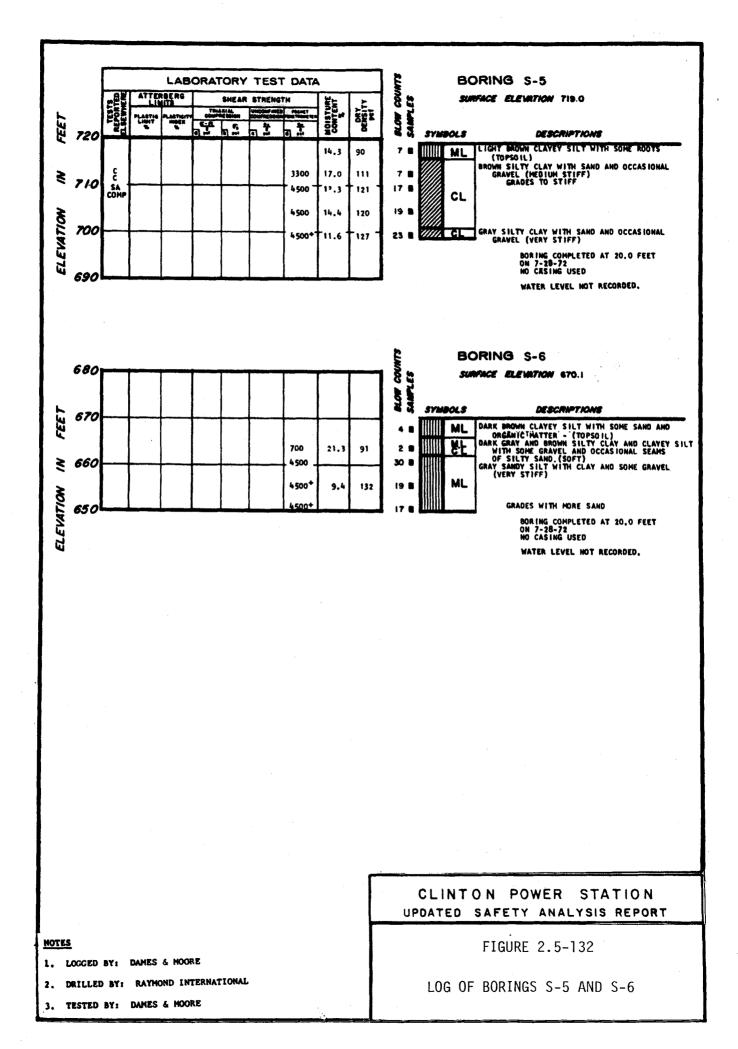


H			AXIAL	ENGTH	ATTE	RBEAG	ي.	L L		<u></u>	ы S S S S S S		BOI	ING D-65 (0	;ont.)	ET OF
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														-73.5 to 78.5 feet medium sand lense	, fine to s, trace clay.	
75	<u> </u>			<b> </b>		<u>†                                    </u>	167			31	SS					
80										95	SS		ML	Gray, clayey silt, s	ome fine to	
													ĊL	coarse sand, trace		
85						<b> </b>	8.2			145	SS			×		
										<u>100</u> 5"						
90										-5"	55					
95							8.2	ш		215	SS					
00								_		265	SS			Boring	completed at 100	.0 feet
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	led b							•					UPD	TED SAFETY	ANALYSIS F	EPORT
:st	ed by	. 50	LL LC	at 1 ng	36LA	.ces,	inc	•						FIGURE	2 5 120	
														i ruone.	2. 3-120	

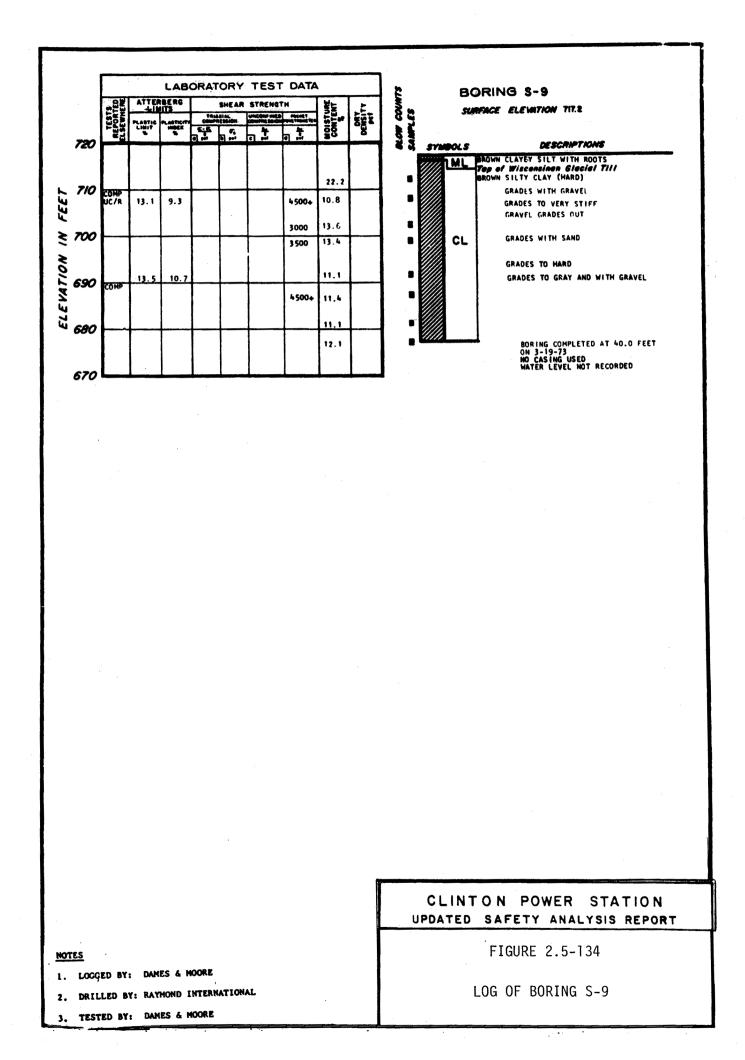
Commerssion       Surface Elevation 704.9         Commerssion       State         Grog       Grog         Grog       Grog         Triatial       State         Grog       Grog	_ <u>w</u>		A STR	ENGTH		RØERG HTS		1		BORING S-2	
A       12.3       21.5       105       AG       CL       Grayish brown, silty clay (topsoil). TOP OF WISCONSINAN TILL         A       14.5       14.5       120       680       BG       CL       Brown, clayey silt, some fine to coarse sand, trace fine gravel.         A       14.6       178       BG       CL       Brown, clayey silt, some fine to coarse sand.         B       13.4       14.8       178       BG       BG       16.0 feet, color grades to gray, trace fine gravel.         B       B       B       B       B       B       B       B         B       B       B       B       B       B       B       B       B         B       <				===	-				Ser CERT	SURFACE ELEVATION 704.9	
AGCLGrayish brown, silty clay (topsoil). TOP OF WISCONSINAN TILL Reddish brown, silty clay, trace fine to coarse sand, trace fine gravel.A14.514.5120680PGCLBrown, clayey silt, some fine to coarse sand.I3.414.8178PGIf eet, color grades to gray, trace fine gravel.BGBORING completed at 20.0 feet on 4-3-75.		4.03		<u>- 04</u> - 3	IS F	LAS NOEX	100	<b>S</b> S	<b>H</b> äs	SYMBOLS DESCRIPTIONS	
12.3       21.5       105       BC       TOP OF WISCONSINAN TILL         A       14.5       14.5       120       680       BC       CL       Reddish brown, silty clay, trace fine to coarse sand, trace fine gravel.         BC       CL       Brown, clayey silt, some fine to coarse sand.         I3.4       14.8       178       BC       I6.0 feet, color grades to gray, trace fine gravel.         BC       BC       BC       BC       BC       I6.0 feet, color grades to gray, trace fine gravel.	E U		Par_	pst	┝┻╶╛			┝╸	Н		
A       14.5       14.5       120       680       pG       CL       Brown, clayey silt, some fine to coarse sand.         I       III.4       II										TOP OF WISCONSINAN TILL	
BG Boring completed at 20.0 feet on 4-3-75.					12.3	21.5	105	1	$\vdash$	to coarse sand, trace fine gravel.	le
BG Boring completed at 20.0 feet on 4-3-75.	MA				14.5	14.5	120		680	CL Brown, clayey silt, some fine to	
13.4 14.8 17.8 BG fine gravel. Boring completed at 20.0 feet on 4-3-75.		ļ				ļ			$\left  - \right $		
13.4 14.8 17.8 BG fine gravel. Boring completed at 20.0 feet on 4-3-75.											
13.4 14.8 17.8 BG fine gravel. Boring completed at 20.0 feet on 4-3-75.		<b></b>	<u> </u>	<b> </b>	ļ,	ļ		<b> </b>			
Boring completed at 20.0 feet on 4-3-75.					13.4	14.8	178				ace
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on 4=3-75.					İ.						
Water level not recorded.										on 4-3-75.	eet
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cd by: Sargent & Lundy Engineers CLINTON POWER STATI								Inc		UPDATED SAFETY ANALYSIS	RE
ced by: Sargent & Lundy Engineers Lied by: Raymond International UPDATED SAFETY ANALYSIS RE		-1.		- 23 6			~,	•• •	-	FIGURE 2.5-129	

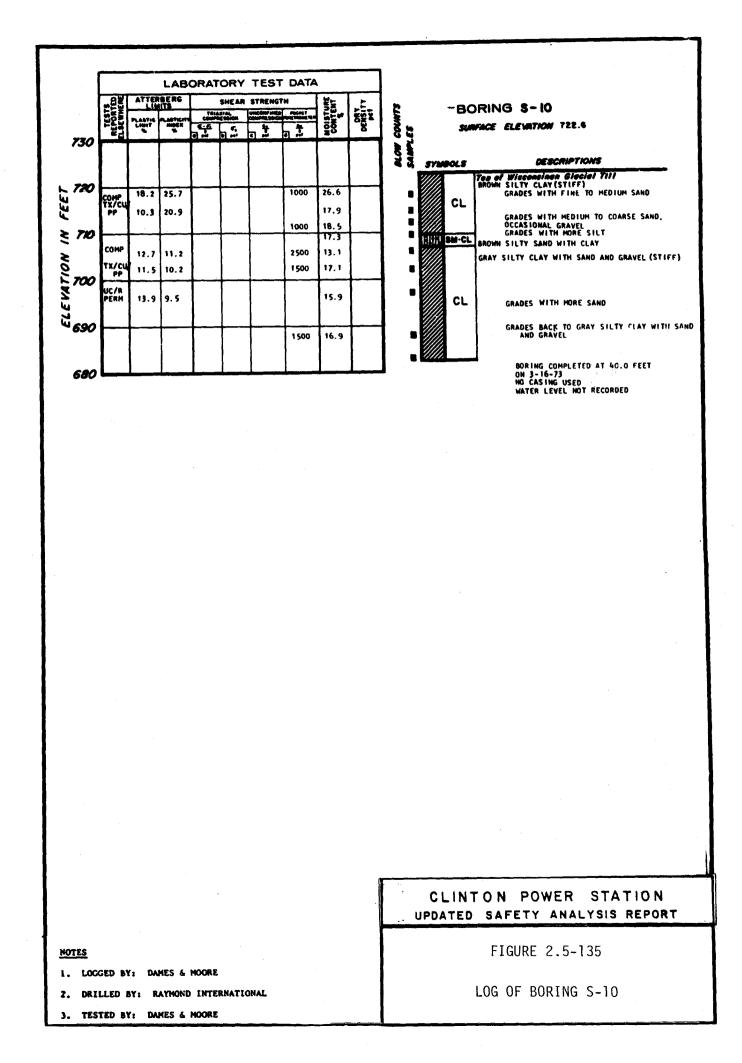


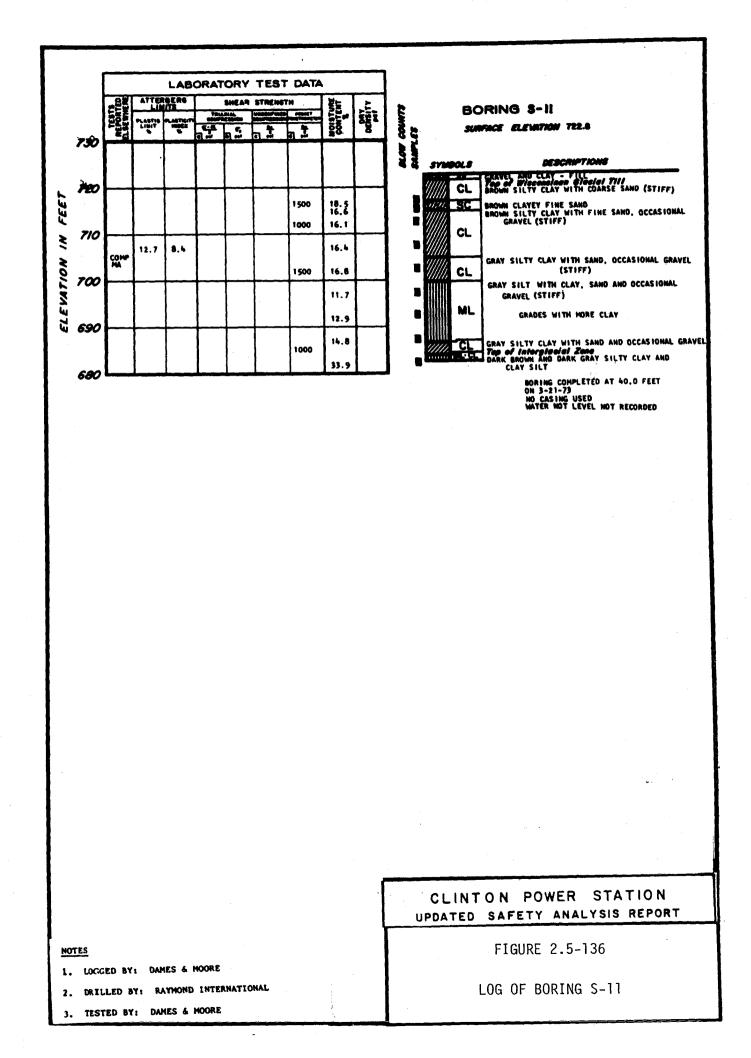


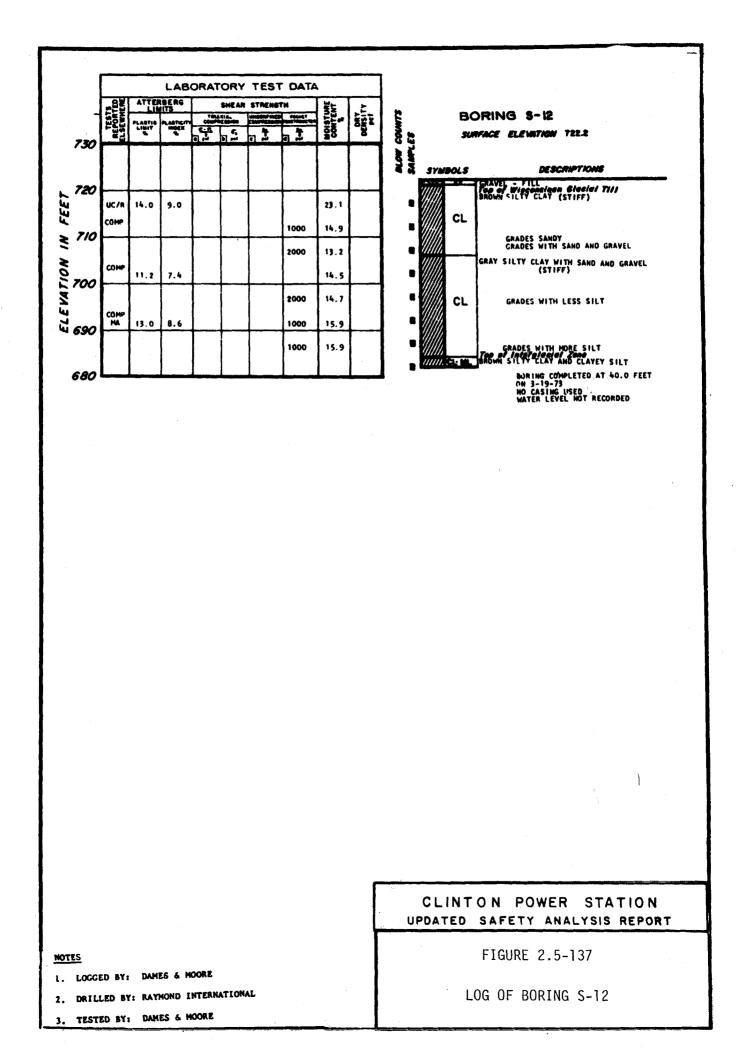


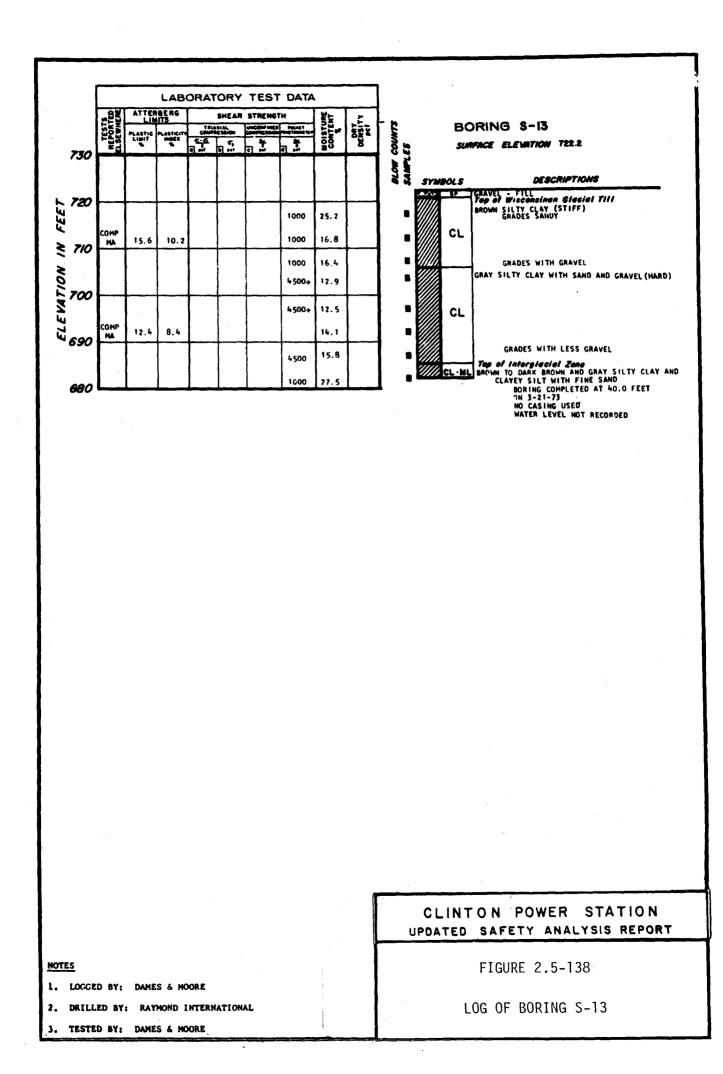
BLOW COUNTS SAMPLES ELEVATION (FEET) **BORING S-8** ATTERBER TRIAXIAL GUY CHARACSION CONTRESSION TRIAXIAL TRIAXIAL TRIAXIAL TRIAXIAL CONTRESSION TRIAXIAL TRIAXIAL TRIAXIAL TRIAXIAL O TRIAXIAL TRIAXIAL O TRIAXIAL TRIAXIAL O TRIAXIAL TRIAXIA TRIAXIAL SHEAR STRENGTH ž SURFACE ELEVATION 733.8 PLASTIC LINIT % PLAS-TICITY NOEX % DRY 4 DESCRIPTIONS SYMBOLS CL ML TOP OF LOESS Brown, silty clay, manganese nodules noted. BG 14 5 TOP OF WISCONSINAN TILL 731.3 Brown, clayey silt, little fine to coarse sand, trace fine gravel. CL COMP 12.8 10.0 109 BC: PERM 6.0 feet, some fine to coarse sand. 10 11.0 feet, color grades to gray. BG 10.9 15 COMP PERM BG Boring completed at 20.0 feet on 4-2-75. UC/R 25.5 12.7 105 20 Water level at 18.5 feet. 25 30 35 40 45 50 55 60 65 70 1.192.1.19 NOTES 1. Logged by: Sargent & Lundy Engineers CLINTON POWER STATION 2. Drilled by: Raymond International UPDATED SAFETY ANALYSIS REPORT 3. Tested by: Soil Testing Services, Inc. FIGURE 2.5-133 LOG OF BORING S-8

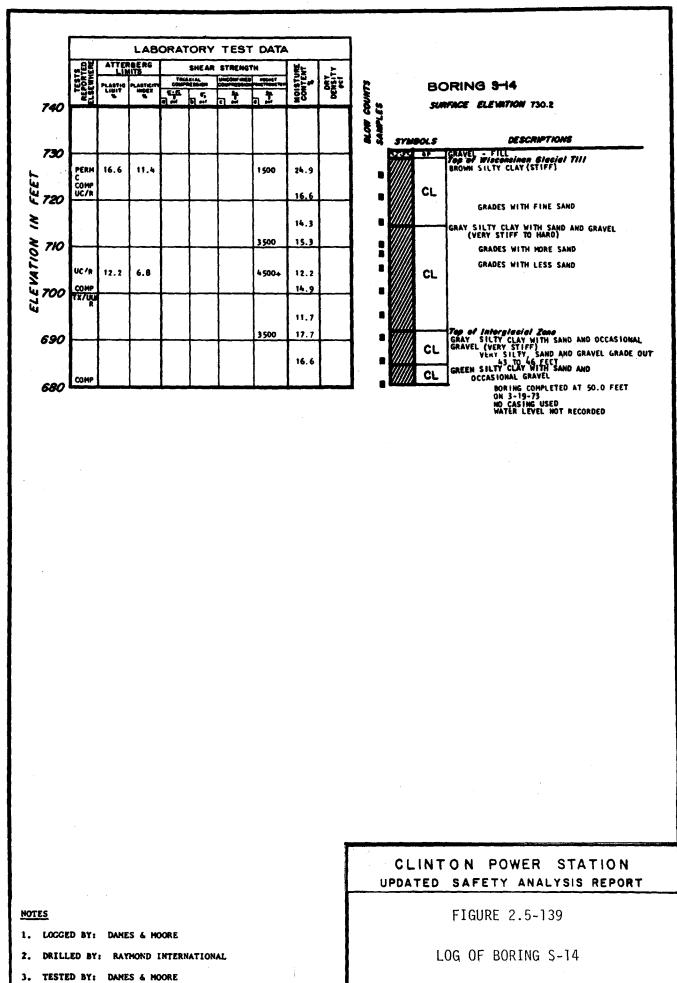




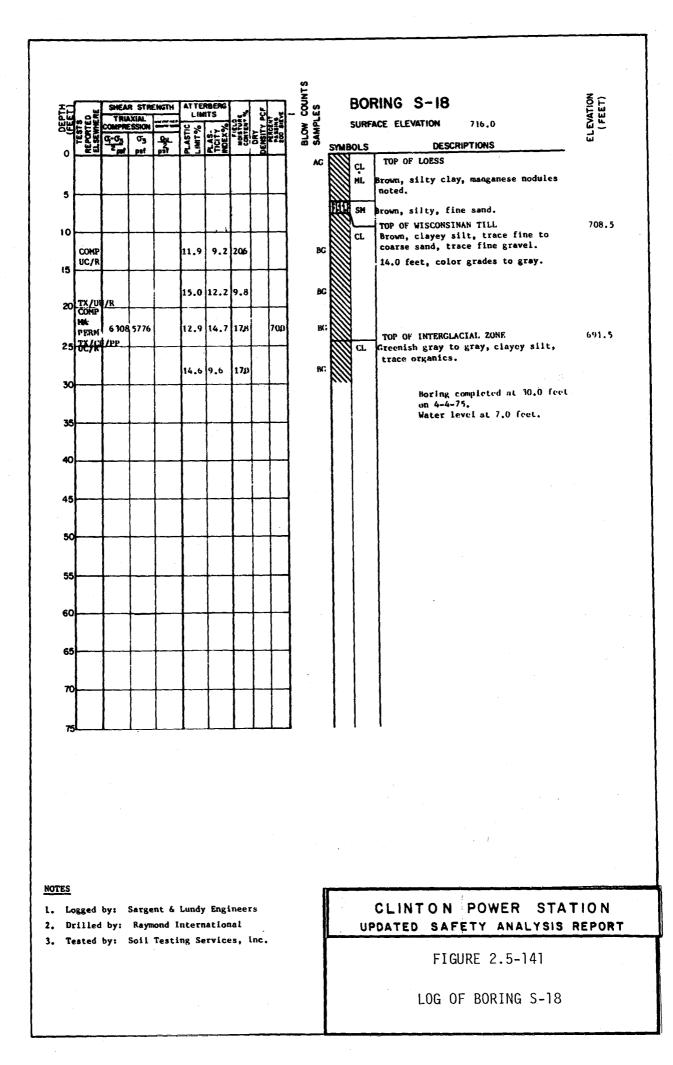




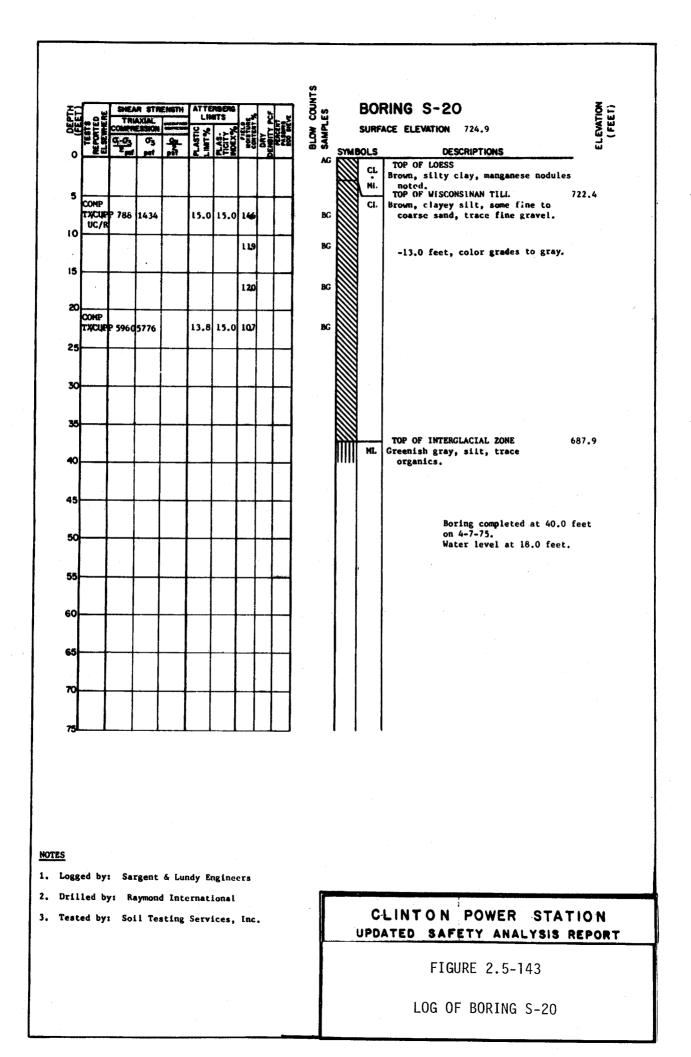


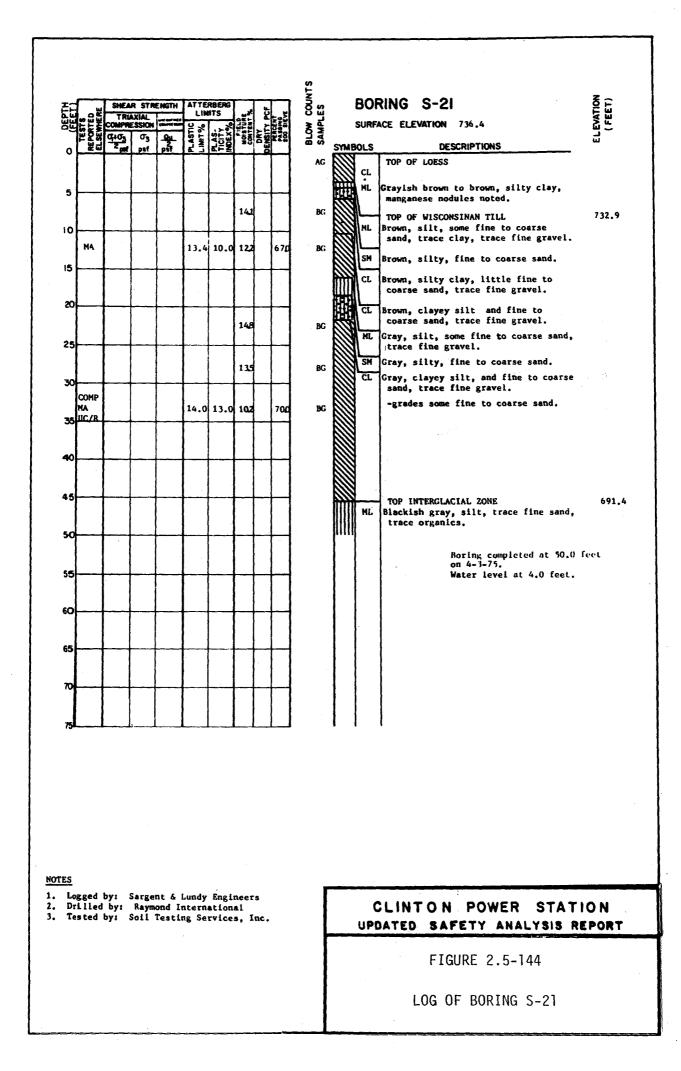


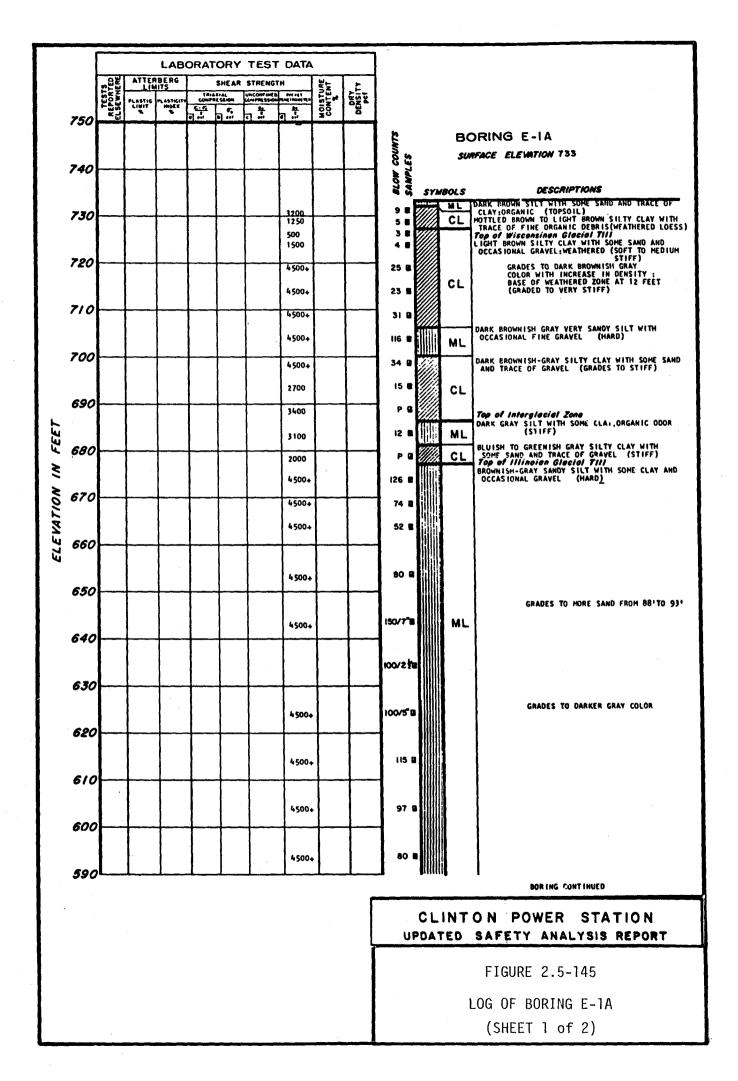
F	_ 22		R STR	ENGTH	LASTIC LASTIC LASTIC DELYS SERVIN SER					ES COU	B	OF	RING S-17	ATIO EET
Ξ.	RTED WHER	COMPR					FIENT	4 X L	ACENT SSING D BIEU	MPL	SU	RF/	ACE ELEVATION 715.4	ELEVATION (FEET)
0	TE REPO ELSE	4-6- 2 pt	σ <sub>3</sub> psf	Pau. Pst	PLASTIC	PLAS.	_ 2 2 3 3	E SN BO	T I Î	SA BL	SYMBOL	.s	DESCRIPTIONS	ũ
"	-									AC	C C	L	TOP OF LUESS	
						{					ы н	L	Brown, silty clay, mangamese modules noted.	
5				<b></b>									TOP OF WISCONSINAN TILL	711
	UC/R				1		9.9			BC	c 🎆	L	Brown, claycy silt, some fine to coarse sand, trace fine gravel.	
0	COMP MA													
5	PERM TXCU	1638 PP	1434		14.3	14.9	116		6 W	BG				
5	TX/U			[			Γ						16.5 feet, color grades to gray.	
20							104			BG				
-0	COMP					13.1	1.4		660	BC				
2=	MA UC/R				15.9	13.1	140		040				TOP OF INTERGLACIAL ZONE	689.
25					1	[	Γ	Γ				IL.	Greenish gray, silt, some organics.	
30				L_										
<b>5</b> 0													Boring completed at 30.0 feet on 4-4-75.	
35													Water level at 16.5 feet.	
35														
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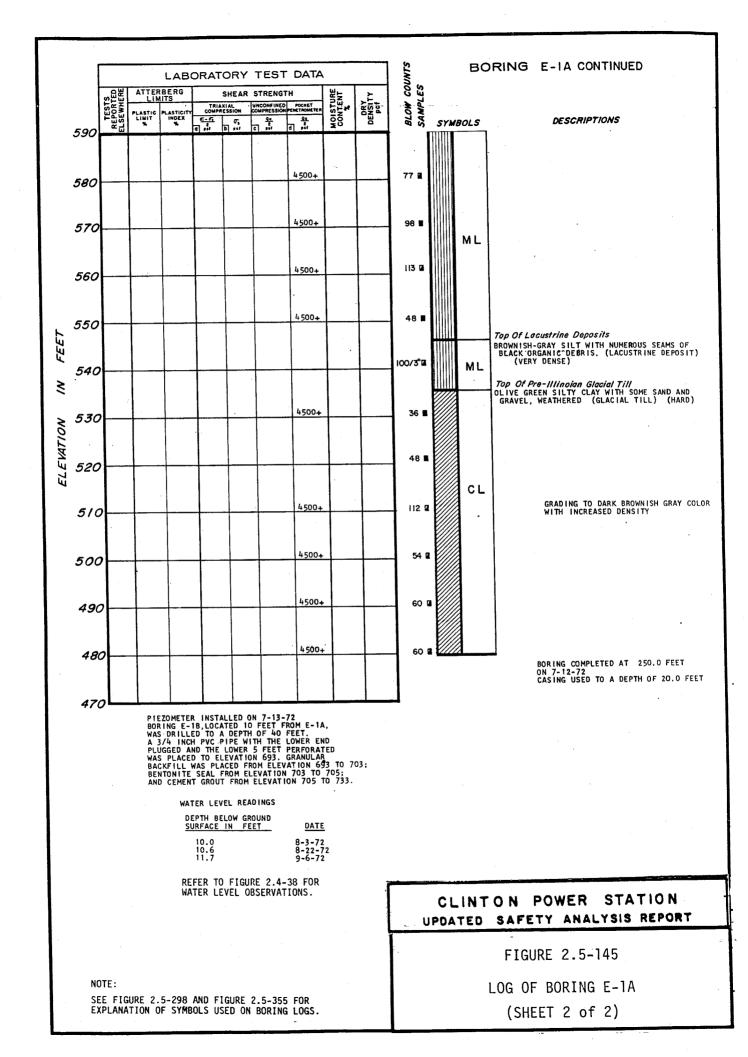


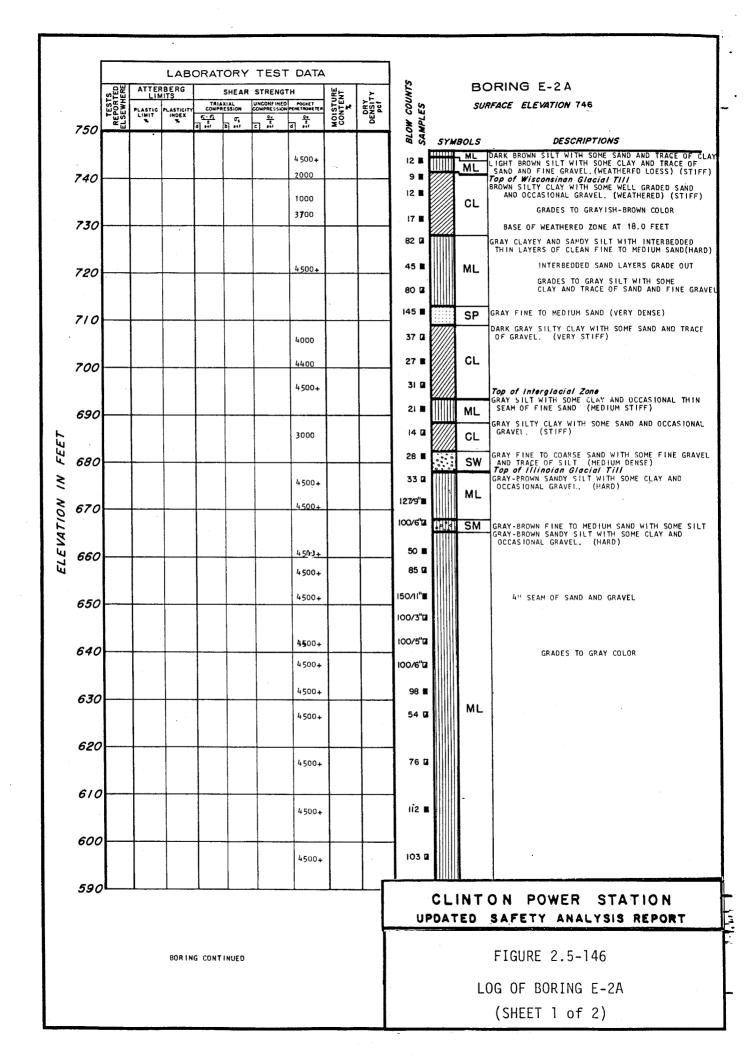
		A STR	ENGTH	LIMITS			S	BORING S-19				
TESTS REPORTED ELSEWHERE	COMPR	axial Ession					λĚ	BLOW COUNTS	:	surf	ACE ELEVATION 725.5	ELEVATION (FEET)
RE PO	<u>q.</u> 03	073 pef	Qu 2 pst	PLASTIC	PLAS TICIT INDEX	<b>1</b> 22	DENS		SYMB	OLS	DESCRIPTIONS	นี
								7 ′		CL	TOP OF LOESS Grayish brown to brown, silty clay,	
										ML	manganese nodules noted.	
				113 5	12.2	141				CL	TOP OF WISCONSINAN TILL Brown, clayey silt, little fine to	721.
										SM	coarse sand, trace fine gravel. Brown silty, fine to coarse sand,	
COMP	6023	5776				119					trace fine gravel.	
TXCUP	0723			┣_──	<b> </b>	<b></b>	$ \downarrow  \downarrow$			CL_	Brown, clayey silt, some fine to coarse sand, trace fine gravel.	
				}		8.9					15.0 feet, color grades to gray.	
┣				<u> </u>			$\left  \cdot \right $					
COMP PERM	2560	2688		12.8	13.5	9.2						
<b>EXCUP</b>	<u> </u>	<u> </u>		┼──		-	┝┤					
				1				1				
			<u> </u>	+		┝─	┝┤			ML	TOP OF INTERGLACIAL ZONE Dark gray, mottled light gray, silt,	695.
		[									trace organics.	
·						┢──	+	-1		CL	Gray, silty clay, trace organics.	
											biay, silly caay, trace organicos	
<u> </u>								-			Boring completed at 40.0 feet	
											on 4-2-75. Water level at 9.0 feet.	
						$\square$						
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ged by	y: Sa	argent	: & L	undy I	Engin	cers				C	LINTON POWER STATIC	) N
iled											ATED SAFETY ANALYSIS REI	
ted by	y: So	oil To	estin	g Seri	vices	, In	с.					
											FIGURE 2.5-142	
											LOG OF BORING S-19	

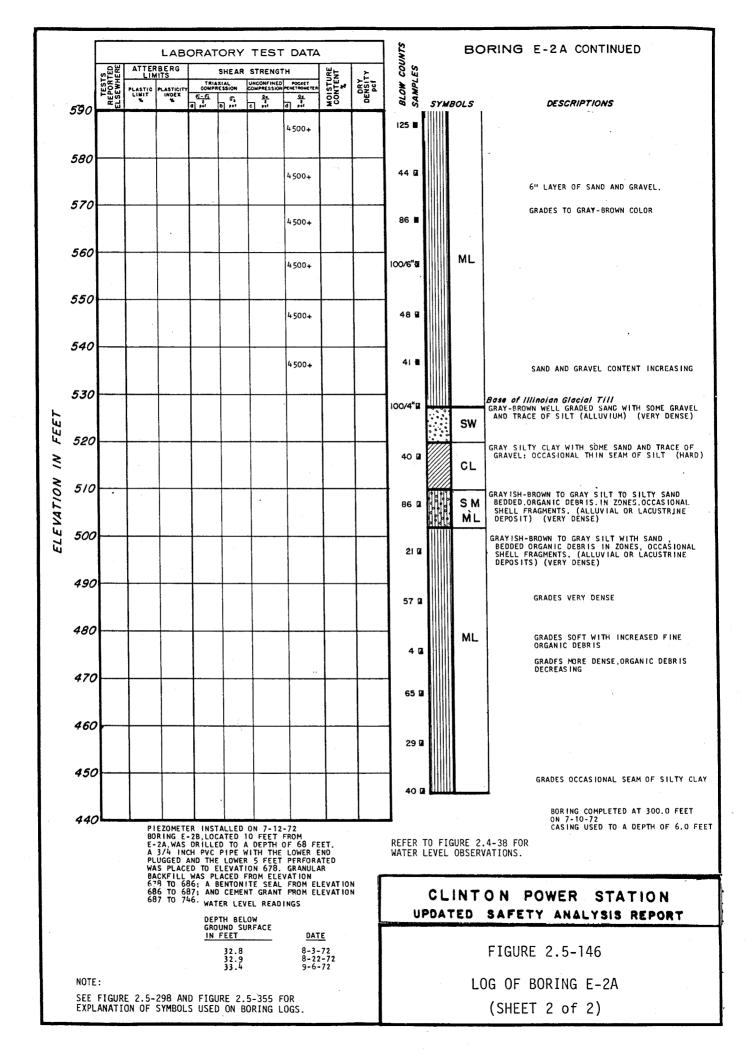


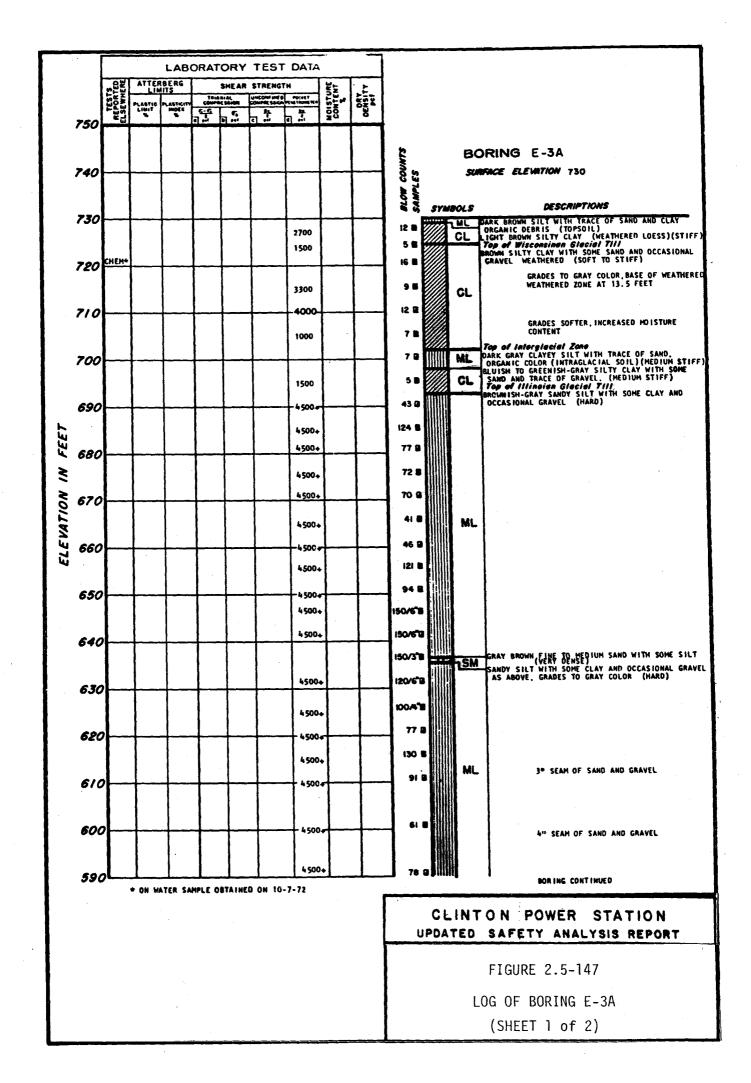


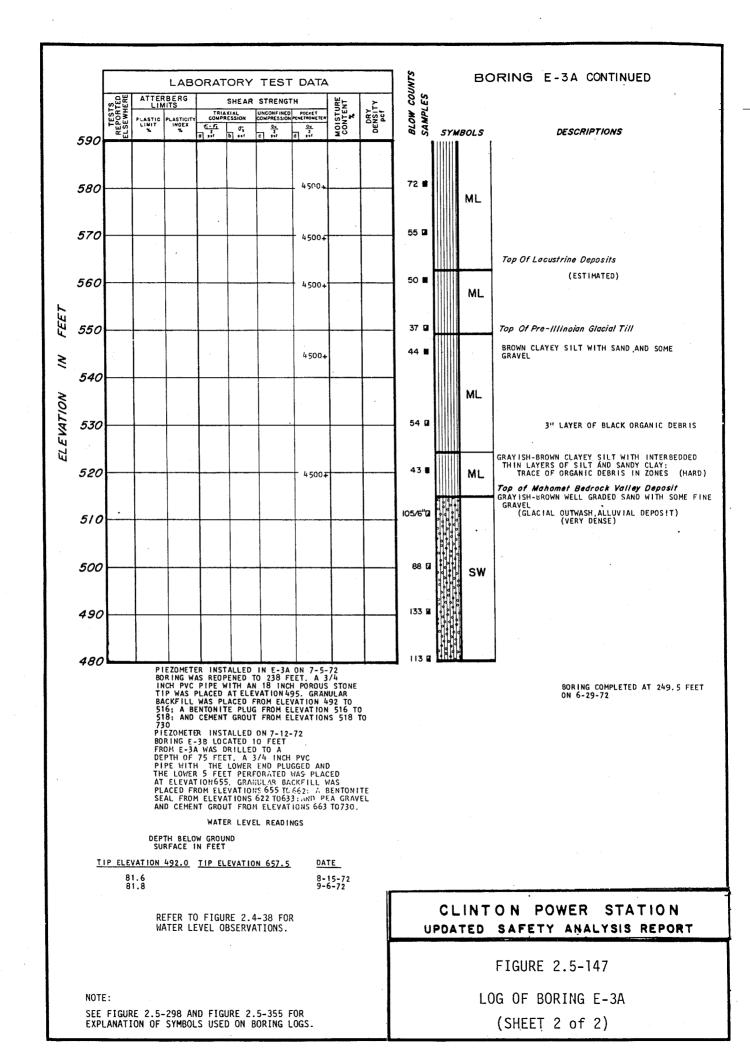


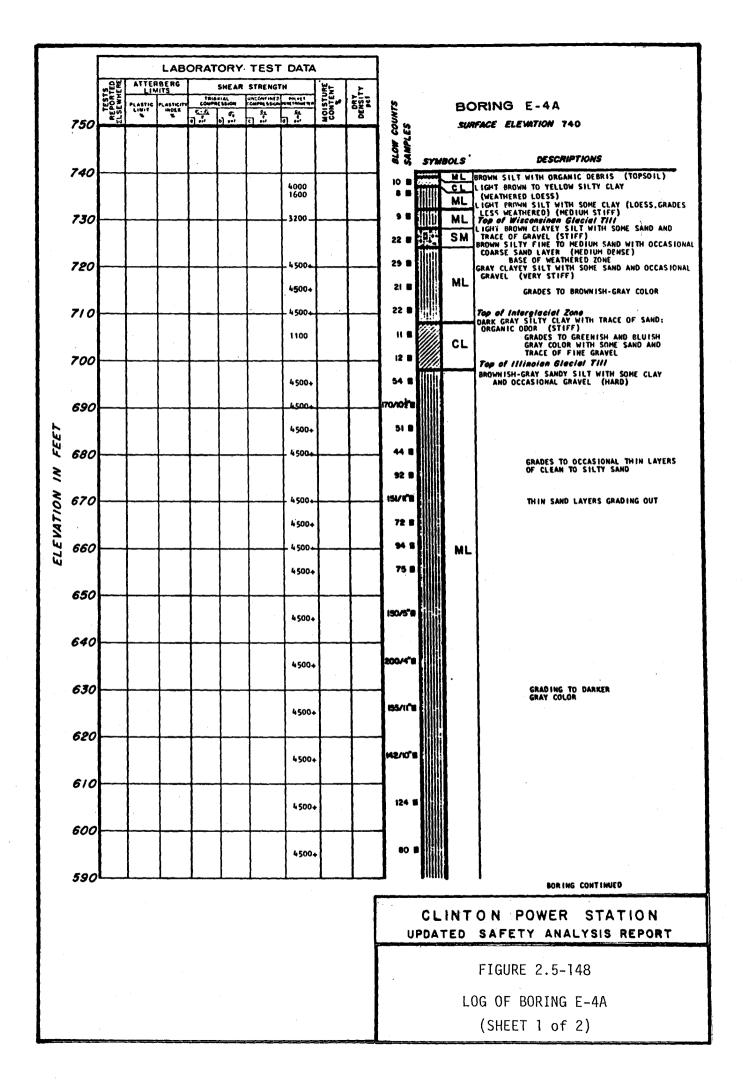


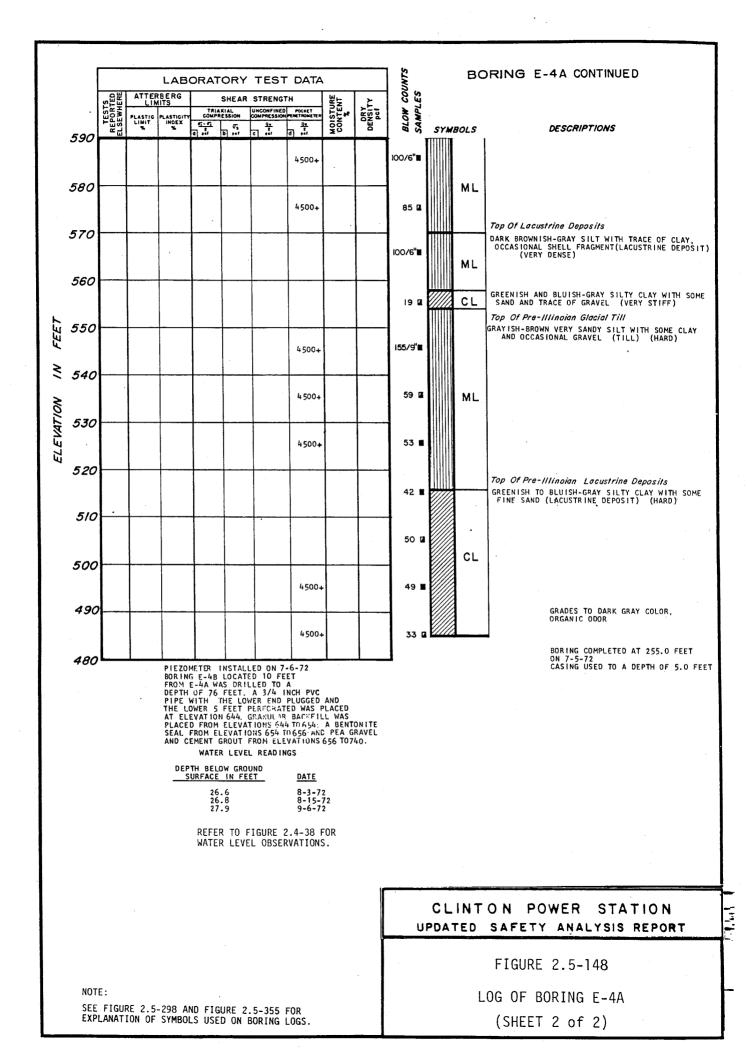


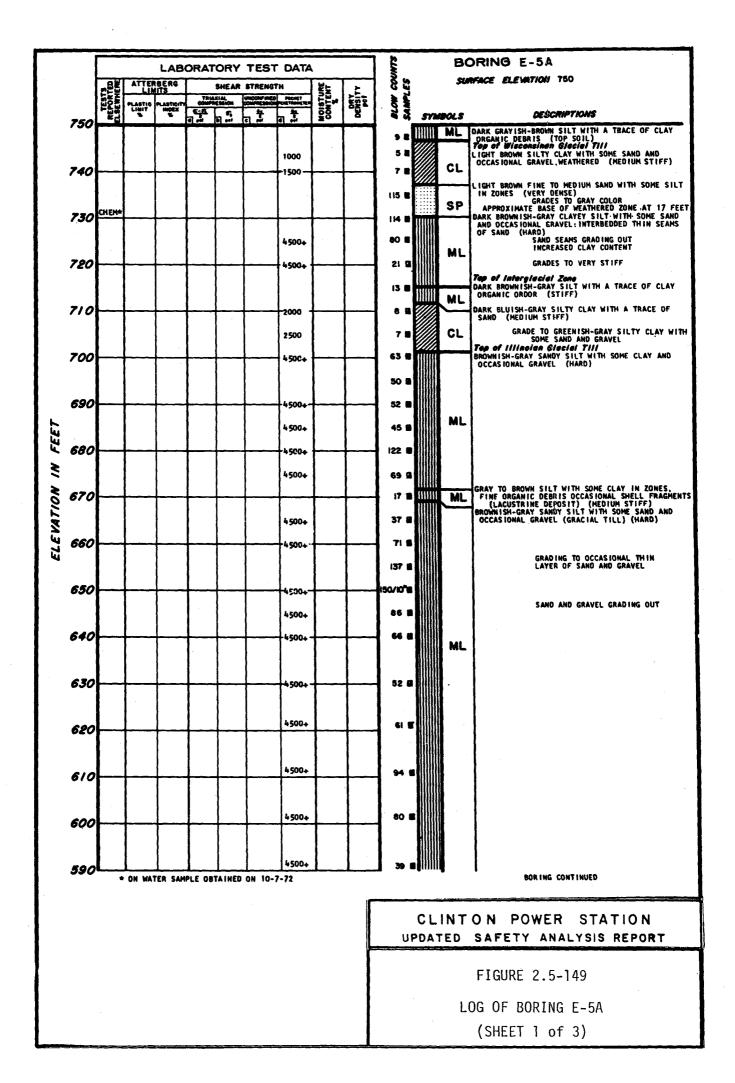


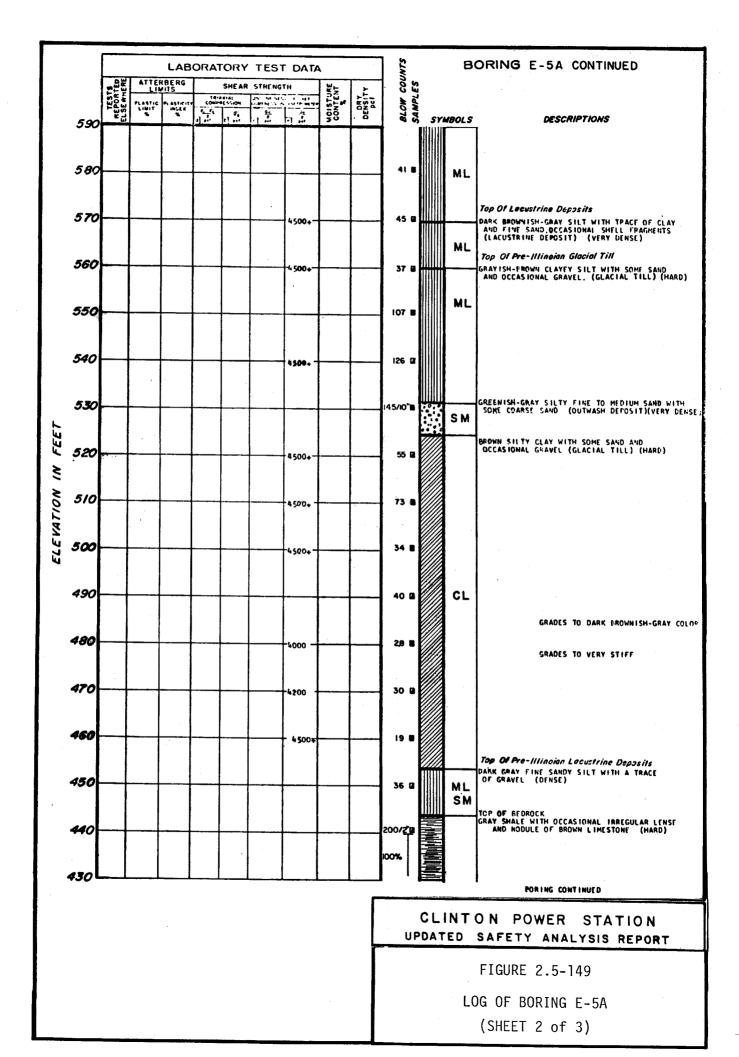


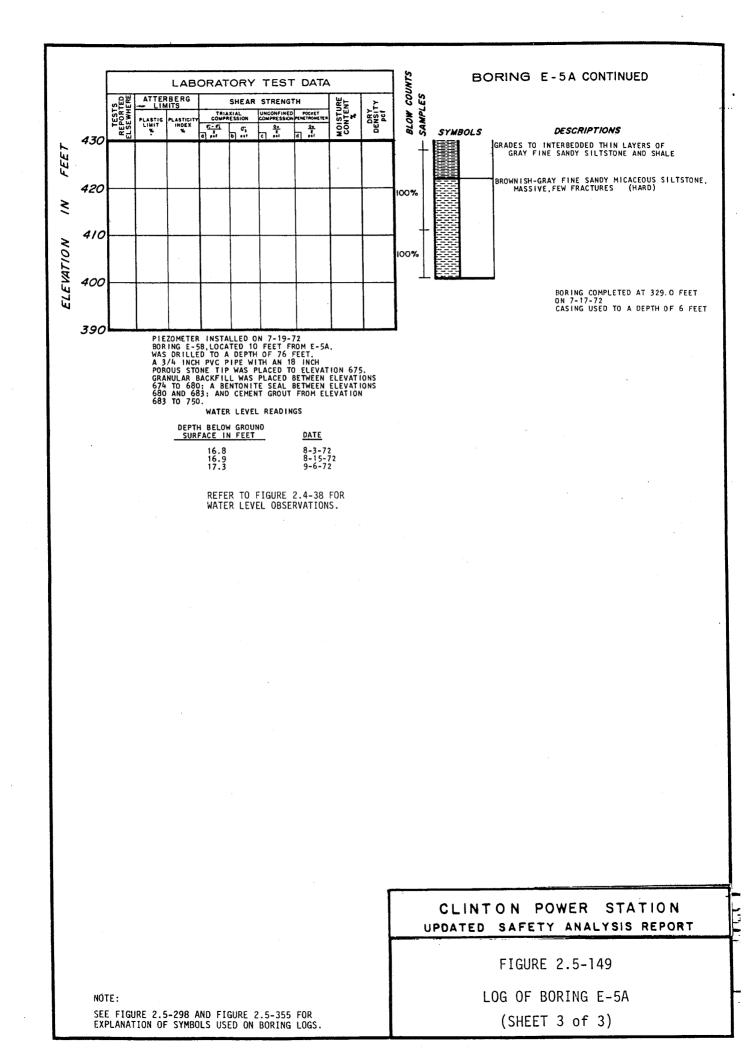


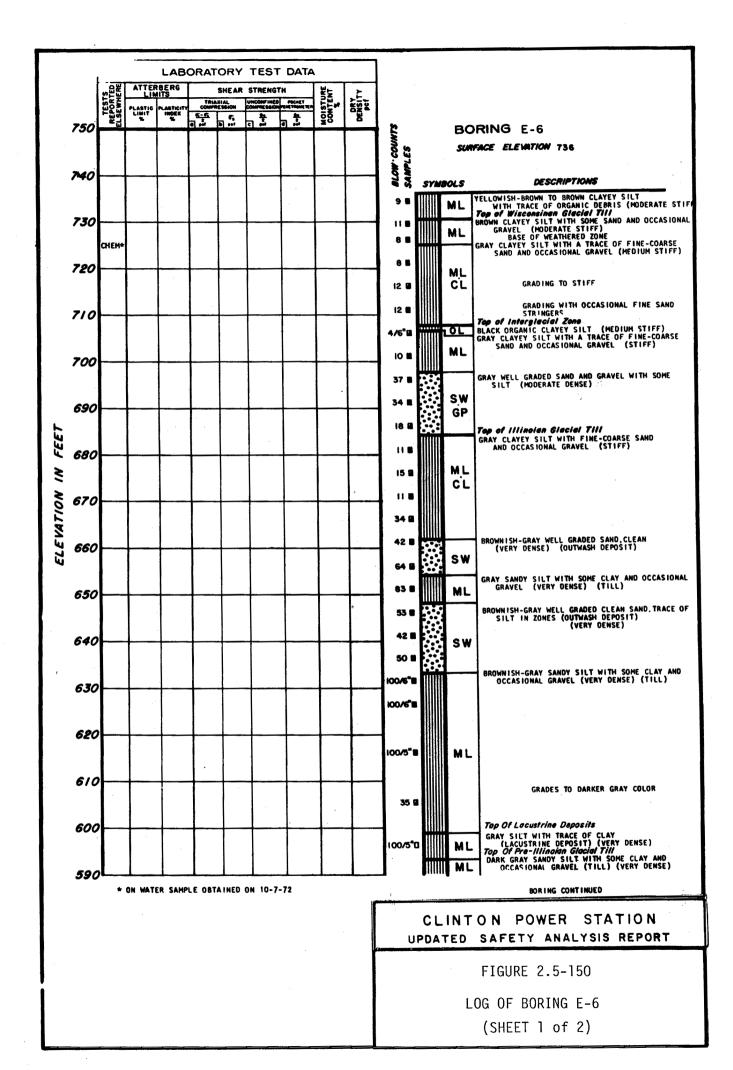


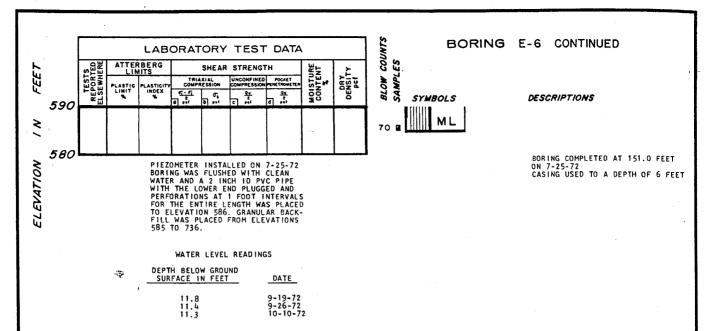












REFER TO FIGURE 2.4-38 FOR WATER LEVEL OBSERVATIONS.

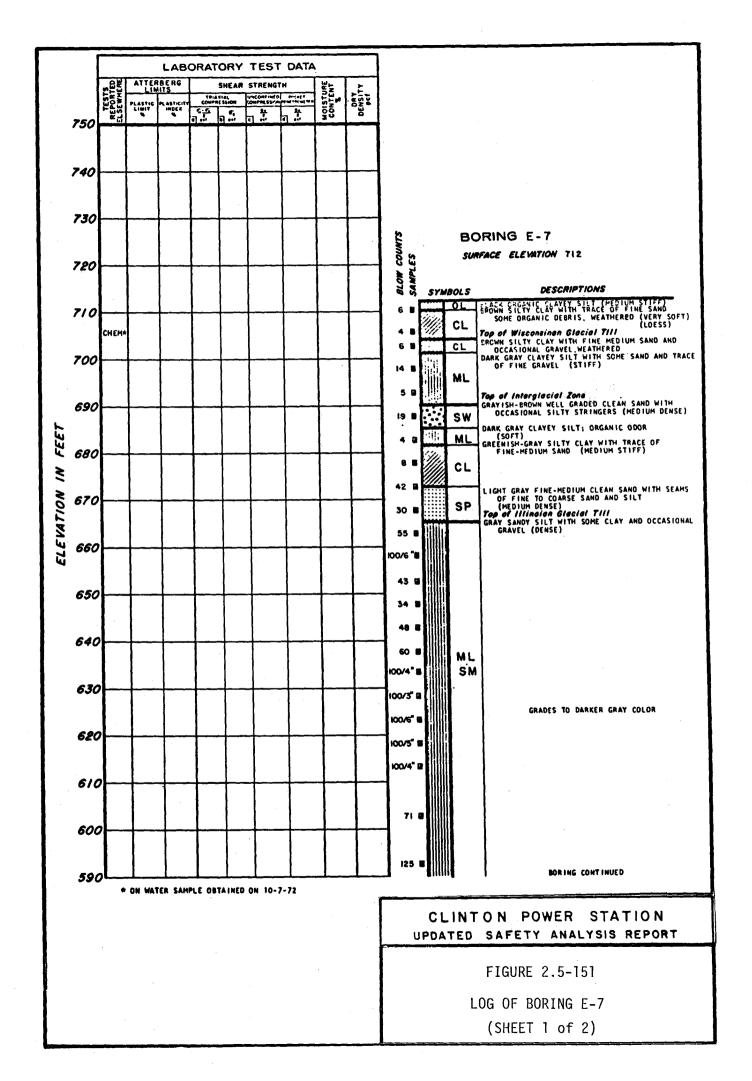
## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

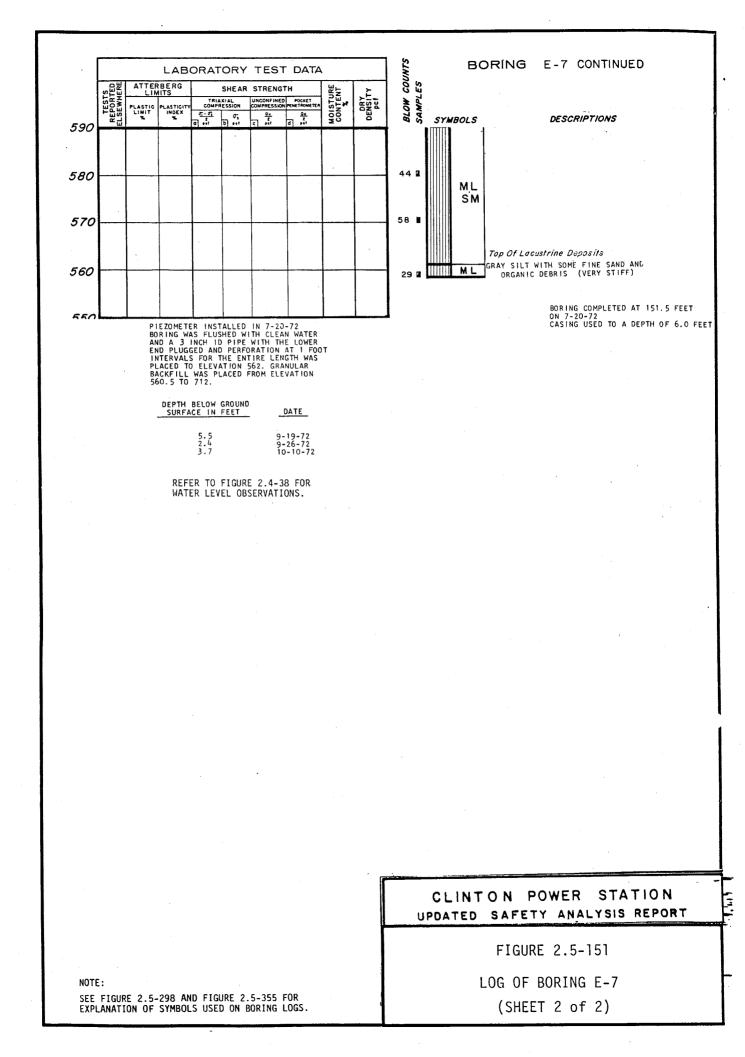
FIGURE 2.5-150

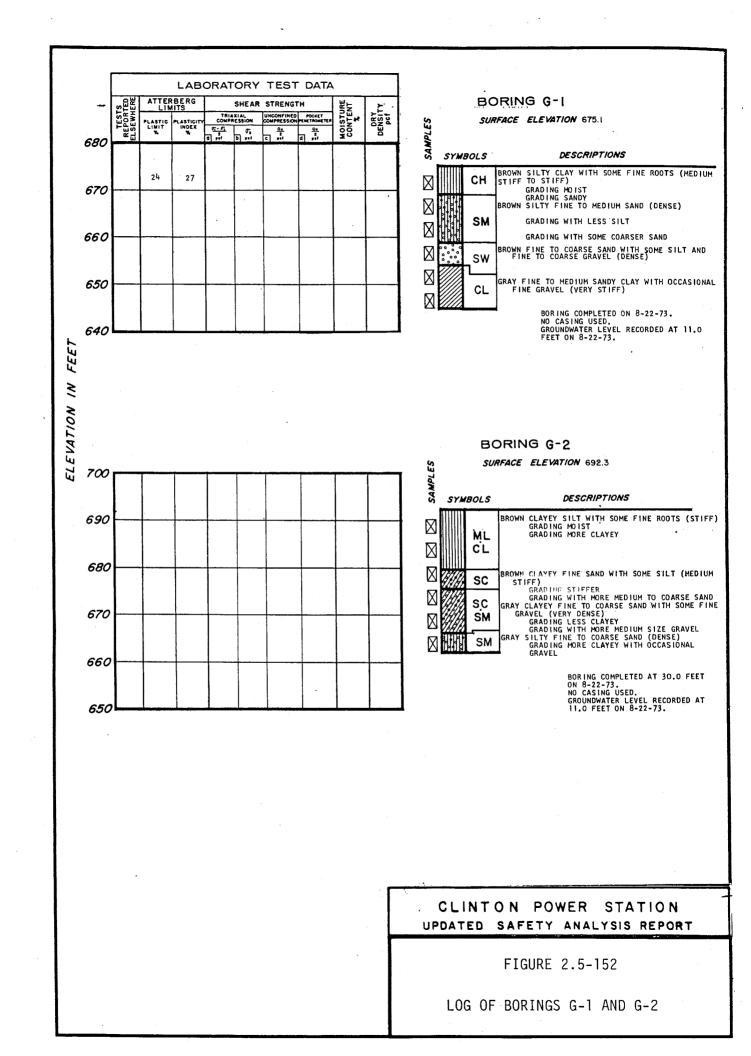
LOG OF BORING E-6

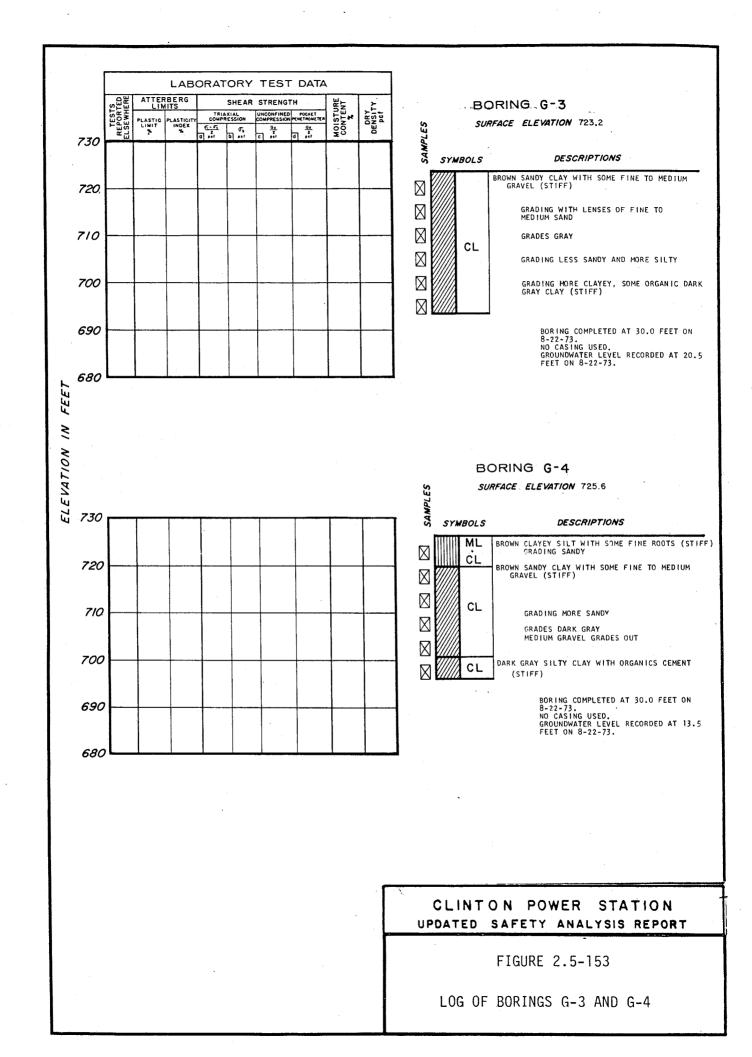
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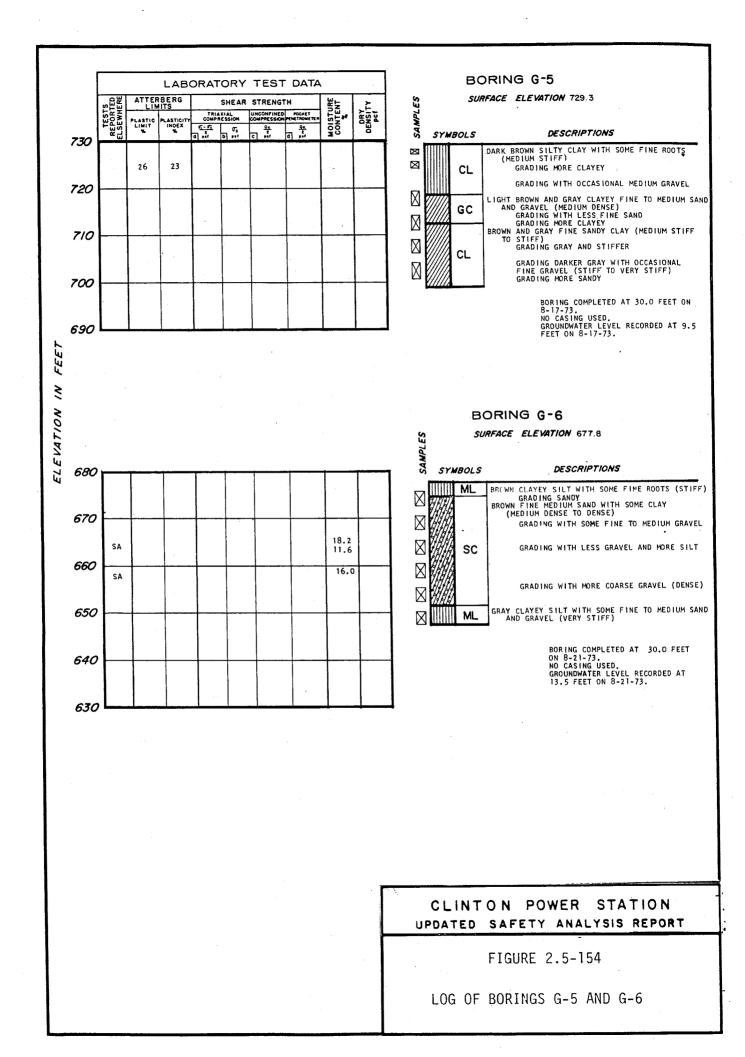
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

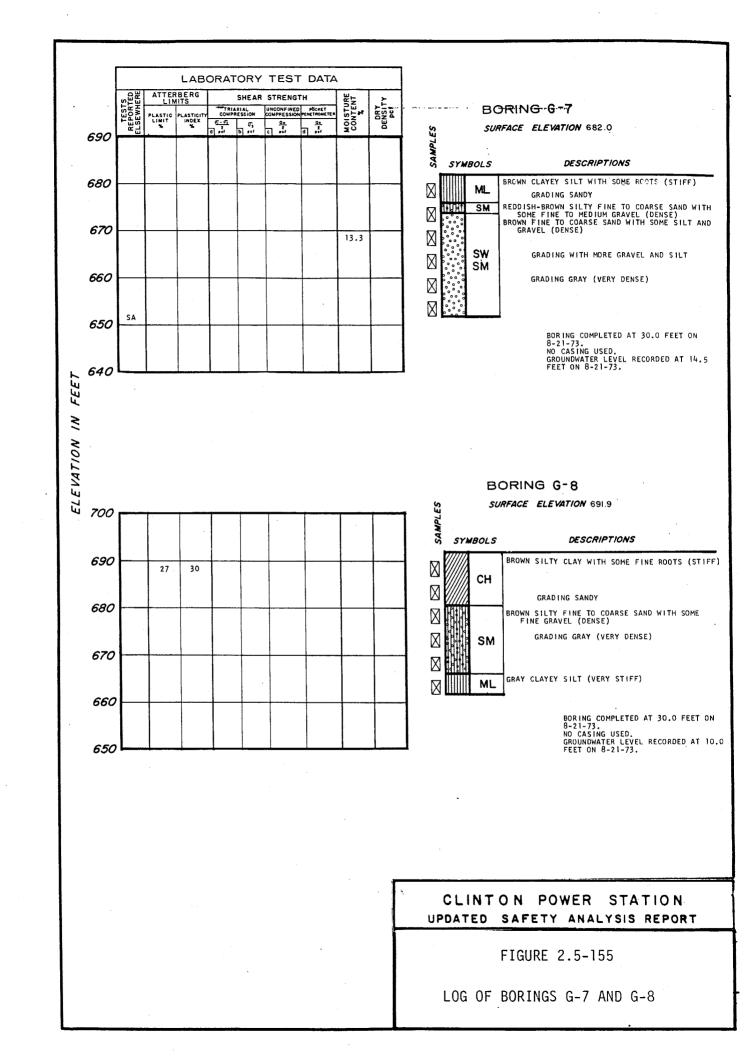


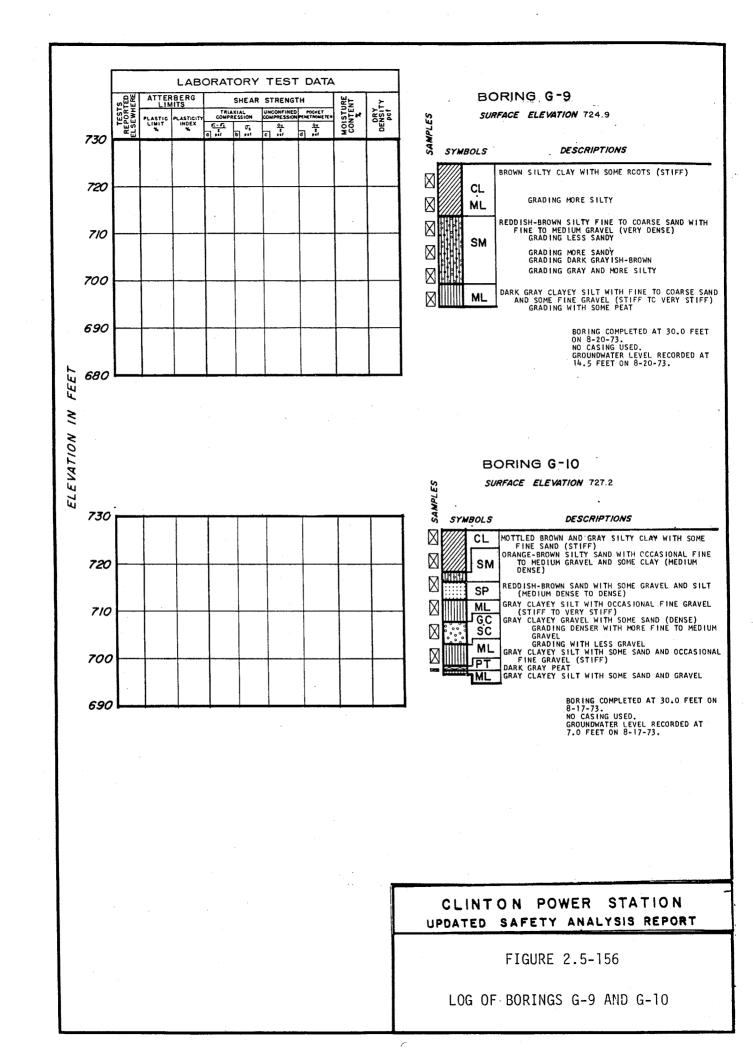


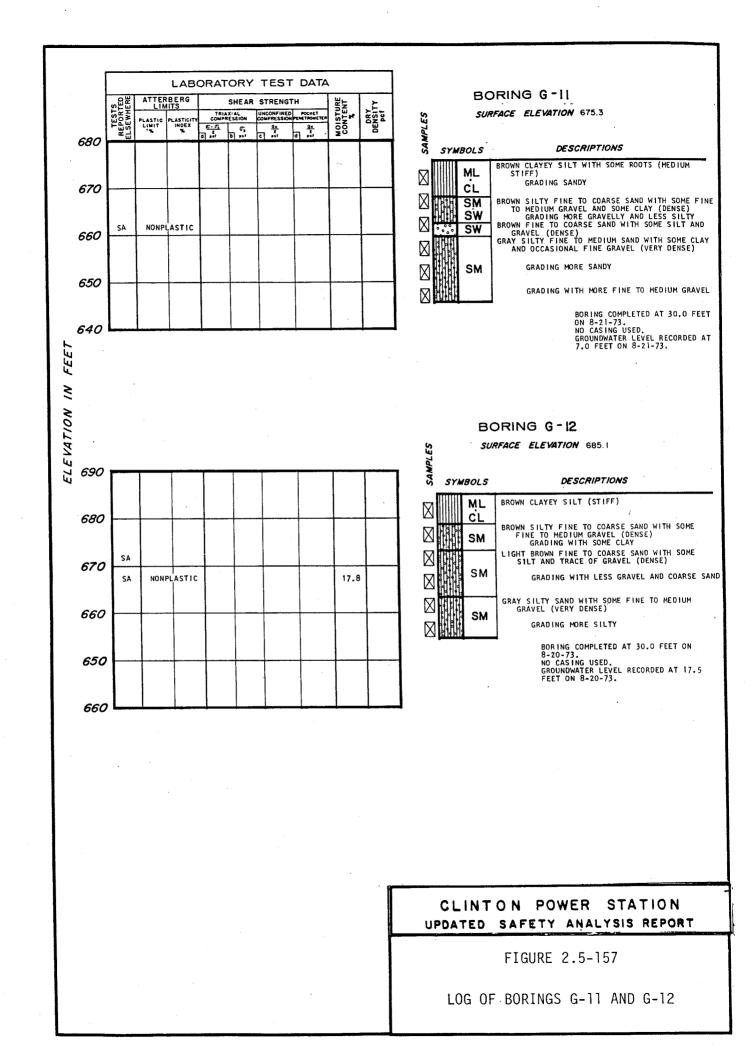


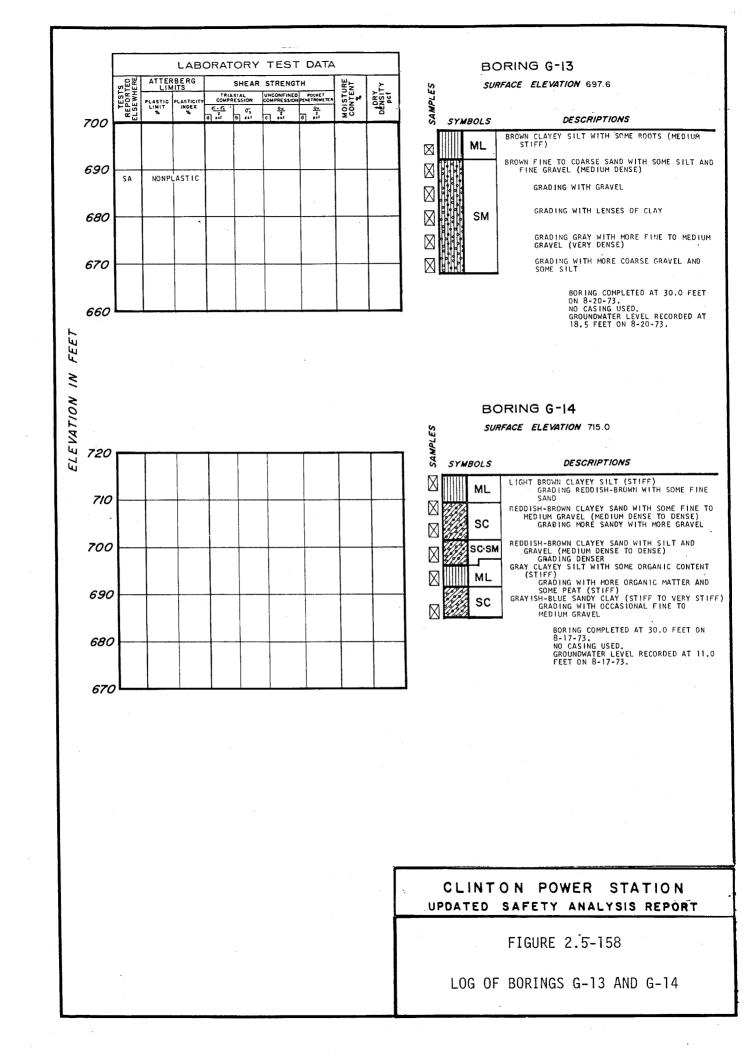


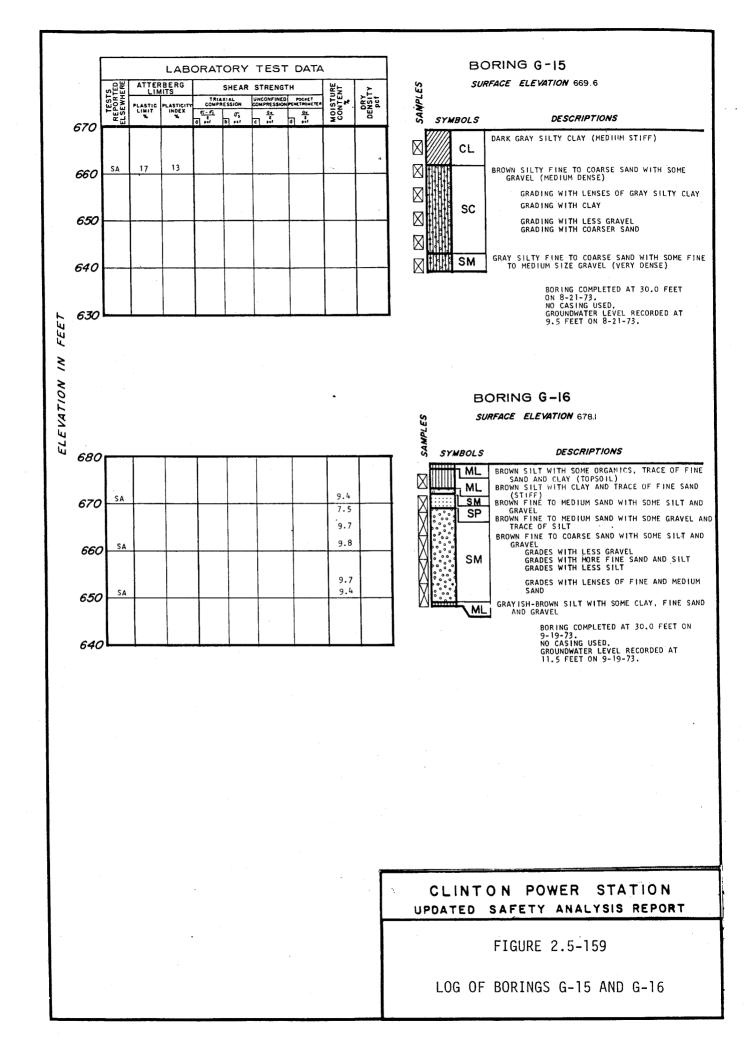


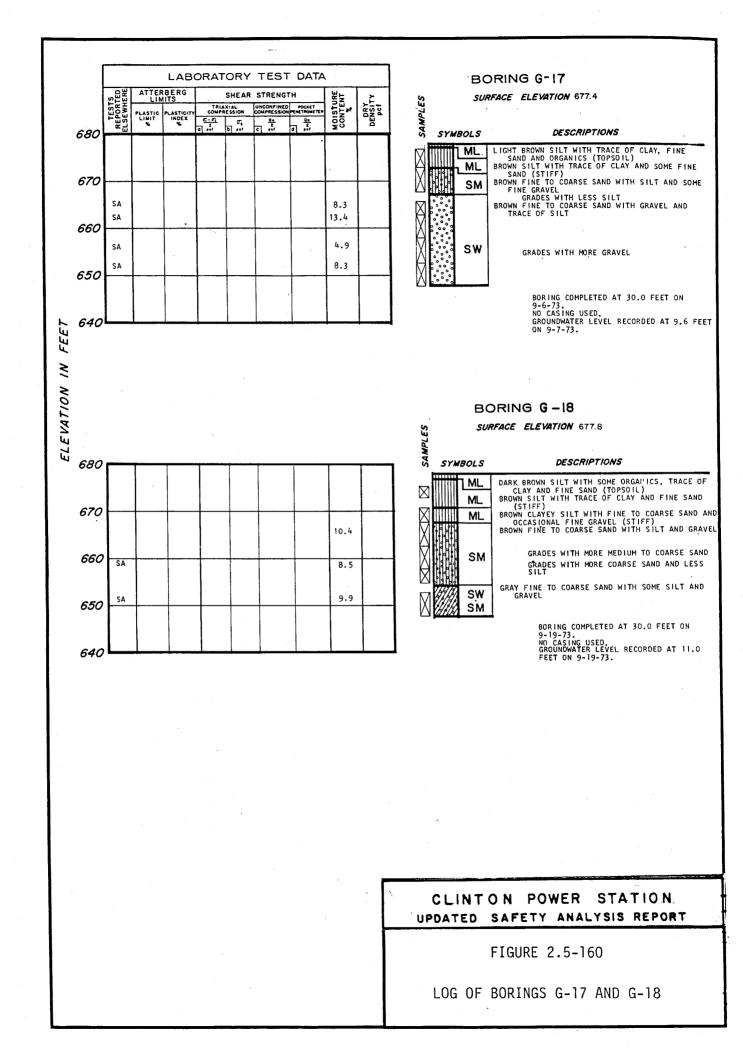


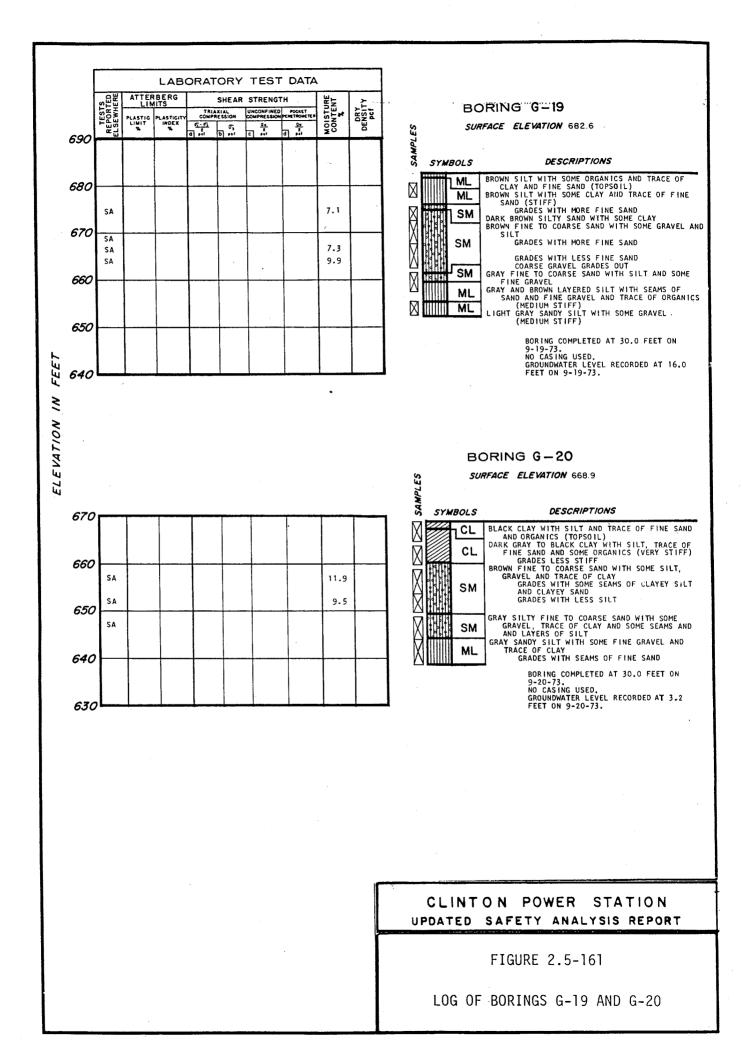


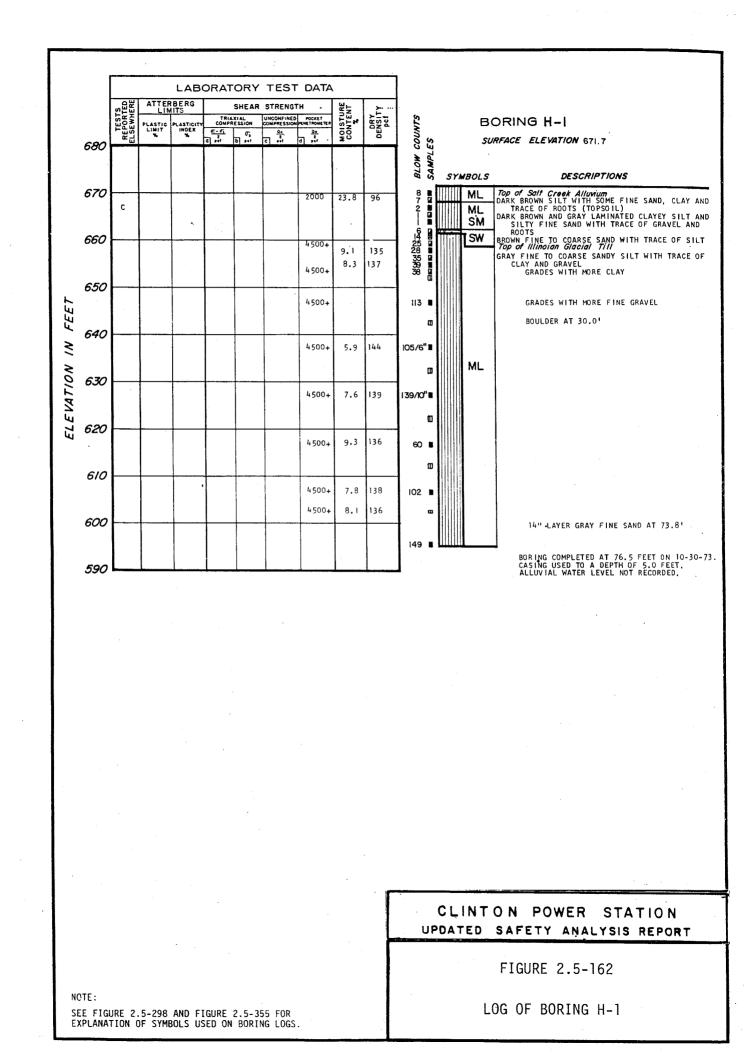


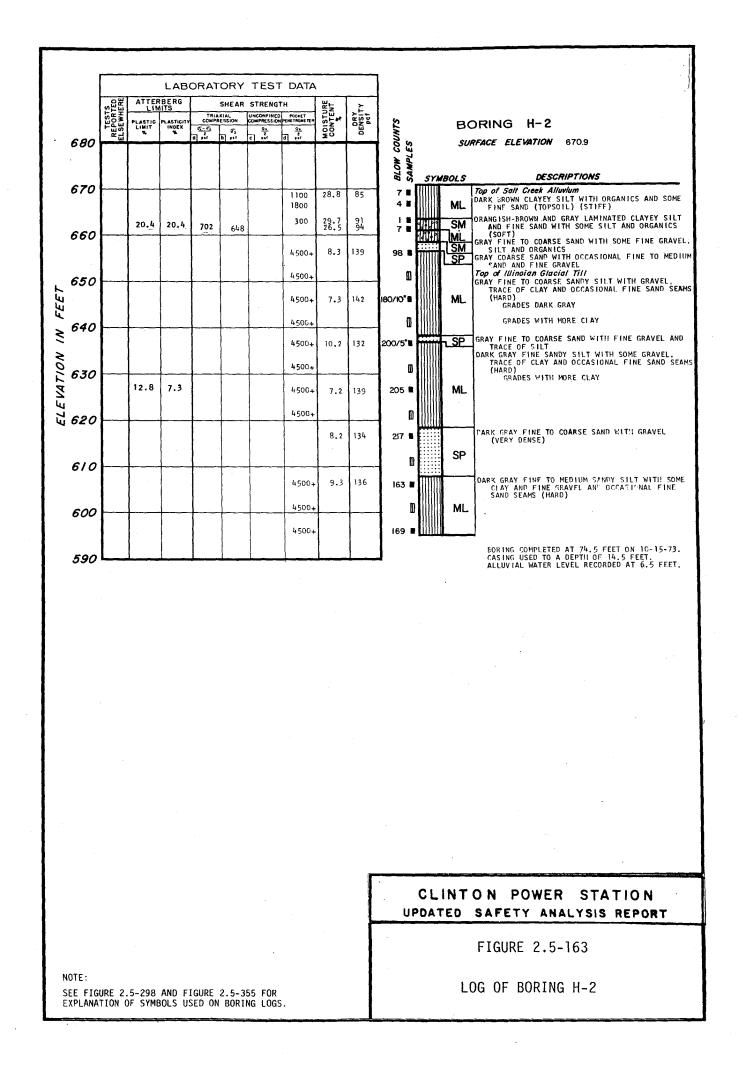












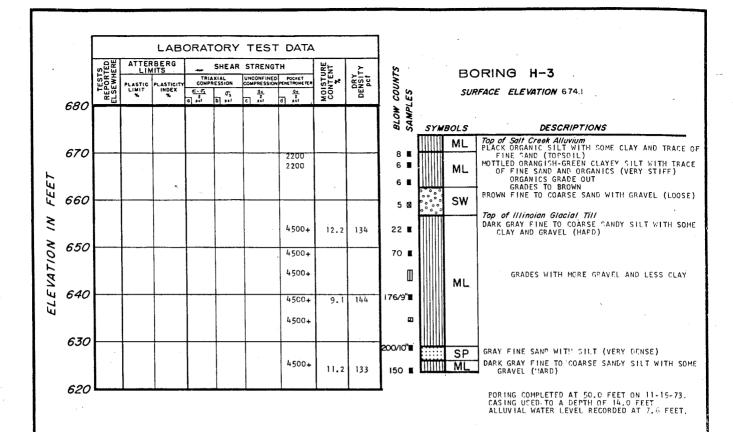
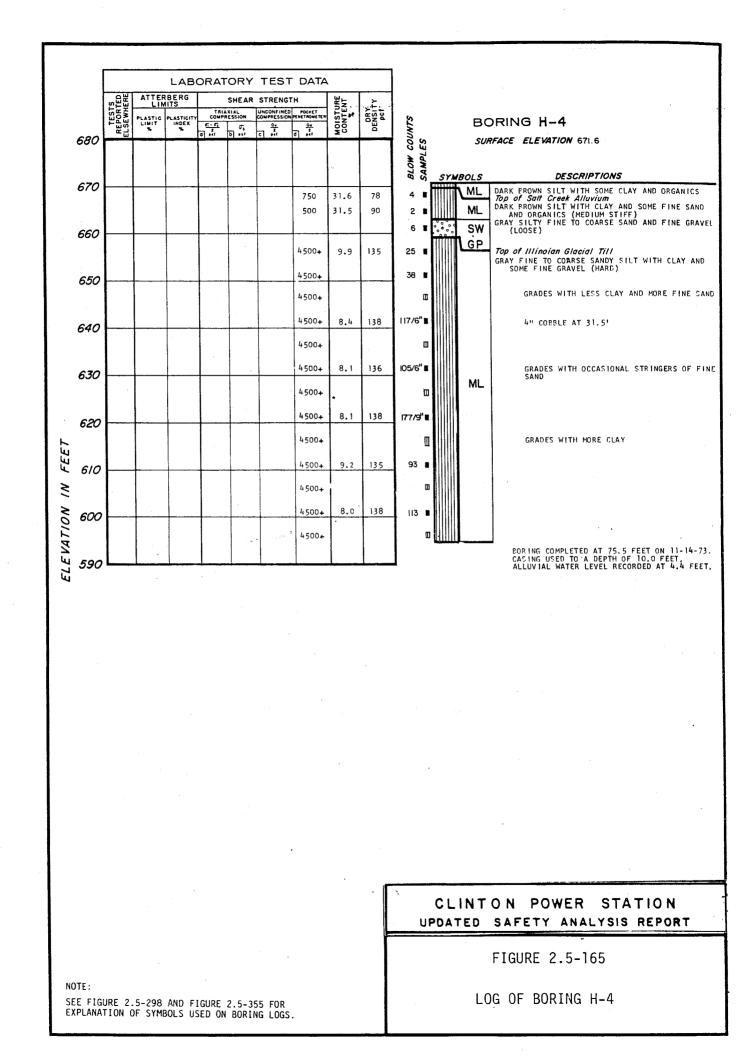


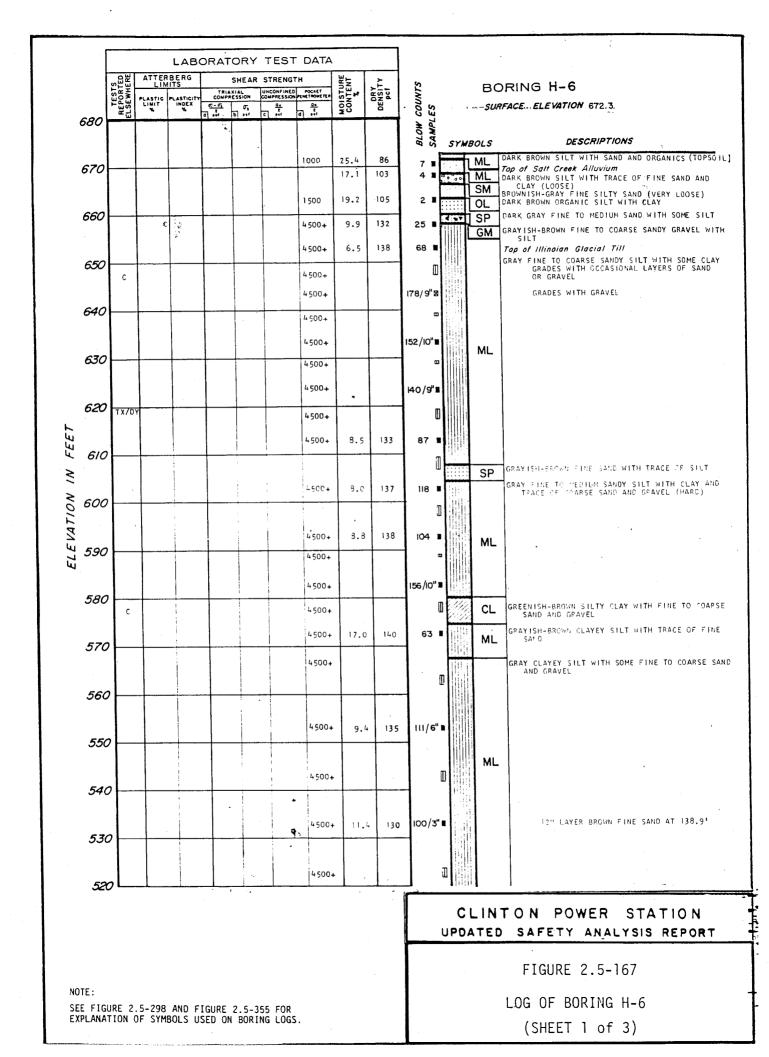
FIGURE 2.5-164

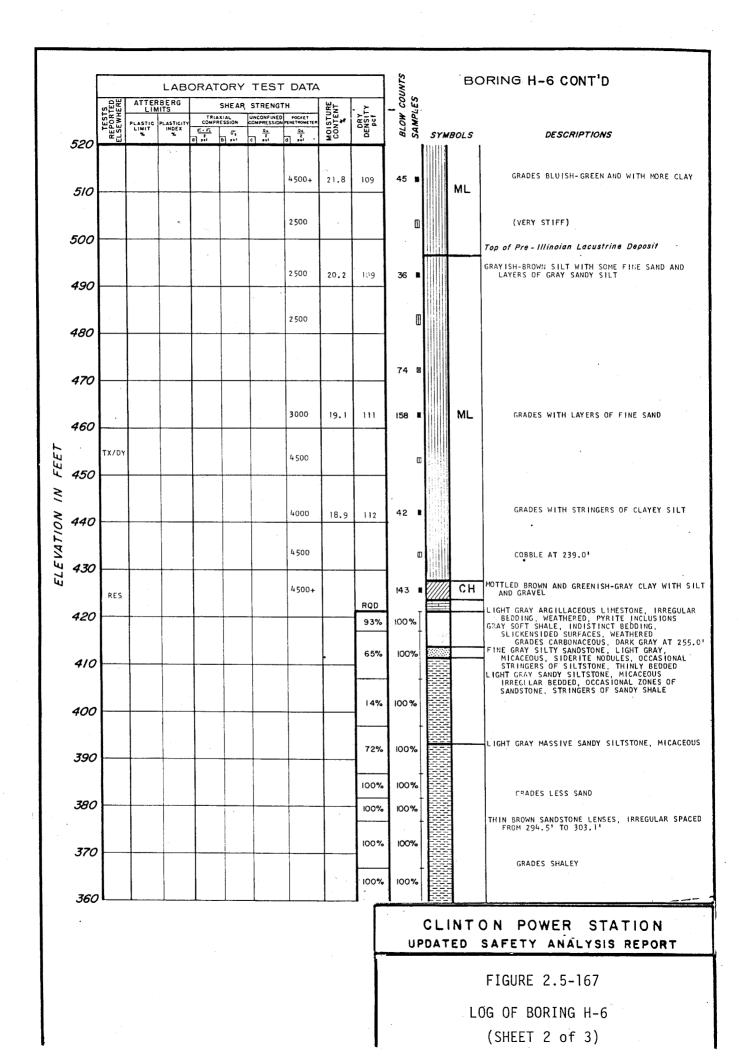
NOTE :

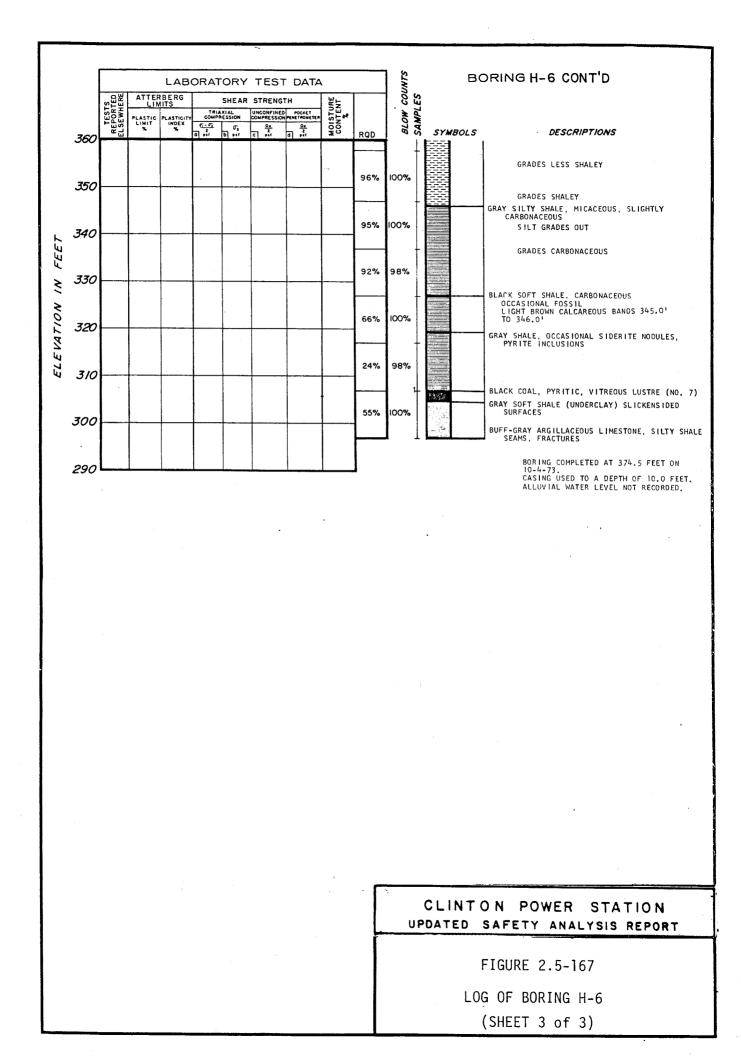
SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

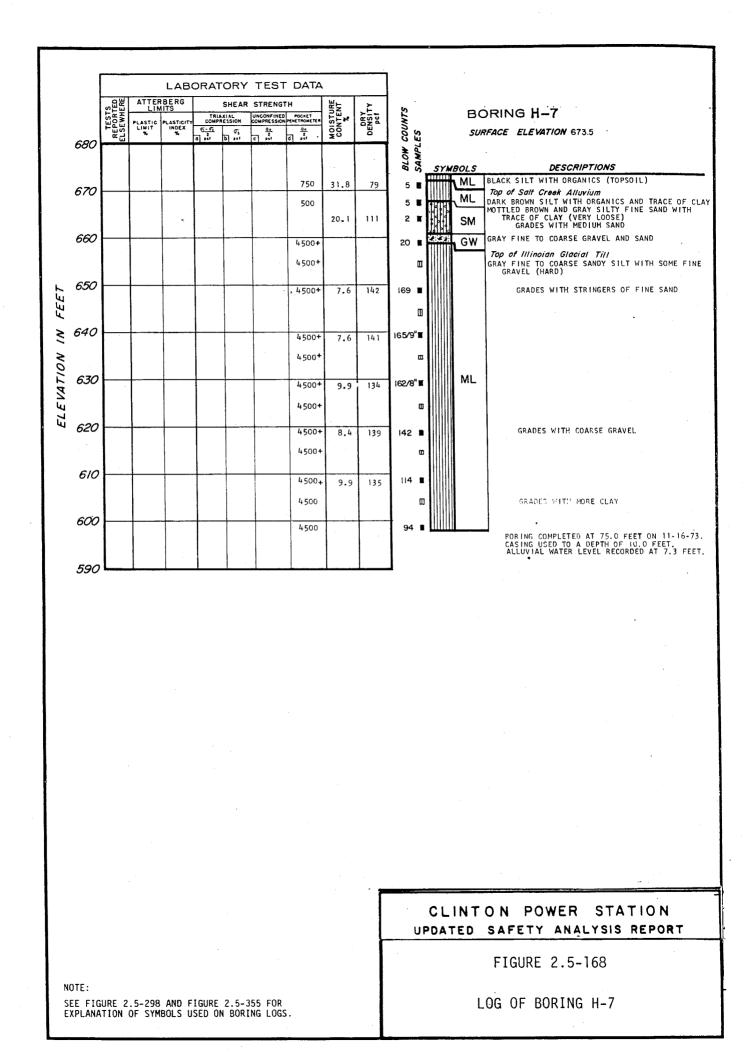


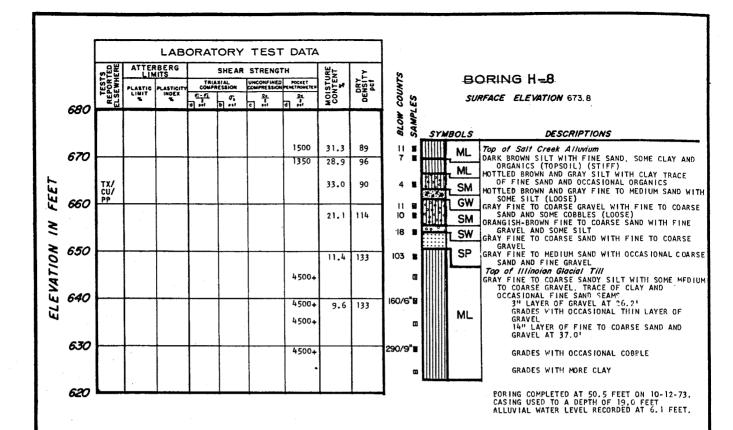
	1			LAB	ORA	TORY	TES		<u></u>		]					
		RTS RTED HERE	ATTERBERG LIMITS							, <u>,</u>						
		TESTS REPORTED ELSEWHERE	PLASTIC LIMIT	PLASTICIT	Y COMF	TRESSION	COMPRESSIO	N PENETROWETER	MOISTURE	DENSITY	S SURFACE ELEVATION 672.6					
	680.										S BORING H-5 SURFACE ELEVATION 672.6 NO DATE SYMBOLS DESCRIPTIONS					
	670							750	21.7	100	6 ML Top of Salt Creek Alluvium 7 ML DARK BROWN CLAYEY SILT WITH ORGANICS AND					
								750	29.4 25.7	87 98	G TRACE OF GRAVEL (TOPSOIL) TRACE OF GRAVEL (TOPSOIL) B BROWN SILTY FINE TO COARSE SAND WITH CLAYEY SILTY FINE TO COARSE SAND WITH CLAYEY SILTY FINE TO COARSE SAND WITH CLAYEY					
	660							1.500	25.8	99	GRADES WITH LESS MEDIU. TO COARSE SAND					
								4500			17 2 I GP					
L	650							4500+	10.2	132	25 Constant of the second se					
ELEVATION IN FEET								4500+	6.7	143	GRADES GRAT					
Ś	640							4500+		<u>+</u>						
NO	670							4500+	7.7	141	98/6" 🔳					
471	630										D ML BOULDER AT 43.5'					
L F V								4500+			D GRADES WITH OCCASIONAL COBBLE					
Ē	620							4 500+	7.3	140	164/II" 🗉					
	610							4500+								
	0.0						-	4500+	8.6	136	IO1					
	600			-				4500+			GRADES WITH MORE SAND AND GRAVEL					
	590										117 DULLU BORING COMPLETED AT 75.0 FEET ON 41-1-73. CASING USED TO A DEPTH OF 5.0 FEET. ALLUVIAL WATER LEVEL NOT RECORDED.					
											CLINTON POWER STATION updated safety analysis report					
											FIGURE 2.5-166					
NOT SEE EXF	E FIGU	RE 2.1 ION OI	5-298 5 SYMB	AND FI OLS US	GURE	2.5-35 BORIN	5 FOR G LOGS.				LOG OF BORING H-5					







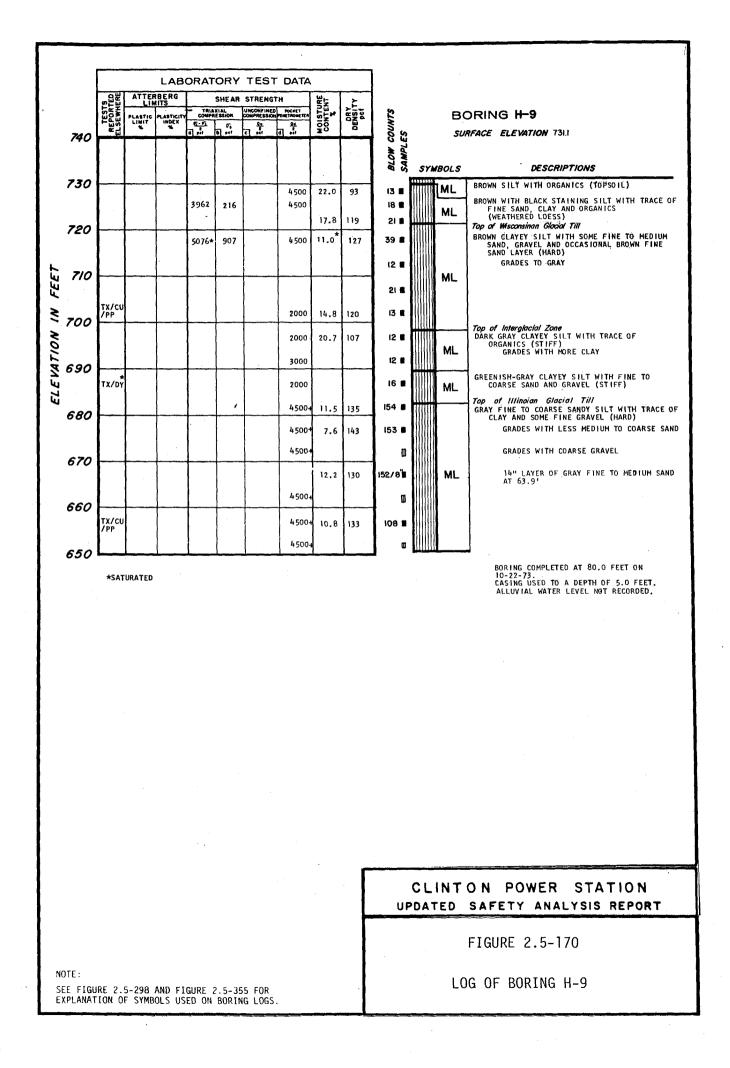


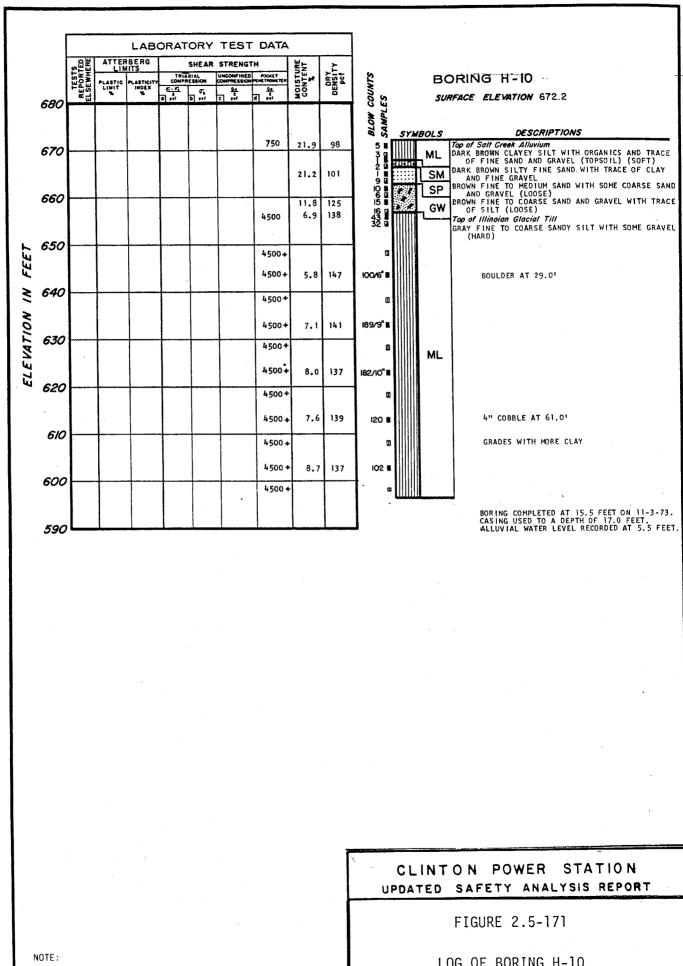


#### NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-169





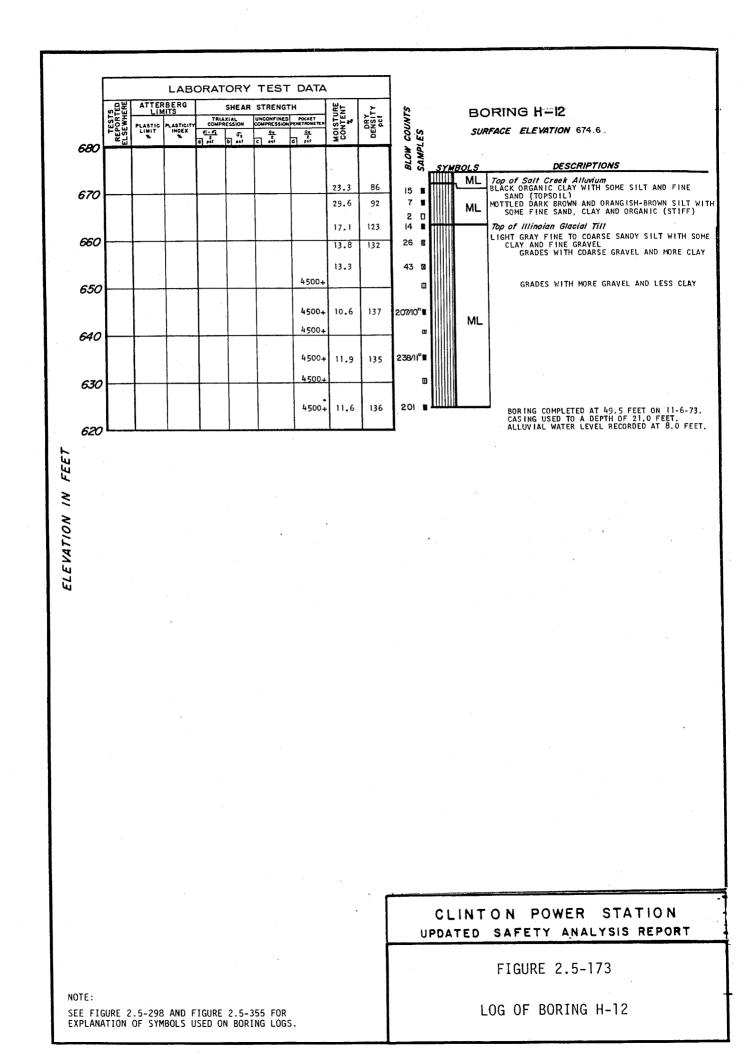
SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

	~8¥	ATTER	LAB			STRENG			~	5	-	
	TESTS REPORTED ELSEWHERE	PLASTIC	PLASTICITY		XIAL MESSION		D POCKET	MOISTURE	DENSITY	COUNTS		ORING H-II
580		*		<u>د-بر</u> ۱	σ, 10	c] ***	a	MO MO	ă	BLOW CO SAMPLES	50	
										BLOW SAMPL SAMPL	MBOLS	DESCRIPTIONS
670					ļ	ļ	1750	23.6	82	354 NON - 0	ML	Top of Salt Creek Alluvium DARK BROWN SILT WITH SOME ORGANICS AND TRA
								18.6 21.7	91 102	20	ML	OF CLAY (STIFF) BROWN FINE SANDY SILT WITH TRACE OF CLAY A ORGANICS
660			•					13.1	117		sw	GRAY FINE TO COARSE SAND WITH TRACE OF SIL AND ORGANICS (LOOSE GRADES WITH MORE SILT
							4500+	8.4	135	2 12 4 4 31 2 28 <b>1</b>		Top of Illingian Glacial Till GRAY FINE TO COARSE SANDY SILT WITH TRACE CLAY AND FINE GRAVEL (HARD)
650				<b> </b>			1.500			78 🗉		GRADES WITH COARSE GRAVEL
							4500+	6.9	142	210/10"8 260/8"8		
640										218/9"		
							4500+			210 🔳		
630						+	4500+	8.4	137	176 8		GRADES WITH MORE CLAY
			}				4500+			119 8	ML	3" GRAY FINE TO MEDIUM SAND LAYER
620			ļ				45004					AT 49.7'
								9.2	134	119 2		GRADES WITH LESS COARSE GRAVEL
610							4500+			102 🖩		
0.0		1	1				4500+	8.2	136	106 🗉		
600							4500+			138 🛙		
600					1		4500+	9.1	135	78 🛛		
590												BORING COMPLETED AT 76.0 FEET ON 10-26-73. , CASING USED TO A DEPTH OF 14.0 FEE

FIGURE 2.5-172

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



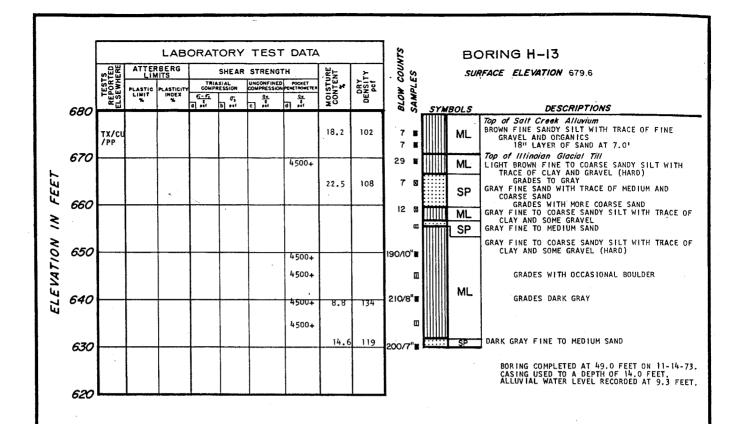


FIGURE 2.5-174

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

LOG OF BORING H-13

NOTE:

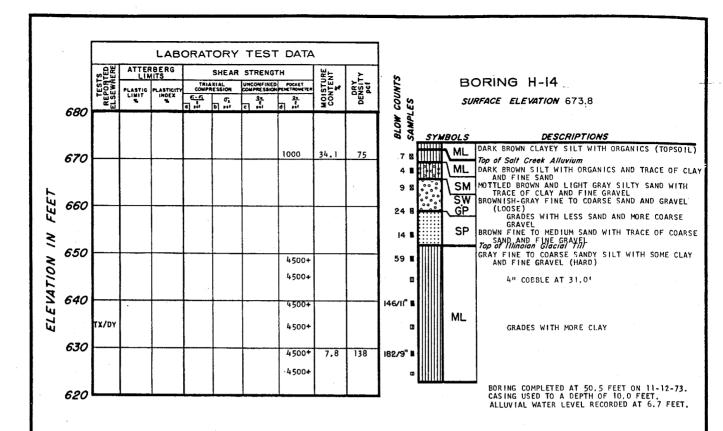
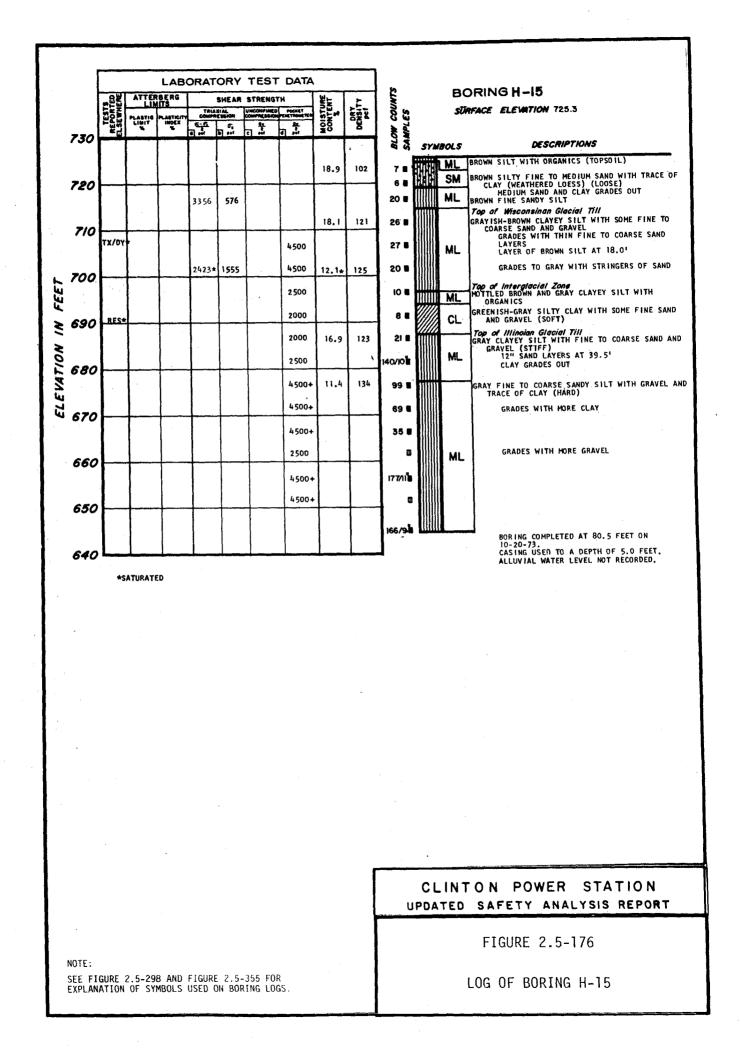


FIGURE 2.5-175

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

LOG OF BORING H-14

NOTE:



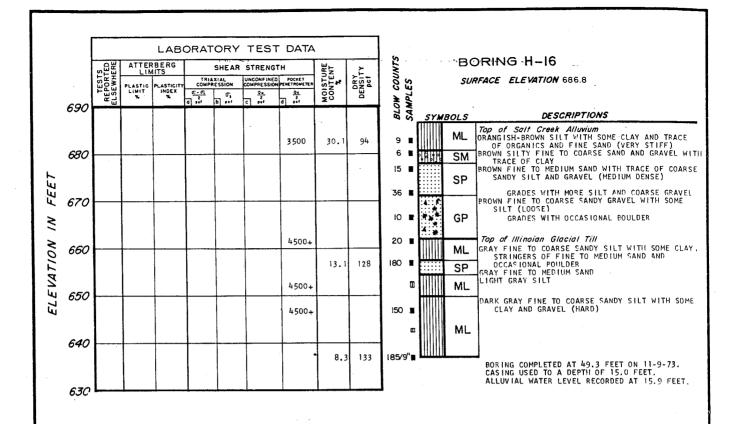


FIGURE 2.5-177

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

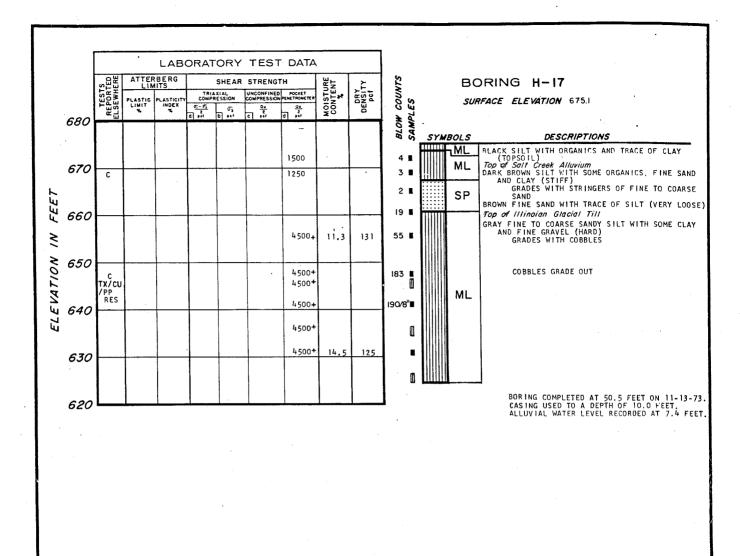


FIGURE 2.5-178

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

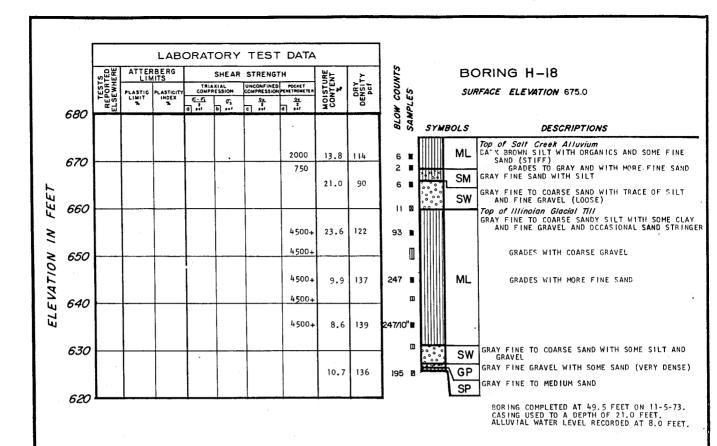


FIGURE 2.5-179

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

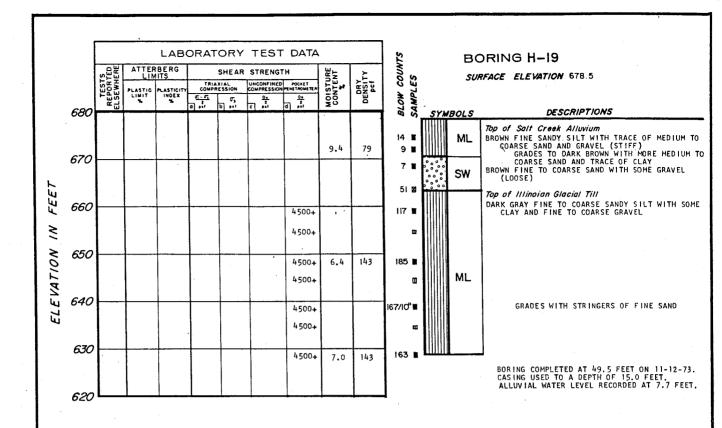


FIGURE 2.5-180

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

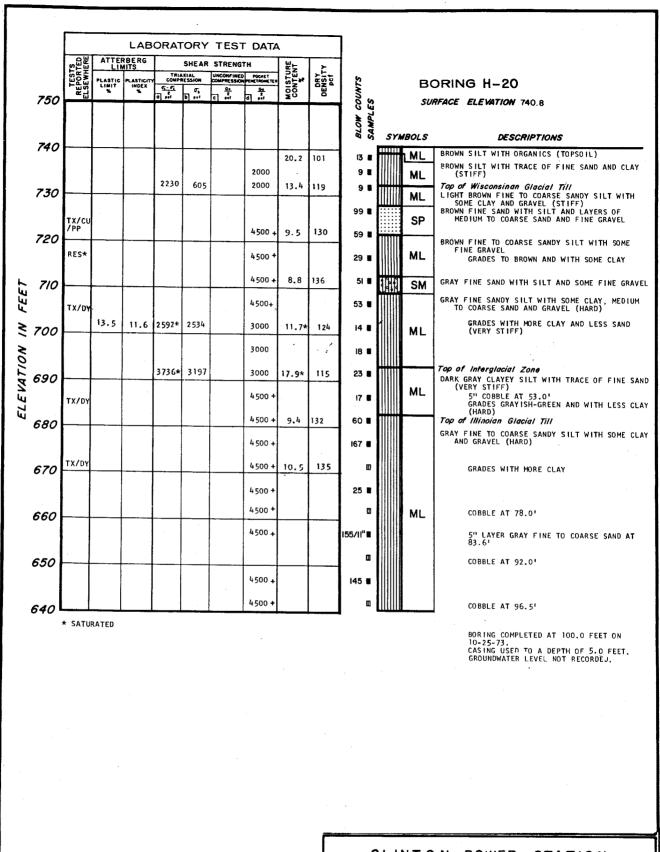
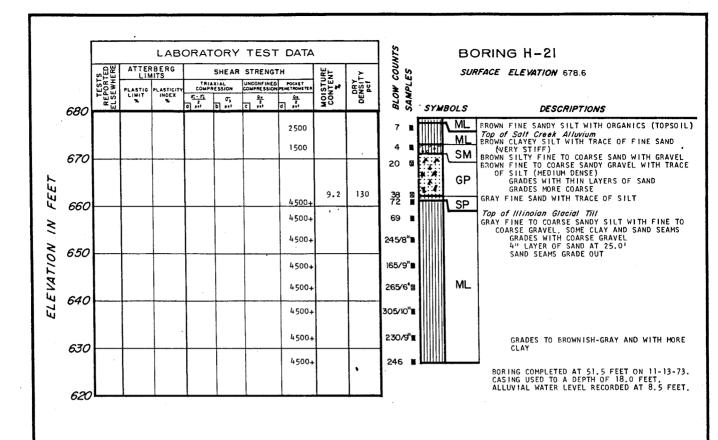


FIGURE 2.5-181

NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



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## NOTE:

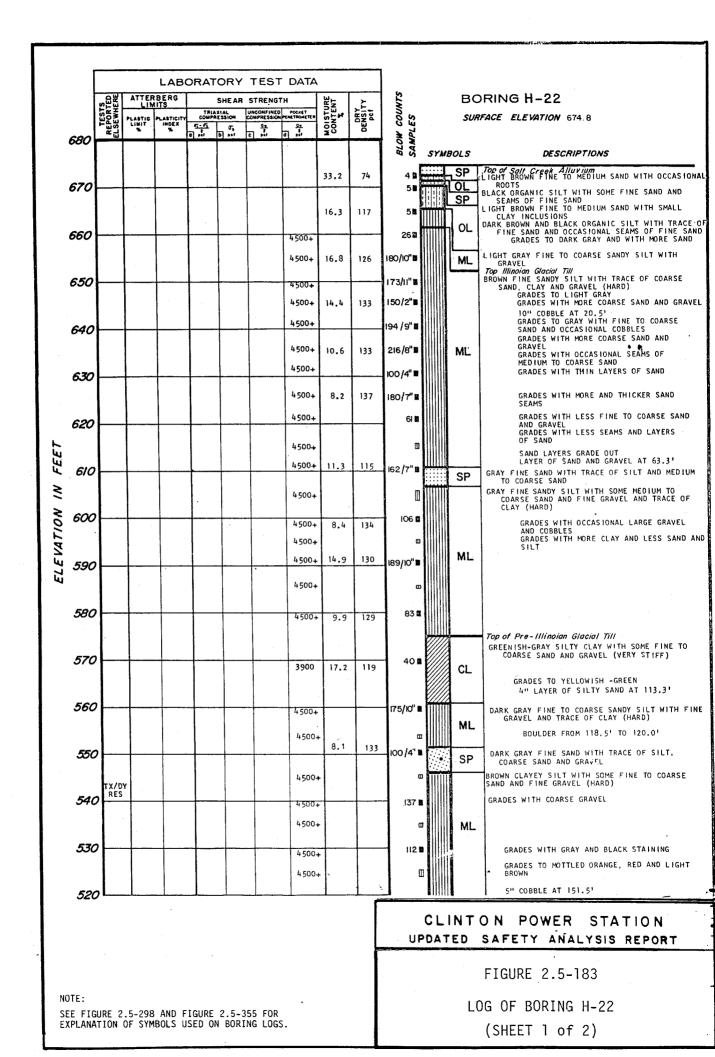
SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

FIGURE 2.5-182

UPDATED SAFETY ANALYSIS REPORT

STATION

CLINTON POWER



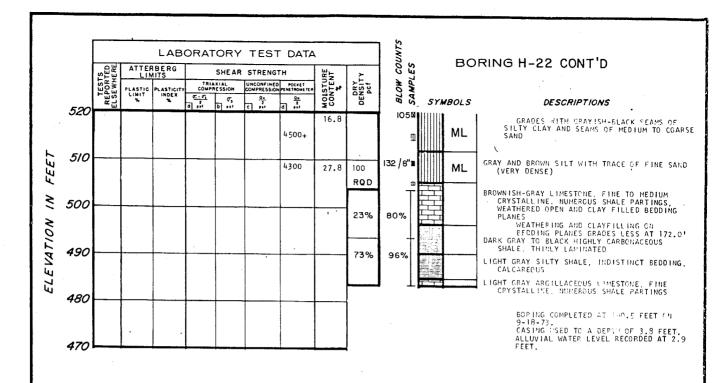


FIGURE 2.5-183

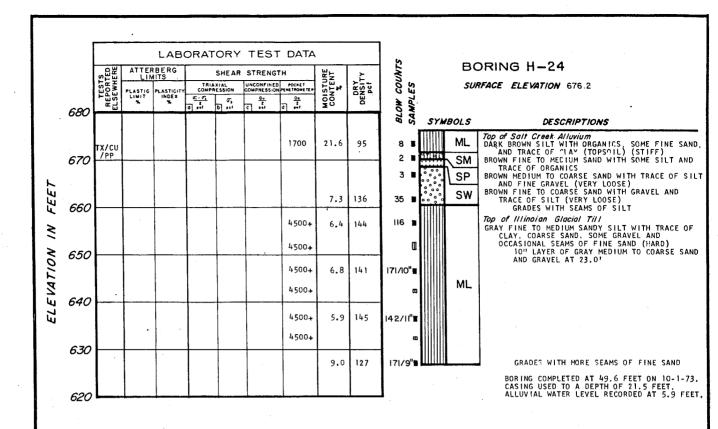
LOG OF BORING H-22

(SHEET 2 of 2)

Production         Submit Stream			LABORATORY TEST DATA									S		вс	RING H-23		
730         610+         346         18.6         103         17         ML         BROWN SILT WITH FINE SAND AI (10501)           720         10-         <			STS RTED VHER			SHEAR STRENGTH				TURE	Sity	NNO.					
730         610+         346         10.6         103         17         17         11         17         11         17         11         10		_	REPO	LIMIT	PLASTICITY					MOIS		APLE APLE					
730       6 10+ 346       10.6       103       17       10       17       10       17       10 <th></th> <th>740</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>BLC</th> <th>SYM</th> <th>BOLS</th> <th></th>		740										BLC	SYM	BOLS			
720       III       IIII       IIIIIII       IIIIIIIII       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII						610*	346								BROWN SILT WITH FINE SAND AND ORGANICS (TOPSOIL) BROWN SILT WITH TRACE OF FINE SAND, CLAY AND AND FINE GRAVEL (MEDIUM DENSE) (WEATHERED		
720       8.5       121       43       43       500       5400 AND FINE GRAVEL (OE         710       3458       1440       4500       62       62       110       127       62       110       100       170       110       127       16       62       110       127       682       110       127       16       62       110       127       680       110       127       680       110       121       16       16       110       121       16       16       110       121       16       10       17       16       10       10       10       10       10       10       10       10       10       10       10       10       10       10       110       10		730												ML	LOESS) Top of Wisconsinan Glacial Till		
7/0       34 58 1440       4 500       62 1       CARSE SAND AN (HARD)         7/0       34 58 1440       4 500       11.0* 127       22 1       CRADES WITH SOME CLAY GRADES TO GRAY GRADES WITH SOME CLAY GRADES TO GRAY GRADES TO GRAY GRADES TO GRAY GRADES WITH MORE CLAY GRADES TO GRAY GRADES WITH MORE CLAY (WITH TRACE OF FIN GRAY SILT WITH TRACE OF FIN GRAY SILT WITH TRACE OF FIN GRAVEL (WARD).         8600       12974* 2534       3500 25.0* 100       17.4       114       18       SP         6800       1790       4500+ 8.0       139       151       SP       GRAY SILT WITH TRACE OF FIN GRAVEL (WARD).         8600       14500+ 8.5       137       62       ML       GRAY SILT WITH TRACE OF FIN GRAVEL (MARD).         8600       14500+ 4500		720								8.5	121	43 🛯		SP	BROWN FINE TO MEDIUM SAND WITH SOME COARSE SAND AND FINE GRAVEL (DENSE)		
7/0       7/0       7/0       7/0       ML       GRADES TO GRAY GRADES GREENISH-GRAY GRADES GREENISH-GRAY GRADE TIME TO COARSE GRAD WITH SILT J AND FINE GRAVEL (VERY DANS GRAY FINE TO COARSE SAND WITH SILT J AND ORGANICS (VERY DENS GRAY FINE GRAVEL (HARD)         800 1000 6600       1400 4750       3000 4500+       13.3       128         810 660       1400 4750       3000 4500+       13.3       128         850 660       1400 4750       3000 4500+       13.3       128         850 660       1400 4750       3000       13.3       128       ML         850 660       1400 4750       4500+       155/5 <sup>a</sup> 160/5 <sup>a</sup> 160/5 <sup>a</sup> 162/1 <sup>a</sup> ML								ļ	4500			62 🛯			MEDIUM TO COARSE SAND AND FINE GRAVEL		
700       35.5       103       21       Top of Intergiocial Zone GRAY SILT WITH TRACE OF FIN HOUSE GRAY SILT WITH TRACE GRAY SILT WITH TRACE OF FIN HOUSE GRAY SILT WITH TRACE GRAY SILT WITH TRACE OF FIN HOUSE GRAY SILT WITH TRACE GRAY		710				3458	1440		4500	11.0*	127	22 🛯		ML	r		
1       2974*       2534       3500       25.0*       100       17       Image: Constraint of the state of			TX/CU /PP						2750	13.6	121	i6 🛯		•	GRADES WITH MORE CLAY		
\$ 690       TX/CU       2500       17.4       114       IB       GRADES GREENISH-GRAY         \$ 690       4500+       8.0       139       ISI       GREEN FINE GRAVEL (VERY DRS)         \$ 680       4500+       9.1       138       GRADES GREENISH-GRAY         \$ 680       4500+       9.1       138       GRAY FINE GRAVEL (VERY DRS)         \$ 670       4500+       9.1       138       GRAY FINE GRAVEL (HARD)         \$ 670       1400       4750       3000       13.3       128       ML         \$ 670       1400       4750       3000       13.3       128       GRAY FINE TO COARSE SANDY         \$ 670       1400       4750       3000       13.3       128       ML       GRAY FINE TO COARSE SANDY         \$ 660       1400       4750       3000+       13.3       128       ML       GRAY FINE TO COARSE SANDY         \$ 660       4500+       4500+       155/5"       ML       GRAY FINE TO COARSE SANDY         \$ 640       4500+       160/5"       ML       BOR ING COMPLETED AT S         \$ 640       640       162/11"       BOR ING COMPLETED AT S	ET	700			ļ	· ·					<u> </u>	21 🔳			Top of Interglacial Zone GRAY SILT WITH TRACE OF FINE SAND AND GRAVEL		
\$ 690       (PP)       2300       17.4       114       16       0			тх/си			2974*	2534					-		ML	GRADES GREENISH-GRAY AND WITH CLAY		
680       4500+       8.0       139       151       151       The GRAVEL (VERY DI Conset and Willinger Glavater Till Grap of Tillinger Glavater Till Grap of Tillinger Glavater		690		L		+			2500	17.4	114			<b>G</b> D	GREEN FINE SAND WITH SILT AND TRACE OF CLAY		
670       1400       4750       3000       13.3       128       70 mm       ML       GRAY SILT-WITH TRACE OF FILAND ORGANICS (VERY DENS)         660       4500+       4500+       155/5*mm       GRAY SILT-WITH TRACE OF FILAND ORGANICS (VERY DENS)         650       4500+       155/5*mm       GRAY SILT-WITH TRACE OF FILAND ORGANICS (VERY DENS)         650       4500+       155/5*mm       GRAY SILT-WITH TRACE OF FILAND ORGANICS (VERY DENS)         650       4500+       155/5*mm       ML         640       4500+       160/5*mm       ML         640       4500+       162/11*mm       BOR ING COMPLETED AT SID-26-73.	100								4500+	8.0	139				AND FINE GRAVEL (VERY DENSE)		
670       1400       4750       3000       13.3       128       70 m       ML       GRAY SILT WITH TRACE OF FILAND ORGANICS (VERY DENS)         660       4500+       155/9"m       ML       GRAY FINE TO COARSE SANDY         650       4500+       155/9"m       ML       GRAY FINE TO COARSE SANDY         650       4500+       155/9"m       ML       GRAY FINE TO COARSE SANDY         640       4500+       160/9"m       ML       BOR ING COMPLETED AT S         640       162/11"m       BOR ING COMPLETED AT S       10-26-73.	Z	680			<u> </u>	<u>†</u>	1				†			MI			
660       1400       4750       3000       13.3       128       70 m       ML       GRAY SILT-WITH TRACE OF FIL AND ORGANICS (VERY DENS)         660       4500+       155/5*m       GRAY SILT-WITH TRACE OF FIL AND ORGANICS (VERY DENS)         650       4500+       155/5*m       GRAY SILT-WITH TRACE OF FIL AND ORGANICS (VERY DENS)         650       4500+       155/5*m       ML         640       4500+       160/5*m       ML         162/11*m       162/11*m       BOR ING COMPLETED AT 9 10-26-73.       BOR ING COMPLETED AT 9		<b>670</b>	RES						4500+	8.5	137	62 🛯					
660       1400 4750       3000 13.3 128       m         660       4500+       155/5"       GRAY FINE TO COARSE SANDY AND GRAVEL (HARD)         650       4500+       165/5"       m         640       4500+       162/11"       m         640       162/11"       162/11"       BOR ING COMPLETED AT 5 10-26-73.		670				Γ						70.8		м	GRAY SILT WITH TRACE OF FINE SAND, FINE GRAV		
650 TX/DY 4500+ 4500+ 155/5" ML 66/5" ML 66/5" EOR ING COMPLETED AT 5 10-26-73.		660			ļ	1400	4750	<b>_</b>	3000	13.3	128				GRAY FINE TO COARSE SANDY SILT WITH SOME CLA		
650 640 640 640 640 640 640 640 64									4500+			155/9"∎					
640 IG2/IL <sup>*</sup>		650	TX/DY	 				<b>_</b>						ML.			
640 UU IG2/II'L IO-26-73.						1						160/9" 1					
BORING COMPLETED AT 9 10-26-73.		640	┣	ļ		+	+		45004		+						
															BORING COMPLETED AT 99.5 FEET ON 10-26-73.		
		630	*SATU	L RATED	4					<u></u>	<u> </u>	1			CASING USED TO A DEPTH OF 5.0 FEET. GROUNDWATER LEVEL NOT RECORDED.		
											ſ						
												CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT					
													FIGURE 2.5-184				
UPDATED SAFETY ANALYSI			TE:														
UPDATED SAFETY ANALYSI FIGURE 2.5-184		NOTE:												· · ·	_OG OF BORING H-23		

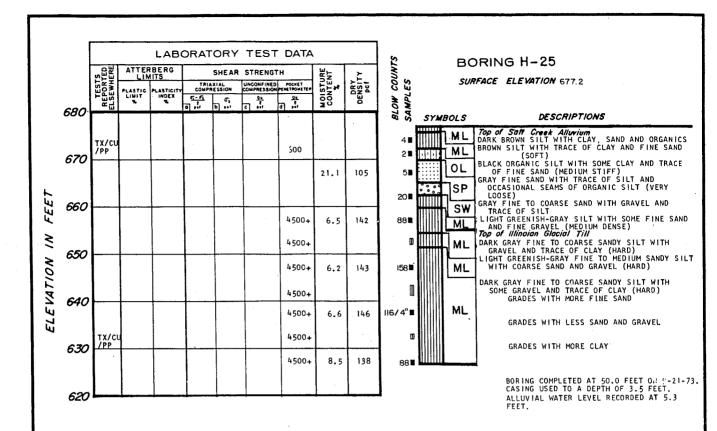
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NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS. CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

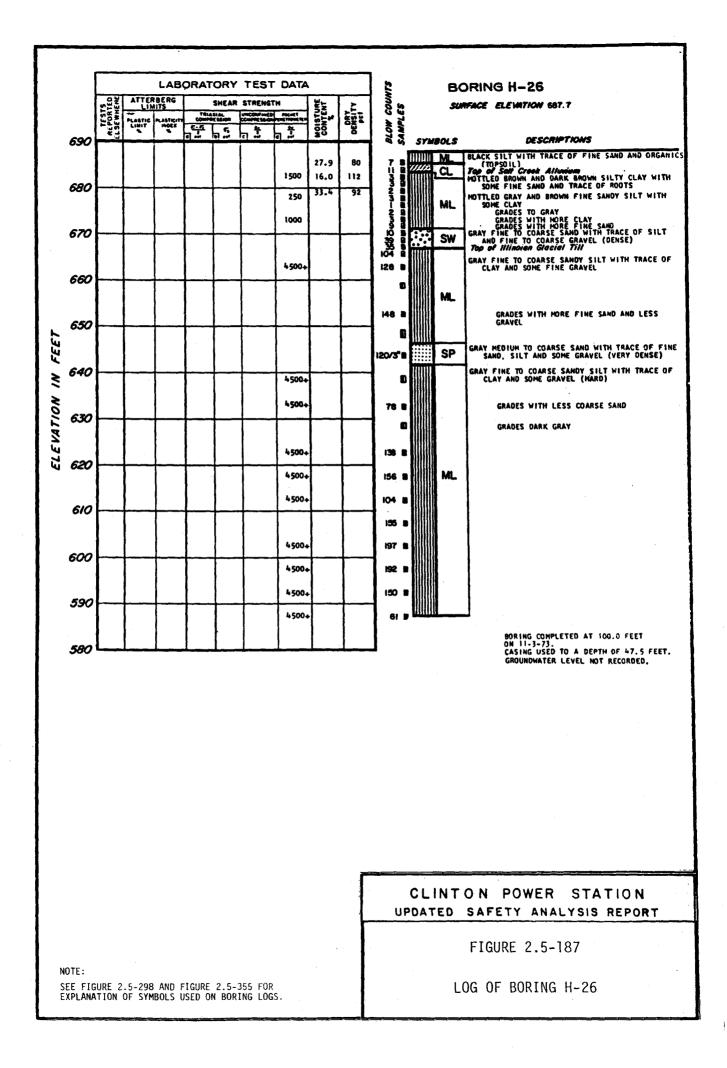
FIGURE 2.5-185



NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS. CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

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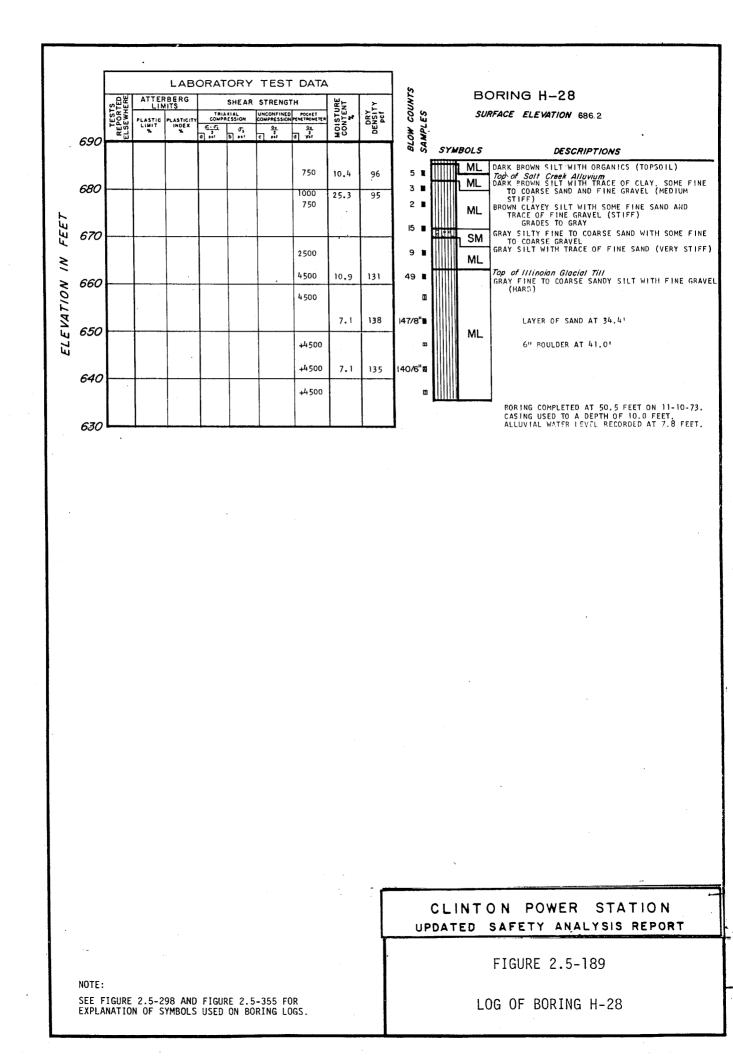
FIGURE 2.5-186



	<b>م</b> سا						T DATA			
	TESTS EPORTED SEWHERE		BERG	TRI.	SHEAR AXIAL RESSION	STREN	STH D POCKET DN PENETROMETER	MOISTURE	λ L	
	TE REPO ELSEV	PLASTIC LIMIT	PLASTICITY INDEX	<u>сомр</u> <u>с. с.</u> а ри	σ,	COMPRESSI	ON PENETROMETER	CONT	DENSIT	BORING H-27
700	_ω			0	6	c 351	d ++1	-		SURFACE ELEVATION 690.6
										SURFACE ELEVATION 690.6 SURFACE ELEVATION 690.6 MON SYMBOLS DESCRIPTIONS
690				<u> </u>			· · · ·			- DARK BROWNISH-GOAY ORGANIC S'LT WITH SOME
680								34.1	83	2 TITE PT Top of Sall Creek Alluvium DARK BROWN AND GRAY ORGANIC MATERIAL WITH SILT, CLAY AND FINE SAND OL MCTTLED BROWN AND GRAY ORGANIC SILT WITH S 6 N
000	-						4500+			54 CHARACTER STATES CONTRACT S
670					+			8.8	134	- 49 BRGWN AND DARK BROWN ORGANIC SILT WITH SOM CLAY AND FINE SAND (SOFT) TOP Of Illinoian Glacial Till
					1		4500+		ł	CLAY AND OCCASIONAL SANDY SILT WITH TRACE
660							4500+	18.1	124	61 GW GRAY FINE TO COARSE GRAVEL WITH FINE TO COARSE SAND
000							4500+			GRAY FINE TO MEDIUM SANDY SILT WITH FINE GRAVEL, TRACE OF CLAY AND OCCASIONAL S AND SILT SEAMS (HARD) GRADES WITH MORE SAND
650				<u> </u>			4500+	11.4	136	GRADES DARK GRAY AND WITH MORE CLAY
							4500+			GRADES WITH LESS SAND
640							4500+	10.4	123	NO(4" 8 ML GRADES WITH FEWER SAND SEAMS
040	1						4500+			GRADES DARK GRAY AND WITH MORE SAND
							4500+	16.5	115	
630				+		-		14.5	115	l00/6" <b>"</b>
							4500+			m 12" SAND SEAM AT 60. 5"
620				-			4500+	8.6	135	GRADES WITH MORE CLAY
610				1				<u> </u>	1	BORING COMPLETED AT 76.0 FEET ON 10-3-73.
										CASING USED TO A DEPTH OF 17.0 Alluvial Water Level recorded a 5.9 feet.

FIGURE 2.5-188

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



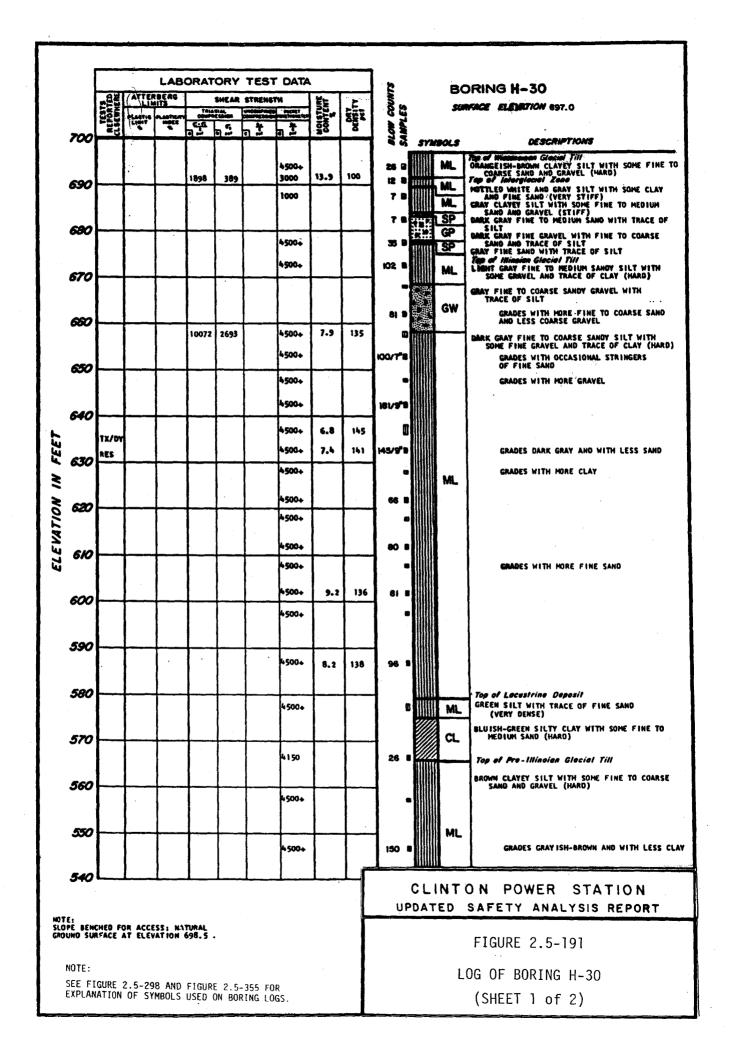
<i>590</i>	RTED HER	E ATTER					T DATA			NTS		BORING H-29			
<i>590</i>		LIN	RBERG	TRI	SHEAR	STRENG	D POCKET	ENT	۶È.	COUL		SUF	RFACE ELEVATION 687.7		
590	TESTS REPORTED ELSEWHERE	PLASTIC LINIT	PLASTICITY INDEX	COMP <u> (7 - 6</u> 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	To Ti	COMPRESSIO	N PENETROMETER	MOISTURE CONTENT	DENSITY	BLOW COUNTS SAMPLES					
	W			a] \$17		c ##1	10 101		ļ	SA	SYN	BOLS	DESCRIPTIONS		
							4500+	14.8 18.3	112 113	15 21 28			Top of Illinoian Glacial Till BROWN CLAYEY SILT WITH SOME FINE TO COAR SAND AND TRACE OF ORGANICS (WEATHERED (HARD)		
580							3 500 4 500+			15 21 28 27 12 8 27 12 8 22 49 61		ML	GRADES MOTTLED GRAY AND BROWN AND TRACE OF GRAVEL 1" LAYER COARSE SAND AT 7.0' GRADES GRAY AND WITH LESS CLAY GRADES WITH MORE SAND AND COARSE G		
570					1		3 500			14 🛙		ML SP	GRAY SILT WITH LAYERS OF GRAY FINE TO ME SAND WITH TRACE OF COARSE SAND AND GR		
												J.Sr.	GRAY FINE TO COARSE SAND WITH GRAVEL (ME DENSE)		
660			1							27 B		sw	GRADES WITH OCCASIONAL COBBLES GRADES WITH LESS FINE SAND		
										, <b>m</b>			GRADES WITH MORE SILT		
<i>650</i>							4 500+	11.5	134	131 🔳	Ť		GRAY FINE TO COARSE SANDY SILT WITH SOME AND FINE GRAVEL 2" SAND LAYER AT 39.7'		
540							4500+	7.4	139	140/10" ■			GRADES WITH COARSE GRAVEL		
							4500+	/		m		•			
630								7.1	141	139/10"			GRADES TO BROWNISH-GRAY		
												ML			
620							4500+			79 🛚					
610															
	1						4500+	8.8	135	106 II					
500					-		4500+			86 0					
													■ BORING COMPLETED AT 90.0 FEET ON 10-25-73.		

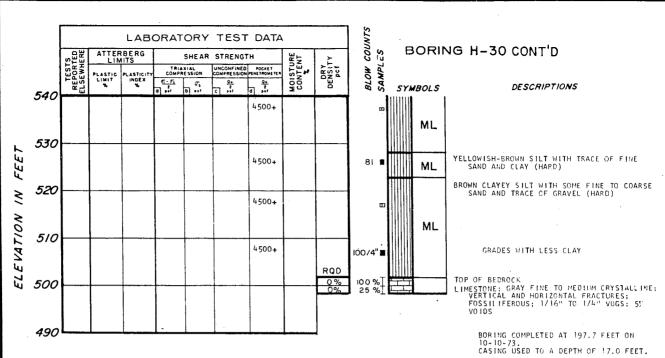
FIGURE 2.5-190

LOG OF BORING H-29

NOTES: SLOPE BENCHED FOR ACCESS; NATURAL GROUND SURFACE AT ELEVATION 689.7. SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

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CASING USED TO A DEPTH OF 17.0 F WATER LEVEL NOT RECORDED

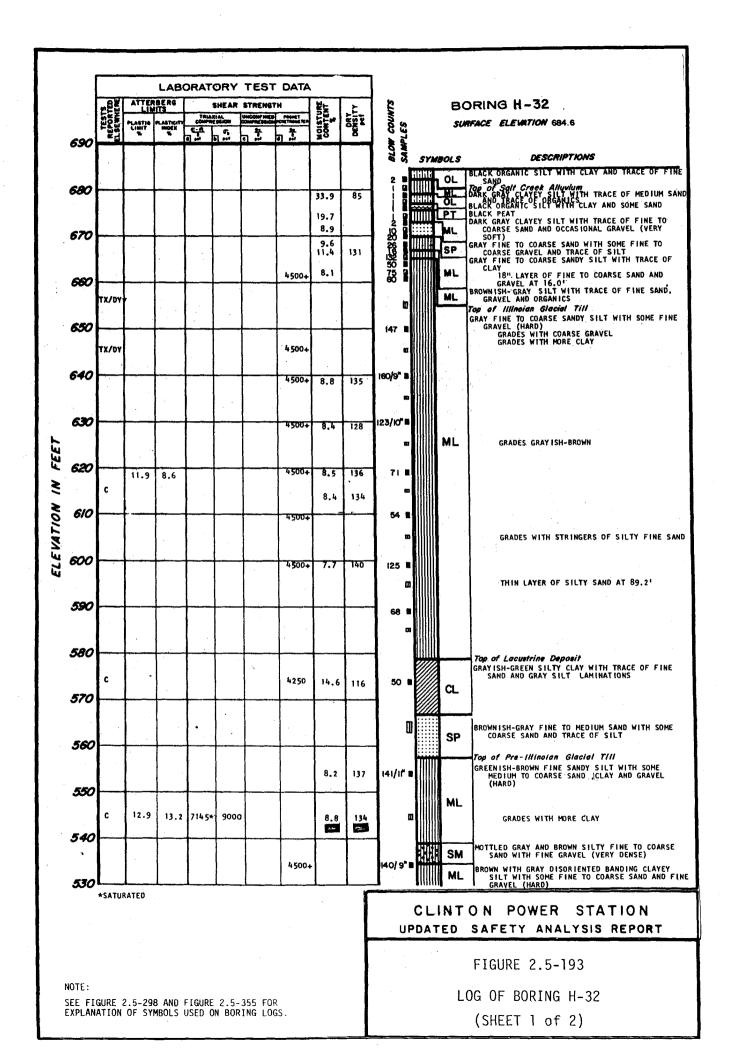
### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-191

LOG OF BORING H-30

(SHEET 2 of 2)

				LAE	BORA	ORY	TES	T DATA			
		TS STED HERE		RBERG			STRENG		URE	<u>_</u> ۲_	
		TES REPOR ELSEWI	PLASTIC LIMIT	PLASTICIT INDEX		The state of the s	COMPRESSIC	D POCKET N PENETROMETER Qu d str	MOISTURE	DRY DENSITY Pcf	SC BORING H-31 SURFACE ELEVATION 6911
-	700	<u> </u>			0 01	01 041					ວັນ SURFACE ELEVATION 691.1
											NOTE SYMBOLS DESCRIPTIONS
	690							4500+	11.6	117 94	II ML TO DE CONSTRUCT SILT WITH SO 23 0 FINE TO COARSE SAND AND GRAVEL (HARD) 16 ML FINE TO COARSE SAND AND GRAVEL (HARD)
	600							2500	17.8	105	II TOP OF INTERGIACIAL ZONG
	680							2100	18.6	109	9 CL MEDIUM SAND AND FINE GRAVEL (VERY STIF
	670							4500+			53 BARK GRAY FINE TO CUARSE SAND WITH SOME FI TO COARSE GRAVEL AND TRACE OF SILT (DEN Top of Illinoian Glacial Till GRAY FINE TO COARSE SANDY SILT WITH SOME C
	0.0	RES*									ML AND FINE TO COARSE SANDI STEL WITH SOME C
L	660							_			73 B GRAY FINE SAND WITH TRACE OF SILT (VERY DE
FEET								4500+			GRAY FINE TO COARSE SANDY SILT WITH SOME C AND GRAVEL.(HARD)
2	650	<u> </u>						4500+		<u> </u>	GRADES WITH LESS MEDIUM SAND
								4500+			GRADES WITH OCCASIONAL COBBLES
EVATION	640	TX/CU		_				4500+	<u> </u>		
ΕV		/PP						4500+			168/9 <b>°B</b>
E۲	630	$\vdash$						4500+			GRADES GRAVISH-BROWN AND WITH MORE
								4500+			GRAVEL
	620						-	4500+			
	610							4500+			93 🛯
	0.0							4500+			
	600		-		_			4500+			GRADES DARK GRAY
	ŗ					-		4500+			
	590							4500+			
			* SAIL	JRATED							BORING COMPLETED AT 99.5 FEET ON 10-2 CASING USED TO A DEPTH OF 17.0 FEET. GROUNDWATER LEVEL NOT RECORDED.
							·				
										ſ	CLINTON POWER STATION
										ļ	UPDATED SAFETY ANALYSIS REPORT
	οτες								•		FIGURE 2.5-192
S				ACCES							
G			AUE AI 2.5-29	ELEVA							LOG OF BORING H-31



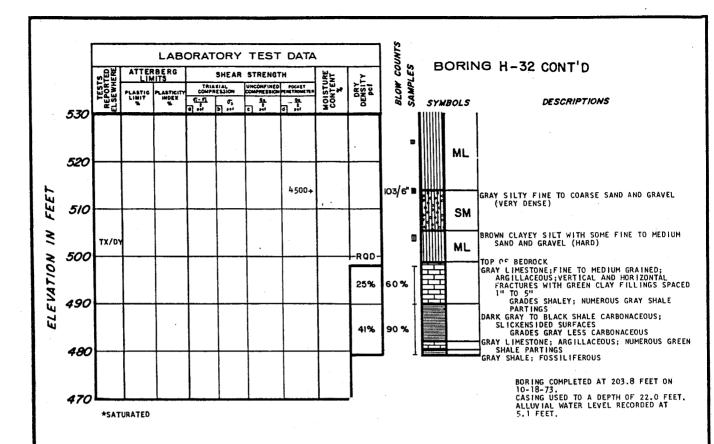


FIGURE 2.5-193

LOG OF BORING H-32

(SHEET 2 of 2)

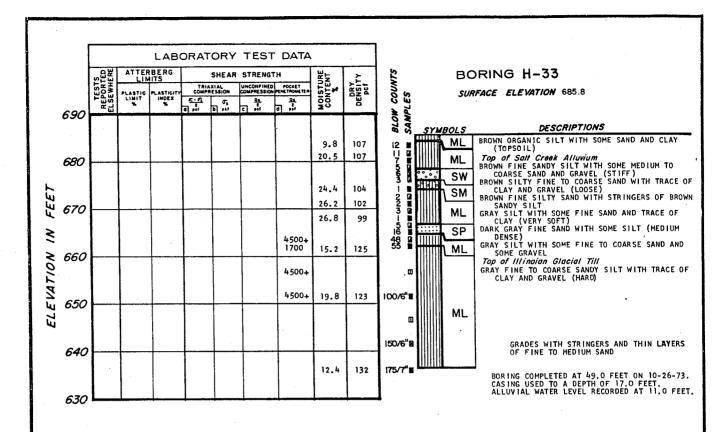


FIGURE 2.5-194

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

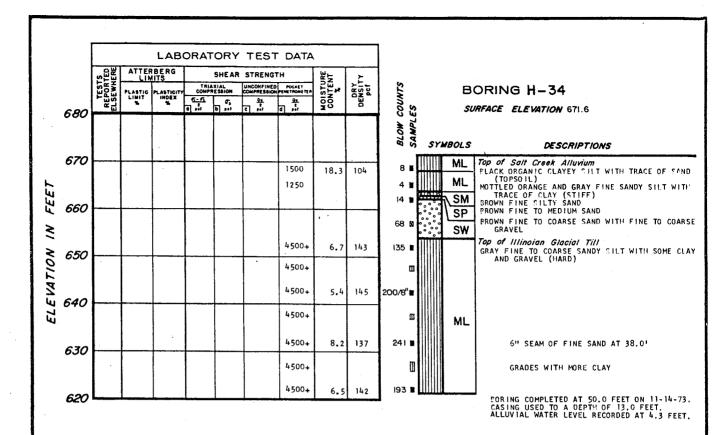
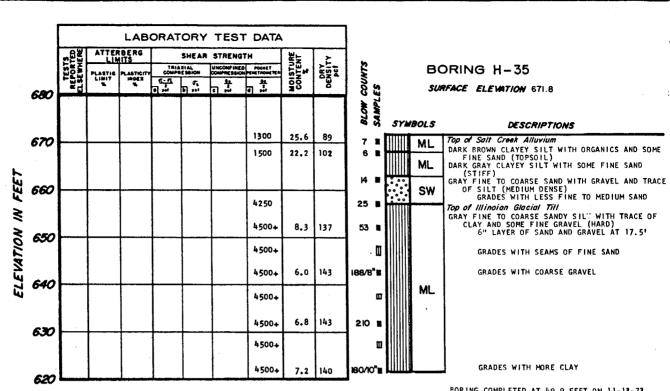


FIGURE 2.5-195

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



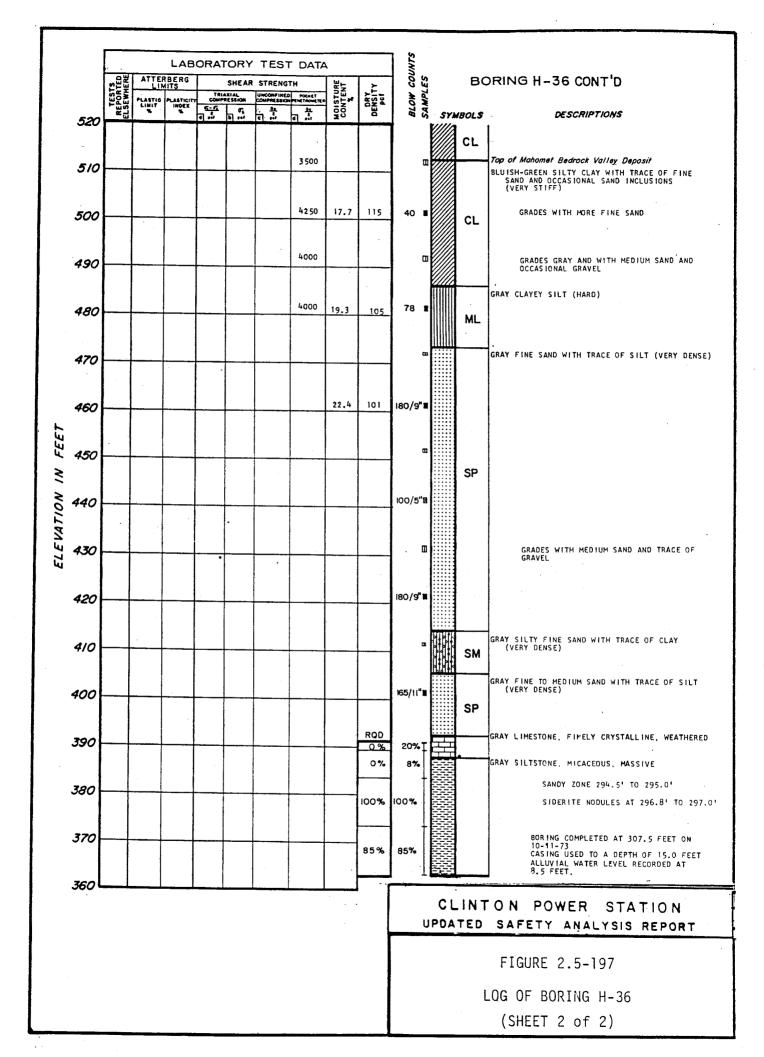
BORING COMPLETED AT 49.9 FEET ON 11-13-73. CASING USED TO A DEPTH OF 14.5 FEET. ALLUVIAL WATER LEVEL RECORDED AT 3.4 FEET.

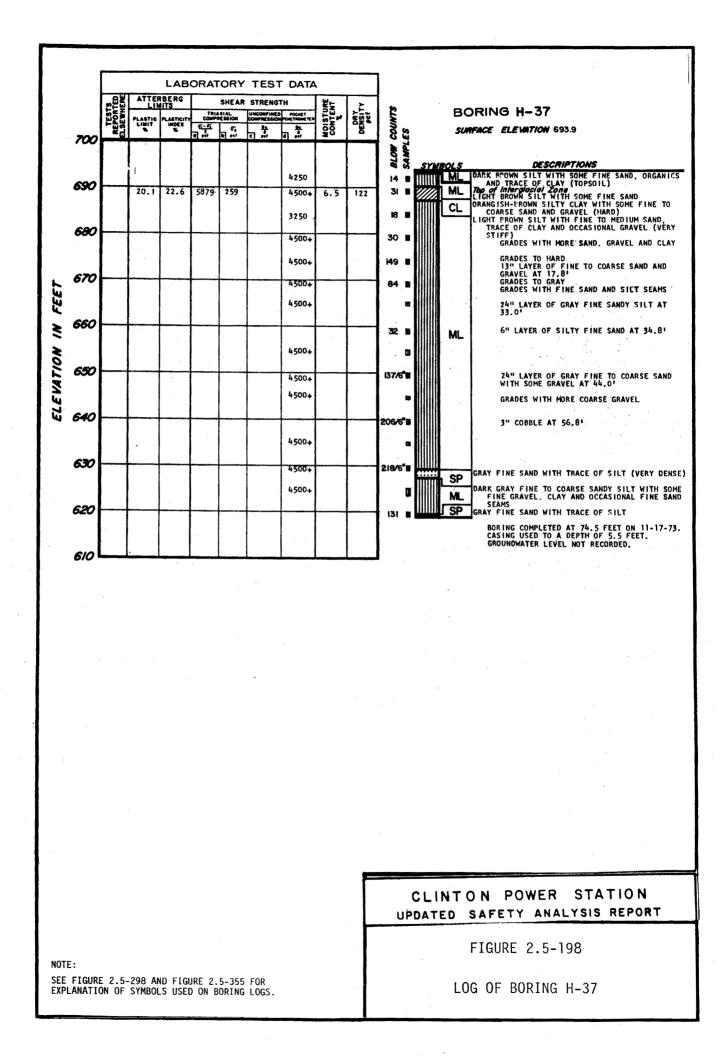
### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-196

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR • EXPLANATION OF SYMBOLS USED ON BORING LOGS.

		٥₩I	ATTER										
		ESTS ORTE	LIN	ITS PLASTICITY INDEX		SHE AR	STRENG	TH D POCHET NPENETROMETER	MOISTURE	DENSITY DENSITY	5	в	ORING H-36
	680	<b>7</b> 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	LIMIT	SNDEX %	5-5 1 1	5, 1)	9 <u>4</u> 2 101	6 111 62	NOI	- <u>6</u>	COUNTS		URFACE ELEVATION 671.2
											SAMPLI		
	670							850	16.8	97		MBOLS	and the second
	670							850 1200	28.4	92	7 9 7////	CL	DARK BROWN CLAYEY SILT WITH ORGANICS (TOPSO Top of Sah Creek Alluvium Mottled brown and gray silty clay with trai
	-							1200	27.3	92	660m2m2	CL GW	FINE SAND (MEDIUM STIFF) DARK GRAY SILTY CLAY WITH TRACE OF FINE SA (VERY SOFT)
	660							2500	10.3	133	14 🔳 🗌 🔄	<u> </u>	DARK GRAY FINE TO COARSE GRAVEL WITH MEDIU TO COARSE SAND AND TRACE OF SILT Top of Illinoion Giaciai Till
								+4500 +4500	8.2	137	34 B 51 B 5		GRAY CLAYEY SILT WITH SOME FINE TO COARSE SAND AND GRAVEL (VERY STIFF) GRADES WITH LESS CLAY (HARD)
	650						·	+4 500	6.8	142	160 1		GRADES WITH LAYERS OF SAND AND GRAVE
											8		GRAVEL LAYERS GRADE OUT
	640		<b> </b>	<u> </u>				4500+	9.8	132	100/5"		
								4500+			6		
	630						<u> </u>	4500+	5.6	142	100/5"		
		TX/DY						4500+			тоо, с <b>т</b>	ML	
•	620	<b> </b>		1	<u> </u>	┨───		4500+			ш 100/4" D		
FEET									9.0	136	IOO/4 U		
	610	<b> </b>		<u> </u>	-								
N								4500+ 4500+			124		GRADES WITH STRINGERS SAND
NOI	600				+ -	1			<b> </b>	<b> </b>	5		
VAT.		RES						4500+			106 🔳		
ELEVATION	590	<b> </b>	<b> </b>					4500+	7.4	139	<b>m</b>		
. 4		ľ						4500+			141 🖬		GRADES WITH MORE CLAY
	580		<b> </b>					4500+	14.6	118	Ľ,		Top of Pre- Winsing Glasial Titl
								4000			34 🛛		Top of Pre-Illinoian Glacial Till GRAYISH-GREEN SILTY CLAY WITH SOME FINE TO MEDIUM SAND AND OCCASIONAL GRAVEL
	570		<b> </b>	<u> </u>				4 500+	9.2	135	□	CL	GRADES WITH LESS CLAY AND MORE FINE
												4	GRAY FINE SANDY SILT WITH MEDIUM TO COARSI SAND AND TRACE OF CLAY AND GRAVEL
	560	<u> </u>	<b> </b>		<u> </u>		<u> </u>	45004	·		100/6"		
		1											
	550	ļ	<u> </u>	· · ·				45004	9.5	132		ML	GRADES WITH MORE CLAY AND LESS FINE
			ŀ										
	540	<b> </b>							14.1	124	100/6"∏ 147/10"∎		GRADES WITH MORE COARSE GRAVEL
									'**'	'24			GRAYISH-BROWN SILTY CLAY WITH SOME FINE T
	530	<u> </u>	<b> </b>		<u> </u>	-		4000					COARSE SAND AND GRAVEL (HARD)
	·											CL	
	520	L						4500.	16.3	118	62	1	GRADES WITH LESS CLAY
				_1					·	ſ	C L	INT	ON POWER STATION
													SAFETY ANALYSIS REPORT
							•						
	DTE:		E 000		TOUDE	2 = 7							FIGURE 2.5-197
							S5 FOR NG LOG					L	OG OF BORING H-36
													(SHEET 1 of 2)





				ORAT	ORY	TEST	DATA			BORING H-38
	TESTS REPORTED ELSEWHERE		BERG	TRU COMP	SHE AR	STRENG	TH POCHET	MOISTURE	DENSITY	SURFACE ELEVATION 726.9 NOT SURFACE ELEVATION 726.9 NOT SYMBOLS DESCRIPTIONS
730	REP	PLASTIG LIMIT	PLASTICITY INDEX	e-9 • ••	5 14	<u>م</u> ب ۲	9 9 9	MO CON CON	55-	NON OTA SYMBOLS DESCRIPTIONS
20							4500+ 4500+	13.3 7.9	110 100	IT B ML BROWN SILT WITH ORGANICS (TOPSOIL) BROWN SILT WITH SOME CLAY AND TRACE OF F SAND (HARD) (WEATHERD LDESS) TOP OF Wisconsingin Glacial TII SP BROWN FINE TO MEDIUM SAND WITH TRACE OF GRADES WITH MORE SILT
	TX/CU						4500+			BROWN SILT WITH FINE TO COARSE SAND, FIN GRAVEL AND TRACE OF CLAY (HARD)
10	<u>/pp</u>						4500+			19 ML GRADES GRAYISH-BROWN AND WITH MORE
00	TX/DY						3000			14
						,	3000			23 Top of Interglacial Zone DARK BROWN SILT WITH ORGANICS AND TRACE BROWNISH-GREEN SILTY CLAY WITH TRACE OF SAND AND GRAVEL (VERY STIFF)
90	TX/CU	<u> </u>					2000			12 CL SAND AND GRAVEL (VERY STIFF) GREEN SILT WITH SOME FINE TO MEDIUM SAND GRAVEL AND TRACE OF CLAY (STIFF)
	/PP						4 500+			50 GRAY FINE TO COARSE SILTY SAND WITH SOME AND GRAVEL (HARD)
90					1		4500+	6.6	144	180/11"
70							4500+			
							4500+			103 B GRADES WITH MORE CLAY
60	TX/CU /PP	1					4 500+	<u> </u>		
							4500+	6.7	139	127 🔳
50			+				4500+	6.1	143	139
	TX/DY						4500+			GRADES WITH MORE LARGE GRAVEL
40						·	4500+	8.9	134	150/4"
530							4 500+			BOULDER AT 98.5'
							4500+	6.9	139	131/6"
620	L								<u> </u>	BORING COMPLETED AT 101.0 FEET ON 10-24-73. CASING USED TO A DEPTH OF 5.0 FEET. GROUNDWATER LEVEL NOT RECORDED.

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CLINT	0	Ν	PO	NER	STA	TION
UPDATED	S	AFE	ETY	ANAL	YSIS	REPORT

FIGURE 2.5-199

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

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LOG OF BORING H-38

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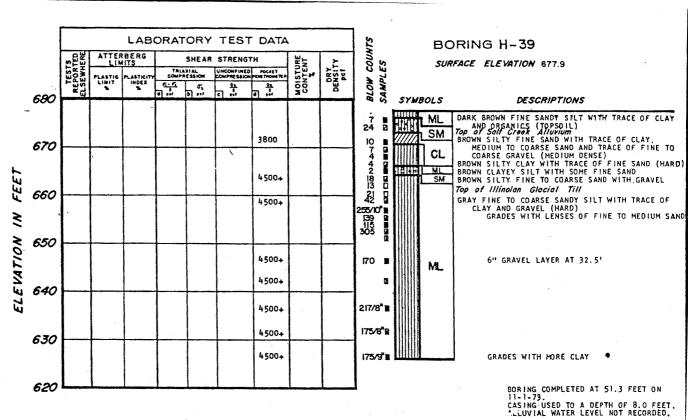
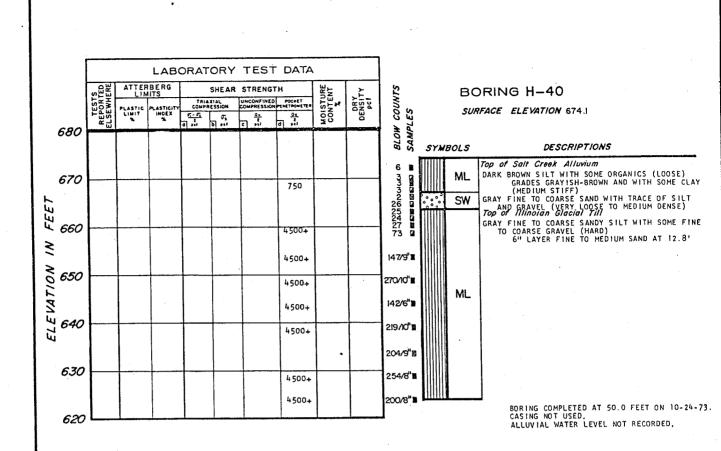


FIGURE 2.5-200

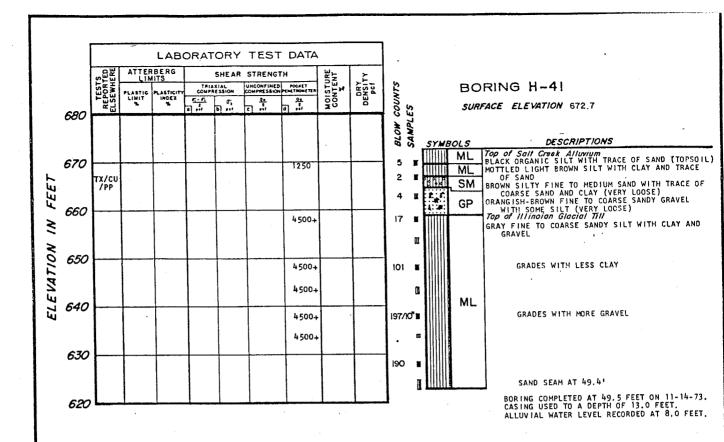
NOTE:

SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS. CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-201

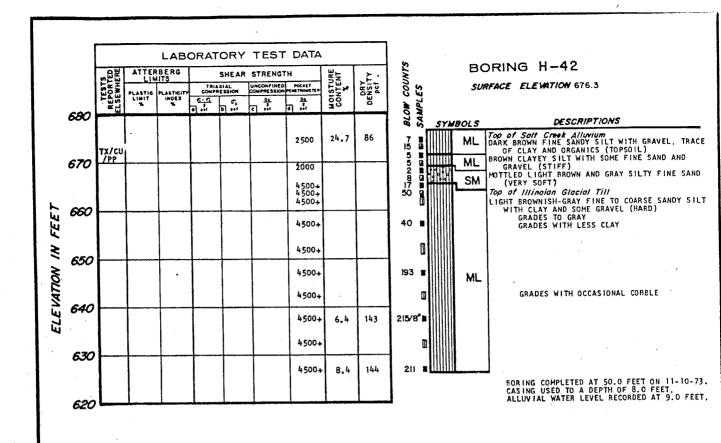


CLINT	O N	POWER	STA	TION
UPDATED	SAFE			REPORT

FIGURE 2.5-202

LOG OF BORING H-41

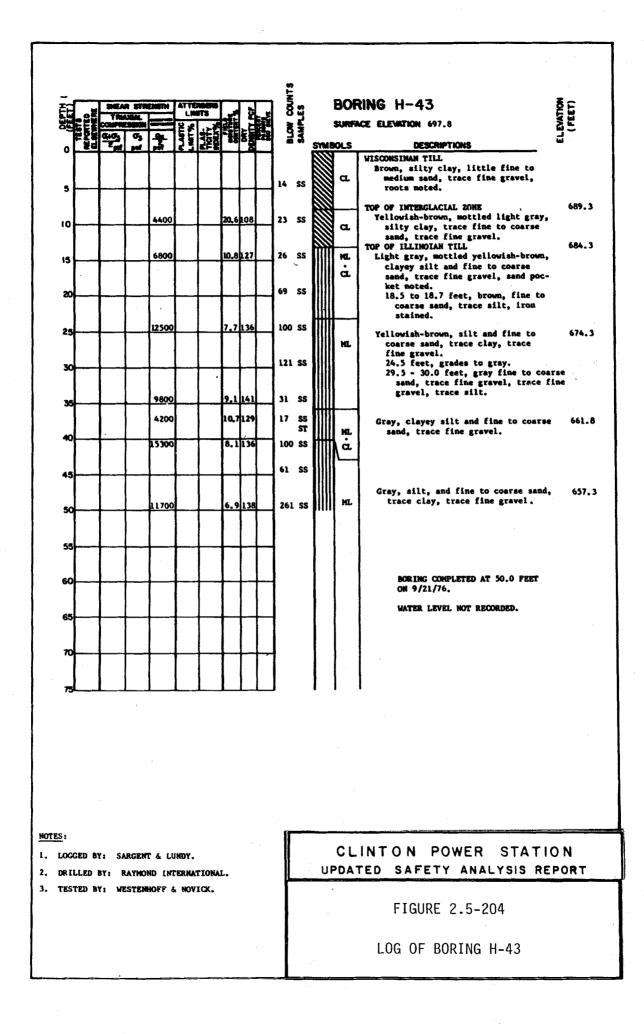
NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.



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UPDATED	SAF	ETY	ANAL	YSIS	REPORT

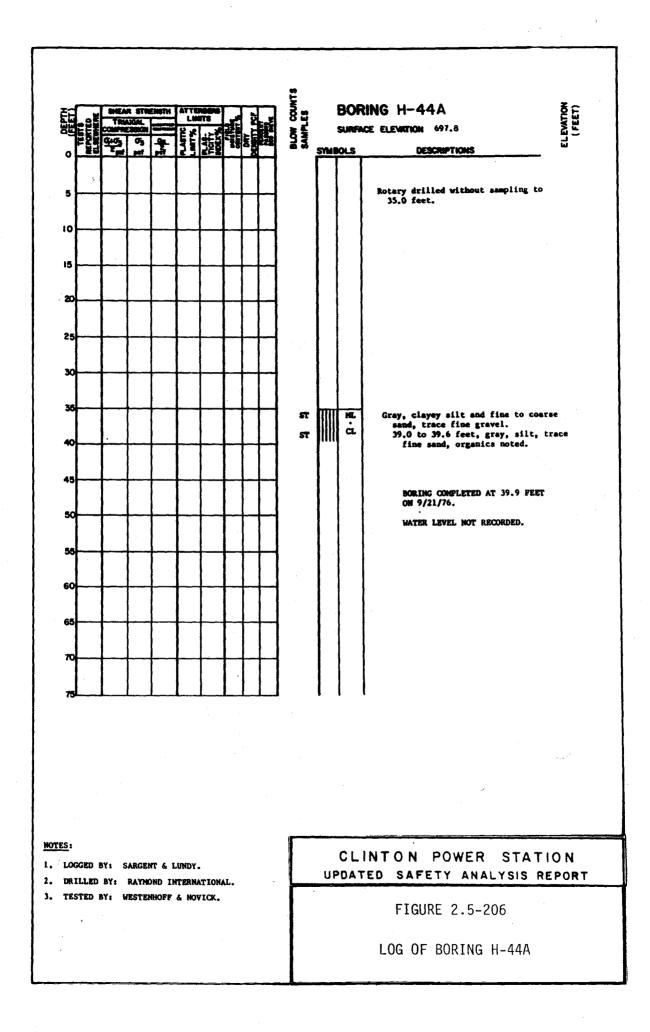
FIGURE 2.5-203 .

NOTE: SEE FIGURE 2.5-298 AND FIGURE 2.5-355 FOR EXPLANATION OF SYMBOLS USED ON BORING LOGS.

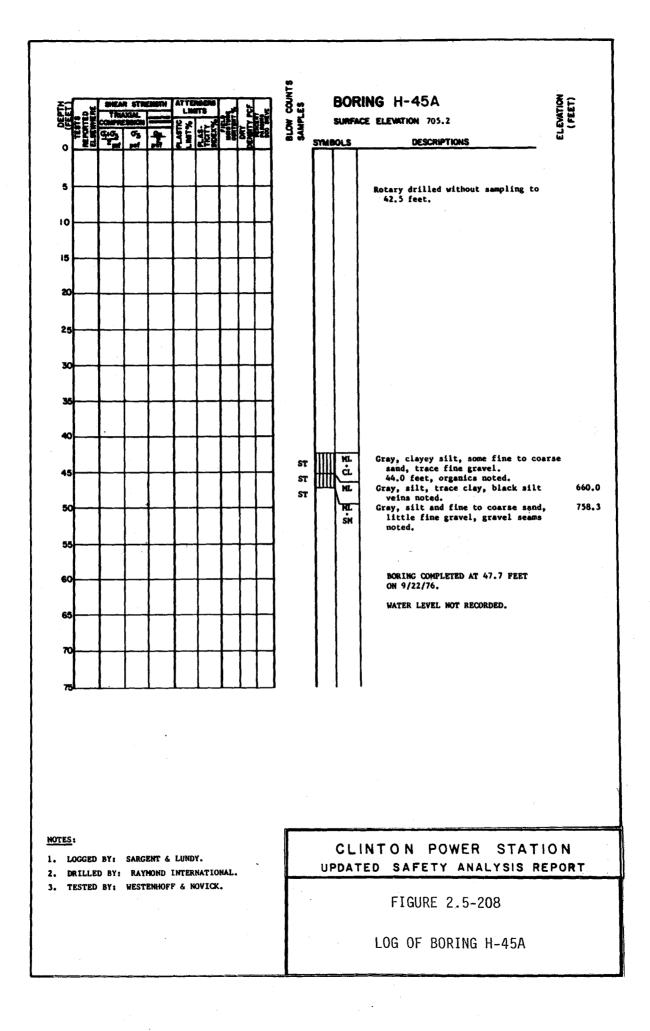


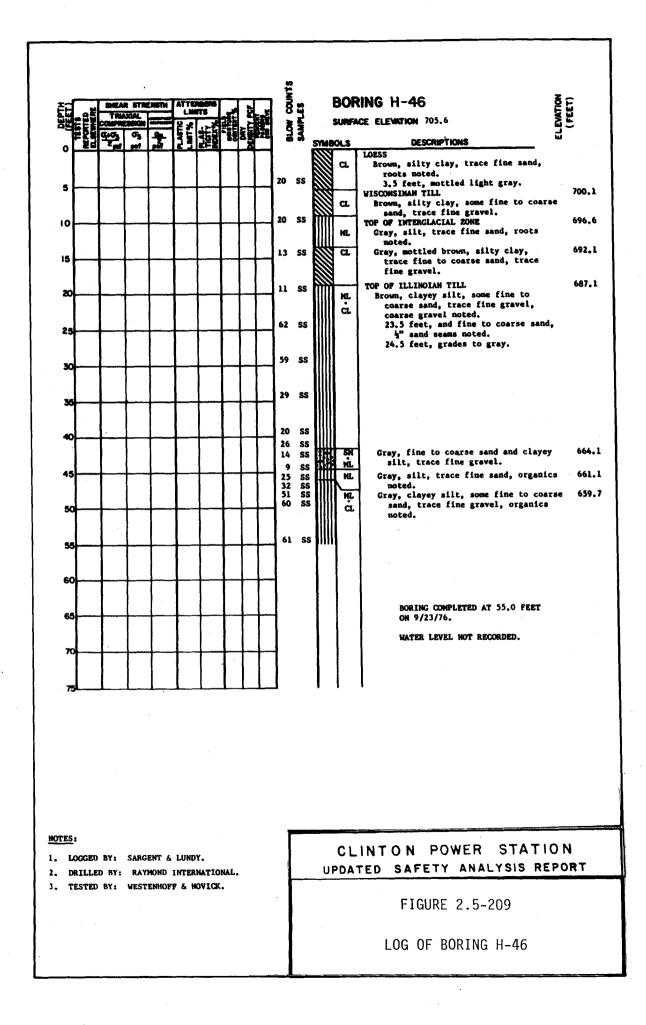
EE		SHEA	A STR	ENGTH	ATTE				]	ן א	5		BO	RING H-44	Ší
		TRA			LIM				L.		- E		SURF	ACE ELEVITION 697.8	LW.
		5	5	-		PLAN-		£5	ĒŻ		SAMPLES	594	BOLS	DESCRIPTIONS	ELEVATION
0	<b> </b>							┝╹						Dark gray, silty clay, trace f	
_										24	SS		CL	sand, organics noted.	
5								┢╴		-				5.5 feet, grades to yellowis mottled light gray.	h-brown,
10				7700			18.9	114		35	SS			where right gray.	
10								<b>[</b>	<b>[</b>	1					
15				4500			11.6			34	<b>S</b> S		ML	TOP OF ILLINOIAN TILL	
									l				ä	Gray, mottled light yellowish- clayey silt, and fine to coa	
20				7500			8,3	141		112	<b>SS</b>	Ht	ML.	trace fine gravel. Gray, silt, and fine to coarse	sand,
														trace clay and fine gravel.	
25								L	<u> </u>	113	SS	ΗH	SP	23.7 feet, brown fine to med	ium sand,
													\su	trace silt, iron stained, 24.5 feet, gray, silt, and f	ine to
30				12300			8.4	148	┞	- 53	SS		ML	coarse sand, trace clay an gravel.	d fine
														-	
35				5500	-		10.2	-	-	29 20	SS SS		ML	Gray, clayey silt, and fine to sand, trace fine gravel.	coarse
				3100			11.0	141		14	<b>SS</b>		CL		
40				<u>3000</u> 7000			13.4	125		11 36	55 55			39.0 to 39.6 feet, gray, sil fine sand, organics noted.	t, trace
				13500 11800				1 36 1 36	1.	73 89	SS SS		ML	Gray, silt, and fine to coarse trace fine gravel.	sand,
45							0.4	1.20		07	22			and the Braver.	
										225/	6#8C			69 3 to 69 5 fact and 64	
50										<b>,</b>			<b>S₽</b>	49.3 to 49.5 feet, gray, fin sand, trace silt.	e to mediu
_															
55															
60				Ľ											
														BORING COMPLETED AT 49.5 P ON 9/21/76.	LET
65								ļ						WATER LEVEL NOT RECORDED.	
									1						
70								_					1		
75														l	
														· · ·	
												·			
E <u>S</u> 1										Γ			<u></u>		
				πει	-									INTON POWER STA	
				ND (N RHOFF			L.			┢			DAI	ED SAFETY ANALYSIS	REPOR
														FIGURE 2.5-205	
														[IUUNE 2.0=/UD	

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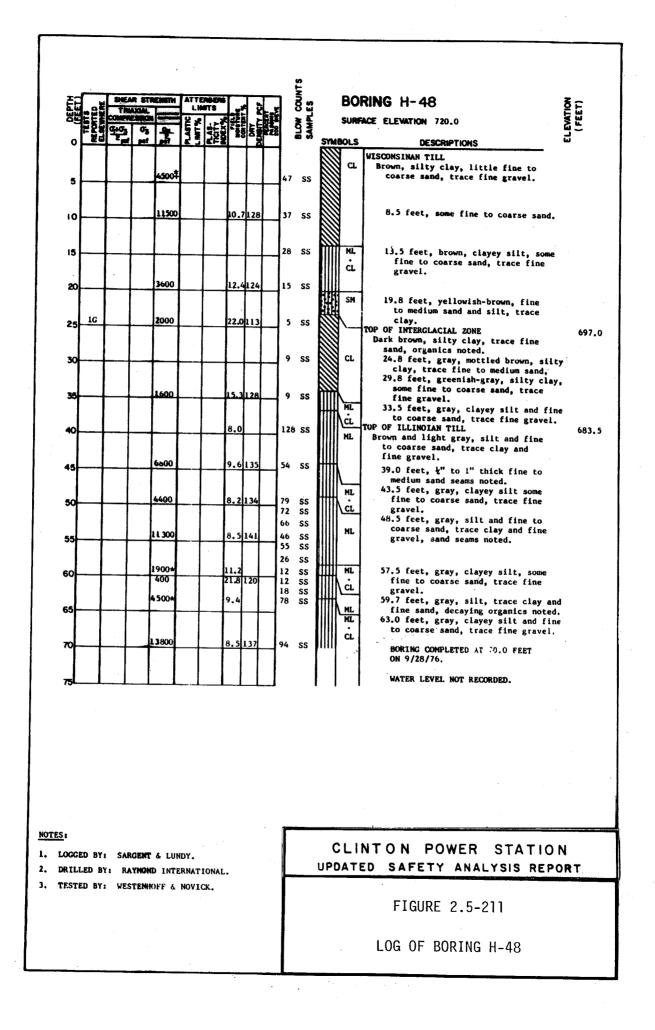


	Sing A	N STRE					2		BLOW COUNTS	PLES			RING H-45 NGE ELEVIETION 705.2	ELEVATION (FEET)
	dia?	σ	÷	LAFTIC	Test Test	Ē	È E	h	2	SAN	SYMI		DESCRIPTIONS	3
5			<b>987</b> 4500			11.8			27			đ	WISCONSINAN TILL Brown, silty clay, some fine to coar sand, trace fine gravel.	56
10									20	<b>S</b> \$		ML.	TOP OF INTERCLACIAL ZONE Light gray, silt, trace fine sand.	65
15			2900			23,6	104	÷	14	SS		CL	Yellowish-brown, mottled light gray, silty clay, trace fine sand.	
80									19	<b>S</b> 5		NL CL	TOP OF ILLINOIAN TILL Yellowish-brown, clayey silt, some fine to coarse sand, trace fine gravel.	61
25			6000			12.4	129		123/9	<b>**</b> SS		NEL	Light yellowish-brown, silt, some fine to coarse sand, trace clay.	6
30	-				<b> </b>	8.0	133		109	SS			28.5 feet, grades to gray, silt, a fine to medium sand, trace clay.	
35	┢──		<u>11100</u>		┝─	8.6	140		58	<b>S</b> S			33.5 fest, fine to coarse sand, trace fine gravel.	
40	<u> </u>		4500 <del>1</del> 4500 <del>1</del> 8100				135		43 34 21	SS SS SS		H.	Gray, clayey silt, some fine to coa: sand, trace fine gravel.	rse 6
45 IG			500 600			23.0	<u>123</u> 5107	1	13 38 41	55 55 55		CL ML ML	44.0 feet, organics moted. Gray, silt, trace clay, black silt moted. Gray, silt and fine to coarse sand,	veins 6 7
50			12900	Γ	<b>†</b>		139		43 84	SS		્ટ્રસ મા	Gray, shit and fine to coate and, little fine gravel, gravel seams of Gray, clayey silt and fine to coars sand, trace fine gravel.	noted.
55	Ī					Ī					ſ			
60													BORING COMPLETED AT 55.0 FEET ON 9/22/76.	
65									]				WATER LEVEL AT 46.9 FEET.	
70	Γ		1	Γ		Τ	T		1					
, <b>, , , , , , , , , , , , , , , , , , </b>														
	GGED BY: SARGENT & LUNDY. KILLED BY: RAYNOND INTERNATIONAL. 25TED BY: WESTENHOFF & NOVICK.										Ų		.INTON POWER STAT TED SAFETY ANALYSIS R	
TESTE	) BY:	WEST	enhof	F & 1	OVIC	ς.			ſ				FIGURE 2.5-207	
									Ĩ					

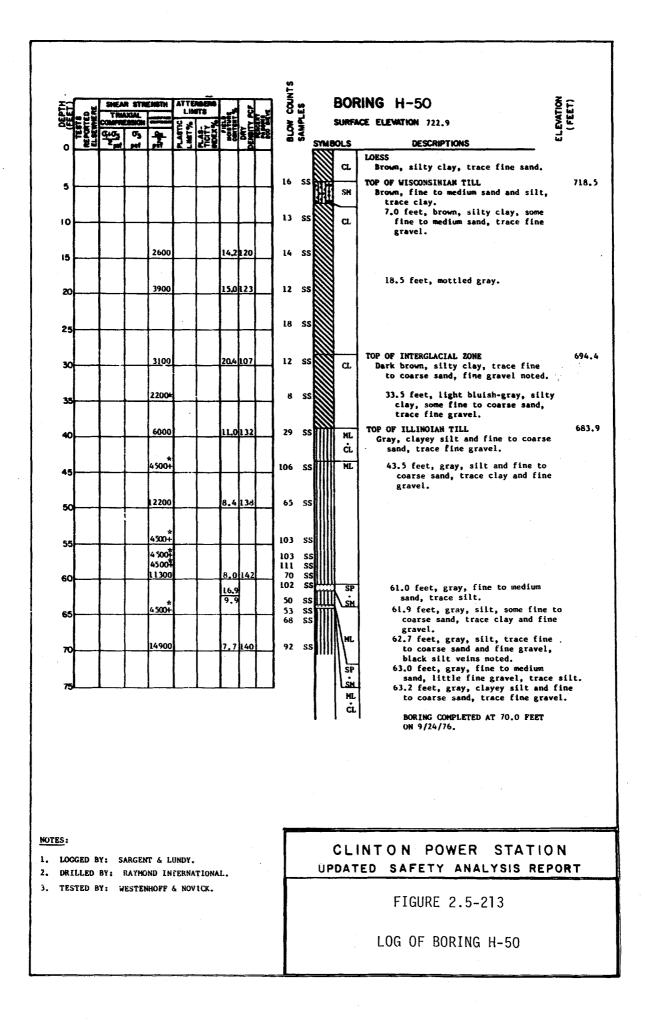


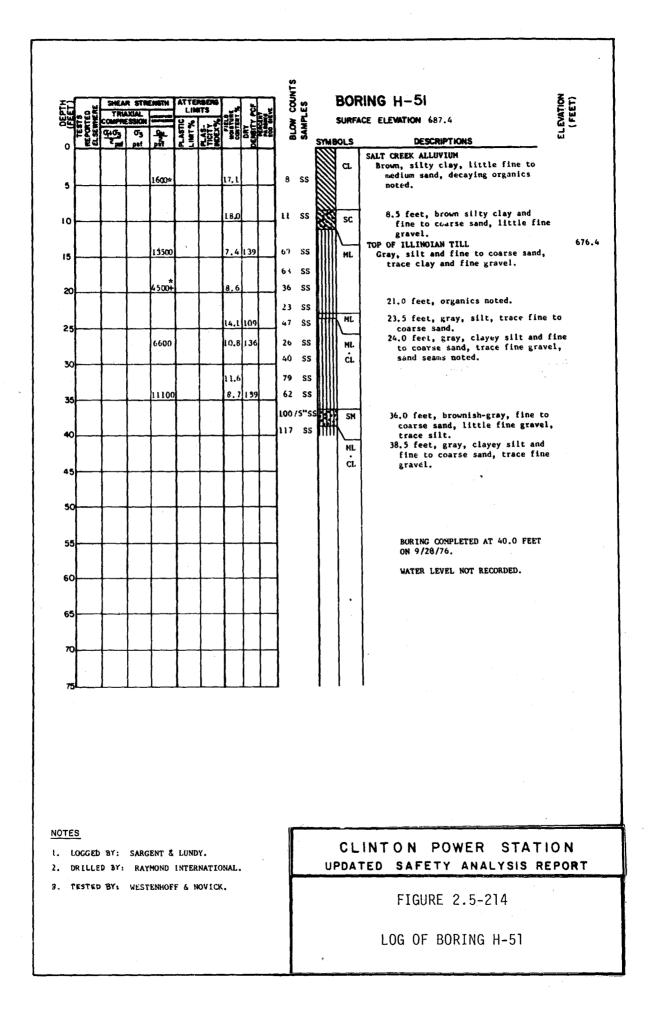


đ			R STR	ENGTH	ATTE LIN		لاي	2		BLOW COUNTS	ES			RING H-47	ELEVATION (FEET)
巡	REPORTED ELSENNER	COMPT QuO3	0%	P	PLASTIC LIMT%	- × ×	Pitta Distud			ğ	SAMPLES		SURFA	CE ELEVATION 713.7	LEV (FE
٥ľ	23	2	pat	-94- 937	53	ACIT TICIT NOEX	<b>1</b> 3	° ä			(A)	SYM	BOLS	DESCRIPTIONS	<b>لیا</b>
										<b>.</b> .			CL	WISCONSINAN TILL Brown, silty clay, some fine to	
5							10.5			24	SS			medium sand, roots noted. 4.0 feet, brown, clayey sand, so	ome
													sc	silt. 6.5 feet, brown, fine to medium	
0	·						6.6			20	<b>SS</b>	Πí	SM	sand, some silt, trace clay.	
ľ													ci	li.5 feet, brown, silty clay, so	ome
15				7100			11.9	123		16	SS			fine to coarse sand, trace fin	
Ĩ										]				gravel. TOP OF INTERGLACIAL ZONE	69
20	_			2000			22.1	106		12	SS		CL	Dark brown, silty clay, trace find to coarse sand, fine gravel and	
Ĩ										1				organics noted.	
		]		1 200			20.4	112		111	SS				
-5										1			CL	24.5 feet, yellowish-brown, mot gray, silty clay, some fine t	
				2500*						10	SS			coarse sand, trace fine grave	1.
50		1			<b> </b>	<b> </b>			1	1			ML	TOP OF ILLINOIAN TILL Gray, clayey silt, some fine to	68
				5500				134		1107	1"SS		ĊL	coarse sand, trace fine gravel.	
35				000			/	1.34	╂───		1 33		ML	33.5 feet, gray, silt and fine coarse sand, trace.clay and	
										26	~~			gravel.	
*0				45007			10.4	-	╂-─	39	\$S 55		ML CL	38.5 feet, gray, clayey silt, s fine to coarse sand, trace fi	
			· ·											gravel	
15				4500‡				-	┢──	47	SS				
				9600			7.8	136	1	45	SS		ML	46.0 feet, gray, silt and fine coarse sand, trace clay and f	
50		┣──				<u> </u>				40	SS SS			gravel	
I	IG			8100			9.5	140		24	SS	┠╫╫	ML	52.0 feet, gray, clayey silt, s	some
55			L		<u> </u>	<u> </u>	26.0	_	<u> </u>	15	SS	μH	, ċi	fine to coarse sand, trace figravel.	
- [							13.6			37	SS SS	Ē	ML	54.3 feet, gray, silt, trace cl fine sand, black silt veins r	
60				11700	ļ		8.9	133		79	SS		ŚW	55.2 feet, gray, fine to coarse	
						Ì							L <u>s</u> m	trace silt. 56.0 feet, gray, silt and fine	
65		┨────							┨	106/	9"SS		ML	coarse sand, trace fine grave 57.5 to 57.9 feet, gray, fine t	
		]							1					coarse sand, trace silt. 57.9 feet, gray, clayey silt, s	some
70		<u> </u>			Ļ	<u> </u>	<b> </b>		<u> </u>	1			ĊL	fine to coarse sand, trace figravel.	
1		]							}					glavel.	
75						<u> </u>				]			1	BORING COMPLETED AT 64.3 FEET ON 9/23/76.	r
														WATER LEVEL NOT RECORDED.	
5:										Г				i	
		BV -											CL	NTON POWER STAT	ION
		BY: : BY:					AL.					UP	DAT	ED SAFETY ANALYSIS R	EPORT
TES	TED	BY:	WESTE	NHOFF	& NO	VICK.								FIGURE 2.5-210	

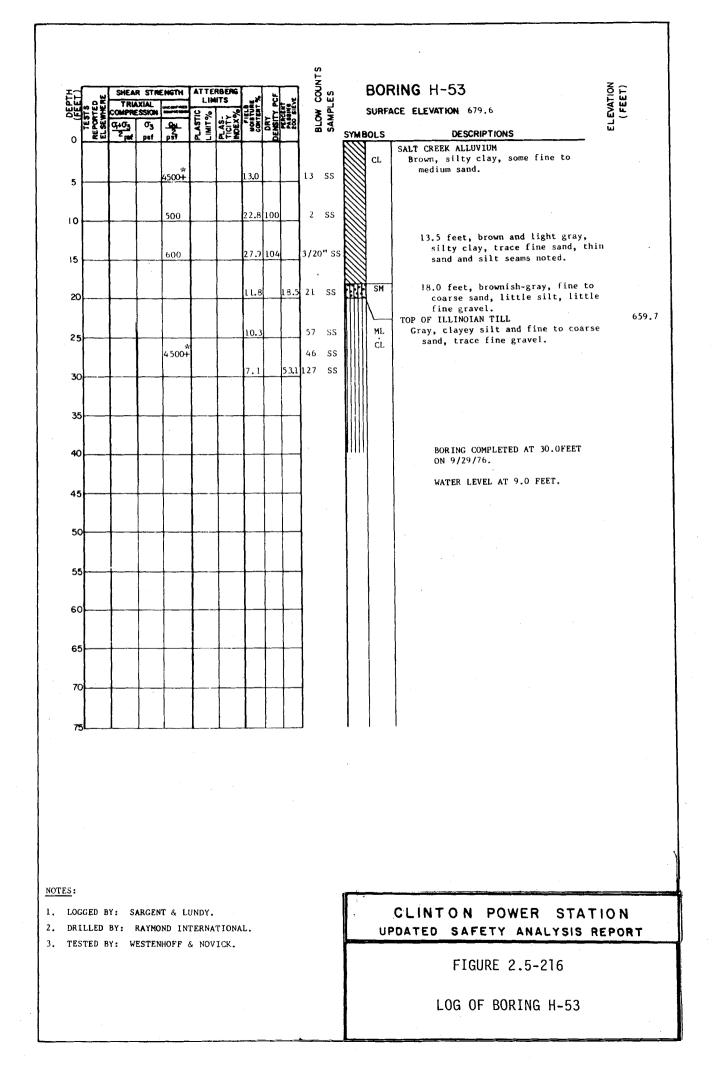


Ĥ		z		R STR	ENGTH	ATTE			ų		Ö	ËS		B	OR	ING H-49	LET)
E	TESTS PORTED	E WE	COMPRE	SSION		stic r%	s k k	A LEL	È	A BRIER	BLOW COUNTS	AMPL		SL	JRFA	CE ELEVATION 716.1	ELEVATION (FEET)
0		3	2,4	σ <sub>3</sub> psf	<u>Par</u> par	PLASTIC LIMIT%	PLAS- TICITY NOEX%	¥3		***	ā	้จั	SYM	BO	LS	DESCRIPTIONS	- -
														],	ci	WISCONSINAN TILL Brown, silty clay and fine to med	lium
_											15	SS			SM	sand. 4.0 feet, brown, fine to medium	
5		1											ПH		on	sand, some silt.	•
		ł									23		R		CL	8.5 feet, brown, silty clay, some	2
10	-	-†									1 ''	33		3		fine to medium sand, coarse gravel noted.	
																13.5 feet, thin sand seams noted	,
15		-			4300			13,9	124		11	SS					
														1		TOP OF INTERGLACIAL ZONE	697
20		-			1800*						6	SS			CL	Gray, mottle light gray, silty c trace fine sand, organics noted	lay,
											Į					trace time samu, organics note	
25		_			2500*						10	SS		Į			
							ĺ				l			3			
30	L				1800*		<b></b>				8	SS	Ш		ML	Gray, clayey silt, some fine to sand, trace fine gravel.	coarse
										]				1	CL		- 12 · · · ·
-											40	ŝS		4	SW	TOP OF ILLINOIAN TILL Brown, fine to medium sand, trac	687 e
35	Γ													11	SM	silt,	
					9400			8.3	141		91	SS			ML	34.5 feet, brown, mottled ligh gray, clayey silt and fine t	0
40	$\vdash$										1			١Į	ĊL	coarse sand, trace fine grav 38.5 feet, gray, silt and fine	
							1.1	ŀ			103/9	u"c				coarse sand, trace clay and gravel.	
45	$\vdash$						<u> </u>	t	-	<u> </u>	1		1		ML	514461.	
	l				[	ļ											
50	┝				<del> </del>		┼──			$\vdash$	78 116	SS 55	1.1.1		SW	49.2 feet, brownish-gray, fine	
											114				SM	medium sand, little silt, tr gravel.	ace fine
55	L	_		ļ	2400		<b> </b>	33.1	05	┝	67 13	\$5 \$5		T		49.8 to 49.9 feet, gray silt, fine sand.	trace
					4 500		1	25.7	1		17	SS	;	1	·	54.5 feet, light gray and dark silt, fine to medium sand le	
60					4500	<b> </b>	<b>_</b>	<b> </b>		_	17 43	55	\$ <b> </b>			noted.	
														I	ML	55.5 feet, dark grayish-brown, little organics (peaty), tra	
65	L			L	4500+		<b> </b>	<b>L</b> _		4	43	SS	s	1		gravel. 56.l feet, gray, silt, trace f	ine
					{											sand, trace organics. 58.0 to 58.1 feet, gray, fine	
70											1					coarse sand and silt, organ	ics noted.
											{				ML	58.1 feet, gray, clayey silt, to coarse sand, trace fine	some fine travel.
		i		ļ							{				ĊL	59.0 feet, and fine to coarse	sand.
75	, <b>.</b>			J	·	•		<b></b> *		<b>.</b>	-		•	•		BORING COMPLETED AT 65.0 FE ON 9/27/76.	et
																WATER LEVEL NOT RECORDED.	
<u>:</u> :											Γ			,			TION
LO	GGE	DE	9Y: 3	SARGE	NT & L	UNDY.	•										TION
					OND IN						⊢		U	P	DAI	ED SAFETY ANALYSIS	REPORT
TE	STE	DI	BY: 1	JESTE	NHOFF	& NO	VICK.										
																FIGURE 2.5-212	





DEPTH (FEET)	STS NTED WHERE	TRU	R STR			ITS		LT PCF	S allow	OW COLN	SAMPLES				RING H-52 Ice elevation 686.5	ELEVATION (FEET)
0 5 10 15 20										11 10 2/18 3/18 4	55 55 8" 55			OLS CL SM ML CL	DESCRIPTIONS SALT CREEK ALLUVIUM Black, silty clay, trace fine to medium sand, organics noted. 8.5 feet, brown, fine to coarse sand, some silt, little fine to coarse gravel. TOP OF ILLINOIAN TILL Gray, clayey silt and fine to medium sand, sand lenses noted. 16.0 feet, grades to gray. 18.5 feet, trace fine gravel. 21.5 feet, gray, fine to medium	675.5
25 30 35 40 45 50										49 88 75	8" S: SS SS SS SS SS			SM ML CL SM ML CL	<ul> <li>sand, some silt.</li> <li>22.4 feet, gray, clayey silt and fine to medium sand, trace fine gravel.</li> <li>24.5 feet, gray, fine to medium sand, some silt.</li> <li>25.0 feet, gray, clayey silt and fine to coarse sand, trace fine gravel.</li> <li>BORING COMPLETED AT 37.5 FEET ON 9/29/76.</li> <li>WATER LEVEL AT 8.5 FEET.</li> </ul>	
55 60 65 70 75																
		BY: S										U			NTON POWER STATIC	
2. DRILLED BY: RAYMOND INTERNATIONAL. 3. TESTED BY: WESTENHOFF & NOVICK.											FIGURE 2.5-215 LOG OF BORING H-52					



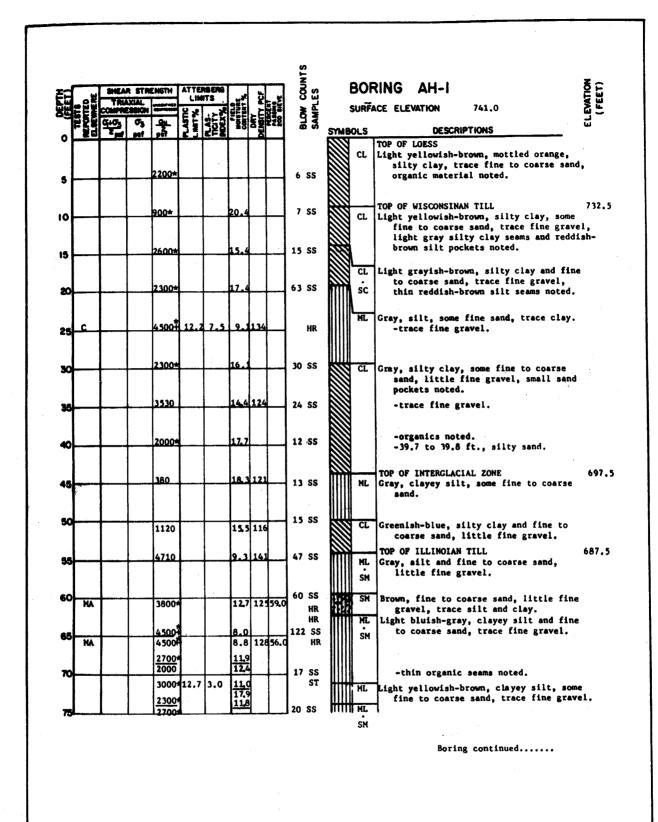
HLAD								2		Į	ŝ		BOR	ELEVATION (FEET)	
		COMPA			28			77	朣	ž	SAMPLES		SURFA	CE ELEVATION 682.2	EVAT
a		ŝ.	63 pet	4			<b>`</b> \$\$	2 B	27£	3	2	SYME	OLS	DESCRIPTIONS	Er
•					1								a	ILLINOIAN TILL Light gray, mottled brown, sil	ty clay
5				4500+						18	<b>SS</b>		u.	some fine to coarse sand, to	
3														gravel. 8.5 feet, grades to gray, an	d fine to
10				300*			19.1			3	SS			medium sand.	a rine to
				1630		<b>}</b> ;		122						13.5 feet, trace fine to coa	arse sand,
15				2500*		L	14.0		<u>b38</u>	?	SS		ML	black silt pockets noted. 14.0 feet, gray, clayey silt	t and fine
													à	to coarse sand, trace find sand seams noted.	e gravel, th
20	<u> </u>	L		<b> </b>		<b> </b>	<u>130</u>	1 30	<b> </b>	15	<b>S</b> \$		ML	18.5 feet, gray, silt and fi medium sand, trace fine grades	
						1				1		Щ		sand seams noted.	
25	ļ				<u> </u>	<b> </b>	<u>12.0</u>	-	<u>þ.</u> 7	19	<b>S</b> \$	<b>;;;;</b>	SW SM	22.8 feet, gray, fine to con little fine to coarse gra	
							<b>.</b> .	1	<b>.</b> -				SP SN	silt. 24.6 feet, gray, fine sand,	trace silt.
30		<b></b>		<b> </b>			µ3.1	┞	33.3	100/1	l"SS		- Inc	28.5 feet, brownish gray, f coarse sand, some silt, t	ine to
	l			14400			7.2	1 39	<b>53.8</b>	93	55		SM	and fine gravel.	-
35		<u> </u>		4 500+		┣───	┣—	┡	┝	118	<b>S</b> Ş	ШШ	ML ĊL	29.0 feet, gray, clayey sil fine to coarse sand, trac	
														gravel. 31.0 feet, and fine to coar	se sand.
40						┣	┨──	╂─	┢	ł					
45	<u> </u>						+	┢	┢	ł					
	ľ				]		l		1						
50				┼──				┢─	┢	1		ļ		BORING COMPLETED AT 35. ON 10/1/76.	0 FEET
					{		[					1		WATER LEVEL AT 8.5 FEET	·_
55	<u> </u>					<u> </u>	╂─	┼─	┢	ł		l			•
				[	[							١.			
60	<b> </b>			<u> </u>				t	$\uparrow$	1					
		1			]					l					
65							T	Γ	Γ	1			{		
70															
~						Γ	Γ	Γ	Γ	]		1			
75															
														· ·	
TES:										r				· · · · · · · · · · · · · · · · · · ·	
	GED R	Y: 5	ARGEN	กรเ	INDV								CL	INTON POWER ST	ATION
				ND IN			L.			L		UF	PDAT	FED SAFETY ANALYSI	S REPOR
				HOFF			-			F					
										1				FIGURE 2.5-217	
										1				· · · · · · · · · · · · · · · · · · ·	

Я	<u>لا</u> م	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R STR	ENGTH	ATTE	NGENG ITS		b)		S SU			CE ELEVATION 687.4
	PORTEO PORTEO SEVINER	COMPTE			PLASTIC	÷≻×				BLOW COUNTS SAMPLES		SURFA	RING         H - 55         Б           се еlevation         687.4         Б
٥	- 20		pet	- 041 251	Ž		¥8	000		ē 3	SYME	OLS	DESCRIPTIONS
5				4000*						13 SS		CL	ILLINOIAN TILL Brown, mottled gray, silty clay, some fine to coarse sand, trace fine gravel. 4.5 to 4.8 feet, brown, mottled gray, silt, trace fine sand, trace clay.
10				1 500 4 500 4 500					_	46 SS 60 SS		ML	Gray, mottled greenish-gray, clayey silt, some fine to coarse sand, trace fine gravel. Gray, clayey silt, some fine to coarse sand,
15			 	4500						31 SS		ML	trace fine gravel.
20				4250*						24 SS 26 SS		sw	Gray, fine to medium sand, trace silt, trace fine gravel, little coarse sand. 19.2 to 19.4 feet, gray,silt, trace fine sand
25				1000'		 				12 SS 23 SS		SM ML SM	Gray, clayey silt and fine to medium sand, trac coarse sand, trace fine gravel.
30										23 SS 21 SS		SW	Gray, fine to medium sand, trace coarse sand, trace silt. 27.5 feet, gray, fine to coarse sand, trace
				6800						100 SS		SM	silt. 32.5 feet, grades fine to medium sand, trace coarse sand, trace silt.
35				4500- 4500-		1	t	╞╴┨		52 SS 100 SS			34.0 feet, grades fine to coarse sand, trace
40				4500		╂	┢──			92 SS		ML	Gray, clayey silt, some fine to coarse sand, trace fine gravel.
45													
50		-		<b> </b>	<b> </b>		-						
55				<u> </u>									
60		ļ		 			_						BORING COMPLETED AT 40.0 FEET
-													ON 10/5/76. Casing used to a depth of 7.0 feet.
65													WATER LEVEL NOT RECORDED.
70			 			1	$\uparrow$						
75		<u> </u>	L	l	L	L_,	<b>L</b>				l	l	
NOT	es:												LINTON POWER STATION
		GED BY										UPC	ATED SAFETY ANALYSIS REPORT
2. 3.		LLED BY						AL.					FIGURE 2.5-218

þ	۳,	the second	38 10 11 C - 1	ENGTH		NGENG ITS		C		ES CO		BOF	RING H-56
E			XIAL		_	128	ant the	E		BLOW COUNTS SAMPLES		SURFI	RING H-56
	월 38 TS	ST N	0'3 pet		PLASTIC	PLAN TOCH	-15	DENSO	222	SA BL	SYME	OLS	DESCRIPTIONS
1											33		GALT CREEK ALLUVIUM Brown, silty, fine to coarse sand,
				1000*						7 66		SM	some clay, trace fine gravel.
5										7 SS	m	ML SM	TOP OF ILLINOIAN TILL 676.2 Brown, clayey silt and fine to coarse
				500 <b>*</b>						3 SS		ML	sand, trace fine gravel. Gray, clayey silt and fine to medium sand,
٥				500*		╂		┨─┤		6 SS	IIIÌ	SM	silt and sand lenses noted.
5				500*			┨───	┣─		6 SS		SM SM	9.5 to 9.7 feet, gray, fine to medium sand, some silt.
				3750*						25 SS	Ш	ML	9.7 to 12.0 feet, gray, silt, some clay,
×				1500+		_	<b> </b>			27 SS		AL HL	trace fine sand, trace fine gravel. 12.0 feet, gray, clayey silt and fine
				4500*	l					36 SS		SM	to coarse sand, trace fine gravel.
25				4500	ļ	<u> </u>	<b>I</b>	<u> </u>		120 SS		ML	17.2 feet, gray, silt, trace fine sand,
1				4500	l ·					99 SS	卌	ļĻ	fine gravel and organics noted.
50				4500			L	<u> </u>		96 SS	<b> </b>	NEL Sím	Gray, clayey silt and fine to coarse sand, trace fine gravel, coarse gravel noted.
				[	1						1		26.0 to 26.6 feet, gray, fine to medium
35												SP	sand, trace silt.
~									[			NL	Gray, clayey silt and fine to coarse sand, trace fine gravel.
				l	[						1	SM	
ю				1	<u> </u>	1	t –	Γ					
				1			1				1		
15				<u>}</u>	<b> </b>	╞──	t	<u>†</u>	<u>†</u>				
ļ		ľ		1			1						
50				╂───	┣──-	+	╂──	+	┼─		1		
						1	1				1	]	
55	<u> </u>	<u> </u> -		╂	┣	╂	╂	╂	<u> </u>			1	BORING COMPLETED AT 30.0 FEET
						ŀ						1	ON 10/5/76.
50	<u> </u>	<b> </b>	<b> </b>	<u> </u>	┣—-	╂──	┨──	╂	┼				CASING USED TO A DEPTH OF 10.0 FEET.
				]		1	1		1				WATER LEVEL AT 7.0 FEET.
65		┣		┣	<b> </b>		┨──	┢──					
					1		1					1	
70	L	Ľ		<b></b>			1	↓			1		
Ĩ		]					1					1	· · ·
			Ĺ		L							1	1
75													
										a <b>r</b>			
										ſ	•	(	LINTON POWER STATION
													DATED SAFETY ANALYSIS REPO
	ES:									ŀ	_	UFL	THE SAFETT ANALTSIS REPOR
ŝ										1			
	100		• •	ARGENT		INDY							FIGURE 2.5-219

ส์	ų			ENETH		NDERG ITS				ΙĀ	3		BO	RING H-57
	RTED RTED	COMPR	_		_	_				BLOW COUNTS	SAMPLES		SURF	RING H-57
٥Ľ	NE POR	4463 2 1	03 pet	- Carl	FLASTIC	PLAS- TICITY NDEX %	<b>*</b> \$8		278	2	<b>S</b>	SYM	BOLS	DESCRIPTIONS
Ί				4500+				116		22	SS		CL	ILLINDIAN TILL Brown, silty clay, some fine to coarse sand,
				*			1	114	1		ss			trace fine gravel, organics noted. 3.5 feet, mottled light brown.
ነተ				*					<u> </u>	]				
1				750 1500			4.4			l	SS		SP SM	Yellowish-brown, fine to medium sand, trace to little silt.
아				1 500*		<b>—</b>	6.7			10	SS	Ħ	SM	Gray, fine to medium sand, trace to little fine gravel.
				4500+ * 4500+				134	5	10	\$ <b>5</b>			· · · ·
⁵┝				í I			7.8	-	-	51	SS	Щ	ML CL	Gray, clayey silt, some fine to coarse sand, trace fine gravel.
				4500 <b>*</b>			7.1	136	6	100/		ŧ!	ML	16.0 feet, grades and fine to coarse sand,
ᅇ				• <u>500</u> ‡				┝	╂	104	SS		SM	coarse gravel noted.
										Į		Ш		
5		<u> </u>		<u>4 500</u> ‡				┣-		27	SS		ML CL	Gray, clayey silt, little fine to medium sand, trace coarse sand, trace fine gravel.
												Щ	<u> </u>	
0							2.5	<u> </u>		27	SS		SP	Gray, coarse sand and fine gravel, trace silt. Gray, clayey silt, some fine to coarse sand,
				4500+						84	ss	Ħ	HL Sm	trace fine gravel.
s				4500 <b>+</b>		L	1.1	1 32	2	121	SS		ML	Gray, clayey silt and fine to coarse sand, tra
													SM	fine gravel layered with gray, fine to coarse sand.
아				4500 <del>*</del>	L	L	L	<u> </u>		130/	6 <b>"\$</b> \$	1411		
			Na										}	
5					·		L	ļ		1		1	1	
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d										[				
					{									
₅	_								Ĺ			1		
1														
₀┝														
								• •	Į				1	BORING COMPLETED AT 40.0 FEET
5														
1														ON 10/12/76.
b									ľ					CASING USED TO A DEPTH OF 8.0 FEET.
Т							Γ			1				WATER LEVEL AT 8.5 FEET.
5			L	L		L	<b>L</b>	L	L	1		•	1	1
											ſ			LINTON BOWER STATION
														LINTON POWER STATION
NO	TES:												071	ATED SAFETY ANALYSIS REPORT
1.	LO	GED	BY:	SARGE	NT &	LUNDY	•							FIGURE 2.5-220
2.	DR	LLED	BY:	RAYM	DND I	NTERN	ATIC	NAL	•					1100NE 2.J-220
3.	TE	STED	BY : 1	WESTER	HOFF	& NO	VICK							LOG OF BORING H-57
-														

:1		SHEA	R STR	ENGTH	ATTE			ų.		<u>S</u>	ŝ		BOF	RING H-58	NO E
y.	<b>LETE</b> Orted Enneri	TRU	XIAL ESSION		Lim Y X			2		BLOW COUNTS	4PLE			ACE ELEVATION 682.8	ELEVATION (FEET)
1		9405	073 ant	-Qui pet	PLASTIC LIMIT%	PLAS- TICITY NDEX9	CONT		548	BLO	SAA	SYME	IOL S	DESCRIPTIONS	נרו
٩	<u> </u>		1961	2500+			Η		H					ILLINOIAN TILL	•
	۱			1500 2500+			179			13	SS		CL	Dark brown, silty clay, some fine to coarse sand, trace fine gravel.	
5	<b> </b>			2300 1750+		H	176	111	2		SS		<b>`</b> ct		
	۱ ۱			2500 1258 2208							SS			coarse sand.	
٥	<b> </b>		<b>┝───┤</b>	2200	<b> </b>		192	102	۵.	12	SS			9.5 feet, grades to yellowish-brow	
	ļ												CL	Gray, silty clay-clayey silt, some f to medium sand, trace coarse sand,	
5	<b> </b>			1500*				t		10	SS			trace fine gravel. Thin, fine to medium sand seams noted.	
ļ	ļ			4500			ļ, .	135		10-	SS			Gray, clayey silt and fine to coarse	sand
20	<u> </u>			1004			ľ'	کس		100	აა		ML Sm		noted.
ļ	I			4500-						,.					
25				1000						43	SS				
	1			4 500			8.8	112	4	50	SS				
50	1									, , , , , , , , , , , , , , , , , , ,		[			
35			.		L			L	L			1			
~								Γ				1			
10					L							1			
1					_										
15	l	ļ	L		<u> </u>			L_	<b> </b>			1		BORING COMPLETED AT 30.0 FEET	
1	_							1		1		I		ON 10/12/76.	
50	ļ	<b> </b>		<b> </b>	<b> </b>	<b> </b>	_	⊢	<u> </u>		-	1		WATER LEVEL NOT RECORDED.	
1	l								ļ				1		
55	<b> </b>	<b> </b>	<b> </b>		<u>  .</u>	<b> </b>		_		1				· ·	
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75	<u> </u>		L	L	<b>I</b>	L	L	1	1	J		I	I	I	
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												•		CLINTON POWER STA	
OT	ES:										L	-		DATED SAFETY ANALYSIS	
		ED BY	SA	RGENT	& L!!	NDY.					ſ			FIGURE 2.5-221	
	~	•		•		-								and the second sec	



NOTES

Logged by: Sargent & Lundy Drilled by: Raymond International Tested by: Westenhoff & Novick

## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-222

LOG OF BORING AH-1

(SHEET 1 of 2)

DEPTH (FEET)	TESTS NEPONTED ELSEMMENE		AXIAL ESSION 03	ENSTH Qu pet	PLASTIC PLASTIC	ALAS- TICITY MOCXAL	۲. 1951	DRY DENSITY PCF	MURCENT PASSING PASSING PASSING PASSING PASSING	BLOW CONVE		SYN		ORING AH-I (cont'd) IFACE ELEVATION B DESCRIPTIONS	ELEVATION (FEET)
5				2300 2700			112				SS ST SS		ML ML SN	Light bluish-gray, clayey silt and fine	
)				4500 <del>1</del> 8150		11.2		133			SS		ML CL	sand, trace fine gravel.	
5				4 500 <del>1</del>			8.0			<u>174</u> 11	" S <b>S</b>	ler i i		Boring completed at 84.9 feet on 3-26-75. Water level at 18.0 feet.	
							- -								
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1	4	1			I					5		ł	1		

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# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-222

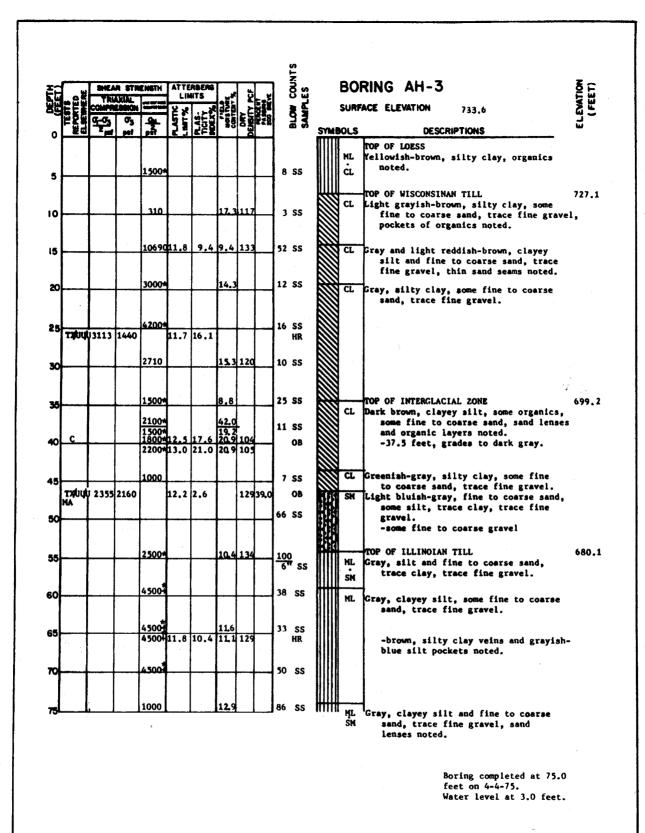
LOG OF BORING AH-1

(SHEET 2 of 2)

¥	and the second		ENGTH				۲.		]	NOS 2		80	RING AH-2	Ē
POLIE POLIE BE WE	COMPR	E.85101		ĔĔ	ST ST			A SUM OF		ğ		SURI	ACE ELEVATION 736.7	
. 29		pet	100	53	225	•3			1	60 (	SYM	BOLS	UESURIPTIONS	J
			780			290	104		,	SS		CL	TOP OF LOESS Light grayish-brown, mottled reddish- brown, silty clay, organic material noted.	
			880	12.0	11.7	15.8	123		6	SS		CL	Light grayish-brown, clayey silt, some	730.
SA													Time to coarse sand, trace fine gravel.	
1					1								trace fine gravel, trace silt and clay. Gray, clayey silt, some fine to coarse	
- 34	-					16.1		20.0	79	SS			sand, trace fine gravel. -some lenses of fine sand.	
			3700			142			25	SS PR				
			-						12	<b>SS</b>			-trace organics noted.	•
			4000*						26	SS			х А	
												ML		599.
													<pre>-some thin brown peat layers noted3" cobble noted at 38.5'.</pre>	
C MA			2300 <u>1</u> 4500-			12.6 10.3	120	3Q, Ś	40	ST SS			Greenish-gray, silty clay, some fine to coarse sand.	
			4500	_					68				Light bluish-gray, fine to coarse sand, some silt and clay.	
			4500						72			ML	Gray, clayey silt and fine to coarse	<b>83.</b>
			4500			9.6			79	HR SS				
с			4500 4500	12.0			132		48	HR SS				
													sand, trace fine gravel.	
1	<b>I</b>	1	A			l	1	<u> </u>			•		Boring completed at 69.5 feet on 4-2-75, Water level not recorded.	
										ĩ				
	SA SA C MA	SA SA SA SA C MA	SA SA SA SA Compression SA SA SA SA SA SA SA SA SA SA SA SA SA	Heat         Pett         Pett         Pett	TRAXUAL         TRAXUAL <t< td=""><td>Construction         Construction         Construction           GLASS         Org         Open         Open</td><td>TRIAXCIAL         CLIMITS         CLIMITS</td><td>COMPARE SECON         COMPARE /td><td>Construction         Construction         Construction&lt;</td><td>THAXIAL         TRACIAL         <t< td=""><td>Imaxinal Biology       Imaxinal Compression       Imaxinal Biology       Imaxinal Biology</td><td>E         C         PP         PP</td></t<><td>Ed         C         per         per</td><td>ED       -ad       -a</td></td></t<>	Construction         Construction         Construction           GLASS         Org         Open         Open	TRIAXCIAL         CLIMITS         CLIMITS	COMPARE SECON         COMPARE	Construction         Construction<	THAXIAL         TRACIAL         TRACIAL <t< td=""><td>Imaxinal Biology       Imaxinal Compression       Imaxinal Biology       Imaxinal Biology</td><td>E         C         PP         PP</td></t<> <td>Ed         C         per         per</td> <td>ED       -ad       -a</td>	Imaxinal Biology       Imaxinal Compression       Imaxinal Biology       Imaxinal Biology	E         C         PP         PP	Ed         C         per         per	ED       -ad       -a

Drilled by: Raymond International Tested by: Westenhoff & Novick

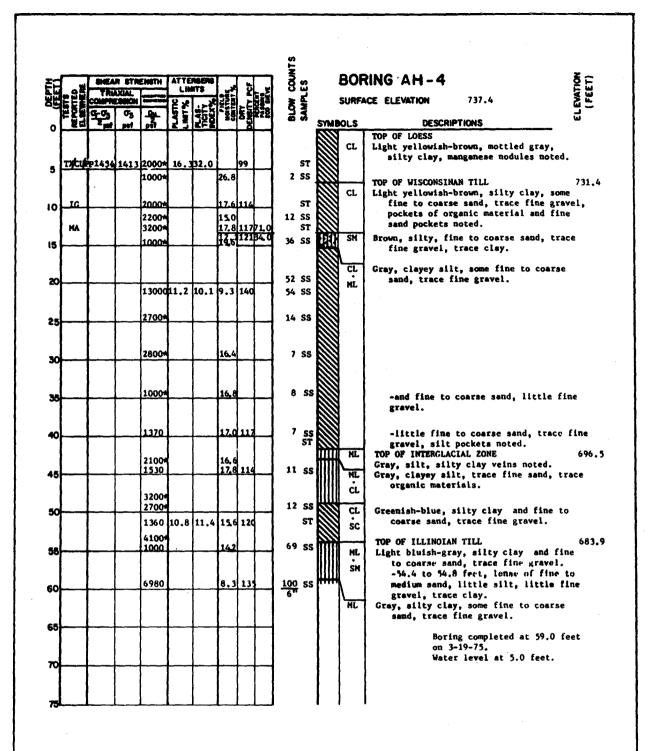
FIGURE 2.5-223



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### CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-224



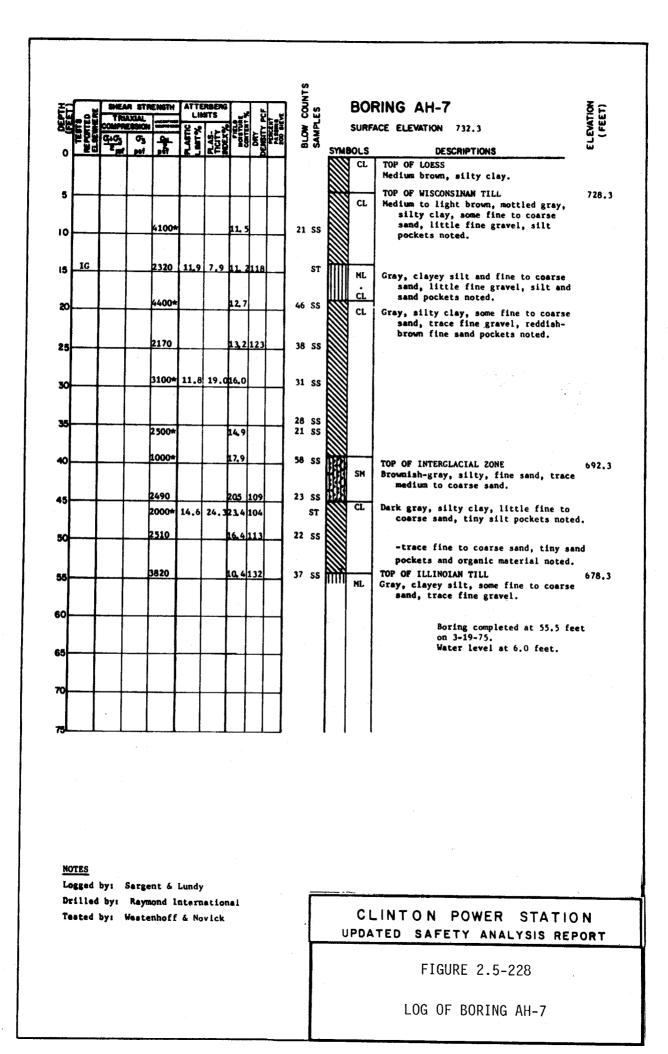
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## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-225

STES         CLINTON POWER STATION	d			R STR	ENGTH	ATTE			H.		ğ	ŝ	80	RING AH-5 흔듮
O         O	H							SUNT OF	TY R		ž	Ţ	SURF	CE ELEVATION 730.8
Image: State in the s		ne Tei Filse	6 5 7			LAST LAST	FLAS TICT	~ <u>\$</u> 8	DENSI	rzz	28	SA	SYMBOLS	DESCRIPTIONS
State         Pace         Pace <t< td=""><td>ľ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CL CL</td><td>TOP OF LOESS Black matthed vellowish-brown, silty</td></t<>	ľ												CL CL	TOP OF LOESS Black matthed vellowish-brown, silty
3         The the isso         1300         15,5         0,8         12,2         15         16         15         16         15         16         15         16         17         16         17					2300*			25.5	90			ST		clay, trace fine sand, decaying organic
0         1500         14.3         5.55         5.	- 1	rufut	P1229									ST		
IC       3500       12.6/128       ST       organic material moted.         S       4000       12.1       72.55       CL       Gray, claye silt and fine to medium thick and time to coarse and, thick and time to coarse and.         S0       4200       14.6       20.55       CL       Gray, claye silt, and fine to coarse and.         S0       4200       14.6       20.55       CL       Gray, claye silt, and fine to coarse and.         S0       14.6       20.55       CL       Gray, claye silt, and fine to coarse and.       -11ttle fine to coarse and.         S0       12.20       32.456       16.53       TOP OF INTERCLACIAL ZONE       001         1220       32.456       13.55       TOP OF INTERCLACIAL ZONE       001         13.55       14.55       SN       Mt       Gray, silty clay, some fine to coarse and, some fine gravel, some silt and clay.       50         13.55       13.55       SN       Mt       Gray, clayer silt, some fine to coarse and, some fine gravel, some silt and clay.       50         13.55       13.55       Mt       Mt       Gray, clayer silt, some fine to coarse and, some fine gravel, some silt and clay.         1		*****	<b>•</b>			[							CL.	Brown, silty clay, some fine to coarse and, trace fine gravel, pockets of
30       4300 <sup>3</sup> 10       10	0	IG							128					organic material noted.
30       4300 <sup>3</sup> 10       10	_				4500			12.3			22	SS		Grav. clavey silt and fine to medium
20       4300 <sup>2</sup> 14.8       27 55       CL NL       Gray, clayey silt, some fine to coarse sand, trace fine gravel.         25       4200 <sup>2</sup> 14.8       20 55	2													sand, trace fine gravel, .025 foot
20       14.0       20       30       30       11.1       16.7       12.1       16       53       -little fine to coarse sand.       -little fine to coarse sand.         30       1320       14.2       16       53       16       53       16       53       0L       -little fine to coarse sand.       692         400       1320       14.2       16       53       0L       17       0L	2				4500						27	SS	CL	Gray, clayey silt, some fine to coarse
Both         Both <th< td=""><td>æ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>M ML</td><td>sand, trace fine gravel.</td></th<>	æ												M ML	sand, trace fine gravel.
S0       7300       11.1       16.7       12.1       16       55       16       55       16       55       16       55       16       55       10       0L       DOP OF INTERCIACIAL ZONE       602         45       1220       3340       23       55       0L       NOTES       TOP OF INTERCIACIAL ZONE       602         46       1220       3340       23       55       0L       NOTES       Cary, silty clay, some fine to coarse sand, trace fine gravel.       602         50       20000       11.1       14       55       SN       Light bluish-gray, fine to coarse sand, some fine gravel.       67         50       20000       11.1       13       55       NL       RL       Gray, clayey silt, some fine to coarse sand, some fine to coarse sand, trace fine gravel.       67         50       20000       11.1       13       55       NL       NC       Boring completed at 60.0       68         50       10.7       11.1       46       55       NL       Notes fine gravel.       67         50       10.0       10.1       11.1       67       11.1       67       11.1       11.1       13       11.1       13       12.1       10.1       11.1 </td <td></td> <td></td> <td>Ì</td> <td>1</td> <td>4200*</td> <td></td> <td>ļ</td> <td>14.8</td> <td>ľ</td> <td></td> <td>20</td> <td>SS</td> <td></td> <td>-little fine to coarse sand.</td>			Ì	1	4200*		ļ	14.8	ľ		20	SS		-little fine to coarse sand.
30       30000       14.2       16 55       55       10       TOP OF INTERCLACIAL ZONE       691         40       1320       33458       23 55       10       Top of INTERCLACIAL ZONE       691         45       2200       17,3       12 55       14       12 55       14       55       50       14       55       50       14       55       50       14       55       50       13       55       14       55       50       13       55       14       55       50       13       55       14       55       14       55       14       55       14       55       14       55       14       55       14       55       14       55       14       55       14       15       14       55       14       15       14       55       14       15       14       15       14       15       14       15       14       15       14       15       14       15       14       15       14       16       15       14       15       15       14       15       15       16       15       16       16       15       16       16       17       13       16       <	<5													
30       30000       14.2       16 55       55       10       TOP OF INTERCLACIAL ZONE       691         40       1320       334 55       23 55       10       Top of INTERCLACIAL ZONE       691         48       2200       17,3       12 55       14       12 55       14       55       50       14 55       50       14 55       14       55       50       14 55       14       55       50       13 55       14       55       13 55       14       55       14       55       14       55       14       55       14       55       13       55       14       55       14       55       14       55       14       55       14       55       14       55       14       55       14       57       14       55       14       57       14       57       14       57       14       57       14       57       14       57       14       57       14       57       14       15       15       16       57       16       57       16       57       16       57       16       57       16       57       16       57       16       57       16       57 <td< td=""><td></td><td></td><td></td><td></td><td>7300</td><td>11.1</td><td>16.7</td><td>12,1</td><td>126</td><td></td><td>32</td><td>SS</td><td></td><td></td></td<>					7300	11.1	16.7	12,1	126		32	SS		
30       1320       534 58       23 55       10 0L       TOP OF INTERGLACIAL ZONE       693         40       1320       12 55       12 55       14 55       14 55       14 55       50       14 55       50       14 55       50       14 55       50       13 55       14 55       50       13 55       14 55       50       14 55       50       14 55       50       13 55       14 55       50       50       50       50       50       50       50       13 55       14 55       50       14 55       50	30													
40     1320     334 58     23 55     01     TOP OF INTERCIACIAL ZONE     692       45     2200     17,2     12 55     01     No     Brownish-black, organic claysy silt.     692       50     22000     17,2     12 55     14 55     50     14 55     50     14 55     50     14 55     50     13 55     14 55     50     13 55     13 55     13 55     13 55     13 55     13 55     14 55     50     67     50     67     50     67     50     13 75     13 55     14 55     50     67     <					30004			142			16	SS		
0       1320       534 58       23 55       0       brownish-black, organic clayey silt.         45       2200       12.3       12 55       NL       Gray, silty clay, some fine to coarse sand, trace fine gravel.         50       2000       13.1       13 55       SK       SK       Gray, silty clay, some fine to coarse sand, some fine gravel.       67         50       2000       13.1       13 55       SK       SK       Gray, clayer silt, some fine to coarse sand, some fine gravel.       67         50       2000       13.1       13 55       NL       Gray, clayer silt, some fine to coarse sand, some fine gravel.       67         50       4000       10.7       11       46 55       NL       Gray, clayer silt, some fine to coarse sand, some fine gravel.       67         65       10.7       10.7       11       67       Gray, clayer silt, some fine to coarse sand, some fine gravel.       67         70       10.7       10.7       10.7       10.7       10.7       10.7         73       10.1       10.1       10.1       10.1       10.1       10.1         73       10.1       10.1       10.1       10.1       10.1       10.1         73       10.1       10.1       10.1	30													
A8       2200       17.3       12 SS       HL         50       14 SS       SN       Light bluish-gray, fine to coarse sand, trace fine gravel.         50       2000       13.2       13 SS       NL         60       10.7       13       13 SS       NL         60       10.7       14       65 SS       NL         60       10.7       14       65 SS       NL         60       10.7       14       66 SS       NL         60       10.7       14       66 SS       SS         70       10.7       14       67 SS       NL         68       10.7       14       10.7       14         70       10.7       14       15       SS         70       11.1       46 SS       SS       NL         70       11.1       11.1       11.1       11.1         70       11.1       11.1       11.1       11.1         70       11.1       11.1       11.1       11.1         70       11.1       11.1       11.1       11.1         70       11.1       11.1       11.1       11.1         70       11.1 <td>40</td> <td></td> <td></td> <td></td> <td>1320</td> <td></td> <td></td> <td>534</td> <td>58</td> <td></td> <td>23</td> <td>SS</td> <td>DI OL</td> <td></td>	40				1320			534	58		23	SS	DI OL	
45									·				ME ML	
50        14 SS        Light bluish-gray, fine to coarse sand, some fine gravel, some silt and clay.         55       20000       11.1       13 SS        NL         50       40000       10.7             60       11.2       13 SS        NL            60       11.7       11                 60       11.7   <	45			· ·	2200			17.3			12	<b>\$</b> \$	INCICE IIIII ML	
50     3000     13.1     13.55     Some fine gravel, some silt and clay.       50     20000     13.1     13.55     TOP OF ILLINOIAN TILL     67.       60     17.50     110.7     11     46.55     Soring completed at 60.0 feet on 3-19-75.     Water level at 4.0 feet.       65     1     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1     1       70     1     1     1     1     1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>ļ</td> <td>ļ</td> <td></td> <td>i i</td> <td>sand, trace fine gravel.</td>										ļ	ļ		i i	sand, trace fine gravel.
55     2000     111     13 55     TOP OF ILLINOIAN TILL     67       60     1750     107     46 55     NL     Boring completed at 60.0 feet     60	50										14	SS	SM SM	
NOTES     NOTES														
60     10.7     <	55				2000	4		111			13	ss	11118	
NOTES													ML	
es water level at 4.0 feet.	60		L	<b> </b>	4000	1	ļ	쁍	11	4_	46	SS		Boring completed at 60.0 feet
NOTES														
TOTES CLINTON POWER STATION	65		ļ	ļ		<b>_</b>	<u> </u>	┣		_	1			·
TOTES CLINTON POWER STATION											[ .			
	70				ļ				┢	┨	ł			
	75	·		1	<u> </u>	<u> </u>		L	L	L.	]			
	75		<b>I</b>	<b>L</b>	<b>L</b>	<b></b>	<b>I</b>	<b>L</b>	<b>I</b>		1			•
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	1	NOTES											(	LINTON POWER STATION
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ŝ	TESTS REPORTED		a. 3	80k 53	6	PLASTIC LINET %	- 2 - 2 - 2 - 2	CIELO DISTUR	NY N		ğ	SAMPLES		Surfa	CE ELEVATION 728.1
0		d la		pet		PLAST LIMIT	PLCT TICIT NOEX	13	DEN		٩	<b>.</b> (1)	SYMB	_	DESCRIPTIONS
														CL	TOP OF LOESS Light, orangish-brown, mottled, silty clay.
5		$\mathbf{t}$	╈							$\square$					TOP OF WISCONSINAN TILL 722.
		1			4500			13.3	122			ST		SM	Light brown, silty, fine sand, trace medium to coarse sand.
0		T	1											CL	Reddish-brown, silty clay, some fine to coarse sand, trace fine gravel.
15					4200	11.4	25.6	129			21	SS			-14.0 feet, grades to gray.
13		Τ	Τ												
20		L			4500			12.2			45	SS			-19.0 feet, near vertical silt seams
															noted.
25					1000*			134			84	SS		ML	Brownish-gray, silt, little clay, little
_															fine to coarse sand, trace fine gravel, thin sand seams noted.
30		┞	4		3340	L		149	115		36	SS		CL	Gray, silty clay, some fine to coarse
															sand, trace fine gravel, thin silt agams and tiny sand pockets noted.
35		+	+		3 300			┠		$\left  - \right $	30	<b>S</b> \$			
40		╀─	+		1000		┼──	35.1	┨	$\left  - \right $	23	<b>S</b> S		OL	TOP OF INTERGLACIAL ZONE 688 Dark brown to black, organic clayey silt,
														ML	trace fine to coarse sand, fine gravel noted.
45		╋	+		2040		<u> </u>	20.3	10	┨─┤	27	SS		CL	Light bluish-gray, silty clay, little fine to coarse sand, silt lenses noted.
											17	SS		HL	
50		+	+			-		$\square$	$\uparrow$					SM	Gray, silty, fine to coarse sand, trace fine gravel.
					4560			10.	5 1 3		10	SS			TOP OF ILLINOIAN TILL 674
55		T	1					T			1 ″			ML	Gray, clayey silt and fine to coarse
60														SM	sand, trace fine gravel, black organic material noted.
															Boring completed at 55.5 feet
65		1			<u> </u>	ļ	<u> </u>	<b> </b>		4	1			~	on 3-18-75. Water level at 5.0 feet.
						1									
70		<b>_</b>	4		ļ	<b> </b>	ļ	-	1		ł				
75				<u> </u>				L	<u> </u>	1	J		I.	1	1
•	NOTE	-		_								r			
	Logg Dril				gent & ymond			07.41	L					С	LINTON POWER STATION
					tenho	,			•					UPO	ATED SAFETY ANALYSIS REPOR
															FIGURE 2.5-229

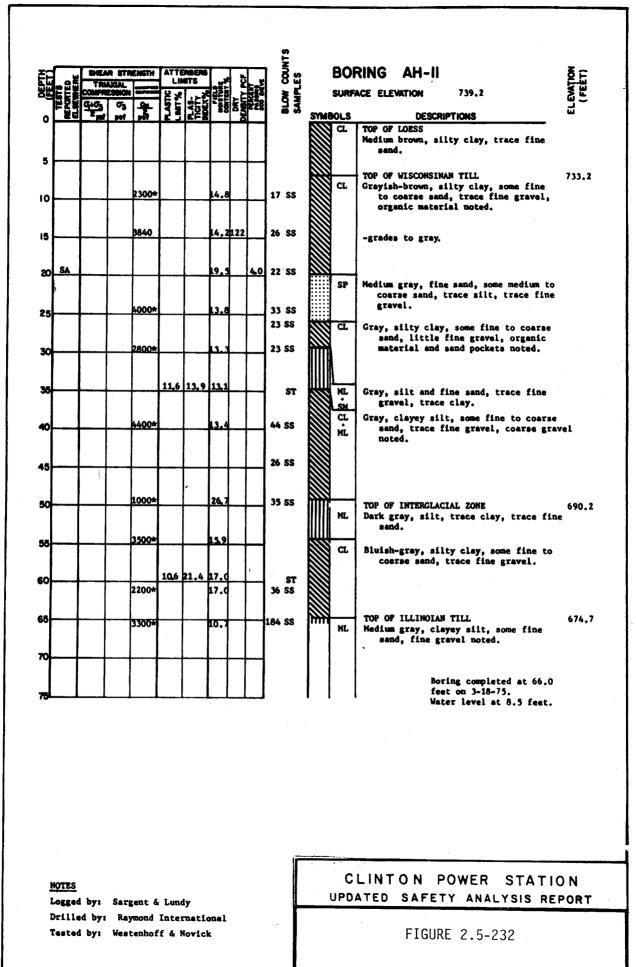
القرم ا			ENGTH		ABEAG		5			BLOW COUNTS SAMPLES	BORING AH-9	Đ Đ Đ
	COMPT			-	-	2Žį	2	PIC N		ž	SURFACE ELEVATION 736.0	ELEVATION
nero Rero	<u>4</u> 403	O's pet	-94- 957	PLASTIC LIMIT %	PLAS- TICITY NDEX%	CONTEN	E NE	T ZZ		A B	BOLS DESCRIPTIONS	Ľ
			1500*			24,9			8	SS	CL TOP OF LOESS Brown mottled gray, silty clay, trace fine to medium sand, pockets of organic material noted.	
			1000+ 830		10.0	20.0			7	SS ST	CL Grayish-brown, silty clay, some fine to coarse sand, trace fine gravel, black organic material noted.	730
			4 500							ss		
			11440			10,7					CL Gray, mottled reddish-brown, clayey a some fine to coarse sand, trace fi gravel, thin silt seams noted.	
			111440		<u> </u>	9.6	1.30		38	SS	-grades to gray.	
				21.4	17.6	9.4			48	<b>S</b> \$	-little fine to coarse sand, silt lenses noted.	
			7550			126	124		35	SS		
			<u>3100</u> 4			<u>15,1</u> 13,5			15	56		
					<u> </u>					33		
			<u>1610</u> 4220			17.2 14.8			9	<b>S</b> S	-pockets of black organic material noted.	<b>L</b>
			890			22.2	122		15	SS	TOP OF INTERCLACIAL ZONE ML Dark gray, clayey silt, trace fine to coarse sand, some organic materia	693 5
			2700						6	SS	noted.	
МА						<u>18.4</u> 13.7				ST SS	CL Greenish-gray, silty clay and fine to coarse sand, trace fine gravel. SN Bluish-green, silty, fine to coarse trace fine gravel.	
			1990.								CL Light greenish-gray, silty clay and TOP of Fillmolan Trace fine gravel	fine • 677
			65003			8,1	139		20	55	ML 10F OF ILLINOIAN TILL . Gray, clayey silt and fine to coa SM sand, trace fine gravel.	
						-					Boring completed feet on 3-18-75. Water level at 8	
											water tever at o	1661
					L	L			I			

Logged by: Sargent & Lundy Drilled by: Raymond International Tested by: Westenhoff & Novick

# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-230

		R STR	ENSTH	LH	ATS	بر. 1955	2		ļį	BLUW COUNTS SAMPLES			RING AH-IO
	<u>क्</u>	σ <sub>3</sub>	4	LASTIC MIT %	PLAS- TICITY					SAM	SYME	-	DESCRIPTIONS
			gras						1			CL	TOP OF LOESS
			2000			23.4			9	SS			Brown mottled gray, silty clay, trace fine to coarse sand, organic material
												CL	noted. TOP OF WISCONSINAN TILL 730. Reddish-brown, silty clay, some fine to
<b></b>			1100	11.6		15.8			24	SS ST		ML	coarse sand, trace fine gravel, sand pockets, silt veins, and organic
		-	4 5004		2.5	123	1			31			material noted. -grades to gray
			1000			16.7	<b> </b>		116	SS		SM	Brown, fine to medium send, some silt,
											囲		black organic material noted. -grades to gray.
SA						13.9		140	65	SS			-little silt, trace fine gravel.
			4 <u>500</u> 1			-	$\vdash$		45	SS	))))	CL	Gray silty clay, some fine to coarse
			2510			14.7	1.20		<b>.</b>	00		ML	sand, trace fine gravel, sand pockets noted.
			2310			14,7	126		24	<b>S</b> \$			-thin silt seems noted.
			3100*			14.8			11	SS			
			1160							ST			-grades to clayey silt.
			4500		<b>[</b>				19	SS			
													TOP OF INTERGLACIAL ZONE 692.
			2500* 2300			18.8 16.1	124		15	SS		ML CL	Dark gray, clayey silt, trace fine to coarse sand.
												ĻĽ	
,			<u>2500</u> * 2170			21.9	104		10	SS		CL	Greenish-gray, silty clay, some fine to
										ST			coarse sand, trace fine gravel, sand lenses noted.
			4500 <del>7</del> 4310			11.5 11.7	132		34	SS			
													TOP OF ILLINOIAN TILL 682.
			<u>4500∓</u>			8.3	-		53	SS		ML	Gray, clayey silt, some fine to coarse sand, trace fine gravel.
													sound trace time Bravet.
													Boring completed at 60.0 feet on 3-17-75.
													Water level at 7.6 feet.
							-						
NOTES	l by:	Savo	ent ó	. 1.100	łv								LINTON POWER STATION ATED SAFETY ANALYSIS REPORT
	. uyi	-			· · · ·								FIGURE 2.5-231
Drille													FIGURE 2.5-23!
Drille Tested													LOG OF BORING AH-10



d	5	SHEA	n str	ENSTH	ATTE			*	_]	CONT	<u>}</u>	ORING AH-12	운드
H	CUTED CUTED	TRU	VILAL.		_		1322	Ľ	j ž	1	SAMPLE	IRFACE ELEVATION 732.2	ELEVATION (FEET)
۶		di C	03 101	-9-			- <b>1</b>		EZE	2	į	LS DEUCRIPTIONS	3
			POV	per	<u>.</u>							TOP OF LOESS	
												L Yellowish-brown, mottled gray, silty clay, little fine to coarse sand,	
				1310	17.1	24.8	244	-			ST	fine gravel and organic material	
				1000+			20.0			5	SŚ	noted.	
				1290	13.9	9.3	18.3	121		17	SS	TOP OF VISCONSINAN TILL	723.
P												Light brown, mottled light gray, clayey silt, some fine to coarse	
							12.2				~~	sand, trace fine gravel.	
5				3300*		<u> </u>	10.4		_	45	22	Light gray, silty clay, some fine to coarse sand, trace fine gravel, s	(]t
												seams noted.	
0			ļ	5200		<b> </b>	13.2	124		31	<b>S</b> S		
				1									
				5500			13.6	128		30	SS .		
5				T									
0				2600*		<u> </u>	+			22	SS		
6			Ļ	2000*		<b> </b>	<u>4.9</u>			22	<b>\$</b> \$	-sand pockets noted.	
				25004			45.6			21	SS		
0		1			<b></b>	T	Γ			1			
		1			l.							SOD OF THEFT ACTAL SOUP	688
5		╂		1250	<u> </u>		45.0	68	-	33	SS	TOP OF INTERGLACIAL ZONE OL Medium brown to dark brown, organic	500
												HL clayey silt.	
0			<b> </b>	1		<b></b>	<b> </b>	L		18	\$5	CL Greenish-gray, siky clay, some find	•
		1		1								NL to coarse sand, trace fine grave	1.
		· ·		990	h1.1	18.9	16.	120			ST		to
5	•••••	<u> </u>		-	<b>f</b>	1	ſ			1		ML Greenish-blue, silty clay and fine coarse sand, little fine gravel,	
		I		ľ		1						SN sand pockats noted.	
0		<b> </b>	<u> </u>	4500	1-	+	╋	├		1 <sup>82</sup>	SS	TOP OF ILLINOIAN TILL NL Medium gray, clayey silt, some fine	673
				1		1	1					to coarse sand, trace fine grave	
5				<u> </u>	<u> </u>	<b>_</b>	_	<u> </u>	L	1			
1			1		1 -							Boring completed at	60.5
				•	1	1				ŀ		feet on 3-17-75. Water level at 3.8	feet
0		1	1	1	1		Τ	Γ	Γ	1		WELST LEVEL &C 3.0	
			· ·	1	1			1		1			
		Ľ	L			1			I	J		I	

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## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-233

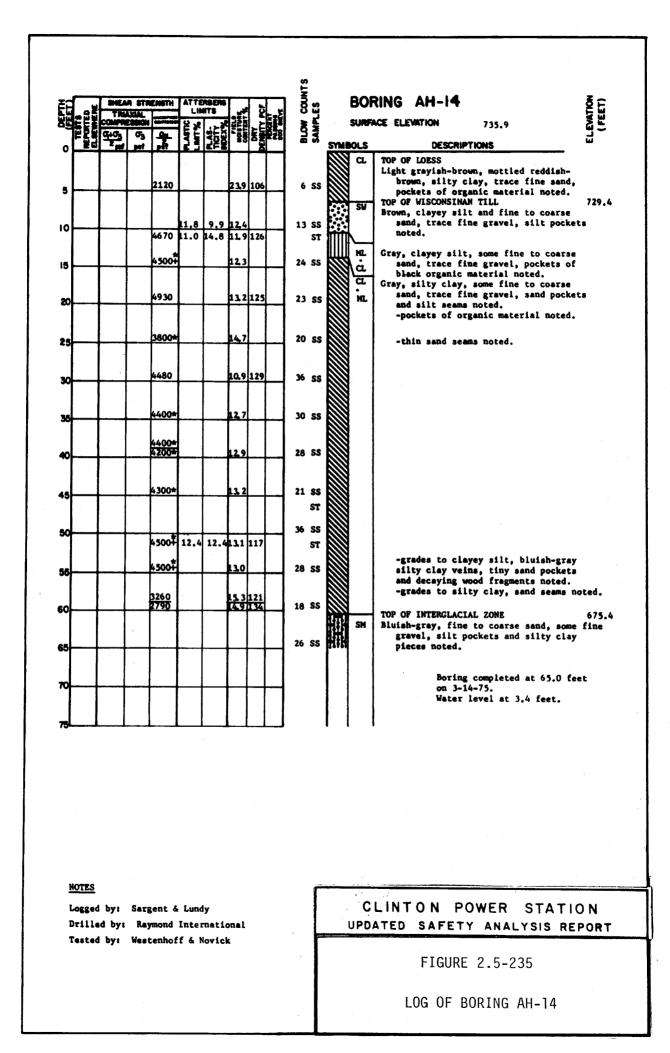
0       20       21       61       1200       22.6104       7 SS       TOP OF LOESS         5       1200       22.6104       7 SS       TOP OF LOESS       Reddish to yellewish-brown, mottled gray, silty clay, some fine to coarse sand, pockets and organic material moted.         10       1440       13.4126       16 SS       CL       TOP OF LOESS         10       1440       13.4126       16 SS       CL       TOP OF WISONSTRANT TILL moted.       731.         10       4300*1.6       9.8 11.3       22 SS       CL       TOP OF WISONSTRANT TILL moted.       731.         18       4300*1.6       9.8 11.3       22 SS       SC       and pockets noted.       Tore of coarse sand, trace fine gravel, silt seams and, trace fine gravel.       Tore of wisonstrant seams and, trace fine gravel.       731.         20       1000*       15.6       52 SS       SN       CL       Gray, silty clay, some fine to coarse sand, trace fine gravel.       731.         21       3750       10.9 130       28 SS       CL       SN       Gray, silty clay, some fine to coarse sand, trace fine gravel, thin silt seams noted.       -and fine to coarse sand, trace fine gravel, othick sand lenses noted.       -and seams noted.       -and seams noted.       -and seams noted.       -and seams noted.       -and fine to coarse sand, little fine gravel, thin	E	<u>م</u>		R STR	ENSTH	ATTE	NBENS NTS	اد.	ð.		NS S	ĒS		BOF	RING AH-13 Since ELEVATION 738.8
0       #si fer jeft di						ËŽ	128		2		ğ	Ľ		SURF	ACE ELEVATION 738.8
3       1200       22.6 104       7 55       TOP OF LOESS       Reddiant to collowish-brown, mottled sand, procless of organic material moted.       731         10       1440       13.4126       16 55       CL       TOP OF WISCONSINAN TILL reserve and procless of organic material moted.       731         10       1440       13.4126       16 55       CL       Top OF WISCONSINAN TILL reserve and procless not organic material moted.       731         10       4300*1.6       9.6       11.2       22 55       WIL       732         10       10.000*       15.6       52 55       WIL       Gray, clayey silty, fine to coarse sand, trace fine gravel, will sama and procles noted.       7350       10.9130       28 55       CL       Gray, silty clay, aome fine to coarse sand, trace fine gravel, will sama sama noted.         30       4300*       14.5       45 55       CL       Gray, silty clay, aome fine to coarse sand, trace fine gravel, will sama sama noted.	0				1	35		20		22	5	2	SYME	OLS	DESCRIPTIONS
10       1440       13.6126       16 55       CL       TOP OF VISCONSIMAN TILL scame fine to coarse and pockets moted.       731         18       4300*11.6       9.6       11.       22 55       SU       RL       Su       Su </td <td></td> <td></td> <td></td> <td></td> <td>1200</td> <td></td> <td></td> <td>22,6</td> <td>104</td> <td></td> <td>7</td> <td>SS</td> <td></td> <td>CL</td> <td>Reddish to yellowish-brown, mottled gray, silty clay, some fine to coarse sand, pockets of organic material</td>					1200			22,6	104		7	SS		CL	Reddish to yellowish-brown, mottled gray, silty clay, some fine to coarse sand, pockets of organic material
15       4300*11.6       9.8       11       22       SC       and pockets moted.         20       10000       15.6       52       SV       Gray, clayey silt, some fine to coarse sand, trace fine gravel.         20       10000       15.6       52       SV       SV       Gray, silty, fine to coarse sand, trace fine gravel.         25       3750       10.9       12.6       SV       SV       Gray, silty clay, some fine to coarse sand, trace fine gravel, inthis silt seems moted.         30       45000       14.5       47       SS       Gray, silty clay, some fine to coarse sand, trace fine gravel, .025 foot thick sand lenses moted.         30       14.5       17       SS       ST       -and fine to coarse sand, silt and sand seems moted.         40       28000       16.1       14       SS       -and fine to coarse sand, little fine gravel, thin seems of brown organic material.         55       43000       13.1       14       SS       -and fine to coarse sand, little fine gravel.         60       23400       13.1       16       SS       -and fine to coarse sand, trace fine gravel.         61       13.1       16       SS       16       SS       -and fine to coarse sand, trace fine gravel.         62       23400       13.1 <t< td=""><td>10</td><td></td><td></td><td></td><td>1440</td><td> </td><td>   </td><td>13.0</td><td>126</td><td></td><td>16</td><td>SS</td><td></td><td>CL.</td><td>TOP OF WISCONSINAN TILL 731. Brown, silty clay, and fine to coarse</td></t<>	10				1440		 	13.0	126		16	SS		CL.	TOP OF WISCONSINAN TILL 731. Brown, silty clay, and fine to coarse
20       1000*       156       52 55       58         25       3750       10,9 130       28 55       61         25       3750       10,9 130       28 55       61         26       3750       10,9 130       28 55       61         3750       10,9 130       28 55       61       61         30       4500*       14.5       45 55       61       61         30       14.5       45 55       14       14 55       61 <t< td=""><td></td><td></td><td>e</td><td></td><td>4 300*</td><td>11.6</td><td>9.8</td><td>11.</td><td></td><td></td><td>22</td><td>SS</td><td></td><td></td><td>and pockets noted.</td></t<>			e		4 300*	11.6	9.8	11.			22	SS			and pockets noted.
25       3750       10.9130       28 55       CL       Gray, silty clay, some fine to coarse sand, little fine gravel, thin silt seems noted.         30       45002       16.5       45 55       CL       Gray, silty clay, some fine to coarse sand, trace fine gravel, use fine to coarse sand, trace fine gravel, use fine to coarse sand, silt and seems noted.         36       38000       16.5       17 55       ST         40       28000       16.1       14 55       ST         40       28000       16.1       14 55       ST         40       28000       16.1       14 55       ST         45       5010       13.5 124       24 55       ST         45       5010       13.5 124       24 55       -and fine to coarse sand, little fine gravel, thin seems of brown organic material.         55       21 55       21 55       -and fine to coarse sand, trace fine gravel.       Boring completed at 60.0 feet on a 17-75.         60       2340       13.1 122       16 55       Boring completed at 60.0 feet on a 17-75.         70       70       70       70       70       70					10004			15.6			52	55		ά.	sand, trace fine gravel.
23       4500 <sup>2</sup> 14.5       45 SS         30       4500 <sup>2</sup> 14.5       45 SS         30       3800 <sup>2</sup> 14.5       45 SS         30       3800 <sup>2</sup> 17 SS       -little fine gravel, thin silt seams noted.         30       2770 11.6 13.0 14.4122       ST       -little fine to coarse sand, trace fine to coarse sand, silt and sand seams noted.         40       2800 <sup>2</sup> 14.1       14 SS       -some fine to coarse sand, little fine gravel, thin seams of brown organic material.         45       5010       13.5 124       24 SS       -and fine to coarse sand, little fine gravel, thin seams of brown organic material.         55       21 SS       16 SS       -some fine to coarse sand, trace fine gravel at 60.0 feet on 3-17-75. Water level at 7.6 feet.         70       70       70       151 123       16 SS	20									1	-			•	
30       3000       17 55         36       2770 11.6 15.0 14.4 122       17 55         40       2800*       14.1         40       2800*       14.1         40       2800*       14.1         41       14 55         50       4500 <sup>3</sup> 50       4500 <sup>3</sup> 21 55       21 55         60       2340         25 55       21 55         60       2340         151 123       16 55         60       2340         70       151 123         70       16 55	25				3750	<u> </u>		<u>10,9</u>	130	-	28	<b>S</b> S		•	sand, little fine gravel, thin silt
2770 ±1.6       15.0       14.4       12       ST         40       28000       14.1       14 SS       sand seems noted.         45       5010       13.5       124 SS       sand seems noted.         50       45004       24 SS       sand seems noted.         50       45004       25 SS       -and fine to coarse sand, little fine gravel, thin seems of brown organic material.         55       21 SS       21 SS       -some fine to coarse sand, trace fine gravel.         60       2540       15.1       16 SS       -some fine to coarse sand, trace fine gravel.         85       0       0       15.1       16 SS       Mater level at 7.6 feet.         70       0       0       0       0       0       0	30				4 500			14.	╞┼		45	SS			fine gravel, .025 foot thick sand
<ul> <li>45</li> <li>50</li> <li>4500</li> <li>50</li> <li>4500</li> <li>50</li> <li>4500</li> <li>25 55</li> <li>50</li> <li>4500</li> <li>25 55</li> <li>50</li> <li>55</li> <li>50</li> <li>55</li> <li>50</li> <li>55</li> <li>50</li> <li>55</li> <li>50</li> <li>55</li> <li>56</li> <li>57</li> <li>58</li> <li>59</li> <li>50</li> /ul>	30						15.0	144	122		17				
<ul> <li>45000</li> <li>25 55</li> <li>-and fine to coarse sand, little fine gravel, thin seams of brown organic material.</li> <li>21 55</li> <li>25</li></ul>	40			,	2800*			14.1		4	14	<b>\$</b> \$			
30     gravel, thin seems of brown organic       55     21 SS       60     2540       151     16 SS       65     60       70     65	45				5010	<b> </b>		13.	124		24	<b>S</b> S			
<pre>some fine to coarse sand, trace fine gravel. Boring completed at 60.0 feet on 3-17-75. Water level at 7.6 feet.</pre>	50				4500			<b> </b>			25	55			
<ul> <li>80</li> <li>80</li> <li>85</li> <li>85</li> <li>70</li> <li>85</li> <li>15.1 123</li> <li>16 55</li> &lt;</ul>	55										21	55			
65 Boring completed at 60.0 feet on 3-17-75. Water level at 7.6 feet.					2540			151	123		16	55			-some fine to coarse sand, trace fine
Water level at 7.6 feet.															Boring completed at 60.0 feet
	65									-1					
	70					<u> </u>			┟╌┼	-{					
	75			L		L	I	L					1		1

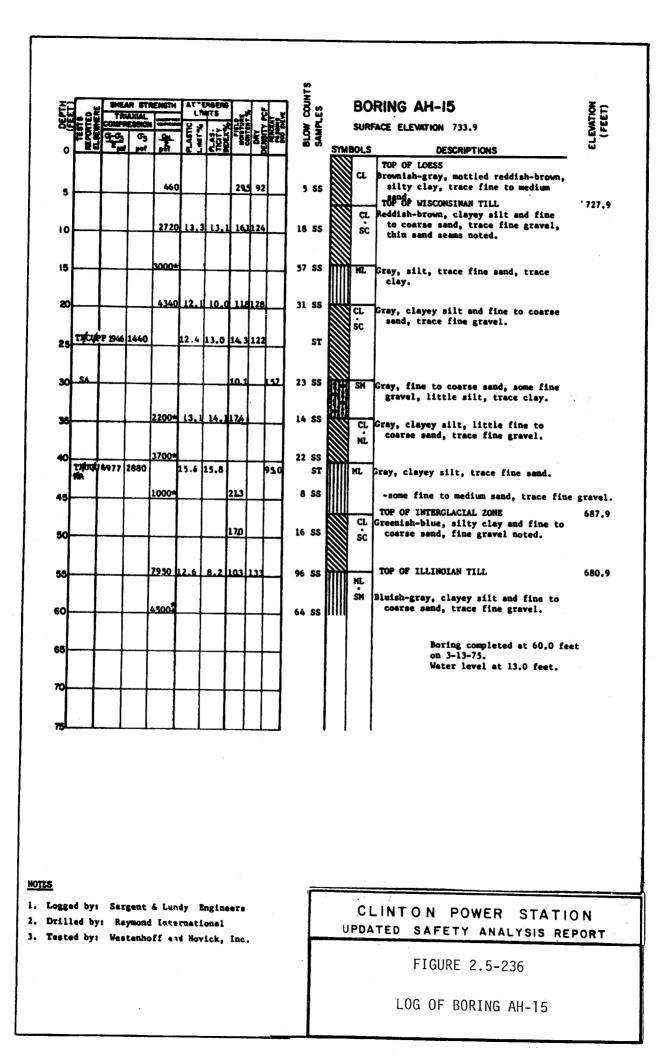
Logged by: Sargent & Lundy Drilled by: Raymond International Tested by: Westenhoff & Novick

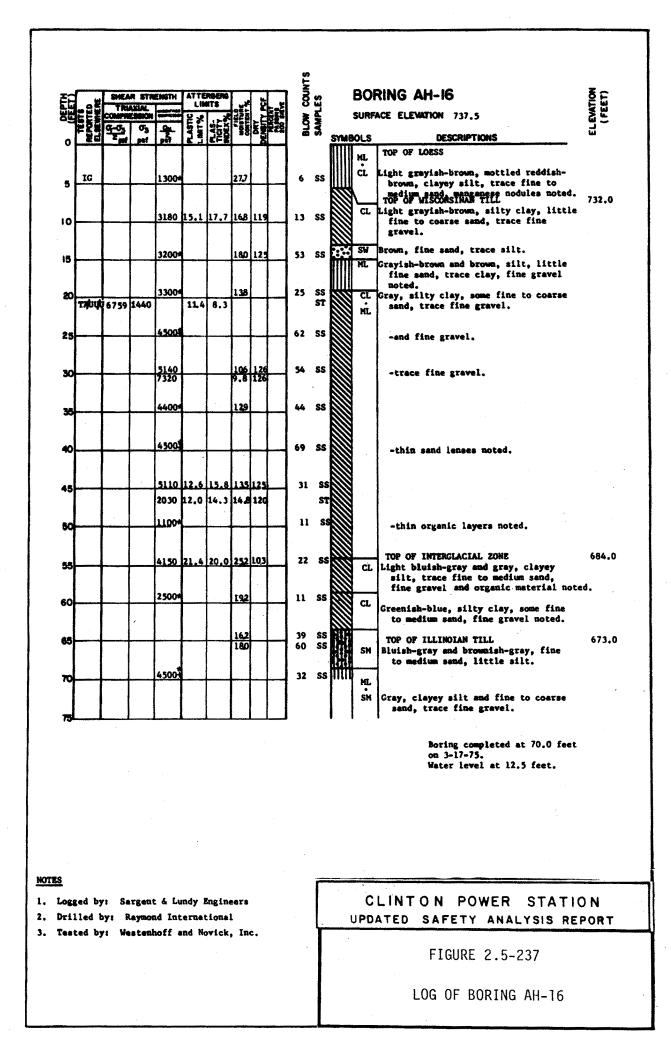
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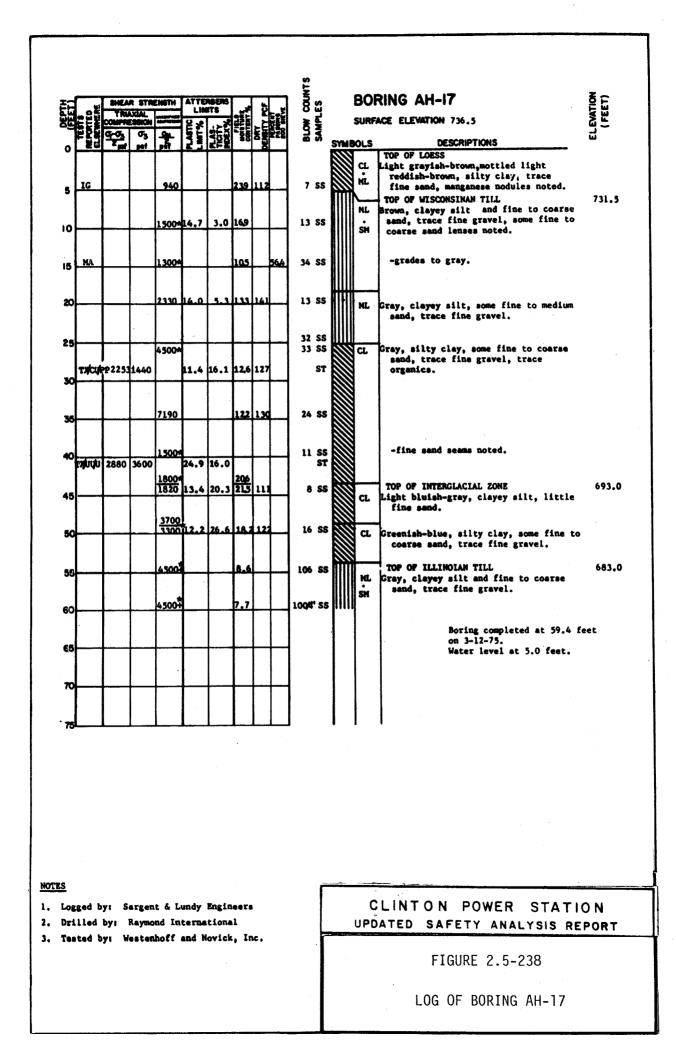
CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-234



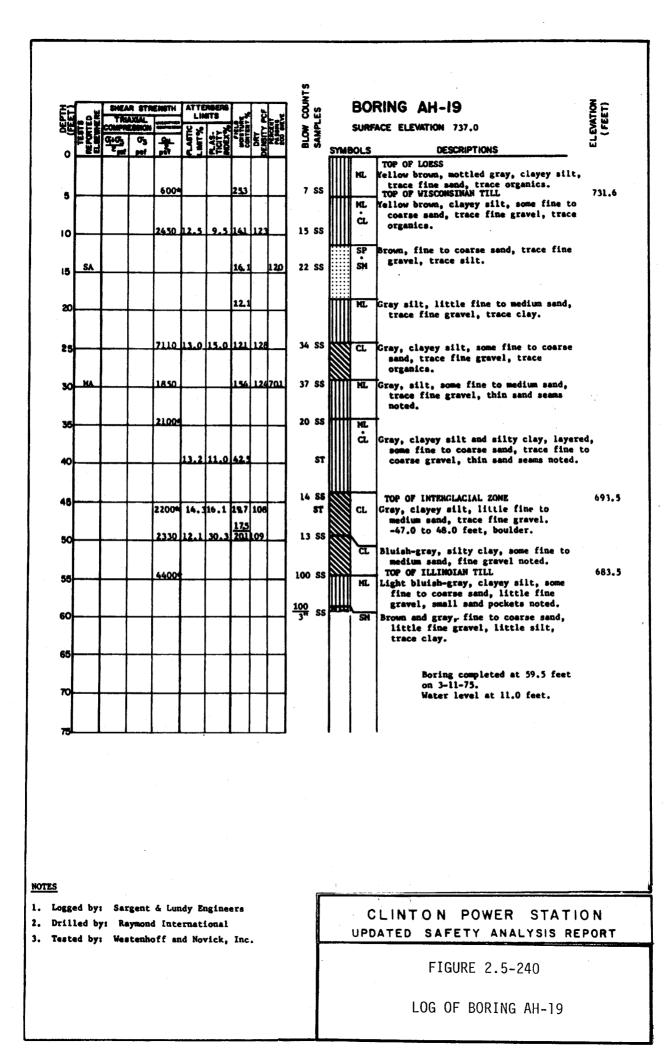


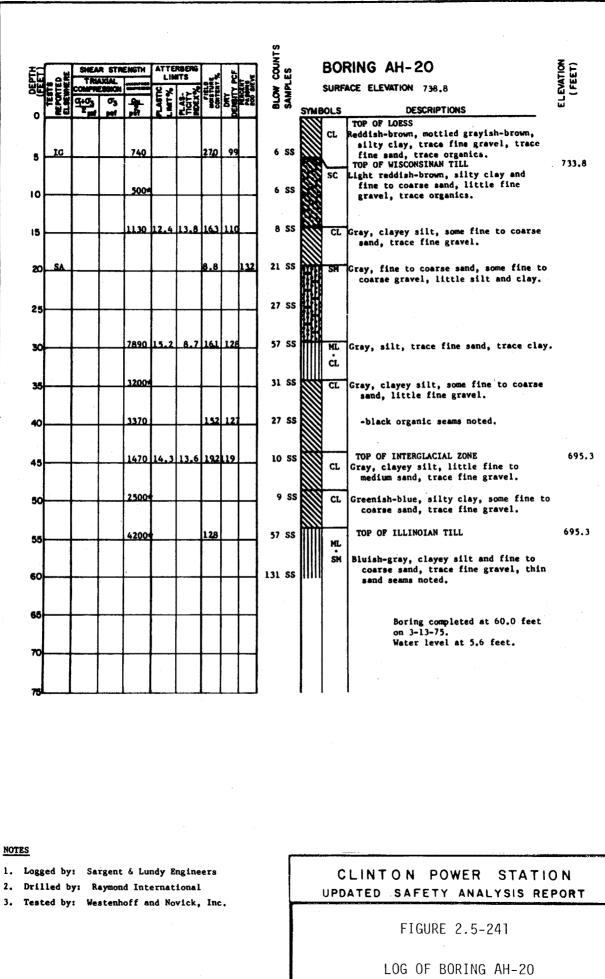




5	<u> </u>		SHEA	R STR	ENGTH	ATTE					COUNTS	s		BOF	RING AH-18	₹F
	TESTS EPONEO	Ĩ	TRA	VIAL.		LA		222	۲ ۲		BLOW COU	L.		SURF	ACE ELEVATION 739.4	ELEVATION (FEET)
	ËŜ	Ĩ	क्षे	05 801	-94- 	LASTIC NT N	PLAS- HCTY NDEX9	222	DAY ENGIT	ĔŻ	2	RAR	SYME	015	DESCRIPTIONS	
5					2400*			197			6	55		CL	TOP OF LOESS Brown, mottled light gray, silty clay. TOP OF WISCONSINAN TILL Light reddish-brown, mottled light	735.4
0					1390	2.4	12.6	157	123		9	<b>S</b> S			grayish-brown, clayey silt, some fine to coarse sand, trace fine gravel, trace organics.	
5	SA							12.7		690	34	<b>S</b> S		SM ML	Brown, silty, fine to medium sand and clayey silt, trace fine gravel, trace organics.	
20		-						18,8		8,5		SS		SP SM	Brown, fine to medium sand, trace silt, trace fine gravel.	
25	MA NA				4520 5680		15.9	<u>129</u> 11,7				SS ST SS			Gray, clayey silt, some fine to coarse sand, little fine gravel, black organic sand seams noted. Gray, fine to coarse sand, little silt,	
55					3000* <u>3450</u> 8610	12.5	6.3	138 114	<u>124</u> 126		<u>170</u> 10.5 68	"\$\$			trace fine gravel, trace clay. Gray, clayey silt, some fine to coarse sand, trace fine gravel, thin sand	· .
ю					<u>230</u> 04			125			<u>100</u> 5*	<b>S</b> S			-thin silt and fine to coarse sand seams noted.	
5		+			32004						41	SS			TOP OF INTERCLACIAL ZONE	669 4
50	rulu.	<b>v</b>	4363	5600		12.3	16.5					ST		CL	Gray, silty clay, little fine sand, trace fine gravel, silt seams noted.	692.4
55		┨			2000*			-	- *		15 190	SS	1.000	-	Greenish-blue, silty clay and fine to medium sand, trace fine gravel.	
i0 55		1			45001										Gray, fine to coarse sand, little fine gravel, trace silt. TOP OF ILLINGIAN TILL	675.9
0		┦												ML	Gray, clayey silt, some fine to coarse sand, little fine gravel.	
75															Boring completed at 64.5 feet on 3-11-75. Water level at 13.5 feet.	
S												<b>r</b>	_			

FIGURE 2.5-239



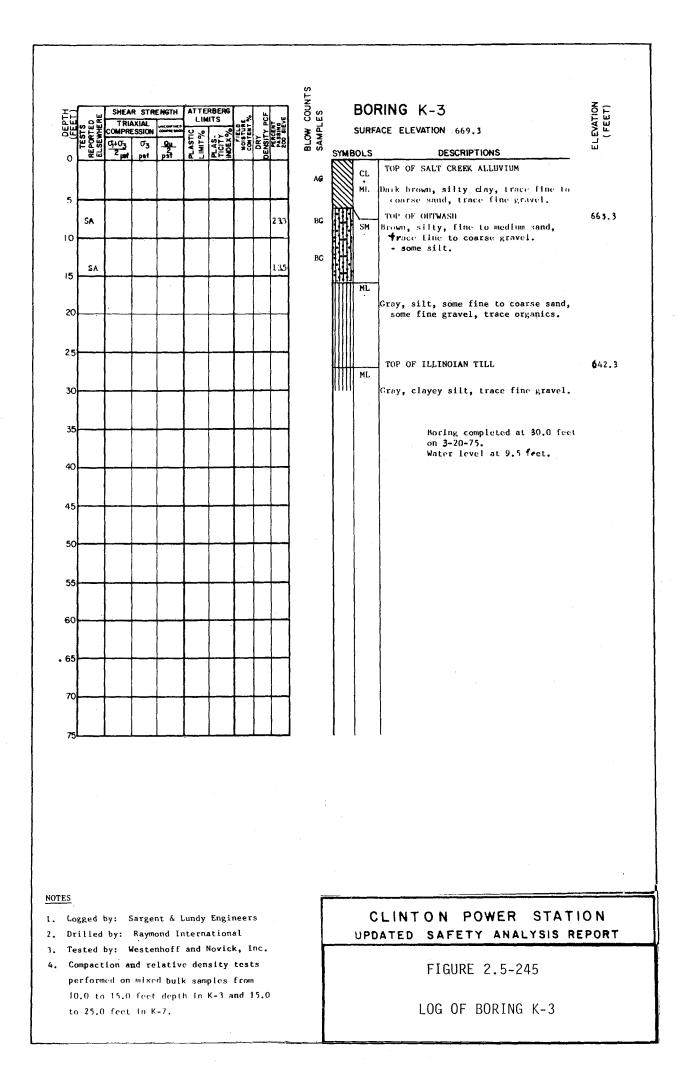


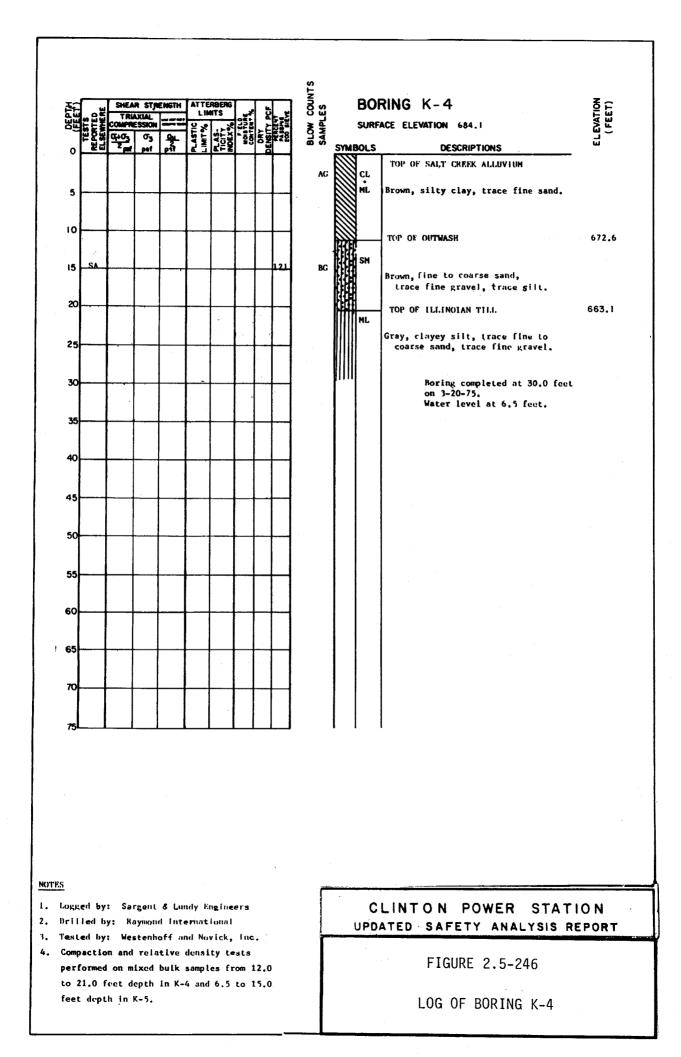
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	-	STRE	MATH.	ATTE					SCN .	BOR	ING AH-2I SE
	TRA	dAL I		LIM	178	ہر 151	2		BLOW COUNTS SAMPLES	SURFA	ING AH-2I
	9403	03	+		S S		S S		SAN S		
		pet	<u>,</u>	52	성주복		벽			SYMBOLS	DESCRIPTIONS
											Grayish-brown, silty clay, trace fine
			000+			293			6 SS		sand.
<u>ا</u>											TOP OF WISCONSINAN TILL 734.8
		[	1110			15.8	125		8 SS	CL CL	Reddish-brown, mottled gray, silty clay, trace fine to coarse sand, pockets
⁰├──											of organic material noted.
						18,4		130	30 SS		
5 54	┠──┤					10,4		- 20	50 03	SM	Reddish-brown, silty, fine to coarse sand, trace fine gravel, organic material
											noted.
×	╏──┤		2820			140	125		28 SS	CL CL	Gray, silty clay, some fine to coarse sand, trace fine gravel, sand and
						444					silt seams noted.
			3500+		L	12.0			47 SS		
1						·					
									28 SS	SW	Gray, fine to coarse sand, some fine
	1				<u> </u>					SM	gravel, trace silt.
1			3500*		.				17 SS	CL	Gray, silty clay, some fine to coarse
	╞╼╌┥		<u>3500</u> 1990		12.7	140	122		1/ 55 S1		send, trace fine gravel.
				<b>F</b>	["	1					
ю	┠──┤		2000*			14,2	$\vdash$	$\left  - \right $	14 SS		-little fine gravel, thin sand seams noted.
					ļ	ĺ					
5			<u>3360</u>		L	425	126		15 SS		-trace fine gravel.
1						1					
			4000*			L			31 SS		
						<b></b>	Γ				
						h			11 SS		
55	╂──┨	_	2500* 1690		18.0	21.0			11 55 S'		TOP OF INTERCLACIAL ZONE 682. Dark gray, silty clay, some fine to coarse
1			2940	12.1	21.3	16,9	115				sand, fine gravel noted, organic material
60	╂──┨		2200*	╂	╂	154	+	$\left  - \right $	10 55	CL.	and silt seams noted. Greenish-gray, silty clay and fine to
1									ł		coarse sand, trace fine gravel.
65			4 <u>500</u> ‡	1	<b> </b>	8.5	┞		81 SS	TITT ML	TOP OF ILLINOIAN TILL 673. Gray, clayey silt, some fine to coarse
									ļ		sand, trace fine gravel.
70									<b>j</b> .		Boring completed at 65.0 feet
· T					[]	[					on 3-18-75. Water level at 4.3 feet.
					1	1	1	1	]		
7 <b>5</b>	<b>.</b>		<u>.</u>	<b>L</b>		<b>I</b>	<b>1</b>	<b>L</b>			
NOTE	<u>s_</u>									C	LINTON POWER STATION

		R STR	ENGTH	ATTE	RBERG	_*	C.F.				BO	RING K-I ଛିଳି
	COMPR	AXIAL ESSION		PLASTIC	12×	TELO		A BOING	BLOW COUNTS SAMPLES		SURF	RING K-I
	<u>4</u> 403	pot	Qu. Per	N N	PLAS- TICITY	¥3	DEN		E S	SYM	BOLS	DEGURIFITIONS
									AG		ML	TOP OF SALT CREEK ALLUVIUM Blacklsh-gray, silt, some clay, trace line to coarse sand,
,	-										CL ML	Brown, silty clay, trace fine to coarse sand, trace fine gravel. TOP OF OUTWASH 661.
/									BG	Ŵ		
SA								158				Brown, fine to coarse sand, trace fine gravel, little silt.
				ļ				8.7	BG		SW SM	Brown, fine to coarse sand, trace silt, trace fine gravel.
								8./				
5				1							1	
<b>}</b>			ļ	<b> </b>						ΪШ	MI.	TOP OF ILLINOIAN TILL 643. Gray, clayey silt, trace fine to medium sand, trace fine gravel.
5				1								Boring completed at 30.0 feet on 3-20-75.
,					<b> </b>							Water level at 12.5 feet.
	-											
;												
<b></b>												
				<b> </b>								
; <b> </b>												
5				L						I		l
			x									
ged by		rgent	& Lu	ndy E	ng i ne	ers			Γ		С	LINTON POWER STATION
lled b ted by	-	-				1.114				-		ATED SAFETY ANALYSIS REPORT
upactic												FIGURE 2.5-243
forme 5 fee			samp L	es fro	om 10	.5 ti	o					1 100NE 2.J=240
• •												LOG OF BORING K-1

	H			R STR	ENGTH		RBERG		ų.	ų	BORING K-2 SURFACE ELEVATION 670.5	ELEVATION
	DE			ESSION 03		PLASTIC LIMIT%	° × × ×	STOCK STOCK	217	A BOING	SURFACE ELEVATION 670.5	LEVA 1
			2,00	pat	<u>Qu</u> St Feq	2 ž	PLAS. TICIT	¥8	° ä			Ξ
											CL TOP OF SALT CREEK ALLUVIUM	
											ML Brown, silty clay, trace fine sand.	
		SA								20.5	TUP OF OUTWASH SM Brown, fine to coarse sand, some silt, some fine to coarse gravel.	665.
		SA								133	GM Brown, fine to coarse gravel, some fine to coarse sand, some silt.	e
	15									9.9	SW Brown, fine to coarse sand, some fine to coarse gravel, trace silt.	
	2			·							SM SM	
	2	5									TOP OF ILLINOIAN TILL	642.
	3	o								_	MI, Gray, clayey silt, some fine to	
											coarse sand, trace fine gravel.	
	- 3	5							$\square$	$\neg$	Boring completed at 30.0 feet	
											on 3-19-75. Water level at 11.0 feet.	
	4	1										
	4											
		1										
	5	<b>.</b>										
	5	5										
	60	∦—									3	
	65	\$ <b> </b>								-		
	70	┣──┤								┥		
	7.	ــــــار	I	<b>_</b>								
ľ												
	NOTES									`		
		gged k ALLAI				-					CLINTON POWER STAT	ON
		·liled •sted b									UPDATED SAFETY ANALYSIS R	POR
	-										FIGURE 2.5-244	

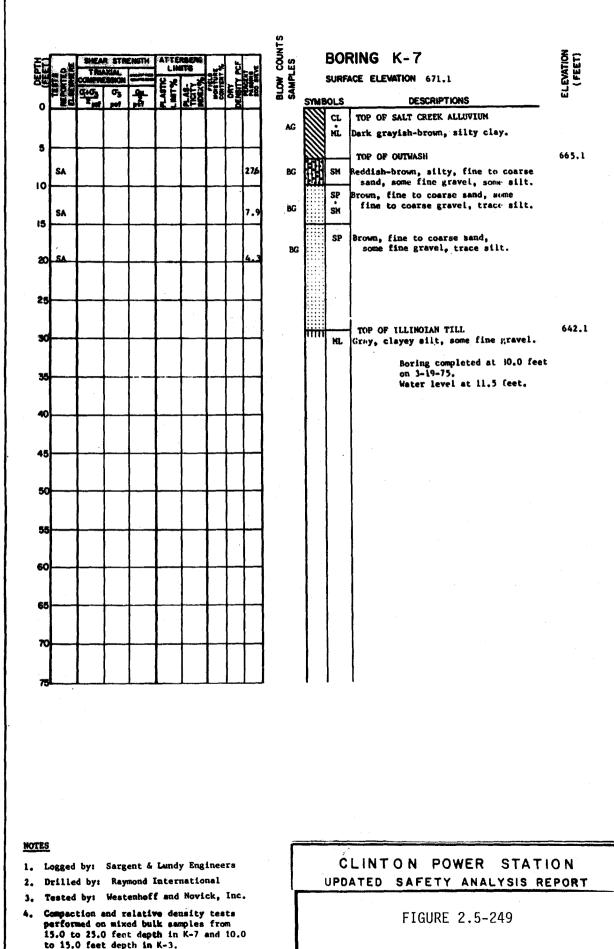




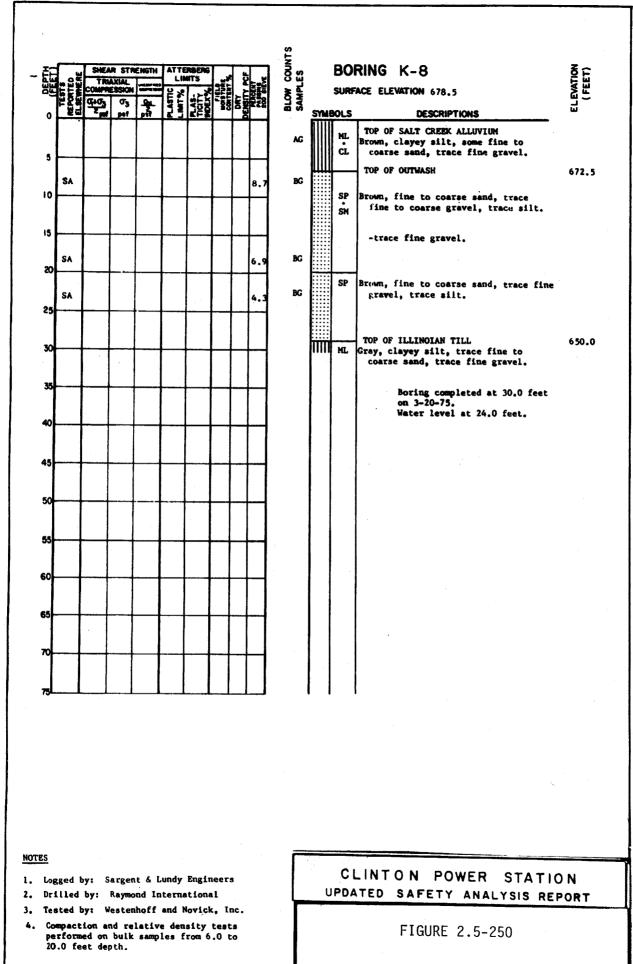
ਵਜੀ		AR STR	ENGTH.	ATTER			5		B	ORIN	G K-5
DEF	EECOM	NAXIAL RESSION		to at		SEE 2	HITY -	BLOW COUNTS SAMPLES	SU	RFACE	ELEVATION 683.3
0		e per	and the second	PLASTIC		-395		E S	MBOL		DESCRIPTIONS
								AG	))) c		P OF SALT CREEK ALLUVIUM
5							_		M H	L Brow	wn, silty clay, trace fine sand.
	SA							вс	ili s		P OF OUTWASH wn, fine to coarse sand, some fine
10		+	<b> </b>	┠──┼		$\rightarrow$			Sin s		o coarse gravel some silt. wm, fine to coarse sand, same
	SA						l	BC	s		ine gravel, trace silt.
15		+		┠──┼			╉		HL s	H Broy	wn, silly, fine to coarse sand and
	SA						2	· BG	۹ e	M 1	ins to coarse gravel.
20-				╏──┼			╈	DG	Щs	M Bros	wn, time to coarse sand, some
	AZ						<b> </b> '		<b>   </b> _	Wel	Ine to coarse gravel, some silt. P OF ILLINDIAN TILL
25-		+					╉		M		y, clayey silt, trace fine gravel.
											,,,.,, 8
30-		1					+	Í		1	Boring completed at 30.0 feet
35-								ŀ			on 3-20-75. Water level at 17,5 fect.
33							Т				•
40											
		1						-			
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- 1											
50		<u> </u>					$\downarrow$	- A			
		}						ļ			
55			ļ	┠──┤			4				
60-		+	<del> </del>	┠─┤		$\vdash$	+			l	
		ļ									
65	<u> </u>	+	╂───	┢╾┼		┝╌╋	+				
		}									
70			┼──╴	╂──┦		┝╼┨	+				
		1									
75L		- L	I	L				ſ	1	•	
NOTES								Г			
1. Logge											INTON POWER STAT
	led by:								U	PDAT	ED SAFETY ANALYSIS F
3. Teste 4. Comp	ed by:						•				
-	ormed or				-						FIGURE 2.5-247
	feet de		-				les				
-	6.5 to										LOG OF BORING K-5

Г

_#		R STR	ENGTH	ATTE	RBERG NTS		L.		BORING K-6	ELEVATION (FEET)
PORTE PORTE	COMPT	SSION			12×8		۲ ۲	SUCCESS SUCCES	SURFACE ELEVATION 671.8	LEVA
	ŝ.	03 pet		ATTAN A		28 	DE NO	E 28	SYMBOLS DESCRIPTIONS	Ξ
									CL TOP OF SALT CREEK ALLUVIUM	
			ļ						HL Brown, silty clay, trace fine sand.	
SA								241	TOP OF OUTWASH SM Brown, fine to coarse sand, some fine to coarse gravel, some silt.	665.
SA		5		<b>_</b>				9.2	SW SM Brown, fine to coarse sand, some fine (ravel, trace silt.	to coat
									ML Grmy, silt, trace fine gravel, trace fine to medium sand, trace organics TOP OF ILLINOIAN TILL	•• 650
									ML Gray, clayey silt, trace fine sand, trace fine gravel.	
									Boring completed at 30.0 fee on 3-19-75. Water level at 13.5 feet.	et
		· · · ·								
						-				
1										
						┢─				
				L_						
	-								CLINTON POWER STA	TION
led i	7: Se Dy: P 7: We	aymo	nd In	terna	tiona	1			UPDATED SAFETY ANALYSIS	
pacti frome 0 fee	ion an d on	d rei buik	ative	dens	ity i	test	8		FIGURE 2.5-248	
	-6									



to 15.0 feet depth in K-3.



d	فيو	- Co 72	R STR	ENGTH		RBERG ITS		<u>.</u>		<u>S</u>		BO	RING K-11	Ē
SEF SEF	TESTS PORTED SEVNER		LXUAL Esision				fung tran	<u>ک</u>		BLOW COUNTS SAMPLES		SURF	ACE ELEVATION 682.5	ELEVATION
٦	121 121 121 121	कुरु	03 111		PLASTIC NIT %	OCT AS	- Sec	22	228	SAI	57041	OLS	DESCRIPTIONS	Ē
0	~~		per	Pat				- 9				CL	TOP OF SALT CREEK ALLUVIUM	
										AG		HL	Brown, silty clay, trace fine sand.	
5			÷		┣							SM	TUP OF OUTWASH	677
										8G		an	Brown, fine to coarse sand, some	
0	SA			ļ	L	Į			165		H	e F	silt, trace fine gravel.	
										BG	$\mathbb{H}$			
5	SA					ļ			23					
										BG		SP SM	Brown, fine to coarse sand, some fine	
20	SA								8.4				gravel, trace silt.	
										BG				
	SA			Į	l	l			7.7	50				
25				[								SP	Brown, fine to coarse sand, some fine	
	SA					1			4.1	BG			gravel, trace silt.	
50	<u> </u>	<u> </u>	<b> </b>		1	†	<u> </u>	<b>†</b>			<b>1</b>	1		
				1							1		Boring completed at 30.0 feet on 3-20-75.	
35	<u> </u>			<u></u>	<u>†</u>	<u>†</u>		<u> </u>					Water level at 28.0 feet.	
		<b>.</b>				}								
40				<u> </u>	╂─	╂	┢──							
		ļ			l									
15	┣	┣		<b> </b>	┨	<u> </u>	┣──	–						
50	L	ļ	<u> </u>	<b> </b>	_		⊢	_						
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<b>.</b> 7.	ļ	<u>I</u>	<b>I</b>	<b>I</b>	<b></b>	<u>ل</u> ـــــ	<u>ــــــــــــــــــــــــــــــــــــ</u>	4	1	J .	4	ŧ		
2												2		
		y: S						5			x		CLINTON POWER STAT	
		by: y: W						ne.			-	UP	DATED SAFETY ANALYSIS F	EPO
						ity t							FIGURE 2.5-251	

đ		- 100 A	r stre	ENGTH	ATTE					NNO SI		BOI	RING K-12	
	fests Ported Bevnere	COMPRE	_		LIM	1		2	1	BLOW COUNTS SAMPLES		SURF	ACE ELEVATION 673.8	ELEVATION (FEET)
$\mathbf{J}$	TE NEPO I	9403 2 m	03 pat	Day 2 pst	PLASTIC LIMIT%	PLAS- TICITY MOEX*	200	53	ZZŽ	BL SAL	SYM	BOLS	DESCRIPTIONS	IJ
							17			AG		CL	TOP OF SALT CREEK ALLUVIUM	
Į	HA		<u> </u>						474	BG	翩		Brown, silty clay, trace fine to	
5	SA	$\square$					Π		151	BG		<u></u>	COATSE SANG. TOP OF OUTWASH	671.8
。			<u> </u> i							Di	盟	SM ML	Brown, fine to coarse sand and clayey silt.	
1			1				$ \neg$	17	7.3	BG			Brown, fine to coarse sand, some fine	
5	SA		L										gravel, some silt.	
							1]	1]		BG		1 .	Brown, fine to coarse sand, some fine	
0	SA						Ļ	Ц	3.8			1	gravel, trace silt.	
			!				ļ	1				SP	Brown, fine to coarse sand, trace fine gravel, trace silt.	
:5	ļ				<b> </b>	┞──┧	┞↓	$\square$			<b>∦</b> ∰	ML	TOP OF ILLINOIAN TILL	652.8
	1		<b>[</b> - ]				ſÌ			1			Greenish-gray, clayey silt, trace	
0	<b> </b>	<b> </b>	ļ.			┝──┥	┞─┤	$\square$		1	pill	۱L_	fine gravel, trace organics.	
	1		<b>I</b> 1				ļÌ	1				ML	Gray, clayey silt, trace fine to coarse sand, trace fine gravel.	
5	<b>├</b> ──┤	<b> i</b>	<b> -</b>	<b> i</b>	┠──┤	├┧	┞┤	┞╌┥	┞──┥	1		{		
			<b>f</b> 1	1									Boring completed at 30.0 feet	
0	┠───┤	<b> </b> 1	<b>├</b> ──	<u>}i</u>	<b> </b> 1	┝┧	┡┤	$\vdash$	┝─┤			1	on 3-20-75. Water level at 21.5 feet.	
	1			i							l		at 61.1 1661.	
5	<b> </b>	<b>├</b> ──1	<b> </b>	┟╌╌┑	<b>{</b> −−−1	<u> </u>	$\vdash$	$\vdash$	┞─┤	1		1		
					1				.					
0	<b> </b>	<b>├</b> ──┐	┞	<b> </b>	<b>├</b> ──	<u>†</u> i		$\vdash$	┞─┤	!				
			Į	1						Ĩ		1		
5	<b> </b>	<u> </u>	t	<u>†                                    </u>	<b>†</b>	11		$\vdash$		1	1	1		
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0	<b> </b>	t	<b>†</b>	<u>†                                    </u>	1	†								
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0	1		<b></b>		Γ				Γ	l	1			
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75	<b></b>		<b>.</b>	<b>.</b>						-	·	-		
														۰.
5											_			_
	gged	by:	Sarge	nt & I	Lundy	Engi	necr	5		٦.		-	LINTON POWER STATI	0 N
		i by:									ì		ATED SAFETY ANALYSIS RE	
	sted	by: 1								F	<u>م ک</u>	- r ( )		
		tion an			-	_ • ·	a	-						

	9	· · · · · ·	R STR	ENGTH		RBEAG NTS	ي ا	ž		SAMPLES			RING K-15	ELEVATION
	CUTED	COMPR CLACE	03 (73		LASTIC MIT %	SEX	<b>J</b>			SAMPLES	-		ACE ELEVATION 668.4	25
F	월립	7.	pet	94 1987	153	FLAS.	92	° č		s sn		)LS	DESCRIPTIONS	
					l							CL	TOP OF SALT CREEK ALLUVIUM Brown, silty clay.	
L											Х.		TOP OF OUTWASH	663
	SA								2¥7	BG		8M	Brown, silty, fine to coarse sand, some fine to coarse gravel.	
	SA								6.8	BG		SP SM	Brown, fine to coarse sand, some fine to coarse gravel, trace silt.	
	<b>S</b> A							┢─	7.5	BG		SW	Brown, fine to coarse sand, some fine to coarse gravel, trace silt,	
		<del> </del>						-					THP OF ILLINDIAN TILL	645
					<b> </b>		-	-				ML	Gray, silty clay, some fine to coarse sand, some fine gravel.	
							Ĺ						Corre gand and true frame.	
													Boring completed at 30.0 feet on 3-19-75.	
_						┣───	┣						Water level at 9.0 feet.	
					1.									
-					<u> </u>	<u> </u>	╞──							
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	-	· · ·			┢──	<u> </u>	┢─	$\vdash$						
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		-				┨───		_						
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					-						ý	(	LINTON POWER STATI	<u> </u>
ge	led	by:	Raymo	nd In	undy terna	tiona	1				1		DATED SAFETY ANALYSIS RE	
	ad b	y: W	esten	hoff	and N	ovick	., Ir	ю.						
										1			FIGURE 2.5-253	
													FIGURE 2.5-253	

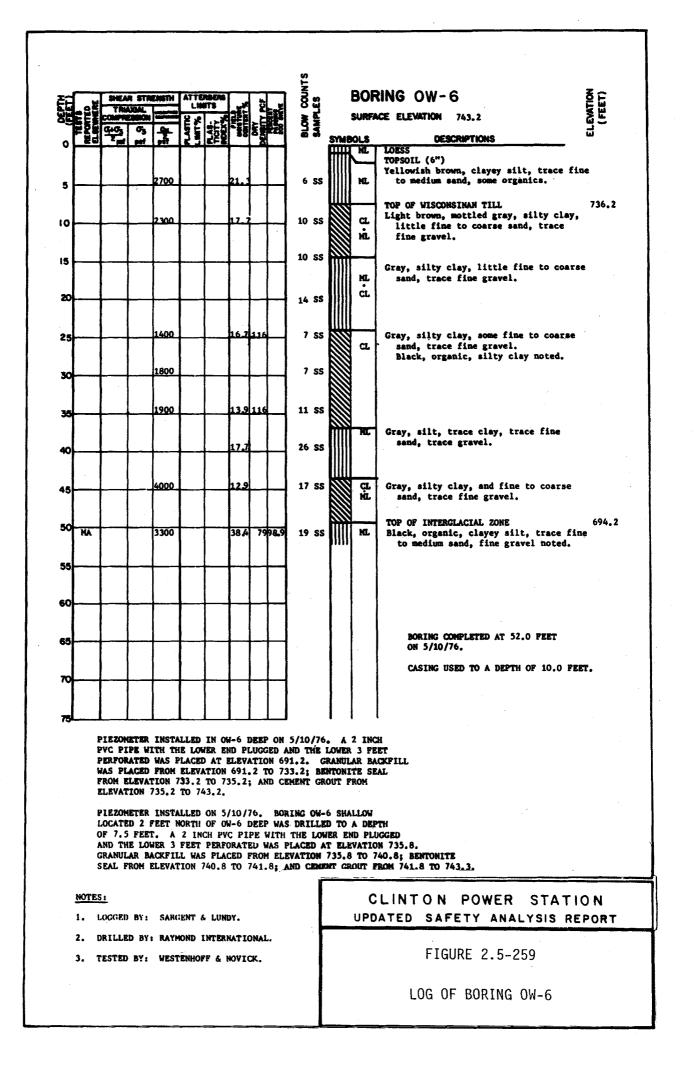
-			R STR	ENERTH	ATTE						\$		80	RING OW-1	E
I I I			LICIAL ESCICIN		Lill V v			Y PCI		BLOW COUNTS	SAMPLES			ACE ELEVATION 716.7	(FEET)
٦	L AEN	40	03 pef	-				CHERT CHERT	22		SAN	SYME	OLS	DESCRIPTIONS	1
°.									·					TOPSOIL	16.0
							18.7			8	SS		CL	Brown, silty clay, some fine to coarse sand, fine gravel noted.	
5										ľ				Baug, The graver notes.	
				4500+						19	SS			8.5 feet, grades to little fine to coar sand.	rse
이															
5				4 500+						38	SS		SC CL	Light brown, fine to coarse sand and clays silt, trace fine gravel.	EY
٦												110		Light brown, mottled orange, silty clay,	
20							12.8			35	SS		CL	trace fine to coarse sand, trace fine gravel. Pockets of organic material	
														noted.	
25				3000						33	SS			and the second second second second second second second second second second second second second second second	
										Ì				Gray, silty clay, trace to little fine to	
50			<u> </u>	3500	12.9	15.0	13.1	122		25	SS		CL	coarse sand, trace fine gravel.	
							•								
35				3200		╞──	┣	┣		34	SS		SP	34.7 feet, yellow-brown, fine to medium sand.	
		l			ŀ							hiii	ML	Gray, clayey silt, trace fine to medium	679.
10				2600			┢──		┟──	10	SS	Щ		sand, Pockets of organic material noted	•
1				4400			21.2	102		17	SS		CL	Brownish-gray, mottled olive gray, clay, trace fine sand, trace fine gravel.	
15							Ē			1					
										39	SS		ML	Light gray, silt, little fine sand.	
50							Γ	Γ		1					
55				4500+						100/	<b>6</b> "ss		ML	Gray, silt and fine to to coarse sand,	664.
						}								trace fine gravel.	
50		<u> </u>	<b> </b>	4500+	12.5	5.4	8.	<u>129</u>		78/	/6 <b>"</b> SS			59.2 feet, some organic pockets noted.	
												┟┼┼┼		Gray, clayey silt and fine to coarse sand	
55		┣		4500+		┣	-	┢	┢─	100/	/3"55		ŚM	trace fine gravel. 1" sand seams noted	1.
					]								CL	Gray, clayey silt, Little fine to coarse trace fine gravel.	send
70	MA		-	4500+		-	9.3	2130	58.	<b>6</b> 0	SS		ML	trace rine graver.	
					]	l			}						
75	L	L	L	<u> </u>	L	<b>J</b>	<b>.</b>	<b></b>	ـــــــــــــــــــــــــــــــــــــ	<b>.</b> .		I	1	BORING COMPLETED AT 70.0 FEET.	
		INC	H PVC	ER IN Pipe	WITH	THE	LOWE	er e	ND E	LUGG				ON 5/12/76.	
		TO	ELEVA	LOWER	646.7	. GR	ANUI	AR	BAC	FILL	. WAS	;		CASING USED TO A DEPTH OF 10.0 FEET	۲.
		TON	ITE S	ROM E	ROM E	LEVAT	ION	656	.7 1	ro 65	i8.7;			CUSTER OPEN TO A PETEL OF TAND LEET	•
		AND	CEME	NT GR	out f	ROM B	LEV	ATIO	N 6	<b>08.</b> 7	TO 7	16.7	•		
c .											7		<u></u>		
<u>ຣ</u> : ເດ	20PD -	R¥ • •		NT & I	11111111								Ċ	LINTON POWER STATIO	N
				OND IN			<b>A</b> T							DATED SAFETY ANALYSIS REP	
				NHOFF			ridia a				ľ				
		1	- 23 i Ei	anyr P	a 110'									FIGURE 2.5-254	

P22005       00       0.5       10       05000       00000       0.0	ſ	w			ENSTH	ATTE	ERGENS MTS		5	L,	Ŋ	S	i	BOF	RING OW-2 🛛 😤 ନି
Image: State of the state			COMPRE	ESSION		28	1				ð	MPLE		SURF/	RING OW-2
CLINTON POWER STATION BELEVICE AND INTERNATIONL. SECONT FAMILED ON S/12/76. A 2 INCH PT OF INTERNALED ON S/12/76. A 2 INCH PT OF IN	E		403		3	25	250	188	58	222	ಹ	S	SYME		
3.4       16       57         900       5.5.112       6       57         900       5.5.112       6       57         10       6       57       16       57         11       53       16       57       16       16       57         12       13       53       16       13       55       16       16       57       1111 Efficient sold.       11111 Efficient sold.       1111 Efficient sold	Γ														Tan to light brown, silty clay, some fine to
900       235113       8       53         13       85       53         13       55       13       55         13       55       13       55         13       55       13       55         13       55       11       55         13       55       11       55         14       15       55       55         15       55       55       55         15       55       55       55         15       55       55       55         15       55       55       55         16       55       55       55         17       55       55       55         18       55       55       55         19       55       55       55         10       55       55       55         11       55       55       55         12       55       55       55         13       55       55       55         14       55       55       55         15       55       55       55         15       55	L						<b>_</b>	<u>h3.</u>		$\square$	16	SS			coarse sand, trace fine gravel, organic mate noted.
900       255113       0       35         13       55       13       55         13       55       13       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         11       55       11       55         12       13       55       11         13       55       11       55         14       15       11       55         15       15       12       10         15       15       10       10       11         15       15       10       10       11         15       15       10       10       11         15       15       10       10       11         15       15       10       10       11         15										1 !				SP	
STOUR, mottled rust & gray, silty clay, ittle fine to coarse sand, trace fine gravel. Stour, mottled rust & gray, silty clay, ittle fine to coarse sand, trace fine gravel. Stour, mottled rust & gray, silty clay, ittle gravel. Stour, mottled rust & gray, silty clay, ittle gravel. Stour, mottled rust & gray, silty clay, ittle fine gravel. Stour, mottled rust & gray, silty clay, Stour, mottled		$\dashv$	<u> </u>	ļ'	900	_	<b> </b>	25.5	<u>ilu</u> 3	4_'	8	SS		ML	Light gray, mottled tan, silt, trace
1       3500       214004       13       55       CL       little face to coarse sand, trace fine         1       13       55       CL       Light green, motiled bluish gray, slity         1       13       55       CL       Light green, motiled bluish gray, slity         11       13       55       CL       Light green, motiled bluish gray, slity         11       13       55       CL       Light green, motiled bluish gray, slity         11       15       S       CL       Light green, motiled bluish gray, slity         11       55       CL       Light green, motiled bluish gray, slity       Light green, motiled bluish gray, slity         11       15       S       CL       Borno completed at 20.0 Feet         0       0       0       0       0       0         0       0       0       0       0       0         0       0       0       0       0       0       0         0       0       0       0       0       0       0       0         0       0       0       0       0       0       0       0       0         0       0       0       0       0			1												
11       SS       CL       Light green, motiled bluish gray, silty light, trace fine to coarse send, trace         11       SS       CL       SS       SS         11       SS       SS       SS       SS         11       SS       SS       SS       SS         11       SS       SS       SS       SS       SS         11       SS       SS       SS       SS       SS         12       SS       SS       SS       SS       SS       SS         12       SS       SS       SS       SS       SS       SS	F	_	<sup> </sup>		3500	┣	╂──	<u>kra</u>	фюş	<b>↓</b> _'	13	SS		CL	little fine to coarse sand, trace fine
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DORENG COMPLETED AT 20.0 FEET ON 5/12/76. WATER LEVEL AT 19.5 FEET. DISCRETE INSTALLED ON 5/12/76. A 2 INCH PUEZOMETER INSTALLED ON 5/12/76. A 2 INCH PUEZOM			'												
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WATER LEVEL AT 19.5 FEET.	ᡨ		<b> </b>	<u> </u>	<b> </b>	<u> </u>	1-	+	$\uparrow$	+	1			1	
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LOGGED BY: SARGENT & LUNDY. DRILLED BY: RAYMOND INTERNATIONAL. TESTED BY: WESTENHOFF & NOVICK.	PVC 3 F GRA TO	C PI FEET ANUL 690	IPE WI PERF AR BA ; BE	eth th Forate Ackfii Entoni	HE LOW ED WAS LL WAS ITE SE	WER EN S PLAC S PLAC EAL FI	ND PL CED T CED F ROM E	LUGGE NO EL FROM ELEVA	ED AI LEVAT ELEV ATION	ND TI TION VATION	HE LO 675. On 67 0 To	• 75			
DRILLED BY: RAYMOND INTERNATIONAL. UPDATED SAFETY ANALYSIS REPORT TESTED BY: WESTENHOFF & NOVICK.	<u>.</u> :											Ì			
DRILLED BY: RAYMOND INTERNATIONAL. UPDATED SAFETY ANALYSIS REPORT	.ogg	GED	BY:	SARGI	ent &	LUND'	м.							. (	CLINTON POWER STATION
TESTED BY: WESTENHOFF & NOVICK.		LLED	BŸ:	RAYI	MOND 1	INTER	NAT IC	)NAL.				l			
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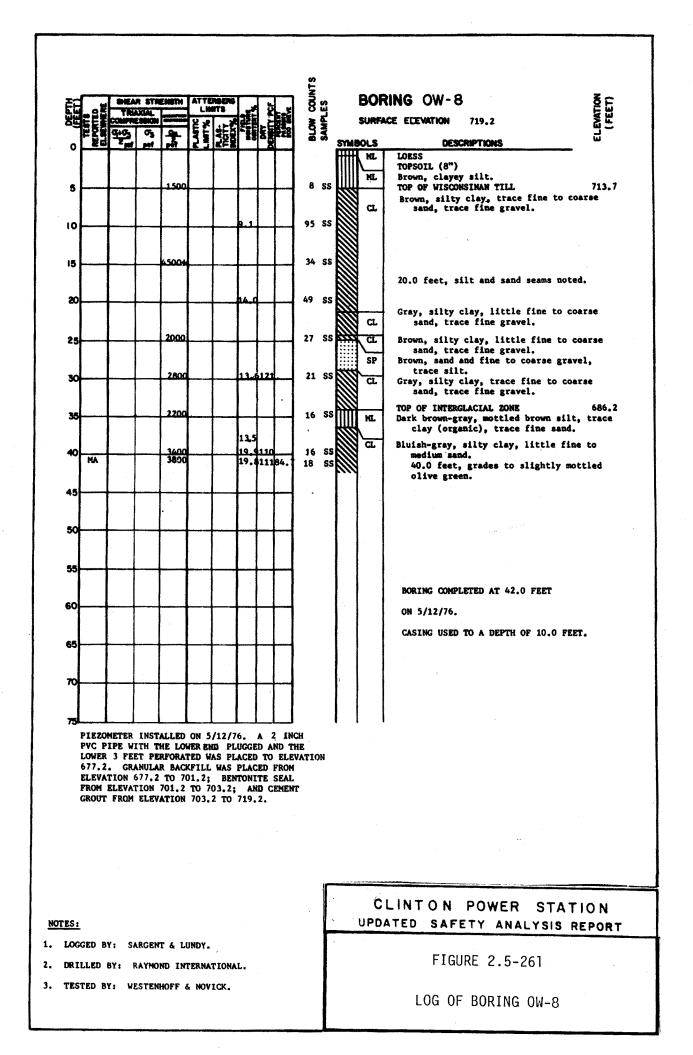
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000	E	COMPO			2 2	<u>لا در ا</u>		N K	靜		SAMPLES		SURF/	CE ELEVATION 735.9	ELEVATION (FEET)
0	부월립	97. 1	G) pet	1		250	-11				33	SYME	OLS	DESCRIPTIONS	בר
Ĭ													NL	LOESS	
				2700						,	SS			Orange-brown, silty clay, trace fine sand, organic material noted.	
5															
10				2000			5.6	125		12	SS		a	TOP OF WISCONSINAN TILL Light brown, silty clay, little fine	728
10											•		· ME.	to coarse sand, trace fine gravel, material noted.	organ
15				2700			3.6	108		20	<b>\$</b> \$				
													CL.	14.8 feet, grades to gray.	
20	L			2200	<u> </u>	<b> </b>				26	SS				
•	l		ł												
25		L	<b> </b>	4500+	·	<b> </b>	9.6	131	ļ'	70	SS	ĬĬ	CL	25.0 feet, some 2"-4" clayey, medi	um to
-			ŀ										sc	coarse sand lenses noted.	
30				500+		<u> </u>	<u>h1.</u>	129		27	<b>SS</b>		CL	Gray, silty clay, little fine to coar sand, trace fine gravel.	<b></b>
35			<u> </u>		<b> </b>		يعط		_	28	<b>S</b> \$			35.0 feet, pockets of black, organ material moted.	nic
40	HA			4.500+	<b> </b>	ļ	12.0	129	675	31	55				
										ŀ					
45		<b></b>	t	<b> </b>		1				1					
	J									1					
50						1	1		Γ	1					
55						Γ	Γ	Γ	Γ	1					
60										]					
														BORING COMPLETED AT 40.0 FEET.	
65					ļ	<u> </u>	ļ	L	L						
		l												ON 5/10/76.	
70	ļ		ļ	ļ	<b> </b>	<b>_</b>	↓	<b> </b>	<b> </b>	ļ				CASING USED TO A DEPTH OF 10 FEET	•
								l							
2 I THE 695 695	ZMETE INCH P LOWE .9. GI .9 TO 707.9 .9.	VC PI R 3 Fi Ranuli 705.9	PE WI EET P UR BAG ), BEI	th th Erfor Ckfili Ntoni1	E LOW Ated L WAS Te sea	ER EN WAS P Plac Al Fré	ID PL LACE ED Fi Om E	UGG D T ROM LEV	ED A O EL ELE ATIO	ND EVAT VATI N 70	:ON  5.9	I	I	1	
LOC OF PLU FLE 725 TO	ZMETE ATED 10 FE GGED VATIO .9 TO 732.9 .9 TO	2 FEET ET. 4 AND TH N 725, 730.9 , AND	NOR 2 I 1E LO 9. ( 0. BI CEME	th of NCH P WER 3 GRANUI ENTON:	OW-3 VC PI Feet Lar B Ite S	DEEP PE WI FERF ACKFI EAL F	WAS TH T ORAT LL W ROM	DR HE ED AS ELE	ILLE LOW WAS PLAC VATI	D TO SR EI PLAC ED I	ND ND CED 1 TROM	DEPTH NO ELEVA		LINTON POWER STAT	10 N
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NOT															
ι.	LOGG DRIL													FIGURE 2.5-256	

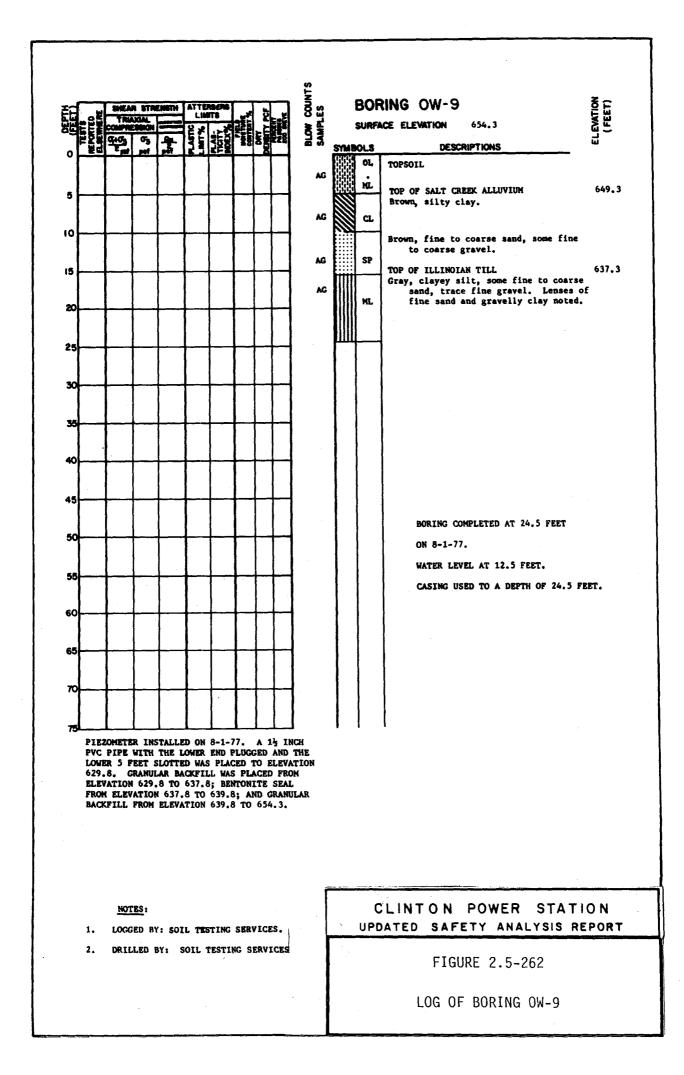
Ē		101	AXIAL	ENSTH	ATTE Lin	nsens KTS		5		2	s a		BOI	RING OW-4	
äğ	PORTE PORTE PORTE	COMPR CHO3	COS OF	9	LASTIC ACTA			È		BI OF COINTS	SAMPLES		SURF	ACE ELEVATION 721.0	ELEVATION (FEET)
0	凝료	-E <sub>nd</sub>	per	<u> </u>	23	272				<b>–</b>	2 40	SYMI	CL	DESCRIPTIONS	Ψ
				25.00										Yellowish-brown, clayey silt, trace fine sand, thin layer of organic	
5				2500						8	SS			material noted. 3.5 feet, mottled light gray.	
10				2500			22.2	_		8	SS	۲II	HL.	TOP OF WISCONSINAN TILL Brownish-gray, clayey silt, trace	715.5
15				2400			12,3	126		19	SS			fine sand. 9.5 feet, grades to gray.	
		•											GL	Gray, silty clay, some fine to coars	e sand
20				4 500+							SS SS		SW	trace fine gravel. Gray, fine to medium sand, trace	
25											55		SM	silt, fine gravel noted.	
	MA			4500+			12.8	121	<del>66</del> ,2	23	SS		CL	Gray, silty clay, some fine to coarse sand, trace fine gravel.	8
30															
35			<b>-</b>												
40															
			·												
45															
50		_	1												
55		_													
			~-											BORING COMPLETED AT 27.0	FEET
60														WATER LEVEL AT 5.5 FEET.	
65															
70															
75															
LOWER ATION BENT ATION OMETH H OF WITH ED TO 1 TO	END 697. CONITE 713 ER INS OW-4 THE DELEV 718.1	PLUGG 5 GRA SEAL TO 72 TALLE DEEP LOWER ATION : BEN	ED A NULAI FRO 1. ED ON WAS E END 1 714	OW-4 ND THE R BACK M ELEV 5-7-7 DRILLE PLUGG .1 GRA TE SEA	LOWE FILL ATION 6. E D TO ED AN NULAF	R 3 1 WAS 1 I 711 OORING A DEI ID THI BACI IM ELI	FEET PLACI TO G OW PTH ( E LO KFIL) EVAT	PEE ED I 713: -4 : OF ( WER L WA TON	RFOR FROM ; AN SHAL 6.9 3 F AS P	ATED ELE D CE LOW 1 FEET EET 1 LACE	WAS VATI MENT LOCA	PLAC ON 69 GROU TED 3 A 2 ORATI	ED TO 7.5 1 JT FRO 3.5 FI INCH	) No Iet PVC	
		RUM E	LEVA	TION 7	20.1	TO 7	z1.0	•			ſ		 		
NOTE		Y: 5	ARGE	NT & L	UNDY,									LINTON POWER STATI Ated safety analysis re	
DR 1				OND IN RNHOFF										FIGURE 2.5-257	

EC		SHEA	R STR	ENSTH	ATT					) <u>s</u>	s		BO	RING OW-5 3r
DEP			XIAL ESSION		22	4178 	3	2 . 2	Ę	BLOW COUNTS	SAMPLES			RING OW-5 BE
0		ξĮ.	03 M	-	5E	250	-15		228	3	SAN	SYME	BOLS	DESCRIPTIONS
Ŭ														LOESS
-				1900			23						∖ <u>CL</u> CL	TOPSOIL Yellowish-brown, silty clay, trace fine sand,
5					<b></b>					<b>`</b>	SS			manganese nodules notéd.
10							161			6	SS		SM	TOP OF WISCONSINAN TILL 705.6 Brown, silty, fine to coarse sand, some clay.
													CL	Brown, silty clay, some fine to coarse sand, trace fine gravel.
15				4200						16	SS			13.5 feet, grades to gray.
20	SA							14.9		28	SS	ЭЙ.	SM	Gray, fine to coarse sand and fine to coarse gra some slit, some clay.
													30	some sill, some clay.
25														
													n.	
30										·•				
35														
40														
														BORING COMPLETED AT 20.0 FEET
45														ON 5/7/76.
														WATER LEVEL AT 7.0 FEET.
50								_						
55														
60														
65														
70								_						
75L														
INCH LOWE 694. 694. TO 7 PIEZ 2 FE A 2 LOWE	OMETE PVC I R 3 FI 4. GI 4 TO 3 04.6; 04.6; 0METEI ET SOU INCH R 3 FI ULAR I	PIPE V EET PE ANULA 702.6; AND X INST X INST JTH OF H PVC EET PE	ITH RFOR R BAG BE CEME CEME CEME CEME CEME CEME CEME C	THE LO ATED V CKFILI NTONII NT GRO D ON 1 5 DEEF WITH ATED V	WER NAS P L WAS TE SE DUT F 5/7/7 WAS THE NAS P	END P LACED PLAC AL. FR KOM E 6. BO DRIL LOWER LACED	LUGG TO ED F OM E LEVA RING LED END TO	ED / Elei Rom Lev: Tioi OW- To / Pli Elei	AND ELE ATIO N 70 -5 S A DE UGGE	THE ON VAT (C) (4.6 1) (4.6 1) (4.6 1) (4.6 1) (4.6 1) (4.6 1) (5) (5) (5) (6) (6) (7) (6) (7)	)N 2.6 TO 7 DW L DF 8 D TH D4.6	12.6. OCATI FEE	ED C.	
BENT	ONITE CEMEN1	SEAL	FROM	ELEV/	TION	703.	6 TO	710		J-1.0	10	100,1		
712.4	••												С	LINTON POWER STATION
												1		ATED SAFETY ANALYSIS REPORT
	s.										Γ			
NOTE	~ •										1			FIGURE 2.5-258
	- LOGGED	1 PV-	6100	-	1 /1617-	v								

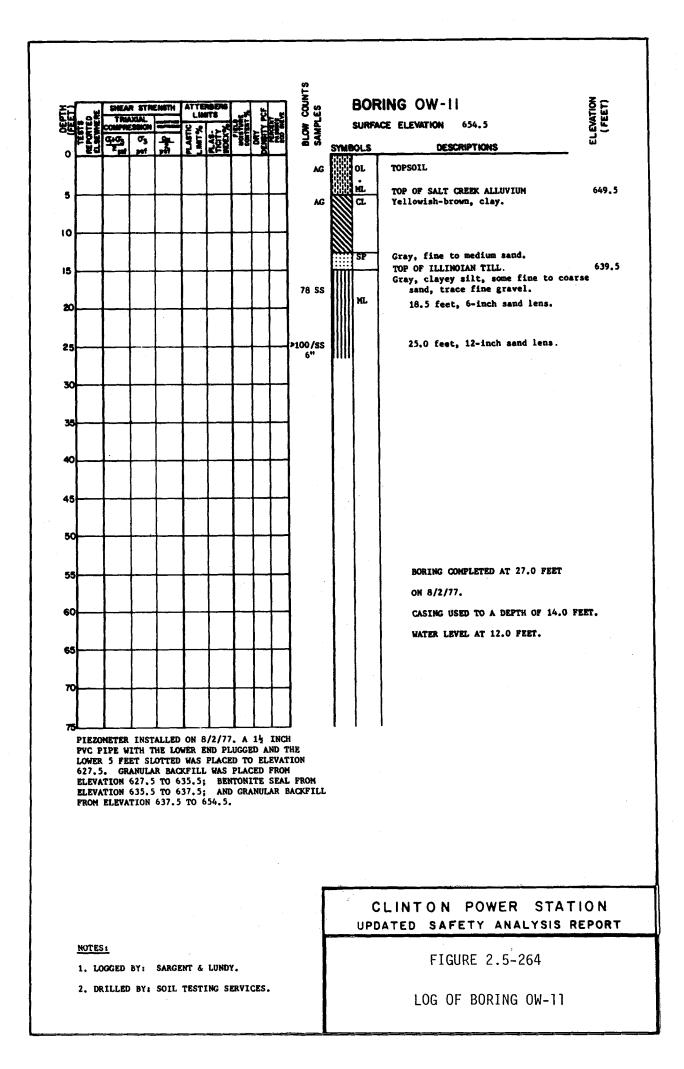


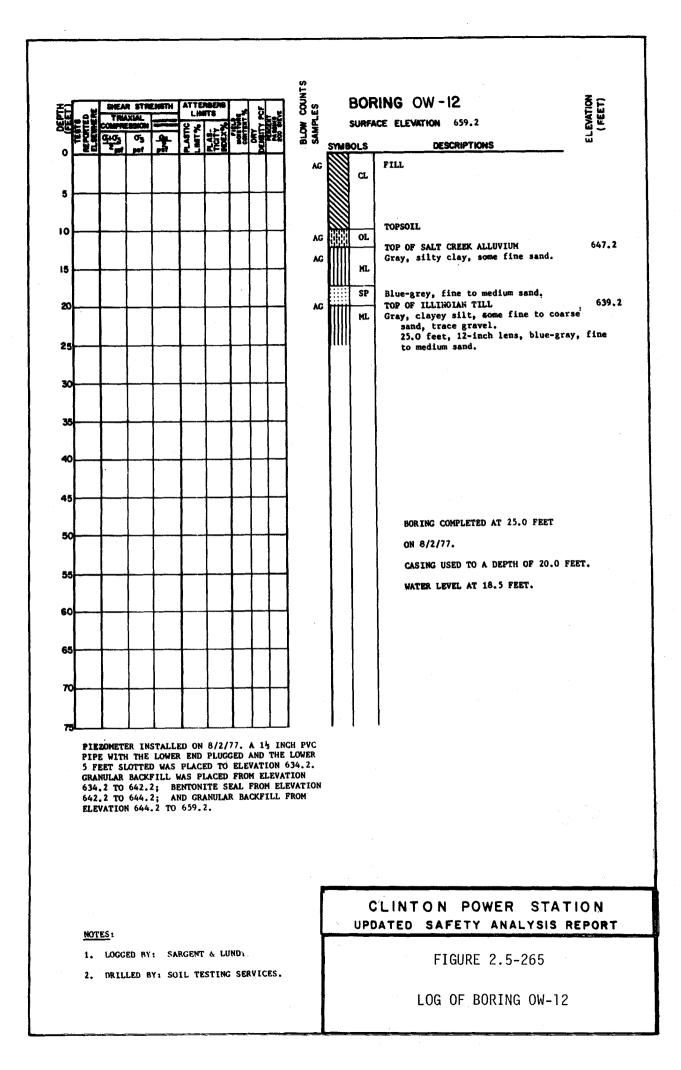
0       2000       14.1124       13 SS       13 SS       10.0 feet, grades to some fine to coarse sand, trace fime gravel.         10       4500+       22 SS       10.0 feet, grades to some fine to coarse sand.         10       2300       15.0116       12 SS       18.5 feet, grades to dark brown, mottled orange.         1400       15.8120584       8 SS       SS       Gray, clayey silt, some fine to coarse sand, trace fine gravel, small pockets of dark brown organics noted.	ſ			R STR	ENSTH	ATTE	NEENG		۶		Ś.	ŝ	I	BOR	RING OW-7	NOI (LI
PHE Tor prive if 25 d2H       S         PHE Tor prive if torm in the second of the second			IRA	SSION		LIM 2 e			2		₹	MP.	:	SURFA	CE ELEVATION 718.6	EVA (FE
Provide and the second seco	Ţ		दुम्द		<u>_</u>	SE	PICTAS DET	-25		228	BLC	SAL	SYMB	OLS	DESCRIPTIONS	1
1300       9 55       10       1000 motiled ten of grees ally transmitted ten and grees ally ten and grees ally transmitted ten	Ή							П				ł	HH	_	LOESS	
Description of the second s					1800						٩	ss	ШШ	ML	Brown, mottled tan, clayey silt.	714-
<pre>b 200 b 4.124 b 200 b 4.124 b 22 55 b 23 b 25 b 25 b 25 b 25 b 25 b 25 b 25</pre>	۶ŀ							$\square$	Η			-0		CL	Brown, mottled tan and green, silty	
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<pre>motiled orange. motiled o</pre>	20				2300		L	15.0	116			50			18.5 feet, grades to dark brown	
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<ul> <li>PIEZOMETER INSTALLED IN OW-7 DEEP ON 5/13/76. A 2 INCH PVC PIPE WITH THE LOWER END PLUGGED AND THE LOWER 3 FEET PERFORATED WAS PLACED AT ELEVATION 693.6. GRANULAR BACKFILL WAS PLACED FROM ELEVATION 693.6 TO 708.6; BENTONITE SEAL FROM ELEVATION 708.6 TO 710.6; AND CEMENT GROUT FROM 710.6 TO 718.6.</li> <li>PIEZOMETER INSTALLED ON 5/13/76, BORING OW-7 SHALLOW LOCATED 2.5 FEET WEST OF OW-7 DEEP WAS DRILLED TO A DEPTH OF 6.0 FEET. A 2 INCH PVC PIPE WITH THE LOWER END PLUGGED AND THE LOWER 3 FEET PERFORATED WAS PLACED AT ELEVATION 712.6. GRANULAR. BACKFILL WAS PLACED FROM ELEVATION 712.6 TO 716.6; BENTONITE SEAL FROM ELEVATION 716.6 TO 717.6; AND CEMENT GROUT FROM ELEVATION 717.6 TO 718.6.</li> <li>NOTES: 1. LOGGED BY: SARGENT &amp; LUNDY.</li> <li>2. DRILLED BY: RAYMOND INTERNATIONAL</li> </ul>																
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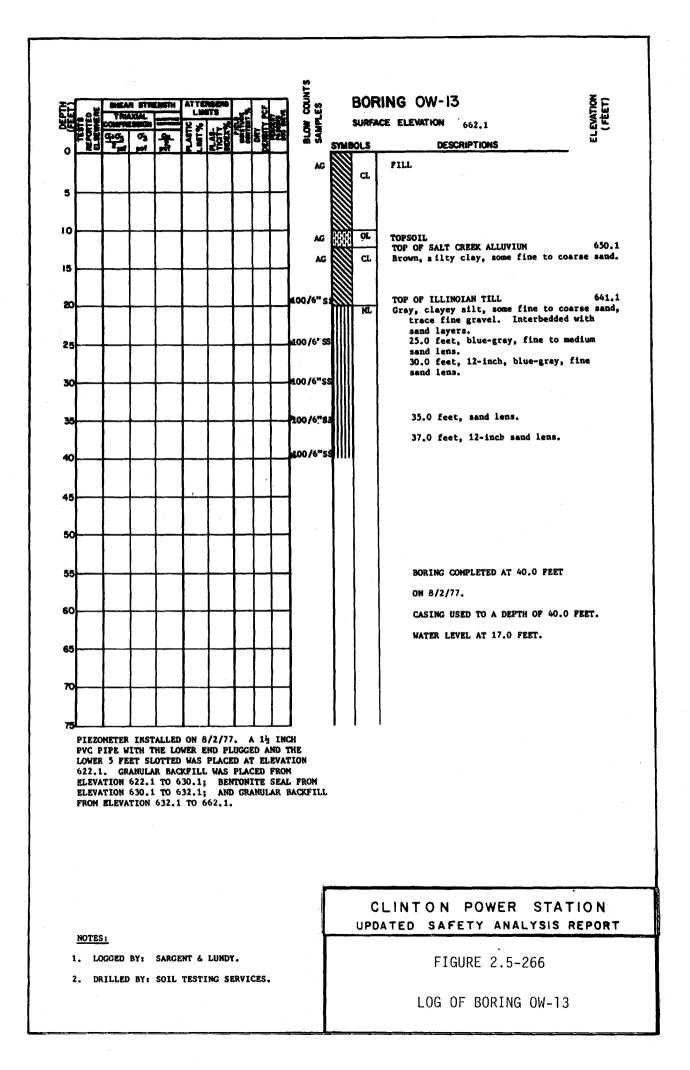


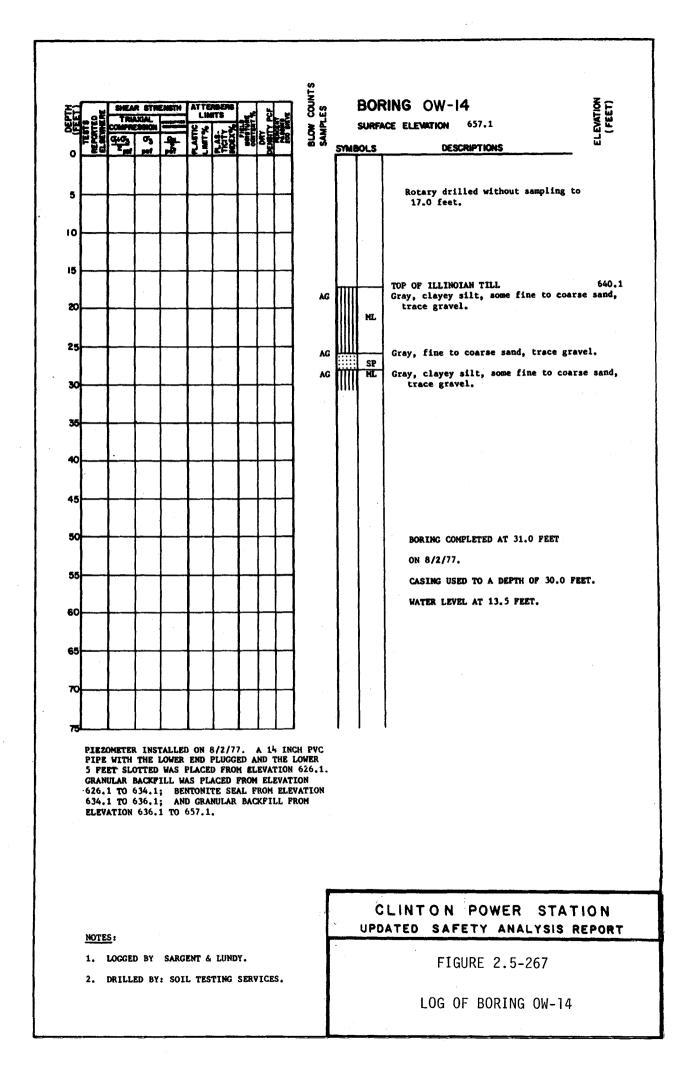


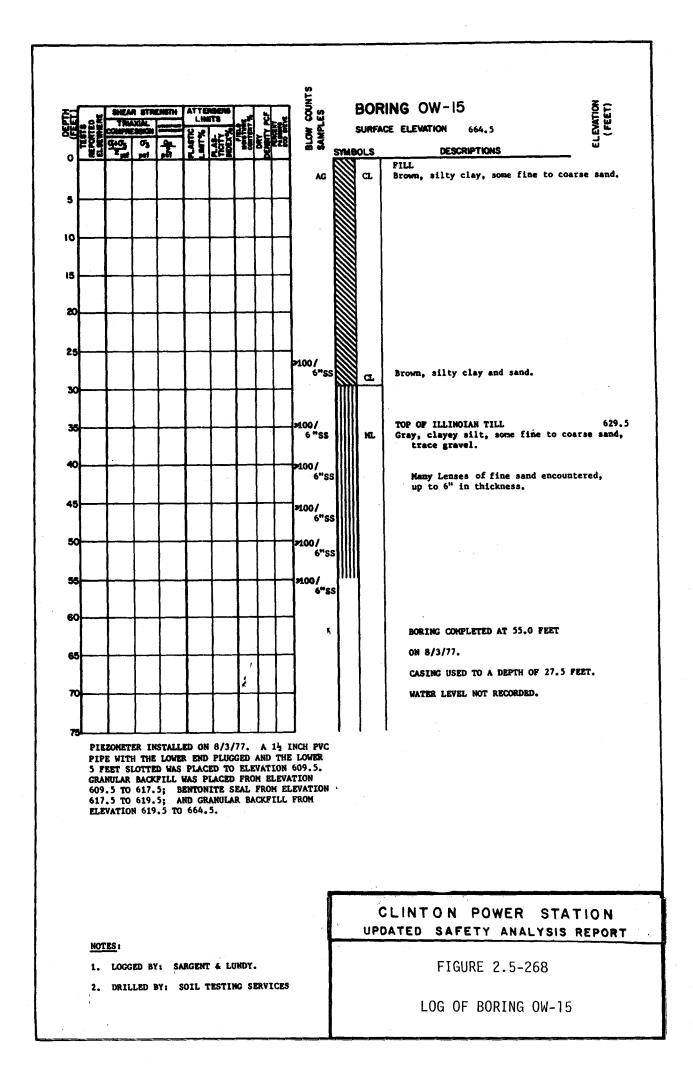
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0       0			COMPIL			ËĽ	4FK				g	AMPL		SURF	ACE ELEVATION 656.0
a       AC       AC       AC       TOP OF SLIT CREEK ALLUVIUM.       632.         b       AC       C       C       C       Brown, slity clay.       632.         b       AC       AC       C       C       C       C       C         b       AC       AC       C       C       C       C       C       C         b       AC       AC       C	٥Ľ	- 22	1	yet	T	123	222	28	0 M		ā	i <b>võ</b> -1	SYME	ols	DESCRIPTIONS
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AC       AC         AC       AC	5				<b> </b>	<b> </b>	┣		$\vdash$			-			
a       a       a       a       b       b       b       constrained by the constrained by												AG		CL.	
0       0	아	 ·				┣───	<b> </b>								Brown, fine to coarse sand, some gravel.
0       0												40		C.D.	
CLINTON POWER STATION CLINTON POWER STATION CLINTON POWER STATION CLINTON POWER STATION CLINTON POWER STATION	⁵┞											AU .		ər	
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23.0 to 33.0 feet, interbeds of fine to solution sand. 23.0 to 35.0 feet, interbeds of fine to solution sand. Solution completed at 35.0 feet, interbeds of fine to solution completed at 35.0 feet, interbeds of fine to solution sand. Solution completed at 35.0 feet, interbeds of fine to solution interbeds of fine									ľ					HL.	Gray, clayey silt, some fine to coarse sand, trace fine gravel.
So       medium sand.         Motes       medium sand.         <	25					ļ	<b> </b>			┣	100	/6"55			21.5 feet, 6-inch lens of fine to medium
BORING COMPLETED AT 35.0 FEET ON 6/2/77. CASING USED TO A DEPTH OF 35:0 FEET. ON 6/2/77. CASING USED TO A DEPTH OF 35:0 FEET. WATER LEVEL NOT RECORDED. PIEZONETER INSTALLED ON 8/2/77. A 3% INCH PVC PIEV WITH THE LOWER END PLICEDD AND THE LOWER 3 FERT SUCTED WAS PLACED TO DE DEFANTION ELEVATION 631.0 TO 656.0. CLINTON POWER STATION ELEVATION 631.0 TO 656.0.						l									
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S0       BORING CONFLETED AT 35.0 FEET         S0       BORING CONFLETED AT 35.0 FEET		-													
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1. LOCGED BY: SARGENT & LUNDY. FIGURE 2.5-263													1		
		<u>)TES :</u>													DATED SAFETY ANALYSIS REPORT



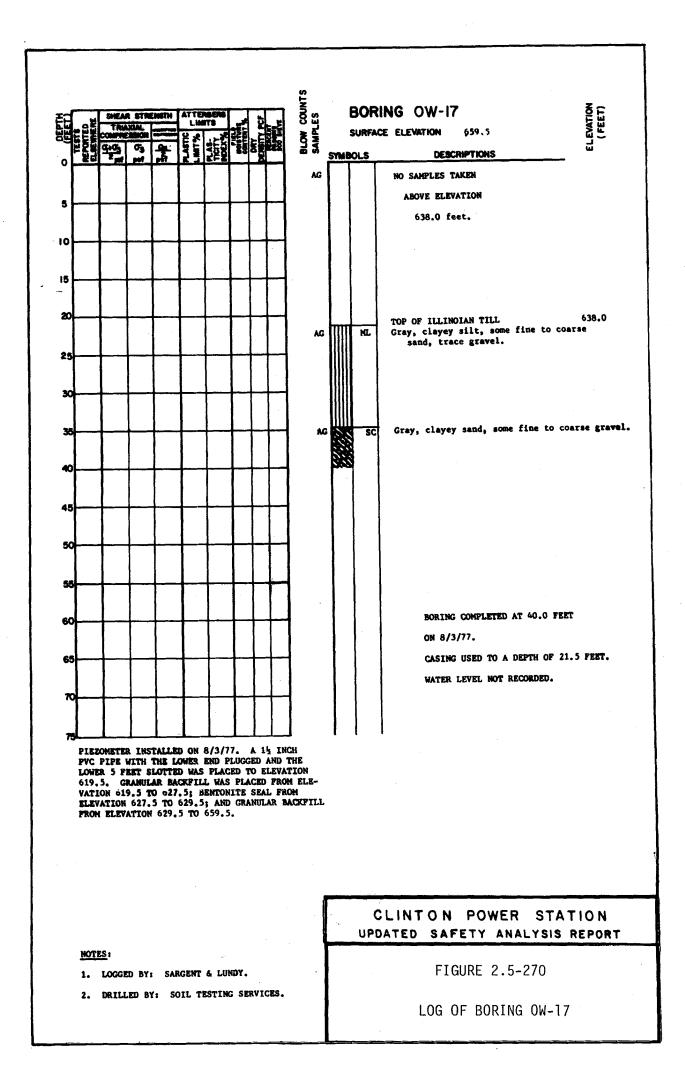


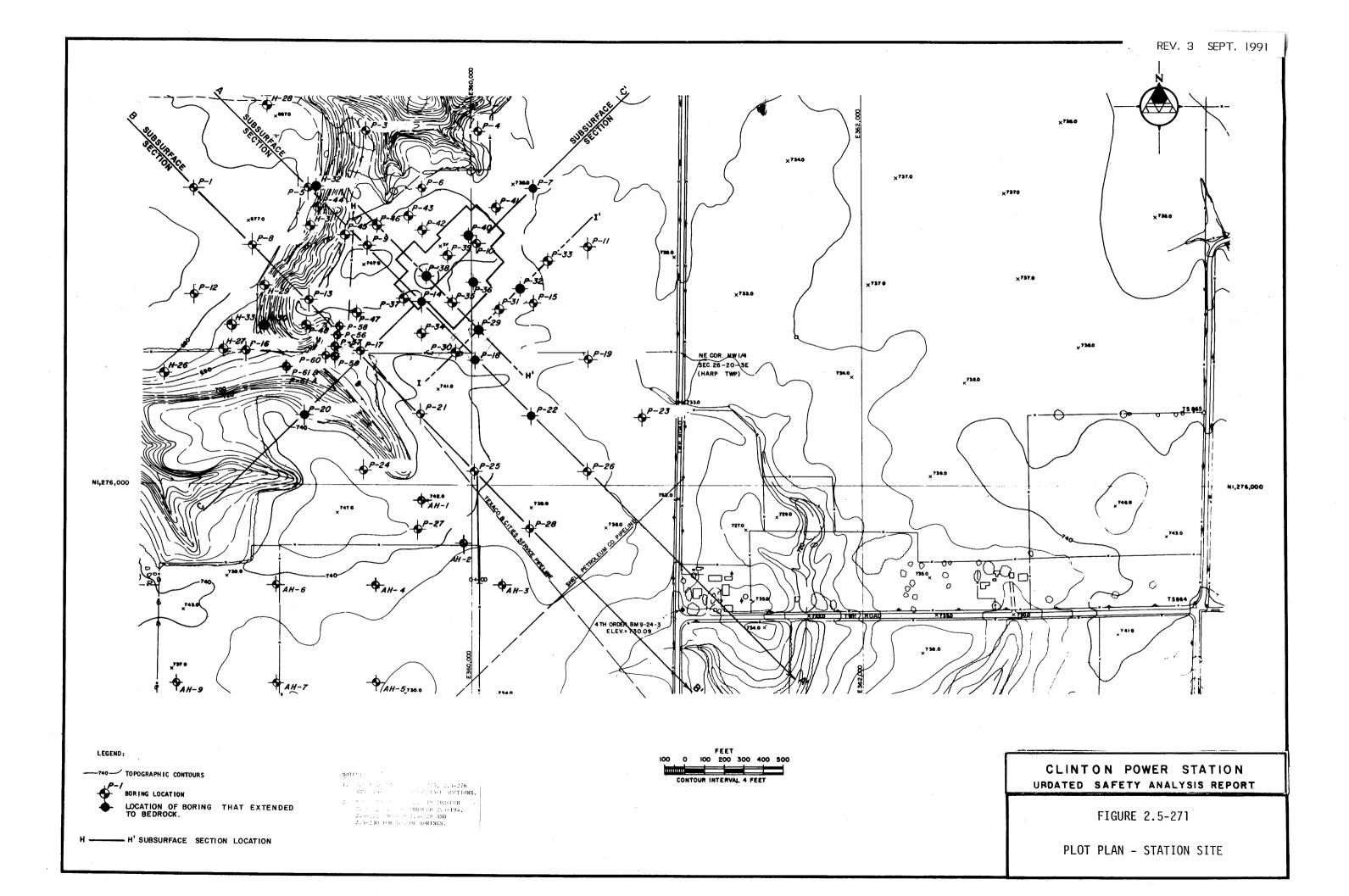


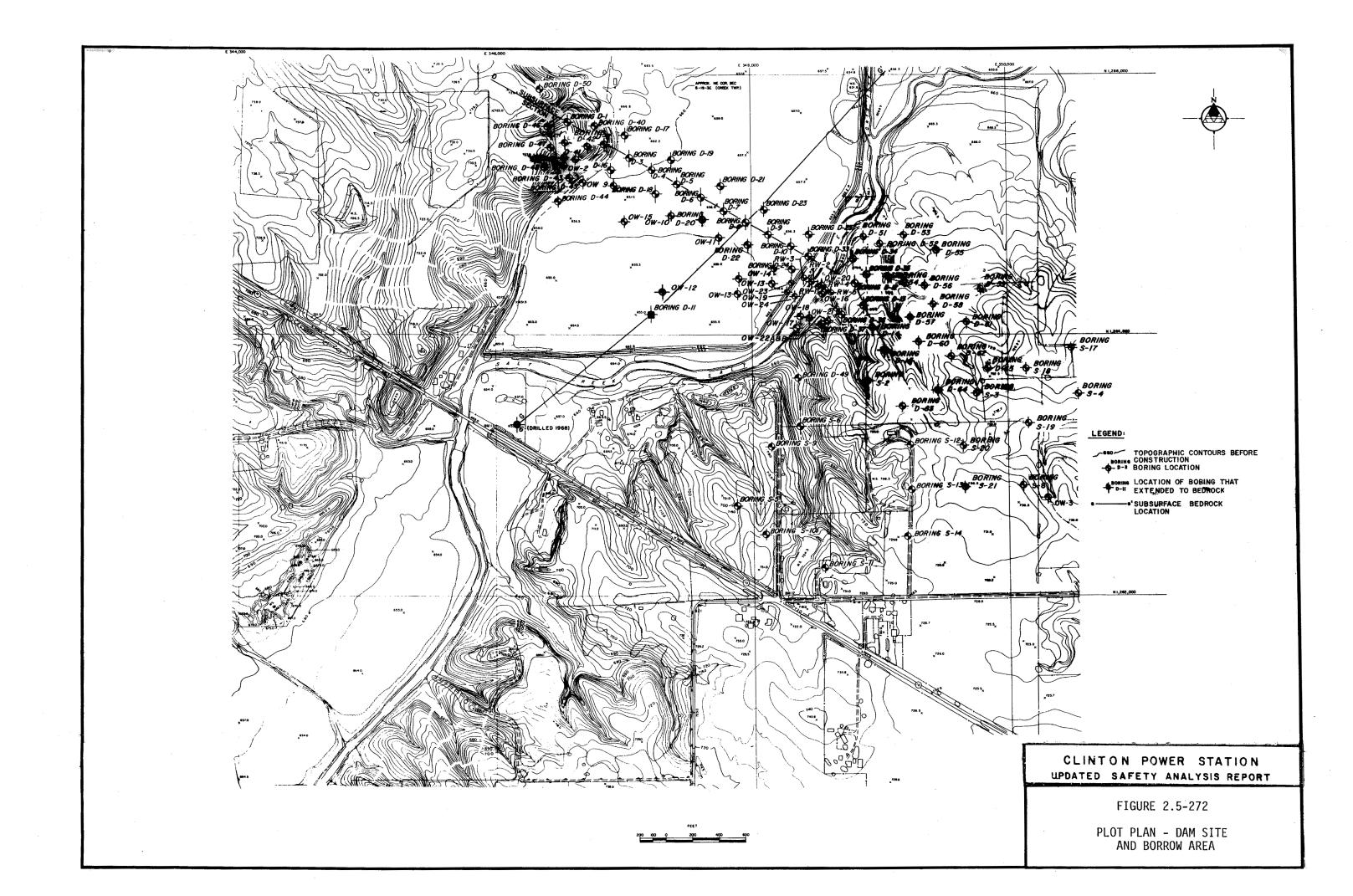


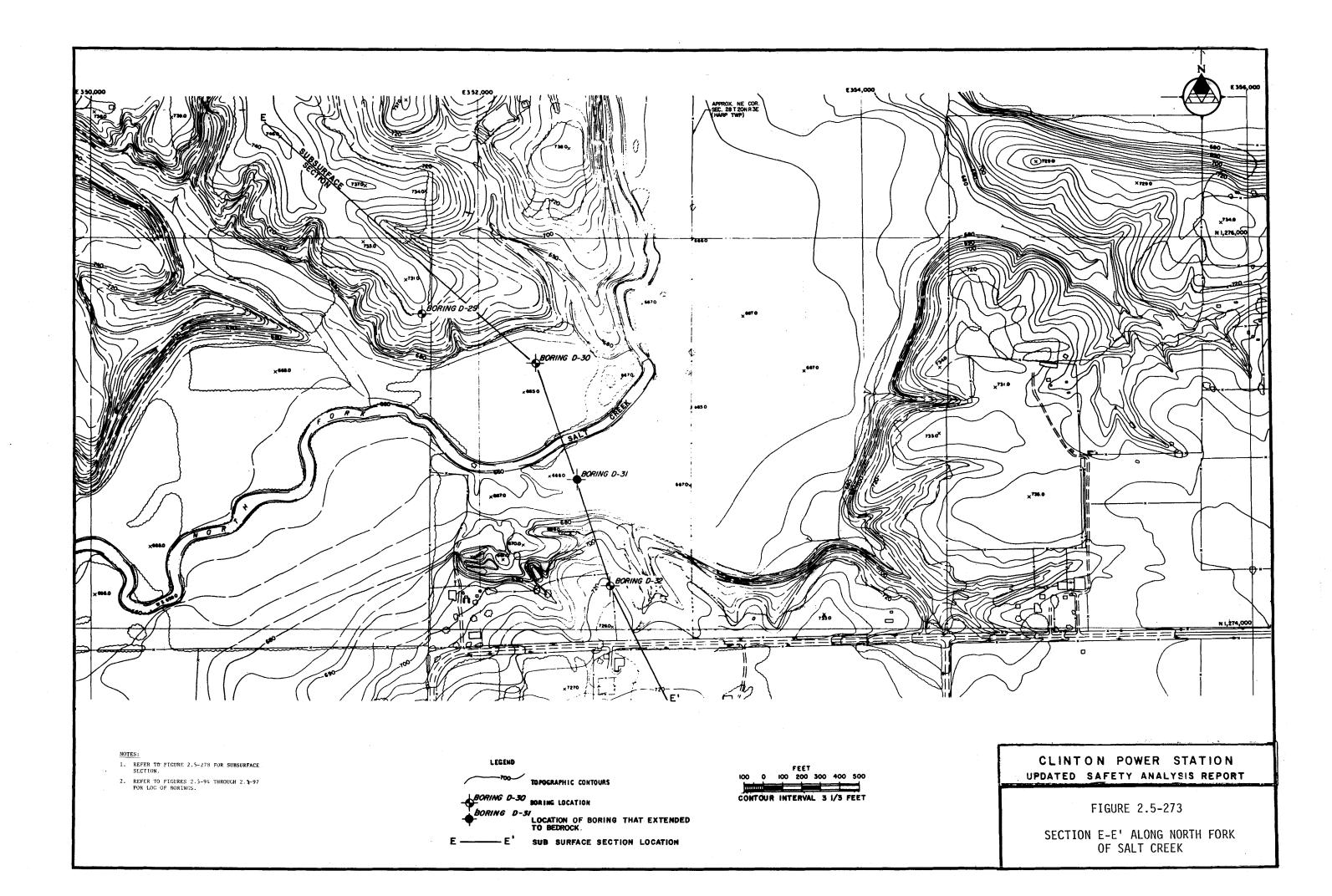


	SHEA TR	R STR		ATTE LIN	RSENS IT'S	2	L M	Ē	BLOW COUNTS SAMPLES			RING OW-16 Ace elevation 657.9	ELEVATION (FEET)
	40	σ <sub>3</sub> pet	-	N PERSONAL PROPERTY AND IN THE PROPERTY AND INTERPORTY	A LOCAL			<b>2</b> 22	SAV	SYM	BOLS	DESCRIPTIONS	
										$\square$	ML	FILL Brown, silty clay.	
<b> </b>	<b> </b>										ł	blown, stily clay.	
				1									
ѷ┝──													
	ļ											TOP OF ILLINOIAN TILL	641.4
									73 SS		ML	Gray, clayey silt, some fine to coars sand, trace gravel.	e
ነ					╂──				•			Many thin sand lenses noted.	
5									100 / 6" SS				
1									6" SS			25.0 feet, grades with more gravel	•
•	╂						$\left  - \right $		400/ 6"ss				•
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5	┼╌						$\left  - \right $					BORING COMPLETED AT 30.0 FEET	
												ON 8/3/77. CASING USED TO A DEPTH OF 16.5 I	
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9	<u>†</u>				1	t-			1				
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PIPE	Meter With 1 T Slot	HE LO	WER E	SND PI	LUGGE	D AN	D TH	ie d	OWER				
GRANU 627,9	LAR BA	CKF11 5.9:	LL WAS BENT	S PLA	CED FI E SEAI	ROM I	ELEV Om e	ATI ELEV	ON ATION				
635.9	TO 63	7.9;	AND	GRAN	ULAR	BACK	FILI	FR	OM				
									1				
										×.		CLINTON POWER STAT	
									L.				
NOTES	1					•			ļ			FIGURE 2.5-269	









-	- ттмг	STRATIGRAPHY			STRATIGRAPHIC UNITS	
	1 1ME	SIKAI IGKAPHI	FSA	R	PSAR	BORING LOGS
	Н	olocene Stage	Cahokia Alluvium C	Peyton Colluvium	Salt Creek Alluvium or Flood Plain Alluvium and Recent Channel Deposits	Salt Creek Alluvium
	e B	Valderan Substage Twocreekan Substage	Richland Loess	, 	Loess	Loess
	sconsinan Stage	Woodfordian Substage	Wedron Formation	Henry Formation	Wisconsinan Till or Wisconsinan Glacial Till	Wisconsinan Glacial Till
	Wisc	Farmdalian Substage	Robein Silt		Interglacial Zone or	
		Altonian Substage -			Sangamon Interglacial Zone	Interglacial Zone
stem eries	S	angamonian Stage			or Sang <b>a</b> mon Soil Interval	
sy e S			weathered Glasford Forma	1		ς · ·
Quaternary Pleistocene		Illinoian Stage	<b>u</b> naltered Glasford Forma	-	Illinoian Till or Illinoian Glacial T <b>i</b> ll	Illinoian Glacial Till
	Y	armouthian Stage			Lacustrine Deposit	Lacustrine Deposit
					Pre-Illinoian Glacial Till or Kansan Till	Pre-Illinoian Glacial Till
		Kansan Stage	B <b>a</b> nner Forma	ation	Pre-Illinoian Alluvial and Lacustrine Deposit or Kansan Alluvial or Lacustrine Soils	Pre-Illinoian Lacustrine Deposit
					Bedrock Valley Outwash Deposit or Mahomet Valley Deposit	Mahomet Bedrock Valley Deposit
		Unconformity anian System	Bedrock		Bedrock	Bedrock

## NOTES:

- STAGE AND ALTONIAN SUBSTAGE.
- DIFFERENTIATED.
- (MODERN SOIL).

1. EXCAVATIONS FOR THE CLINTON POWER STATION DID NOT EXTEND BELOW THE UNALTERED GLASFORD FORMATION.

2. BORINGS FOR THE CLINTON POWER STATION DID NOT EXTEND INTO ROCKS OLDER THAN THOSE OF THE PENNSYLVANIAN SYSTEM.

3. ILLINOIAN-AGE TILL OF THE GLASFORD FORMATION WAS SUBJECTED TO A SIGNIFICANT PERIOD OF WEATHERING DURING THE SANGAMONIAN

4. DEPOSITS OF CAHOKIA ALLUVIUM AND HENRY FORMATION WERE NOT

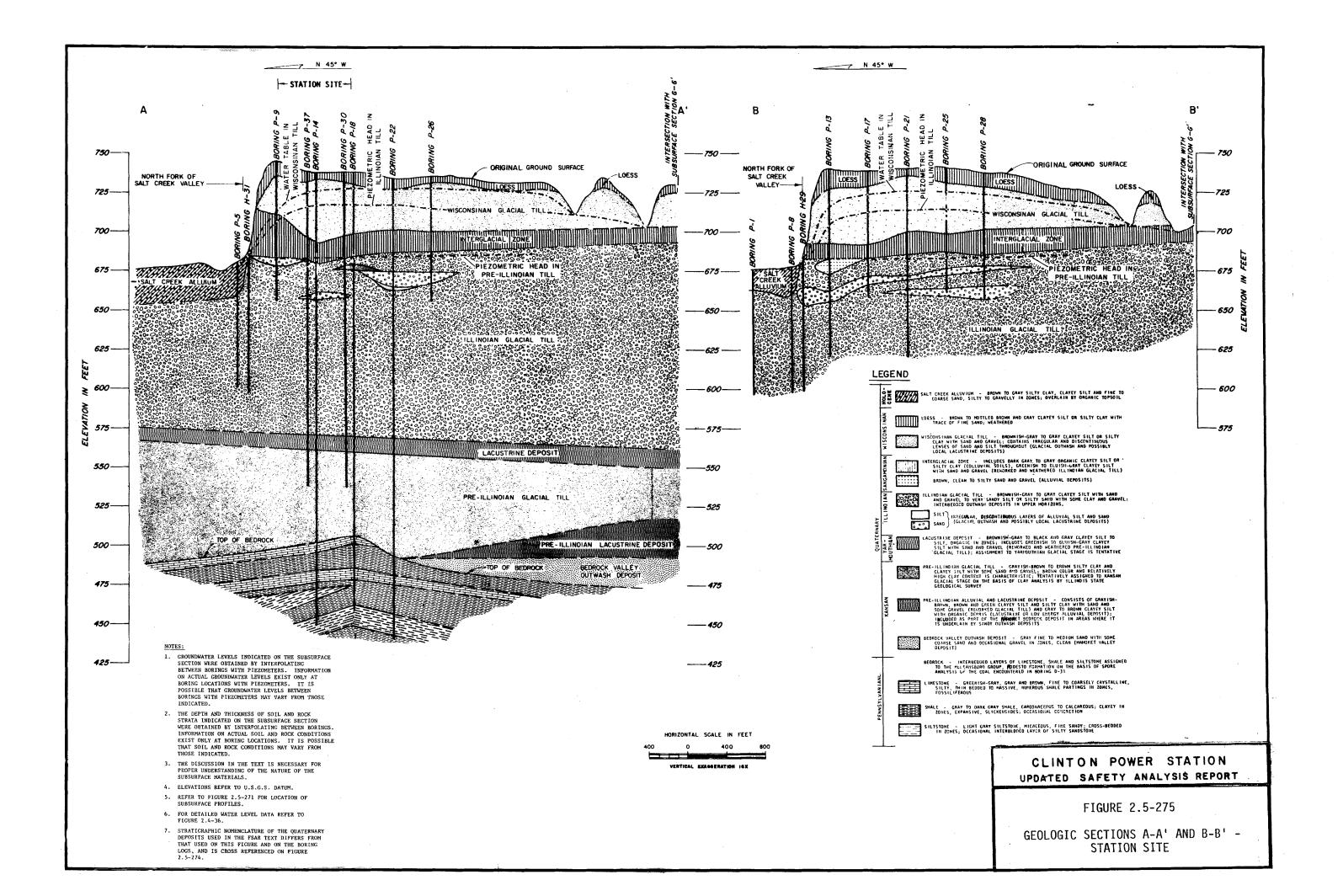
5. THE HOLOCENE STAGE IS REPRESENTED BY A SIGNIFICANT PERIOD OF WEATHERING AND DEVELOPMENT OF AGRICULTURAL SOIL PROFILES

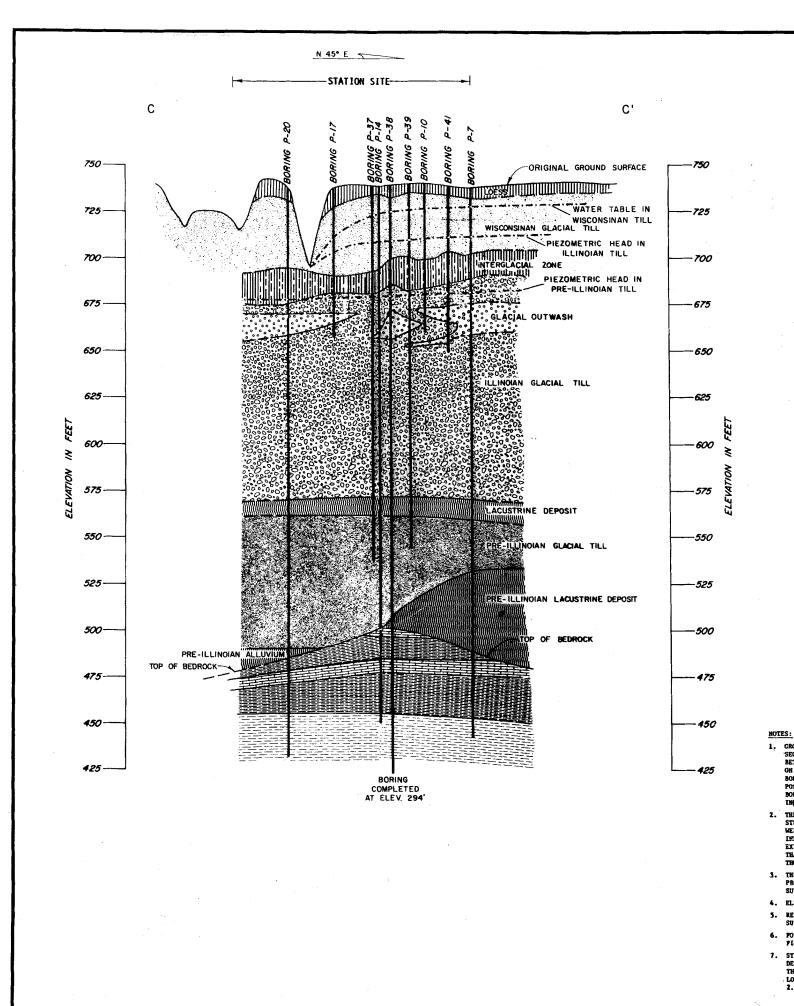
6. VERTICAL SCALE DOES NOT REPRESENT EITHER RELATIVE THICKNESS OF STRATIGRAPHIC UNITS OR RELATIVE DURATION OF TIME INTERVAL.

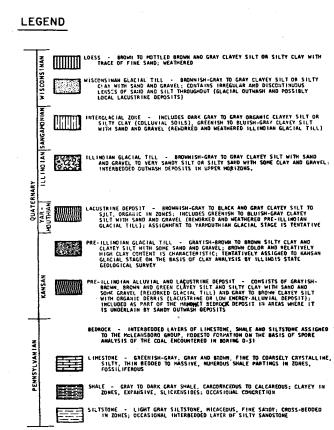
# CLINTON POWER STATION FINAL SAFETY ANALYSIS REPORT

# FIGURE 2.5-274

COMPARISON OF TERMINOLOGY USED FOR THE FSAR, PSAR AND BORING LOGS







- HORIZONTAL SCALE IN FEET
- VERTICAL EXAGGERATION ISX
- 1. GROUNDWATER LEVELS INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS WITH PIEZONETERS. INFORMATION ON ACTUAL GROUNDWATER LEVELS EXIST COLT AT BORING LOCATIONS WITH PIEZONETERS. IT IS POSSIBLE THAT GROUNDWATER LEVELS BETWEEN BORINGS WEEN PIEZONETERS MAY VARY FROM THOSE INDICATED. 2. THE DEPTH AND THICKNESS OF SOIL AND ROCK STRATA INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS. IMPORMATION ON ACTUAL SOIL AND ROCK CONDITIONS EXIST ONLY AT BORING LOCATIONS. IT IS POSSIBLE THAT SOIL AND ROCK CONDITIONS MAY VARY FROM THEORY INDICATED
- THOSE INDICATED. 3. THE DISCUSSION IN THE TEXT IS NECESSARY FOR PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
- 4. ELEVATIONS REFER TO U.S.G.S. DATUM.
- 5. REFER TO FIGURE 2.5-271 FOR LOCATION OF SUBSURFACE PROFILES.
- 6. FOR DETAILED WATER LEVEL DATA REFER TO FIGURE 2.4-36.
- STRATICRAPHIC NOMENCLATURE OF THE QUATERNA' DEPOSITS USED IN THE FSAR TEXT DIFFERS FR/ THAT USED ON THIS FIGURE AND ON THE BORIN LOGS, AND IS CROSS REFERENCED ON FIGURE 2.5-274.

# CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.5-276

GEOLOGIC SECTION C-C' - STATION SITE

400

NOCK - INTERBEDDED LAYEAS OF LIMESTONE, SMALE AND SILTSTOME ASSIGNED To The Pallanisbord Group, iddesto formation om the Basis of Spore Analysis of The Coal Encomptered in Borne 0-31

E-ILLINGIAN ALUVIAL AND LAQUSTRINE DEPOSIT - CONSISTS OF GARYISH-BROWN, SNOWN AND CROWN CLOUS SILT CLI NID CARY CAT WITH SANGTARY WITH ORGANIC DEBASS (LAUCUSTRINE OF LAUCUSTRI) WITH ORGANIC DEBASS (LAUCUSTRINE OF LAUCUSTRI) INCLUSED AS PART OF THE NAMONGET SEDROCK DEPOSIT IN AREAS WHERE IT IS UNDERLAIN OF SANGT OUTWASH OFERSITS.

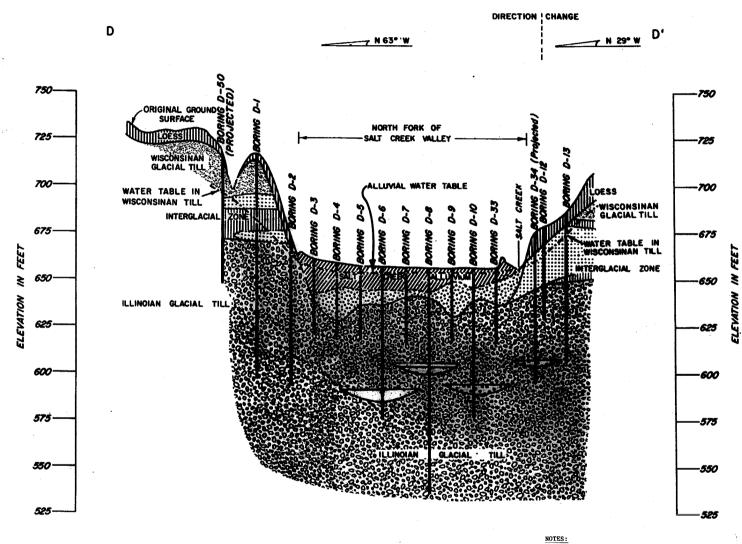
PRE-ILLINDIAN GLACIAL TILL - GRAYISH-BROWN TO BROWN SILTY CLAY AND CLAYEY SILT WITH SONE SAND AND GRAVEL, BROWN COLOR AND RELATIVELY HIGH CLAY CONTENT IS CHARACTERISTIC: TENTATIVELY ASSIGNED TO KANSAN GLACIAL STAGE ON THE BASIS OF CLAY AMALYSIS BY ILLINDIS STATE GEOLOGICAL SURVEY

USTRINE DEPOSIT – BROWHISH-GRAY TO BLACK AND GRAY CLAYEY SILT TO SJIT, ORGANIC IN ZONES: INCLUDES GREENISH TO BLUISH-GRAY CLAYEY SIIT WITH SAND AND GRAVEL (REWORKED AND WRATHREFED PRE-ILLINDIAN GLACIAL TILL); ASSIGNMENT TO YARMOUTHIAN GLACIAL STAGE IS TENTATIVE

ILLINO JAN GLACIAL TILL - BROWNISH-GRAY TO GRAY CLAYEY SILT WITH SAND AND GRAVEL TO VERY SANDY SILT OR SILTY SAND WITH SOME CLAY AND GRAVEL: INTERMEDDED OUTWASH DEPOSITS IN UPPER NOB/SECONS.

INTERGLACIAL ZONE - INCLUDES DARK GRAY TO GRAY ORGANIC CLAYEY SILT OR SILTY CLAY (COLLUVIAL SOILS), GREENISH TO BLUISH-GRAY CLAYEY SILT WITH SAND AND GRAVEL (RENORKED AND MEATHERED INLINOIAN GLACIAL TILL)

CONSINAN GLACIAL TILL - BROWNISH-GRAY TO GRAY CLAYEY SILT OR SILTY CYAT WITH SAND AND GRAVEL: CONTAINS HARGULAR AND DISCOLTINUCUS LEUSSS OF SAND AND SILT THROUGHOUT (GLACIAL OUTWASH AND POSSIBLY LOCAL LACUSTRIKE DEPOSITS)



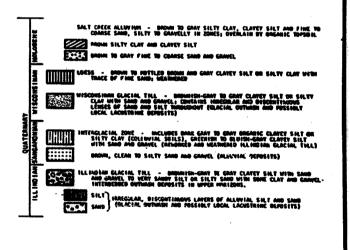
- NULSS: 1. GROUNDWATER LEVELS INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS WITH PIEZOMETERS. INFORMATION ON ACTUAL GROUNDWATER LEVELS EXIST ONLY AT BORING LOCATIONS WITH PIEZOMETERS. IT IS POSSIBLE THAT GROUNDWATER LEVELS BETWEEN BORINGS WITH PIEZOMETERS MAY VARY FROM THOSE INDICATED.
- INDICATED: 2. THE DEPTH AND THICKNESS OF SOIL AND ROCK STRATA INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS. INFORMATION ON ACTUAL SOIL AND ROCK CONDITIONS EXIST ONLY AT BORING LOCATIONS. IT IS POSSIBLE THAT SOIL AND ROCK CONDITIONS MAY VARY FROM THOSE INDICATED.
- THE DISCUSSION IN THE TEXT IS NECESSARY FOR PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
- 4. ELEVATIONS REFER TO U.S.G.S. DATUM. 5. REFER TO FIGURE 2.5-272 FOR LOCATION OF SUBSURFACE PROFILES.
- FOR DETAILED WATER LEVEL DATA REFER TO FIGURES 2.4-37 AND 2.4-41.
- STRATICRAPHIC NOMENCLATURE OF THE QUATERNARY DEPOSITS USED IN THE FSAR TEXT DIFFERS FROM THAT USED ON THIS FIGURE AND ON THE BORINC LOGS, AND IS CROSS REFERENCED ON FIGURE 2.5-274.



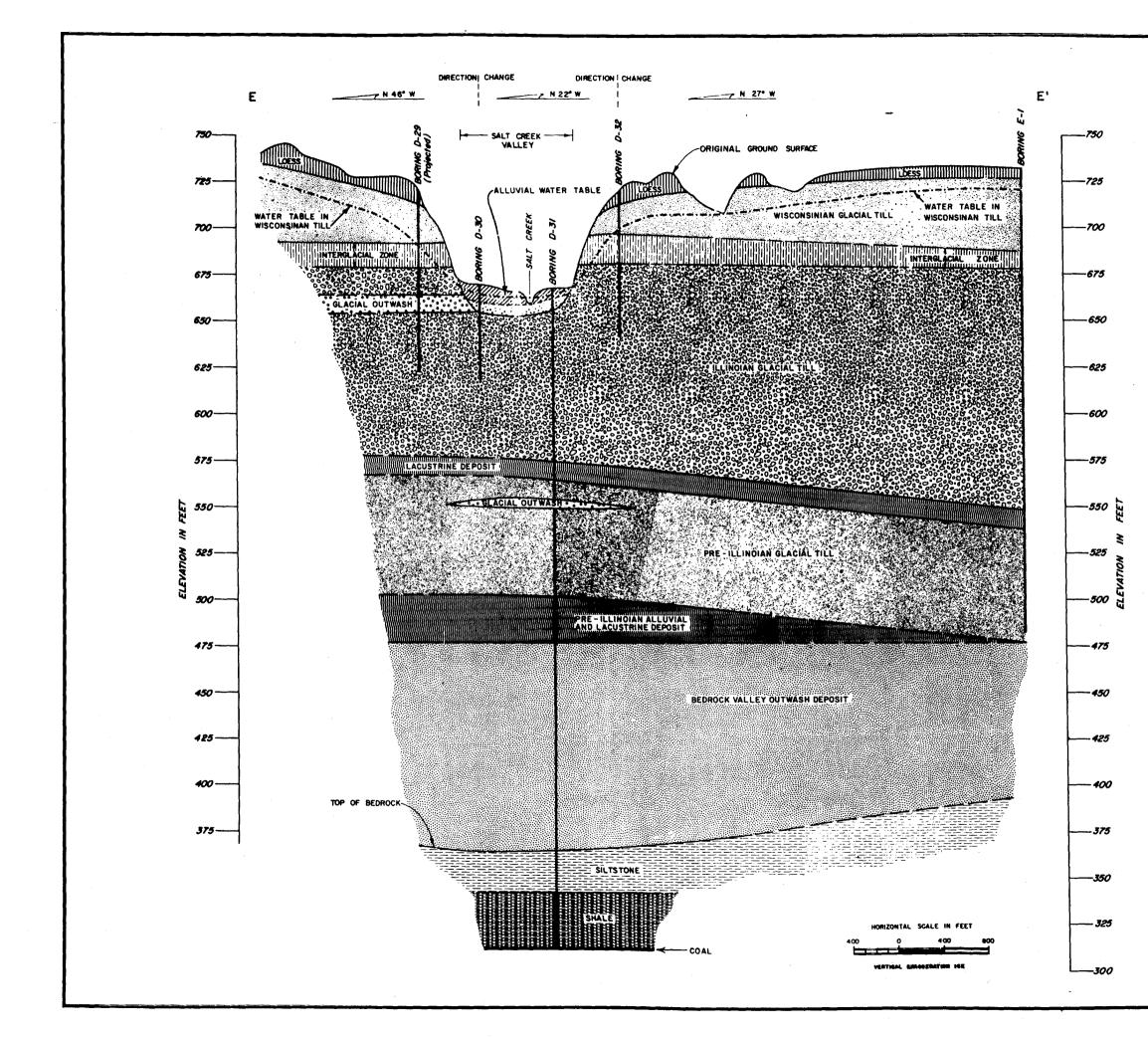
FIGURE 2.5-277



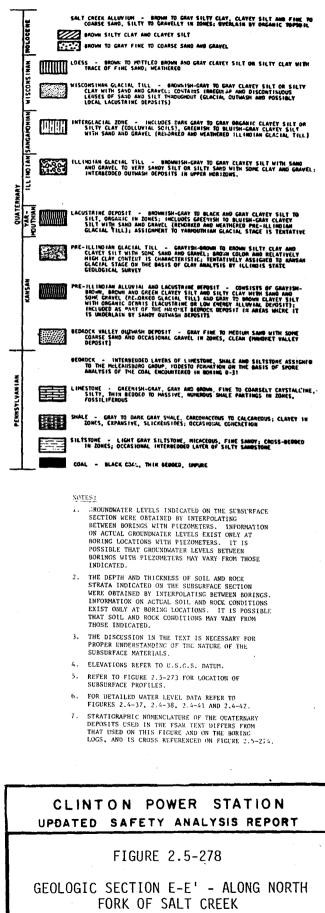
HORIZONTAL SCALE IN FEET

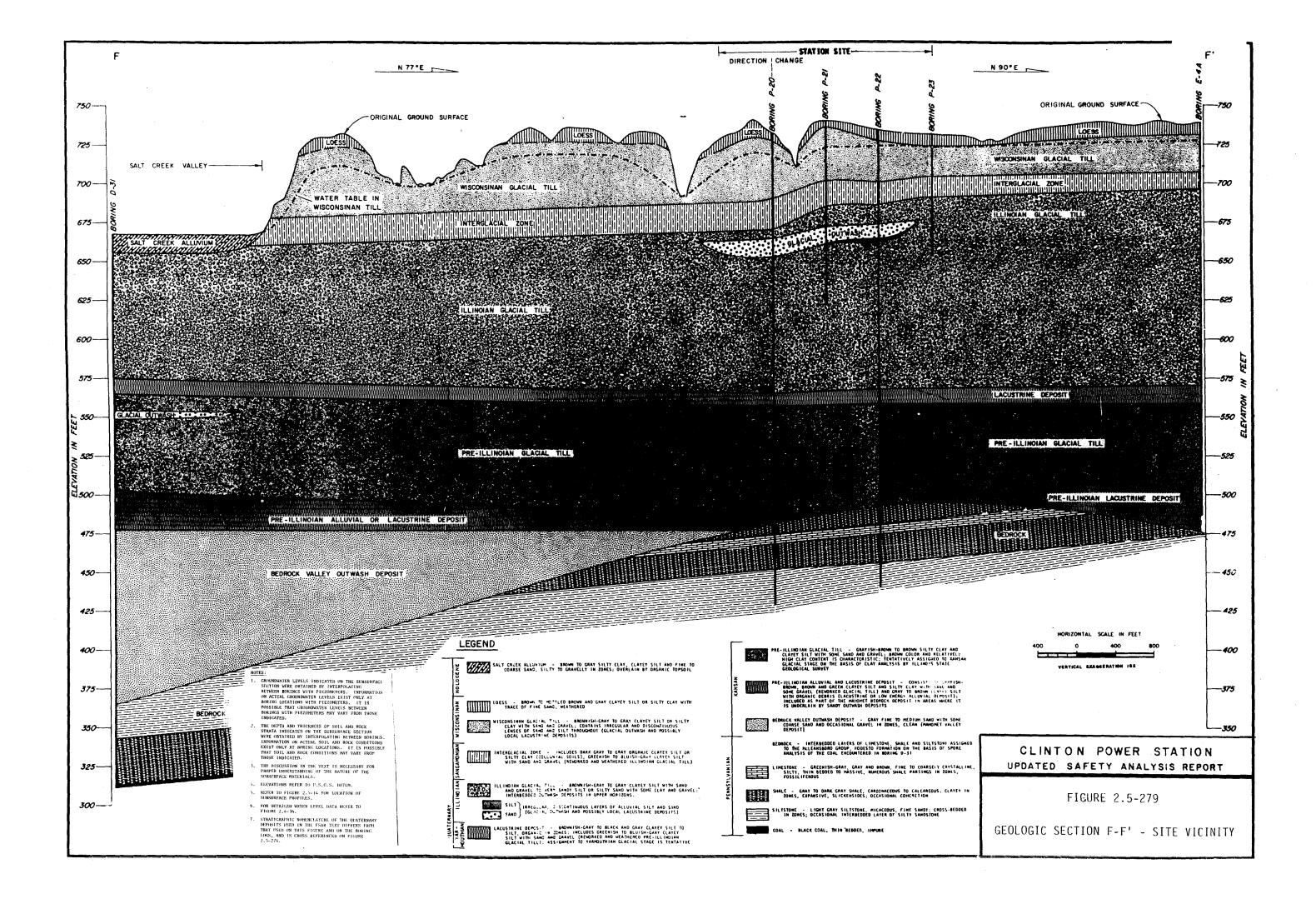


LEGEND

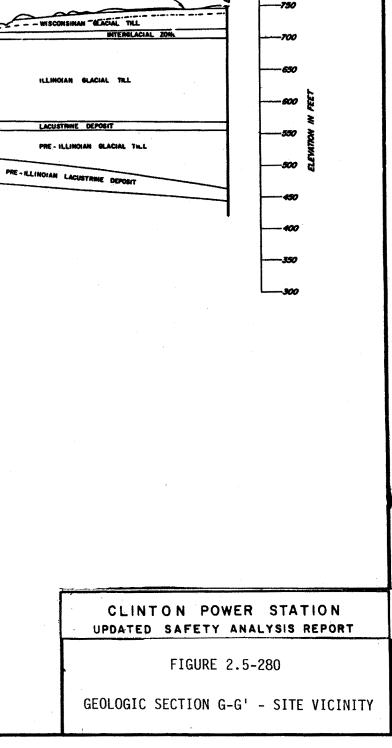


LEGEND



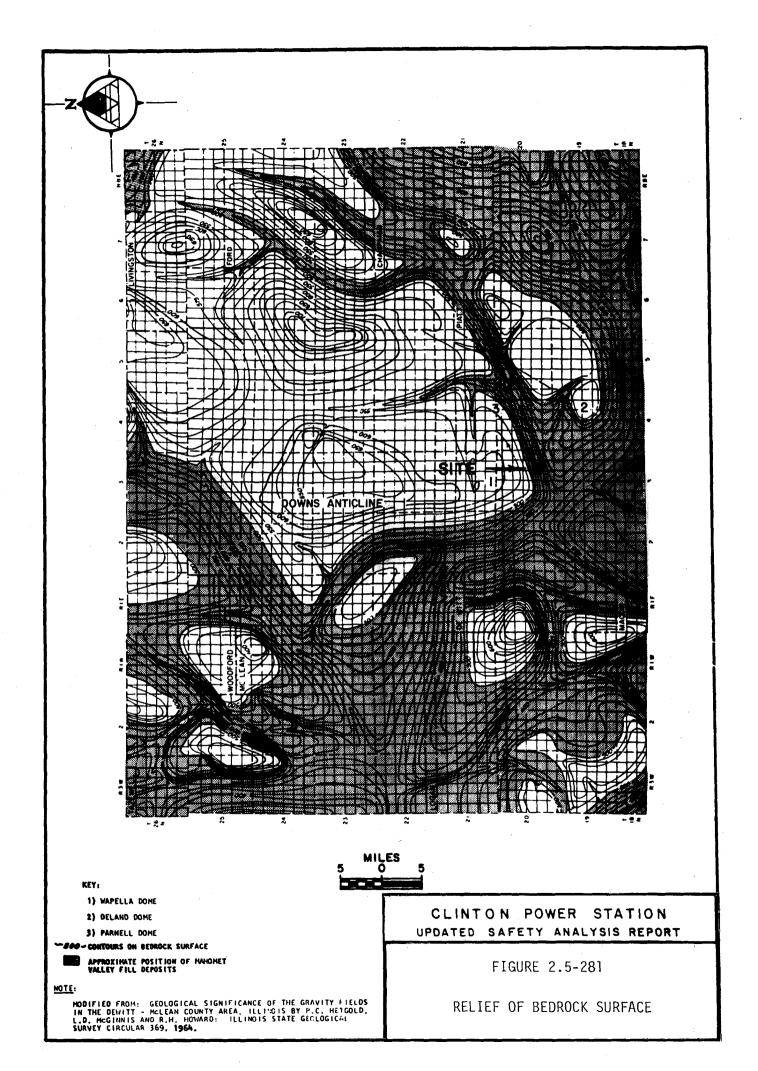


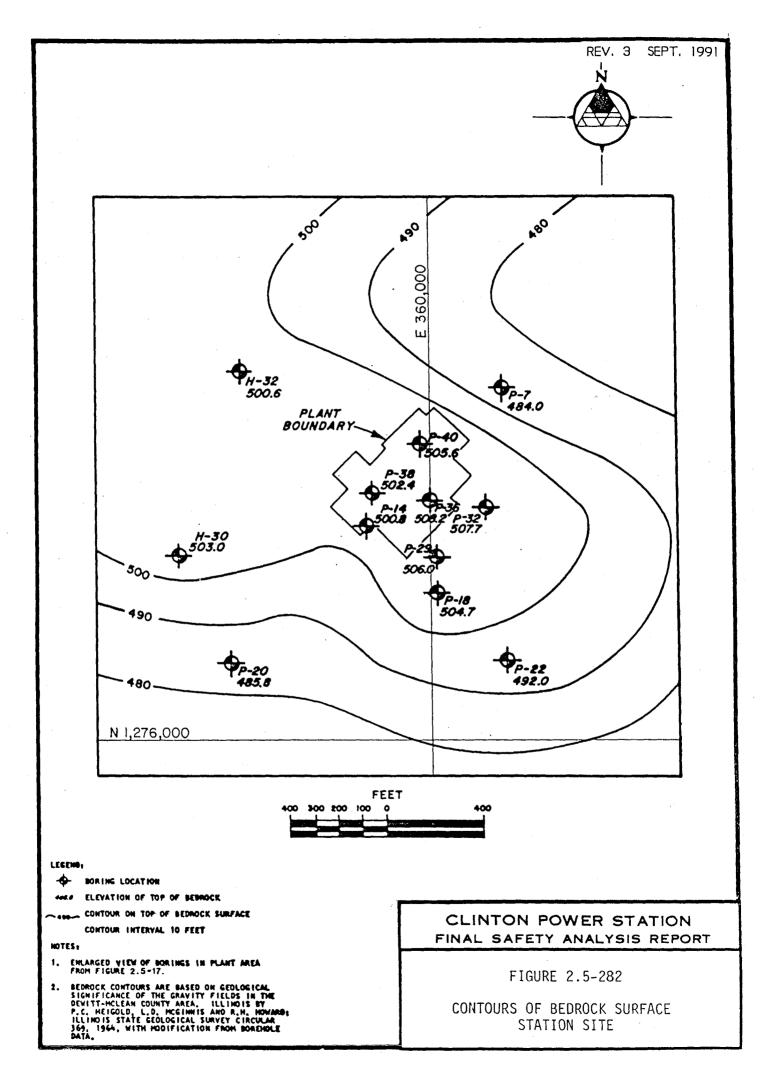
G DIRECTION | CHANGE DIRECTION | CHANGE N 46º E M 73º E N 51° E ----- SALT CREEK VALLEY--800-LOESS 750 LOESS LOESS IAL GROUND ---------GLACIAL .... HTERGLACIAL TONE WISCONSINAN GLACIAL TILL SCONS WATER TABLE IN WISCONS 700-AR THA INTERGLACIAL ZONE 650-SALT CREEK ALLUVIUM ILLINOIAN GLACIAL TILL È 600-≥ 550 PRE-ILLINDIAN GLACIAL TILL 2 500-450-BEDROCK VALLEY OUTWASH DEPOSIT BEDROCK 400-350-300 LEGEND 1 SALT CREEK ALLUVIUM - SHOWN TO GRAY SHLTY KLAW, CLANKY SHLT AND FINE TO COARSE SAND, SILTT TO GRAVELLY IN MOREL DOCKAND OF OFGINGE DOPID AL LOESS - UNDER TO POTTLES BROWN AND GAME GLANEY SHLT WE SHITP CLAY WITH TRACE OF FINE SAND; WEADNLEED MISCONSIMAN GLISCIAL TELL - BROWNIGH-SHAP TO MANY CLARTY TELT ON SHLTW CLAY WITH SAND AND GRANDL: CONTAINS MANDER AND DESCRITIVATE LISSES OF SAND AND SILT TWENDOOT (MARCIN, GWARD, AND FRESHAV INTERGLACIAL JONE - INCLUSES MADE CAMP TO CONTACT CLATTY SHIT OF SHITY CLAT (COLLWYIN, SDILS), CARINARY TO CONTACT CAN'T SHIT WITH TELLAT (COLLWYIN, SDILS), CARINARY TO CONTACT CAN'T SHIT NOTES: 1. GROUNDWATER LEVELS INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS WITH PIEZOMETERS. INFORMATION ILLINGIAM SLACIAL TILL - SHEMALISH-SHAY TO SHEME SLAMPT SALT WITH SAME AND GRAFTE TO VERY EARST SHET OF SHEET SAME WE TO SAME CLAY AND SAMEL. OUTFORM DURING WITH FILLOWETERS. INFORMATIO ON ACTUAL GROUNDWATER LEVELS EXIST ONLY AT BORING LOCATIONS WITH FILZOWETERS. IT IS POSSIBLE THAT GROUNDWATER LEVELS BETWEEN BORINGS WITH FILZOWETERS MAY VARY FROM THOSE QUATE VAR-DUTIMAN ACUSTRINE DEPC SILT, ONGA SILT WITH INDICATED. THE DEPTH AND THICKNESS OF SOIL AND ROCK STRATA INDICATED ON THE SUBSURFACE SECTION WERE OBTAINED BY INTERPOLATING BETWEEN BORINGS. INFORMATION ON ACTUAL SOIL AND ROCK CONDITIONS EXIST ONLY AT BORING LOCATIONS. IT IS POSSIBLE THAT SOIL AND ROCK CONDITIONS HAN HAND FROM 2. ME-ILLIND CLAYET HIGH CI GLACIM ŧ THAT SOIL AND ROCK CONDITIONS MAY VARY FROM THOSE INDICATED. YEY SHL 50 <del>4</del> WIM THE DISCUSSION IN THE TEXT IS NECESSARY FOR PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS. SIGNOCK WILLEY OUTWISH OCTOSET - GARY FINE TO "TOMM SAND VITH SANE COARSE SAND AND OCCASIONAL GARVEL IN JUNES, ELENI POWERET VALLEY 4. ELEVATIONS REFER TO U.S.G.S. DATUM. INDER - INTERSEDUES LATERS OF LITESTONE, SMALE AND SALESTONE ASSIGNES TO THE ACLEARISAND GRAND, ASSESTO FOUNDER DATE AND EASIS OF SPORE JAMLYSIS OF THE CARL EXCOLUTIONS OF HORMES DATE 5. REFER TO FIGURE 2.5-14 FOR LOCATION OF SUBSURFACE PROFILES. FOR DETAILED WATER LEVEL DATA REFER TO FIGURES 2.4-37, 2.4-38, 2.4-41, 2.4-42 AND 2.4-43. ž. STRATIGRAPHIC NOMENCLATURE OF THE QUATERNARY DEPOSITS USED IN THE FSAR TEXT DIFFERS FROM THAT USED ON THIS FIGURE AND ON THE BORING LOOS, AND IS CROSS REFERENCED ON FIGURE 2.5-274.

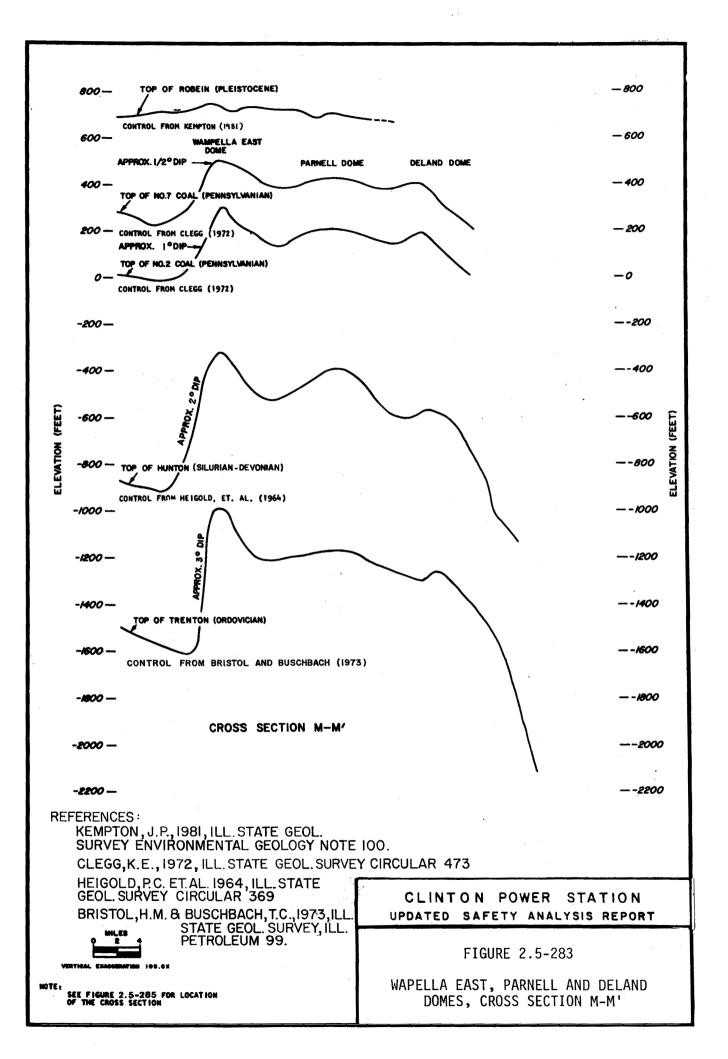


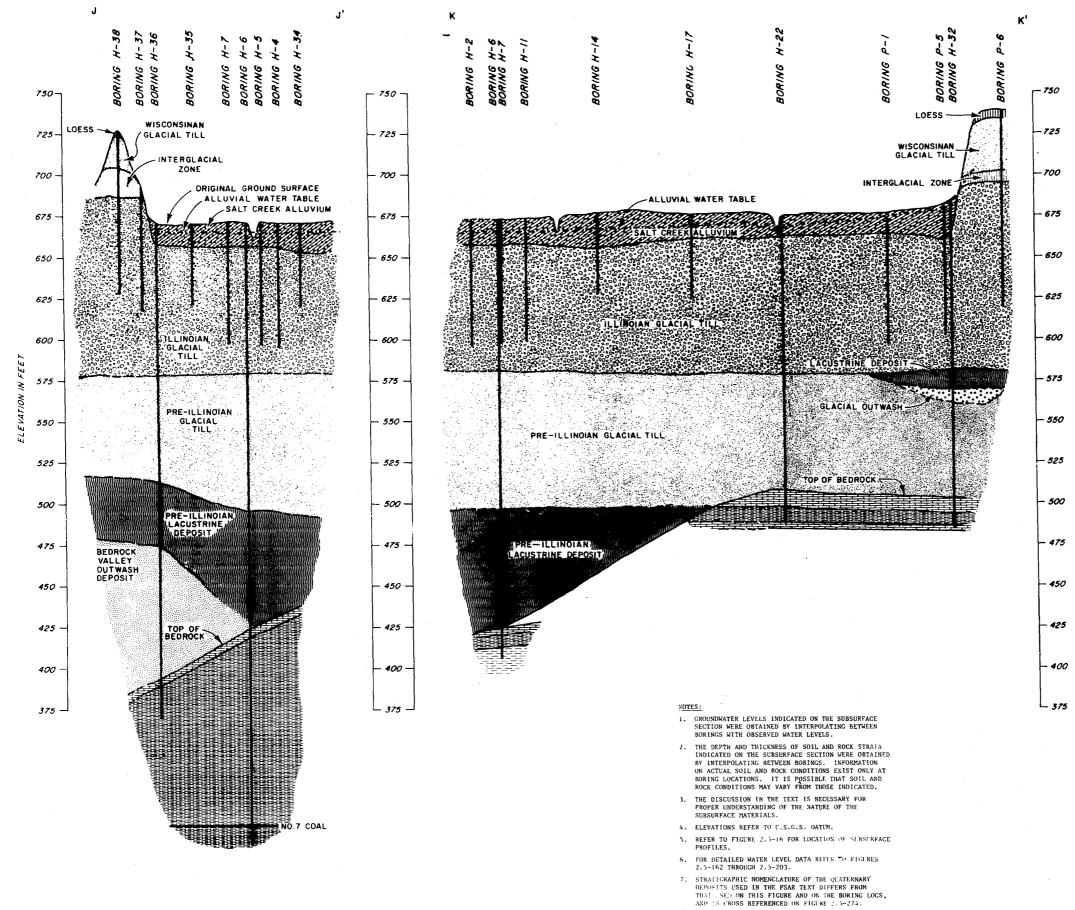
G'

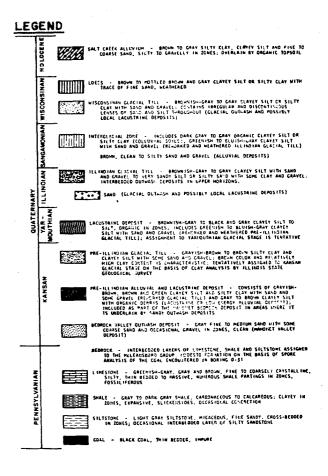
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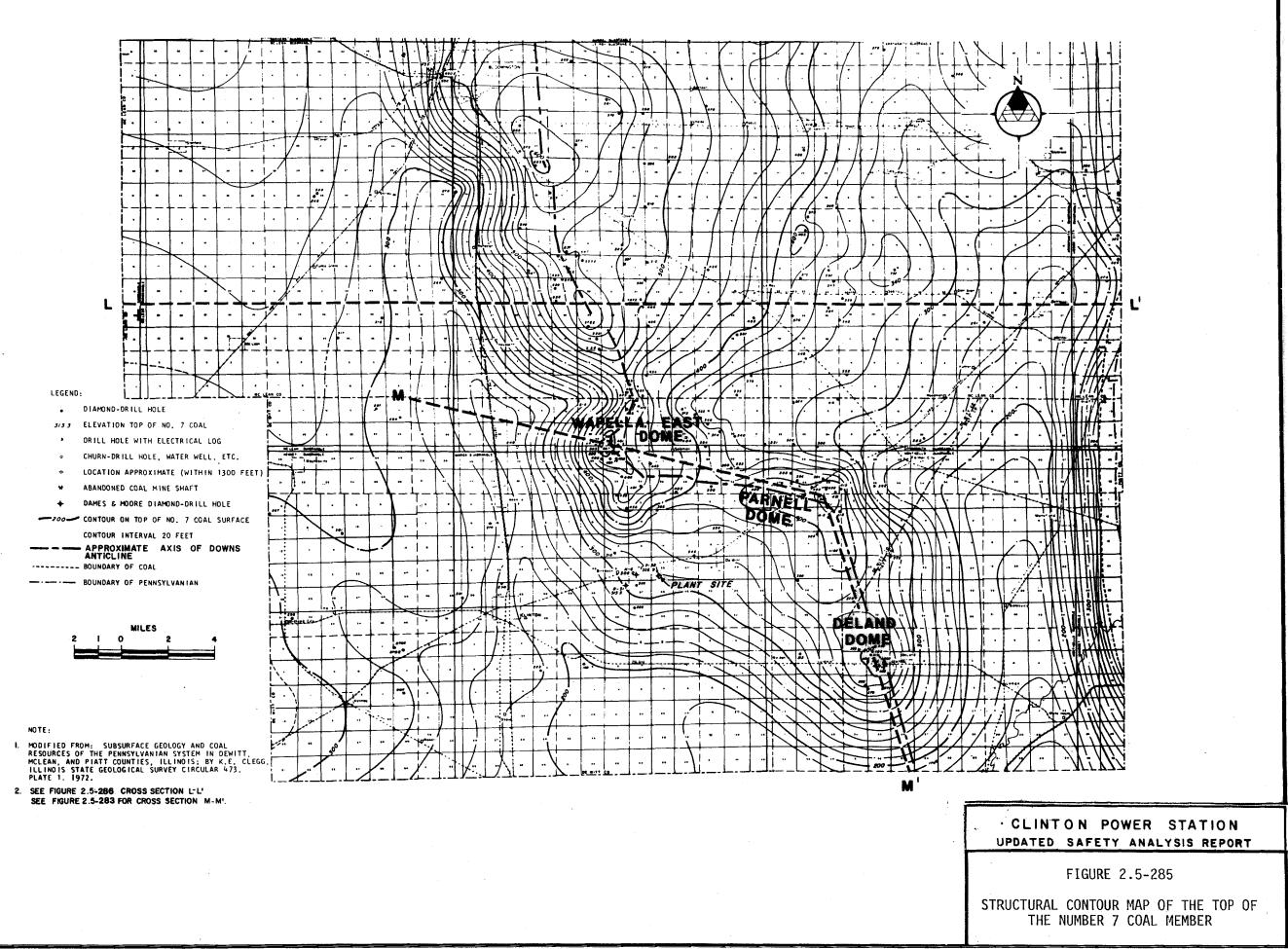
HORIZONTAL SCALE IN FEET D

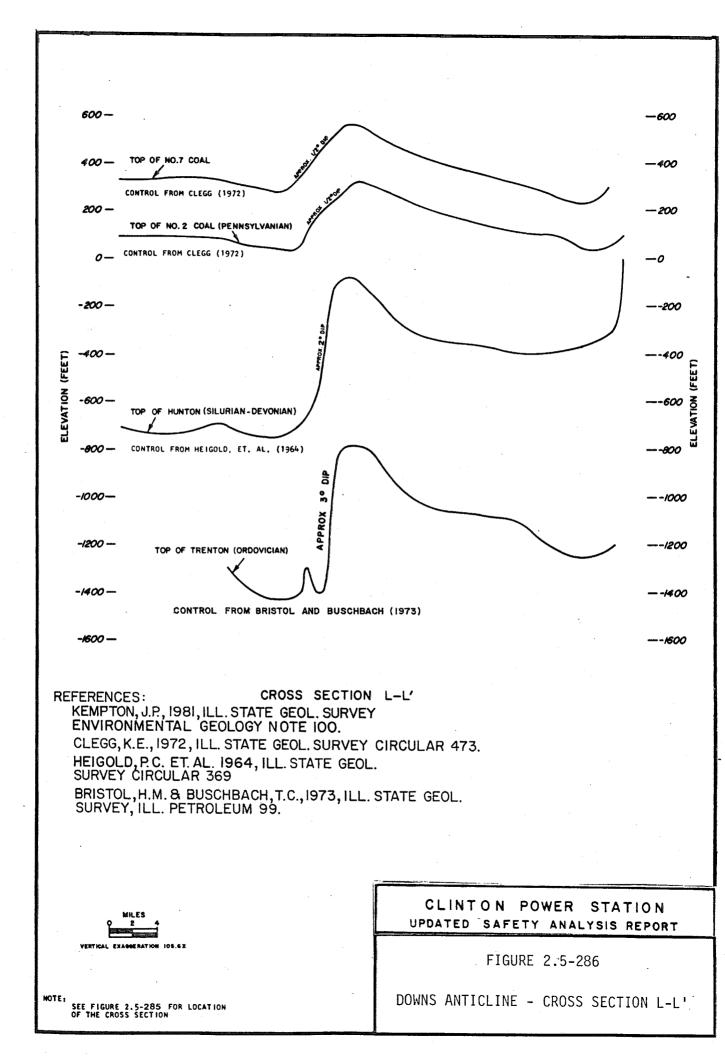
VERTICAL EXAGGERATION ISX

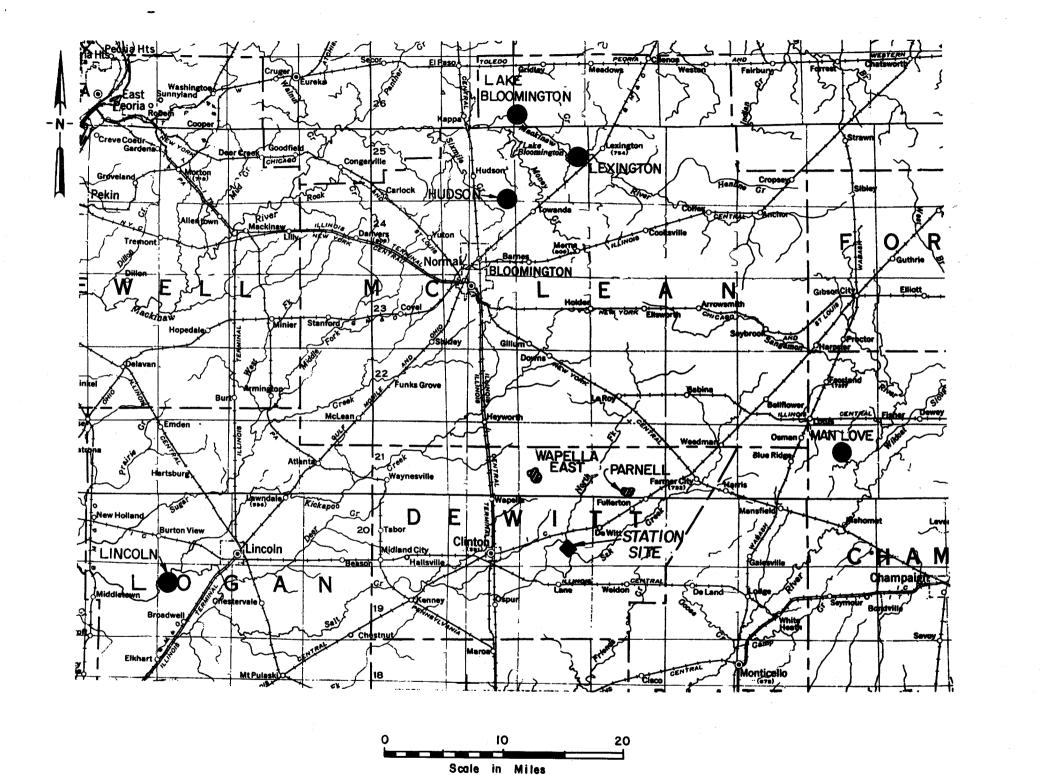
400

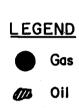
FIGURE 2.5-284

ULTIMATE HEAT SINK GEOLOGIC SECTIONS J-J' AND K-K'







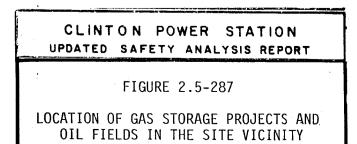


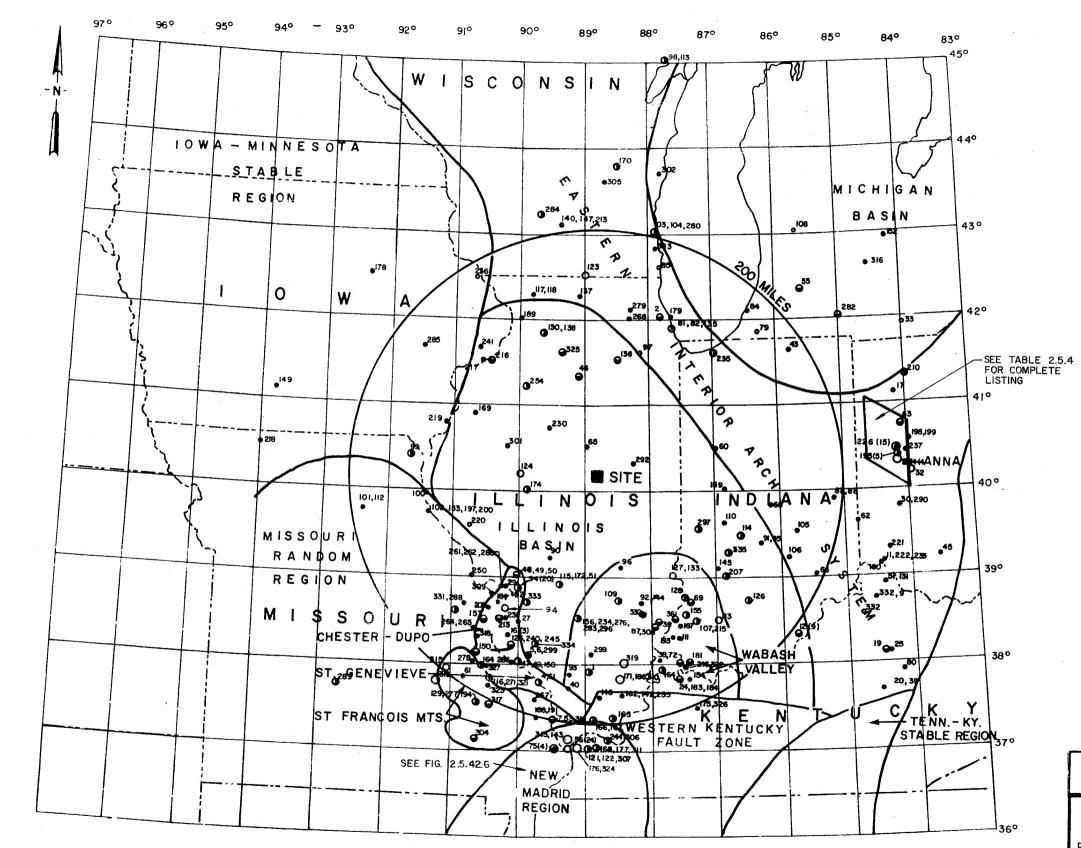
NOTES

Gas Storage Project

Oil field

I. Adapted from W.F. Meents, Oil and Gas Industry in Illinois, 1977, Illinois State Geological Survey, Urbana, 1977





## LEGEND

LOCATION OF MAXIMUM INTENSITY

- 0 INTENSITY NOT RECORDED
- IV OR LESS
- 0 IV-V TO V
- 0 V-VI TO VI
- 0 VI-VII TO VII
- VI-VII TO VIII

### NOTES

I. BASIS FOR SEISMOTECTONIC. BOUNDARIES DISCUSSED IN TEXT. 2. ONLY THE LARGEST EVENT IS PRESENTED ON MAP.

3. EARTHQUAKES LISTED IN TABLE 2.5.4 NOS. IN PARENTHESES INDICATE NO. OF EVENTS AT ONE LOCATION.

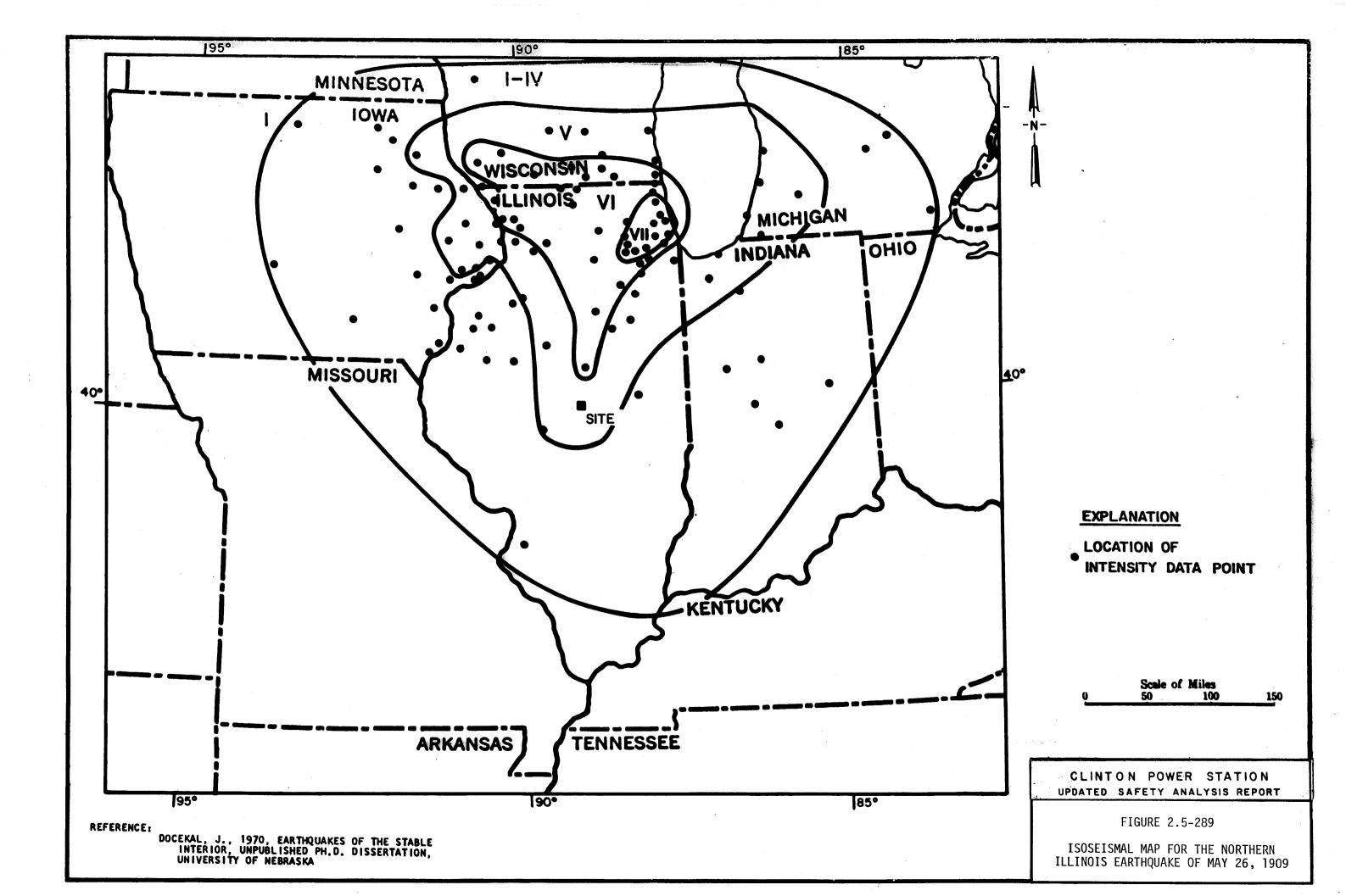
25 50 75 100 0

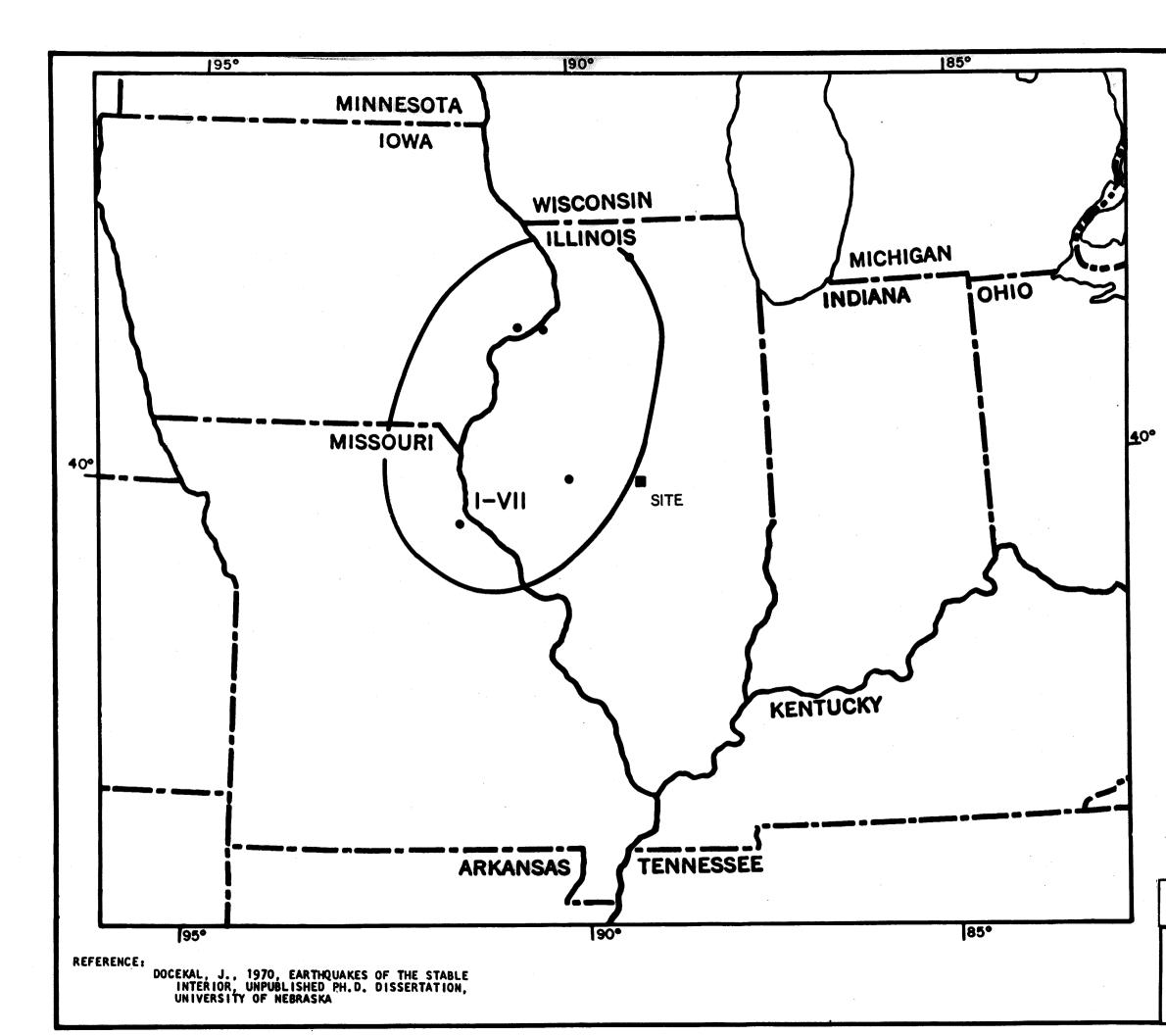
SCALE IN MILES

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FIGURE 2.5-288

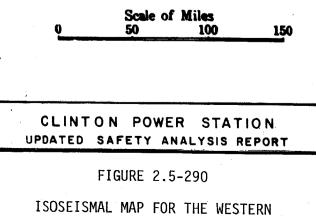
EARTHQUAKE EPICENTERS AND RELATIONSHIP TO SEISMOTECTONIC REGIONS



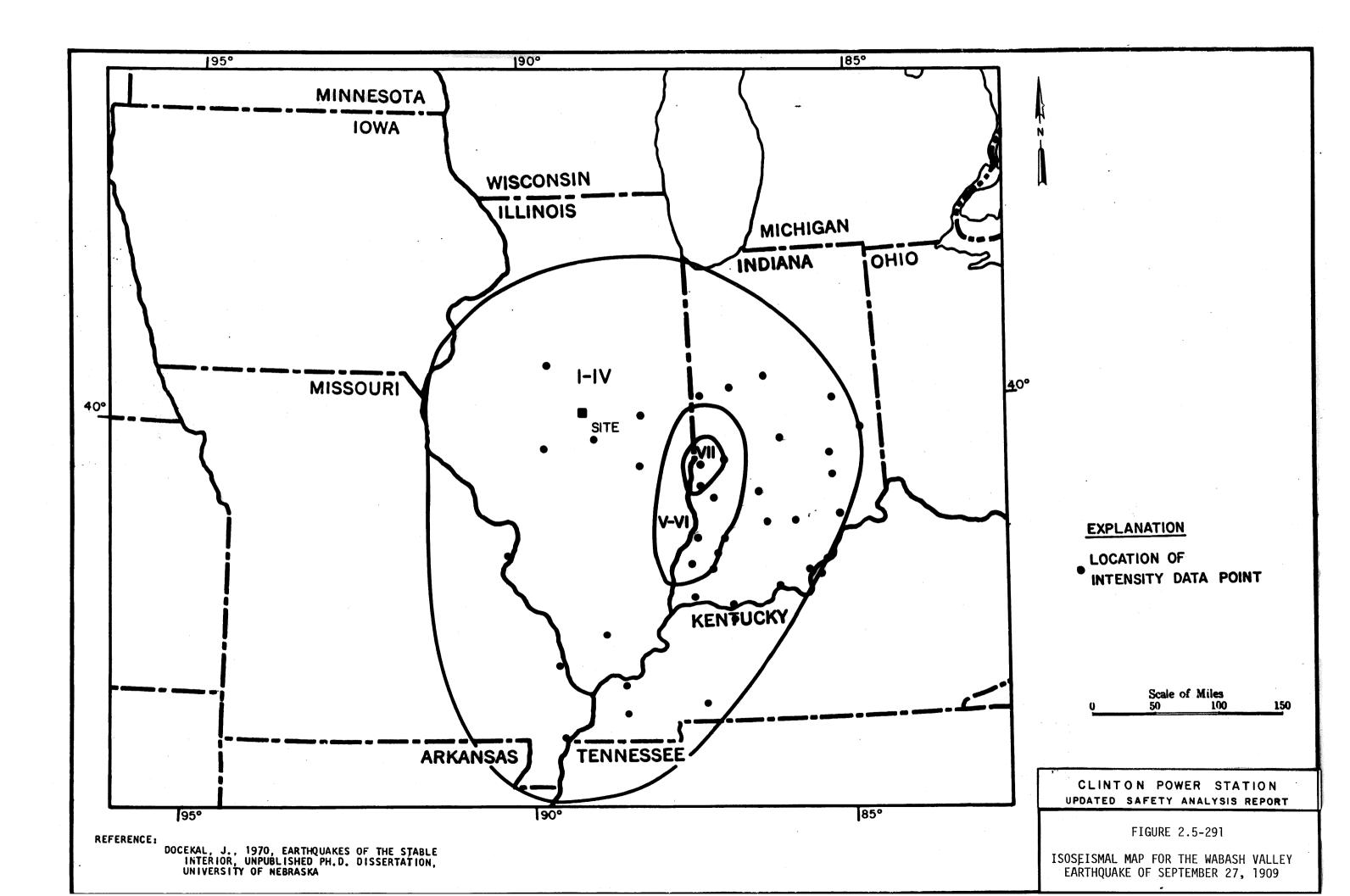


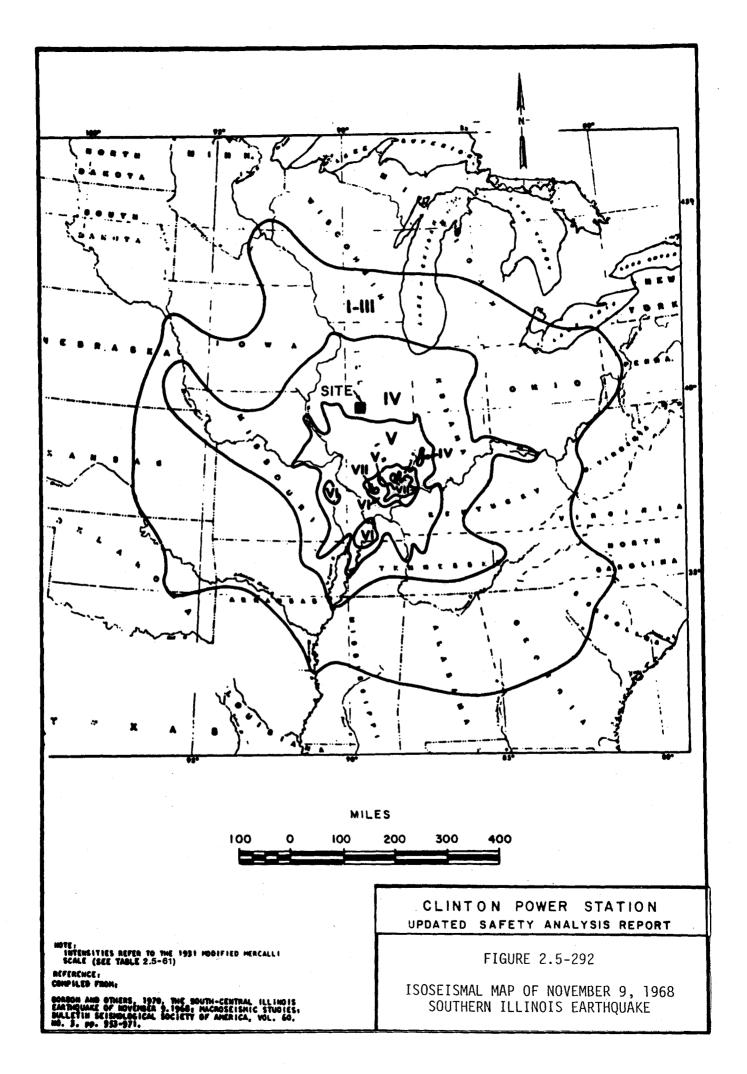
## EXPLANATION

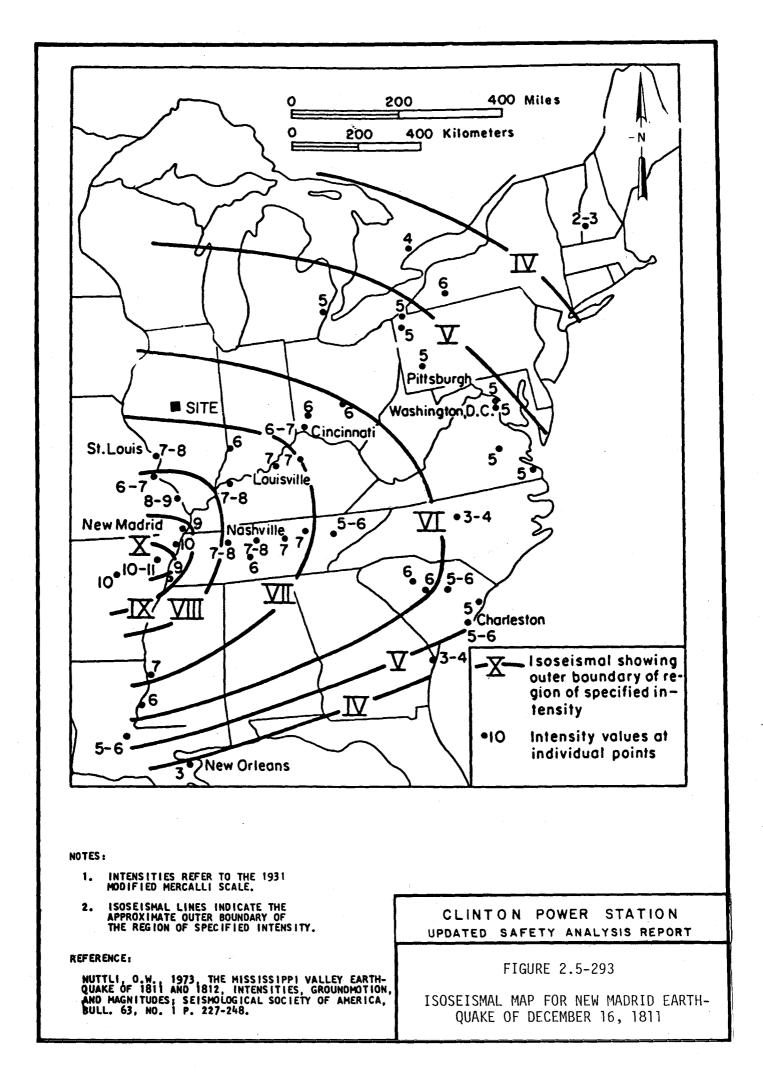
• LOCATION OF INTENSITY DATA POINT

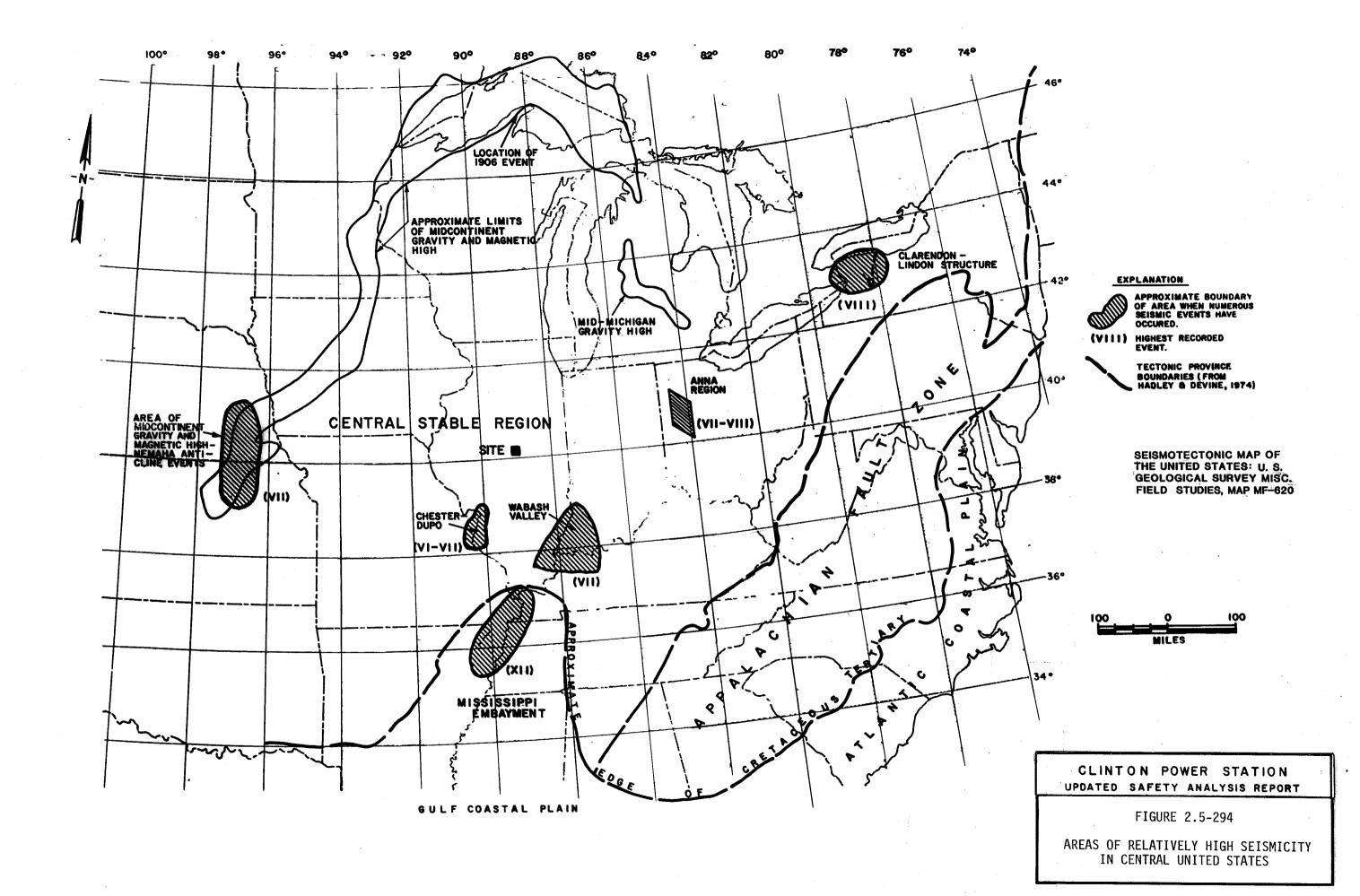


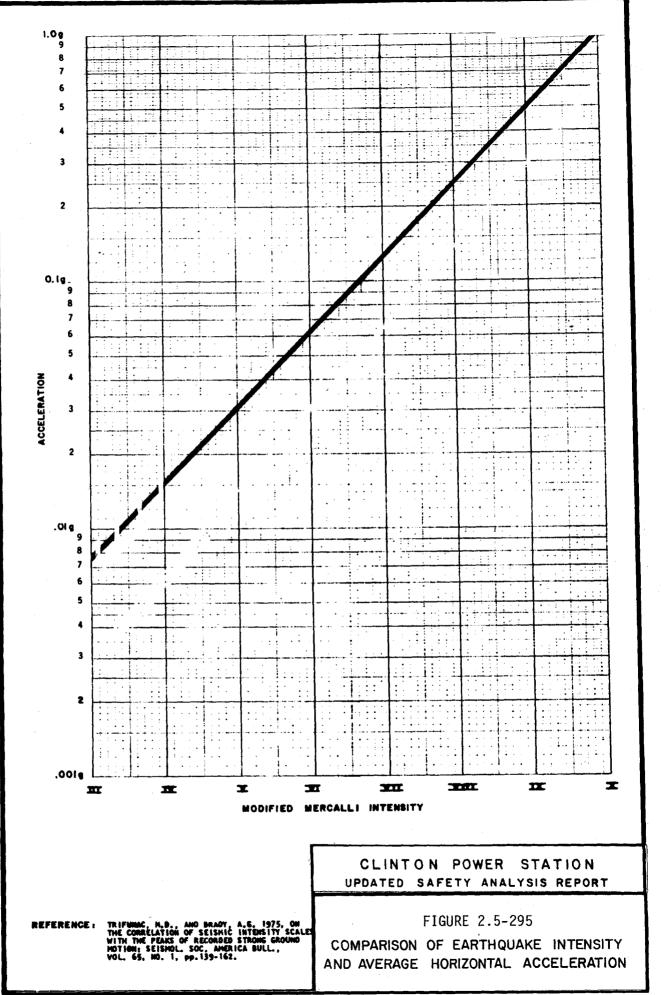
ILLINOIS EARTHQUAKE OF JULY 18, 1909

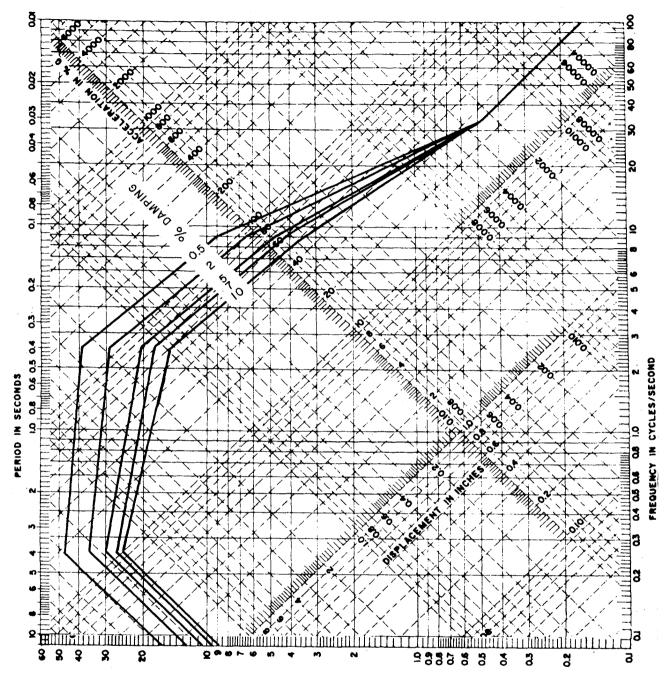




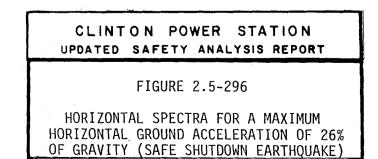


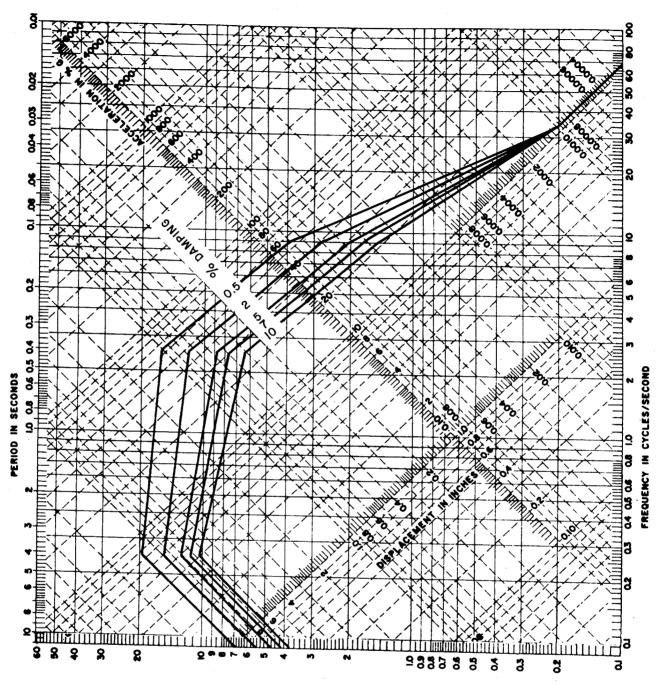




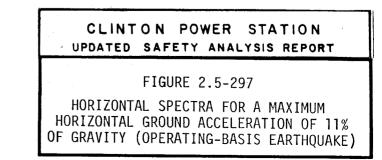


AEFOCILA IN INCHES/SECOND





AEFOCILA IN INCHES/SECOND



### KEY TO LOG OF BORINGS

KEY TO SAMPLES						KEY TO TEST DATA
BORINGS LOGGED BY:				SHEAR STRENGTH DATA:		
WOODWARD- CLYDE CONSULTANTS	DAMES & MOORE	SARGENT & LUNDY ENGINEERS	SAMPLE DESCRIPTION-	DAMES & MOORE	SARGENT & Lundy Engineers	TEST DESCRIPTION
	6 ·	LUNDY	<ul> <li>INDICATES THE NUMBER OF BLOWS REQUIRED TO DRIVE A DAMES &amp; MOORE TYPE U SAMPLER, ONE FOOT WITH A 340 POUND WEIGHT FALLING 24 INCHES.</li> <li>INDICATES DEPTH OF RELATIVELY UNDISTURBED SAMPLE OBTAINED WITH A DAMES &amp; MOORE TYPE U SAMPLER.</li> <li>INDICATES DAMES &amp; MOORE TYPE U SAMPLER WAS HYDRAULICALLY PUSHED TO OBTAIN SAMPLE.</li> <li>INDICATES DEPTH OF DISTURBED SAMPLE OBTAINED WITH A DAMES &amp; MOORE TYPE U SAMPLER.</li> <li>INDICATES DEPTH OF DISTURBED SAMPLE OBTAINED WITH A DAMES &amp; MOORE TYPE U SAMPLER.</li> <li>INDICATES DEPTH OF SAMPLING ATTEMPT WITH NO RECOVERY USING A DAMES &amp; MOORE TYPE U SAMPLER.</li> <li>INDICATES DEPTH OF SAMPLING ATTEMPT WITH NO RECOVERY USING A DAMES &amp; MOORE TYPE U SAMPLER.</li> <li>INDICATES THE NUMBER OF BLOWS REQUIRED TO DRIVE A SPLIT SPOON SAMPLER, WITH AN OUTSIDE DIAMETER OF 2.0 INCHES, ONE FOOT WITH A 140 POUND WEIGHT FALLING 30 INCHES (ASTM Test Designation D1586-67).</li> <li>INDICATES DEPTH OF SAMPLE OBTAINED USING A SPLIT SPOON SAMPLER WITH AN OUTSIDE DIAMETER OF 2.0 INCHES.</li> <li>INDICATES DEPTH OF SPLIT SPOON SAMPLE WITH NO RECOVERY.</li> <li>INDICATES DEPTH OF DISTURBED SAMPLE OBTAINED WITH CONTINUOUS FLIGHT AUGERS.</li> <li>INDICATES DEPTH OF DISTURBED SAMPLE OBTAINED WITH CONTINUOUS FLIGHT AUGERS.</li> <li>INDICATES DEPTH OF UNDISTURBED SAMPLE OBTAINED USING A SHELBY TUBE WITH AN QUTSIDE DIAMETER OF 3.0 INCHES AND AN INSIDE DIAMETER OF 2.9 INCHES.</li> <li>INDICATES DEPTH OF RELATIVELY UNDISTURBED SAMPLE OBTAINED WITH A PITCHER SAMPLER WITH AN QUTSIDE DIAMETER OF 3.0 INCHES AND AN INSIDE DIAMETER OF 2.9 INCHES.</li> </ul>	a $\underline{UINDY}$ ENGINEERSa. $\underline{\sigma_1 - \sigma_3}$ 2b. $\sigma_3$ c. $Qu/2$ d. $Qu/2*$ TESTS REPORTED EI	Initiation         SHEAR STRENGTH DEFINED AS ONE-HALL COMPRESSIVE STRESS IN PSF OR ONE-INSTRESS AT 10 PERCENT AXIAL STRAIN STRESS AT 10 PERCENT AXIAL STRAIN CELL PRESSURE IN PSF FOR UNCONSOL COMPRESSION TESTS.         Unconfined Compression         SHEAR STRENGTH DEFINED AS ONE-HALL COMPRESSIVE STRESS IN PSF.         SHEAR STRENGTH DEFINED AS ONE-HALL COMPRESSIVE STRESS IN PSF.         SHEAR STRENGTH DEFINED AS COHESION BY A POCKET PENETROMETER. VALUES ARE INDICATED BY 4500+.         LSEWHERE:         NT & LUNDY ENGINEERS         CONSOLIDATION TEST CHEMICAL TEST ON GROUNDWATER SAMPI BULK COMPACTION TEST CONSOLIDATED - DRAINED DIRECT SHEAL LOSS ON IGNITION MECHANICAL PARTICLE SIZE ANALYSIS LABORATORY PERMEABILITY TEST RELATIVE DENSITY TEST RESONANT COLUMN TEST SIEVE ANALYSIS SHOCKSCOPE TEST CONSOLIDATED-DRAINED TRIAXIAL COMPACE CONSOLIDATED-DRAINED TRIAXIAL COMPACE	
		ОВ	INCHES AND AN INSIDE DIAMETER OF 2.9 INCHES. INDICATES DEPTH OF RELATIVELY UNDISTURBED SAMPLE OBTAINED USING AN OSTERBERG SAMPLER WITH AN OUTSIDE DIAMETER OF 3.0 INCHES AND AN INSIDE DIAMETER OF 2.9 INCHES.		TX/DY TX/UU/U TX/UU/R UC/R	UNCONSOLIDATED-UNDRAINED TRIAXIAL ON UNDISTURBED SAMPLE.
	957, I	HR	INDICATES DEPTH OF RELATIVELY UNDISTURBED SAMPLE OBTAINED WITH A DOUBLE TUBE CORE BARREL WITH AN INSIDE DIAMETER OF 4.0 INCHES. (HIGH RECOVERY CORE BARREL) INDICATES DEPTH, LENGTH AND PERCENT OF CORE RUN RECOVERED FOR NX DIAMOND DRILL ROCK CORING.			
	RQD		INDICATES PERCENT OF ROCK QUALITY DESIGNATION FOR NX DIAMOND DRILL ROCK CORING.			

### ELEVATION REFERENCE

DRILLING REFERENCE

ELEVATIONS REFER TO MEAN SEA LEVEL DATUM.

BORINGS WERE DRILLED USING TRUCK-MOUNTFD AUGER/ROTARY WASH TYPE DRILLING EQUIPMENT.

#### PIEZOMETER REFERENCE

PIEZOMETERS WERE INSTALLED IN BORINGS TO RECORD GROUND WATER CONDITIONS. DETAILS OF EACH INSTALLATION ARE DESCRIBED ON THE BORING LOGS.

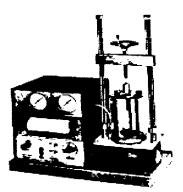
# FIGURE 2.5-298

## CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

KEY TO LOG OF BORINGS

IALF THE PEAK AXIAL IE-HALF THE AXIAL COMPRESSIVE IN, WHICHEVER OCCURS FIRST. OLIDATED SYDRAINED TRIAXLAI ALF THE PEAK AXIAL ION IN PSF AS DETERMINED ES IN EXCESS OF 4500 PSF MPLES HEAR TEST IS (SIEVE AND HYDROMETER) OMPRESSION TEST COMPRESSION TEST WITH AL COMPRESSION TEST AL COMPRESSION TEST

# Triaxial Compression Test Unit



TRIAXIAL COMPRESSION TEST UNIT

CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT

Figure 2.5-299 Sheet 1 of 2 UNCONFINED COMPRESSION AND TRIAXIAL COMPRESSION TESTS (METHOD)

### NOTES FOR FIGURE 2.5-299

### Methods of Performing Unconfined Compression and Triaxial Compression Tests

The shearing strengths of soils are determined from the results of unconfined compression and triaxial compression tests. In triaxial compression tests the test method and the magnitude of the confining pressure are chosen to simulate anticipated field conditions.

Unconfined compression and triaxial compression tests are performed on undisturbed, or remolded samples of soil, approximately six inches in length and two and one-half inches in diameter. The tests are run either strain-controlled or stress-controlled. In a strain-controlled test the sample is subjected to a constant rate of deflection and the resulting stresses are recorded. In a stress-controlled test the sample is subjected to sample is subjected to equal increments of load with each increment being maintained until an equilibrium condition with respect to strain is achieved.

Yield, peak, or ultimate stresses are determined from the stress-strain plot for each sample and the principal stresses are evaluated. The principal stresses are plotted on a Mohr's circle diagram to determine the shearing strength of the soil type being tested.

Unconfined compression tests can be performed only on samples with sufficient cohesion so that the soil will stand as an unsupported cylinder. These tests may be run at natural moisture content or on artificially saturated soils.

In a triaxial compression test the sample is encased in a rubber membrane, placed in a test chamber, and subjected to a confining pressure throughout the duration of the test. Normally, this confining pressure is maintained at a constant level, although for special tests it may be varied in relation to the measured stresses. Triaxial compression tests may be run on soils at field moisture content or on artificially saturated samples.

The tests are performed in one of the following ways:

<u>Unconsolidated-undrained</u>: The confining pressure is imposed on the sample at the start of the test. No drainage is permitted and the stresses which are measured represent the sum of the intergranular stresses and pore water pressures.

<u>Consolidated-undrained:</u> The sample is allowed to consolidate fully under the applied confining pressure prior to the start of the test. The volume change is determined by measuring the water and/or air expelled during consolidation. No drainage is permitted during the test and the stresses which are measured are the same as for the unconsolidated-undrained test.

<u>Drained:</u> The intergranular stresses in a sample may be measured by performing a drained, or slow, test. In this test, the sample is fully saturated and consolidated prior to the start of the test. During the test, drainage is permitted and the test is performed at a slow enough rate to prevent the buildup of pore water pressures. The resulting stresses which are measured represent only the intergranular stresses. These tests are usually performed on samples of generally non-cohesive soils, although the test procedure is applicable to cohesive soils if a sufficiently slow test rate is used.

An alternate means of obtaining the data resulting from the drained test is to perform an undrained test in which special equipment is used to measure the pore water pressures. The differences between the total stresses and the pore water pressures measured are the intergranular stesses.

CLINTON POWER STATION UPDATED SAFETY ANALYSIS REPORT Figure 2.5-299 Sheet 2 of 2 UNCONFINED COMPRESSION AND TRIAXIAL COMPRESSION TESTS (METHOD)