

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO.	W-8
SHEET 1 OF	2
FILE NO.	9726A
SURFACE ELEV.	20.0
RES. ENGR.	MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS	
	NO.	DEPTH	BLOWS/6"				BLOWS		
09:00	1D	0.0	2-14	Brn gvlyly f-c sand, sm si, tr veg (Fill) (SM)	F		AUGER	5D WC=20	
03-08-02		2.0	19-22	Brown silty f-m sand, sm clay layers, tr					
Friday	2D	2.0	10-14	clay, brick, gravel (Fill) (SM-SC)					
Clear		4.0	18-18	Brown f-c sand, some silt, cinders, tr clay					
60°F	3D	4.0	8-9	pockets, gvl, brick l(Fill) (SM)			5		
		6.0	13-15	Top 6 " Dark brown silty fine sand, trace					
	4D	6.0	10-13	gravel, clay pockets (Fill) (SM)					
		8.0	10-11	Bot 12": Lt brn gravelly f-c sand, sm silt, tr					
	5D	8.0	5-6	clay pkts, brick (Fill) (SM)					
		10.0	6-7	Brown silty clay, some clayey fine sand			10		
	6D	10.0	20-10	layers, trace gravel (Fill) (CL)					
09:30		12.0	14-24	Brown fine to coarse sand, some silt, trace			12		
				brick, cinders, rock fragments, gravel, clay				End of Boring at 12'. WC=Water Content in percent of dry weight.	
				layers (Fill) (SM)					
							15		
							20		
							25		
							30		
							35		
							40		
						45			
						50			

BORING NO. W-8

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-8
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 20.0
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES	☒ NO
TRUCK <u>CME-45</u>	MECHANICAL	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
SKID _____	HYDRAULIC	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
BARGE _____	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
OTHER _____				

TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. SPLIT SPOON
 U-SAMPLER _____
 S-SAMPLER _____
 CORE BARREL _____
 CORE BIT _____
 DRILL RODS AW

DRILLING MUD USED ☐ YES ☒ NO
 DIAMETER OF ROTARY BIT, IN. _____
 TYPE OF DRILLING MUD _____
 AUGER USED ☐ YES ☒ NO
 TYPE AND DIAMETER, IN. HOLLOW STEM O.D. 6"
 CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES _____
3.5" DIA. U-SAMPLE BORING	LIN. FT. _____	NO. OF 3" UNDISTURBED SAMPLES _____
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER RONALD STIDHAM HELPERS BILLY LUTTRELL
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-8-02
 BORING NO. W-8

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION: WASHINGTON, D.C.

BORING NO. W-9
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 18.4
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
09:30	1D	0.0	4-7	Top 8": Dk brn si f sand, tr cl, veg (Fill)(SM)	F		AUGER	2D pp>4.5
03-08-02		2.0	8-13	Bot: Lt brn silty f-m sand, tr clay, gravel,				
Friday	2D	2.0	8-14	clay layers (Fill)(SM-SC)				
Clear		4.0	18-19	Brown fine sandy clay, tr gravel (Fill) (CL)				
60°F	3D	4.0	13-20	Top 8": Do 2D, trace roots (Fill) (CL)		5		
		6.0	17-18	Bot 10": Dk brn clayey fine sand, some				
	4D	6.0	12-13	gravel, trace cinders (Fill) (SC)				
		8.0	7-8	Brown silty fine sand, some clay layers,				
	5D	8.0	7-8	trace gravel, brick (Fill) (SM&CL)				
		10.0	6-5	Dark brown silty fine sand, trace clay, brick,		10	✓	
	6D	10.0	4-5	gravel (Fill) (SM)	T1(A)			6D WC=17 End of Boring at 12'. pp=Pocket Penetrometer Unconfined Compress- ive Strength in tsf. WC=Water Content in percent of dry weight.
10:00		12.0	3-5	Dark brown fine sandy silt, trace clay, clay pockets, vegetation (ML)		12		
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-9
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 18.4
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES	☒ NO
TRUCK <u>CME-45</u>	MECHANICAL	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
SKID _____	HYDRAULIC	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
BARGE _____	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
OTHER _____				

TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. SPLIT SPOON
 U-SAMPLER _____
 S-SAMPLER _____
 CORE BARREL _____
 CORE BIT _____
 DRILL RODS AW

DRILLING MUD USED ☐ YES ☒ NO
 DIAMETER OF ROTARY BIT, IN. _____
 TYPE OF DRILLING MUD _____
 AUGER USED ☒ YES ☐ NO
 TYPE AND DIAMETER, IN. HOLLOW STEM O.D. 6"
 CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	<u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES	_____
3.5" DIA. U-SAMPLE BORING	LIN. FT.	_____	NO. OF 3" UNDISTURBED SAMPLES	_____
CORE DRILLING IN ROCK	LIN. FT.	_____	OTHER:	_____

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER RONALD STIDHAM HELPERS BILLY LUTTRELL
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-8-02
 BORING NO. W-9

BORING LOG

LOCATION: WASHINGTON, D.C.

RES. ENGR. MICHAEL WECKLER

[illegible]

BORING NO. W-10

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION WASHINGTON, D.C.
BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-10
SHEET 2 **OF** 2
FILE NO. 9726A
SURFACE ELEV. 20.5
DATUM NGVD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-45</u>	MECHANICAL <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
SKID <u> </u>	HYDRAULIC <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
BARGE <u> </u>	OTHER <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
OTHER <u> </u>			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. <u> </u>
U-SAMPLER <u> </u>	TYPE OF DRILLING MUD <u> </u>
S-SAMPLER <u> </u>	
CORE BARREL <u> </u>	AUGER USED ☒ YES ☐ NO
CORE BIT <u> </u>	TYPE AND DIAMETER, IN. <u> </u> <u>HOLLOW STEM O.D. 6"</u>
DRILL RODS <u>AW</u>	
	CASING HAMMER, LBS. <u> </u> AVERAGE FALL, IN. <u> </u>
	SAMPLER HAMMER, LBS. <u>140</u> AVERAGE FALL, IN. <u>30</u>

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON

STANDPIPE:	TYPE <u> </u>	ID, IN. <u> </u>	LENGTH, FT. <u> </u>	TOP ELEV. <u> </u>
INTAKE ELEMENT:	TYPE <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	TIP ELEV. <u> </u>
FILTER:	MATERIAL <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	BOT. ELEV. <u> </u>

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES <u> </u>	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u> </u>	NO. OF 3" UNDISTURBED SAMPLES <u> </u>	
CORE DRILLING IN ROCK	LIN. FT. <u> </u>	OTHER: <u> </u>	

BORING CONTRACTOR GEOSERVICES CORP.
DRILLER RONALD STIDHAM **HELPERS** BILLY LUTTRELL
REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
RESIDENT ENGINEER MICHAEL WECKLER **DATE** 3-8-02
BORING NO. W-10

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO.	W-11
SHEET 1 OF	2
FILE NO.	9726A
SURFACE ELEV.	23.4
RES. ENGR.	MICHAEL WECKLER

[illegible]

BORING NO. W-11

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-11
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 23.4
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-45</u>	MECHANICAL _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER _____	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 6"</u>
DRILL RODS <u>AW</u>	
	CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
	SAMPLER HAMMER, LBS. <u>140</u> AVERAGE FALL, IN. <u>30</u>

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE:	TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT:	TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER:	MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. _____	NO. OF 3" UNDISTURBED SAMPLES _____	
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER RONALD STIDHAM HELPERS BILLY LUTTRELL
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-8-02
 BORING NO. W-11

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO. W-12
SHEET 1 OF 2
FILE NO. 9726A
SURFACE ELEV. 24.9
RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
12:05	1D	0.0	5-8	Brown silty fine sand, trace clay, brick, gravel, vegetation (Fill) (SM-SC)	F		AUGER	
03-08-02		2.0	12-15					
Friday	2D	2.0	9-14					
Clear		4.0	14-15					
60°F	3D	4.0	6-8	Brown silty fine to medium sand, trace clay (Fill) (SM)		5		End of Boring at 6'.
12:20		6.0	12-17			6		
								Hole was abandoned because rig broke down.
						10		Drilled offset hole at location of Boring W-12A.
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-12

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION WASHINGTON, D.C.
BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-12
SHEET 2 **OF** 2
FILE NO. 9726A
SURFACE ELEV. 24.9
DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-45</u>	MECHANICAL <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
SKID <u> </u>	HYDRAULIC <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
BARGE <u> </u>	OTHER <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
OTHER <u> </u>			

TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. SPLIT SPOON
 U-SAMPLER
 S-SAMPLER
 CORE BARREL
 CORE BIT
 DRILL RODS AW

DRILLING MUD USED ☐ YES ☒ NO
 DIAMETER OF ROTARY BIT, IN.
 TYPE OF DRILLING MUD
 AUGER USED ☒ YES ☐ NO
 TYPE AND DIAMETER, IN. HOLLOW STEM O.D. 7.5"
 CASING HAMMER, LBS. AVERAGE FALL, IN.
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE <u> </u>	ID, IN. <u> </u>	LENGTH, FT. <u> </u>	TOP ELEV. <u> </u>
INTAKE ELEMENT:	TYPE <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	TIP ELEV. <u> </u>
FILTER:	MATERIAL <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	BOT. ELEV. <u> </u>

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>6</u>	NO. OF 3" SHELBY TUBE SAMPLES <u> </u>	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u> </u>	NO. OF 3" UNDISTURBED SAMPLES <u> </u>	
CORE DRILLING IN ROCK	LIN. FT. <u> </u>	OTHER: <u> </u>	

BORING CONTRACTOR GEOSERVICES CORP.
DRILLER RONALD STIDHAM HELPERS BILLY LUTTRELL
REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
RESIDENT ENGINEER MICHAEL WECKLER **DATE** 3-8-02

BORING NO. W-12

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO. W-12AU
SHEET 1 OF 2
FILE NO. 9726A
SURFACE ELEV. 24.9±
RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
12:00							AUGER	Grass at surface.
03-15-02								For soil description
Friday								from 0' -4' see log
Clear					F			of Boring No.12.
60°F	1D	4.0	4-5	Brown fine sandy silt, trace brick, gravel		5		
		6.0	5-9	(Fill) (ML)		6		
	2D	6.0	5-10	Brown fine sandy silt, trace clay (ML)				WC=14
		8.0	11-10					
	1U	8.0	PUSH=24"	Brown fine to medium sandy silt, trace clay,	T1(A)			pp>4.5, TV=0.6
		10.0	REC=22"	gravel (ML)		10	✓	WC=11
	3D	10.0	6-7	Stiff brown clayey silt, some fine sand,				WC=17
12:25		12.0	8-12	trace roots (ML)		12		End of Boring at
								12'.
								pp=Pocket
						15		Penetrometer
								Unconfined Compres-
								sive Strength in tsf.
								TV=Torvane Shear
						20		Strength in tsf.
								WC=Water Content
								in percent of dry
								weight.
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-12AU

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-12AU
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 24.9±
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER <u>3" SHELBY HEAD</u>	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 7.5"</u>
DRILL RODS <u>AW</u>	
	CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
	SAMPLER HAMMER, LBS. <u>140</u> AVERAGE FALL, IN. _____

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>6</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u>2</u>	NO. OF 3" UNDISTURBED SAMPLES <u>1</u>	
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02
 BORING NO. W-12AU

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION: WASHINGTON, D.C.

BORING NO. W-13
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 29.7±
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
10:50	1D	0.0	2-3	Dark brown fine sandy silt, trace brick, gravel, cinders (Fill) (ML)	F		AUGER	Grass at surface.
03-15-02		2.0	4-5					
Friday	2D	2.0	4-4	Brown fine sandy silt, tr clay (Fill) (ML)				
Clear		4.0	5-6					
60°F	3D	4.0	4-6	Brown fine sandy silt, trace brick, shells (Fill) (ML)		5		
		6.0	4-4					
	4D	6.0	3-4	Brown fine sandy silt, trace brick, shells, cinders, vegetation (Fill) (ML)				
		8.0	6-7					
	5D	8.0	3-6	Top 6": Do 4D (Fill) (ML)		8.5		5D: BOT WC=17
		10.0	7-8	Bot 12": Brn f sandy silt, trace clay (ML)		10	↓	
	6D	10.0	4-6	Brown fine sandy silt, trace clay (ML)	T1(A)			WC=16
11:45		12.0	7-9			12		End of Boring at 12'.
								WC=Water Content in percent of dry weight.
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-13

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-13
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 29.7±
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER _____	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 6"</u>
DRILL RODS <u>AW</u>	

CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE:	TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT:	TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER:	MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. _____	NO. OF 3" UNDISTURBED SAMPLES _____	
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02

BORING NO. W-13

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION: WASHINGTON, D.C.

BORING NO. W-14
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 27.3
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
10:00	1D	0.0	2-4	Dark brown fine sandy silt, trace clay,	F		AUGER	Grass at surface.
03-15-02		2.0	4-5	roots, brick, cinders, vegetation (Fill) (ML)				
Friday	2D	2.0	3-3	Brown fine sandy silt, trace brick, cinders,				
Clear		4.0	3-3	clay (Fill) (ML)				
60°F	3D	4.0	3-4	Brown fine sandy silt, trace clay, cinders,		5		
		6.0	5-5	roots (Fill) (ML)		6		
	4D	6.0	3-4	Brown fine sandy silt, trace clay (ML)	T1(A)			WC=20
		8.0	5-6					
	5D	8.0	4-5	Do 4D (ML)				WC=18
		10.0	7-7			10	✓	
	6D	10.0	3-4	Do 4D (ML)				WC=20
10:30		12.0	5-7			12		End of Boring at 12'.
								WC=Water Content in percent of dry weight.
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-14

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-14
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 27.3
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED _____ CASING USED ☐ YES ☒ NO
 TRUCK CME-55 MECHANICAL _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 SKID _____ HYDRAULIC _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____

TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. SPLIT SPOON
 U-SAMPLER _____
 S-SAMPLER _____
 CORE BARREL _____
 CORE BIT _____
 DRILL RODS AW

DRILLING MUD USED ☐ YES ☒ NO
 DIAMETER OF ROTARY BIT, IN. _____
 TYPE OF DRILLING MUD _____

AUGER USED ☒ YES ☐ NO
 TYPE AND DIAMETER, IN. HOLLOW STEM O.D. 6"

CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING LIN. FT. 12 NO. OF 3" SHELBY TUBE SAMPLES _____
 3.5" DIA. U-SAMPLE BORING LIN. FT. _____ NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. _____ OTHER: _____

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02

BORING NO. W-14

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: WASHINGTON MONUMENT
 LOCATION: WASHINGTON, D.C.

BORING NO. W-15U
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 21.4±
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
09:00	1D	0.0	1-4	Dark brown fine sandy silt, trace clay, brick, cinders, vegetation (Fill) (ML)	F		AUGER	Grass at surface.
03-15-02		2.0	6-8			2		
Friday	2D	2.0	4-4	Brown fine sandy silt, trace clay, vegetation (ML)				WC=20
Clear		4.0	5-7					
60°F	3D	4.0	4-5	Brown fine sandy silt, trace clay (ML)		5		WC=17
		6.0	6-9					1U: pp=3.7, TV=1.2
	1U	6.0	PUSH=24"	Brown fine sandy clay, trace gravel (CL)	T1(A)			WC=18
		8.0	REC=19"					
	4D	8.0	3-5	Brown fine sandy silt, trace clay (ML)				pp=2.9, WC=17
		10.0	8-11			10		
	5D	10.0	3-5	Stiff brown clayey silt, some fine sand (ML)				5D: pp=3.4, WC=20
09:45		12.0	9-12			12		End of Boring at 12'.
						15		
								pp=Pocket Penetrometer
								Unconfined Compressive Strength in tsf.
						20		
								TV=Torvane Shear Strength in tsf.
						25		WC=Water Content in percent of dry weight.
						30		
						35		
						40		
						45		
						50		

BORING NO. W-15U

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-15U
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 21.4±
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER <u>3" SHELBY HEAD</u>	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 7.5"</u>
DRILL RODS <u>AW</u>	
	CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
	*SAMPLER HAMMER, LBS. <u>140</u> AVERAGE FALL, IN. <u>30</u>

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>10</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u>2</u>	NO. OF 3" UNDISTURBED SAMPLES <u>1</u>	
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02
 BORING NO. W-15U

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO.	W-16
SHEET 1 OF	2
FILE NO.	9726A
SURFACE ELEV.	24.2±
RES. ENGR.	MICHAEL WECKLER

[illegible]

BORING NO. W-16

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-16
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 24.2±
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
SKID <u> </u>	HYDRAULIC <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
BARGE <u> </u>	OTHER <u> </u>	DIA., IN. <u> </u>	DEPTH, FT. FROM <u> </u> TO <u> </u>
OTHER <u> </u>			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. <u> </u>
U-SAMPLER <u> </u>	TYPE OF DRILLING MUD <u> </u>
S-SAMPLER <u> </u>	
CORE BARREL <u> </u>	AUGER USED ☒ YES ☐ NO
CORE BIT <u> </u>	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 6"</u>
DRILL RODS <u>AW</u>	

CASING HAMMER, LBS. AVERAGE FALL, IN.
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON

STANDPIPE:	TYPE <u> </u>	ID, IN. <u> </u>	LENGTH, FT. <u> </u>	TOP ELEV. <u> </u>
INTAKE ELEMENT:	TYPE <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	TIP ELEV. <u> </u>
FILTER:	MATERIAL <u> </u>	OD, IN. <u> </u>	LENGTH, FT. <u> </u>	BOT. ELEV. <u> </u>

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>4.7</u>	NO. OF 3" SHELBY TUBE SAMPLES <u> </u>	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u> </u>	NO. OF 3" UNDISTURBED SAMPLES <u> </u>	
CORE DRILLING IN ROCK	LIN. FT. <u> </u>	OTHER: <u> </u>	

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02
 BORING NO. W-16

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION WASHINGTON, D.C.
 BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-16A
 SHEET 2 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 24±
 DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES	☒ NO
TRUCK <u>CME-55</u>	MECHANICAL	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
SKID _____	HYDRAULIC	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
BARGE _____	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
OTHER _____				

TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. SPLIT SPOON
 U-SAMPLER _____
 S-SAMPLER _____
 CORE BARREL _____
 CORE BIT _____
 DRILL RODS AW

DRILLING MUD USED ☐ YES ☒ NO
 DIAMETER OF ROTARY BIT, IN. _____
 TYPE OF DRILLING MUD _____

AUGER USED ☒ YES ☐ NO
 TYPE AND DIAMETER, IN. HOLLOW STEM O.D. 6"

CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>8</u>	NO. OF 3" SHELBY TUBE SAMPLES _____
3.5" DIA. U-SAMPLE BORING	LIN. FT. _____	NO. OF 3" UNDISTURBED SAMPLES _____
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____

BORING CONTRACTOR GEOSERVICES CORP.
 DRILLER STEVE WINGET HELPERS JOHN PERSINGER
 REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
 RESIDENT ENGINEER MICHAEL WECKLER DATE 3-15-02

BORING NO. W-16A

MUESER RUTLEDGE CONSULTING ENGINEERS
BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION: WASHINGTON, D.C.

BORING NO. W-16A
SHEET 1 OF 2
FILE NO. 9726A
SURFACE ELEV. 24±
RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
08:05					F		AUGER	
03-15-02								
Friday								
Clear								
60°F	1D	4.0	3-3	Top 6": Dark brown fine sandy silt, trace clay, brick fgmts, shells (Fill) (ML)		4.5		1D Bot WC=19
		6.0	5-5	Bot 12': Stiff brown clayey silt, some fine sand (ML)				
	2D	6.0	3-4	Brown fine sandy silt, trace clay (ML)	T1(A)			pp=2.2, WC=17
		8.0	6-6					
	3D	8.0	3-4	Stiff brown silty clay, some fine sand (CL)				pp=2.0, WC=19
		10.0	6-7			10	✓	
	4D	10.0	4-6	Brown fine sandy silt, trace clay (ML)				WC=18
08:30		12.0	9-10			12		End of Boring at 12'.
								pp=Pocket
						15		Penetrometer
								Unconfined Compressive Strength in tsf.
								WC=Water Content
						20		in percent of dry weight.
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-16A

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION: WASHINGTON, D.C.

BORING NO. W-17
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 18.5±
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
07:00	1D	0.0	2-3	Brown fine sandy silt, trace vegetation (Fill)	F		AUGER	pp=3.4, WC=21
03-15-02		2.0	4-5	(ML)		2.5		
Friday	2D	2.0	4-5	Stiff light brown clayey silt, some fine sand	T1(A)			pp=4.2, WC=14
Clear		4.0	9-11	(ML)		5		
60°F	3D	4.0	5-10	Brown fine sandy silt, trace clay, clay	T2			pp=2.25
		6.0	14-17	pockets (ML)		6		
	4D	6.0	6-9	Brown silty fine sand, some clay layers	T1(A)			pp=3.3, WC=16
		8.0	11-10	(SM&CL)		8		
	5D	8.0	3-4	Stiff brown tan clayey silt, some fine sand	T1(A)			pp=3.4, WC=17
		10.0	6-8	(ML)		10	✓	
	6D	10.0	4-7	Stiff brown silty clay, some fine sand (CL)				End of Boring at 12'.
07:35		12.0	8-8			12		
						15		pp=Pocket Penetrometer Unconfined Compressive Strength in tsf.
						20		
						25		WC=Water Content in percent of dry weight.
						30		
						35		
						40		
						45		
						50		

BORING NO. W-17

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION WASHINGTON, D.C.
BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-17
SHEET 2 **OF** 2
FILE NO. 9726A
SURFACE ELEV. 18.5±
DATUM NGSD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER _____	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. <u>HOLLOW STEM O.D. 6"</u>
DRILL RODS <u>AW</u>	

CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE:	TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT:	TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER:	MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>12</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. _____	NO. OF 3" UNDISTURBED SAMPLES _____	
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

BORING CONTRACTOR GEOSERVICES CORP.
DRILLER STEVE WINGET **HELPERS** JOHN PERSINGER
REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
RESIDENT ENGINEER MICHAEL WECKLER **DATE** 3-15-02
BORING NO. W-17

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: WASHINGTON MONUMENT GROUND IMPROVEMENTS
 LOCATION: WASHINGTON, D.C.

BORING NO. W-18U
 SHEET 1 OF 2
 FILE NO. 9726A
 SURFACE ELEV. 16.9
 RES. ENGR. MICHAEL WECKLER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
	NO.	DEPTH	BLOWS/6"				BLOWS	
17:50	1D	0.0	2-4	Brown fine sandy silt, trace gravel, vegetation (Fill) (ML)	F		AUGER	pp=2.5, WC=16
03-15-02		2.0	5-5			2		
Friday	2D	2.0	4-4	Light brown fine sandy silt, trace clay (ML)	T1(A)			Top 1U pp>4.5 WC=15 Bot 1U WC=11
Clear		4.0	6-9					
70°F	1U	4.0	PUSH=24"	Top: Hard clayey silt, sm f sa, tr gvl (ML) Bot: Brn silty f-m sand, trace clay (SM)	T2	5		pp=3.1, WC=16
		6.0	REC=23"					
	3D	6.0	5-8	Light brown silty fine sand, some clay layers (SM&CL)	T1(A)	8		WC=15
		8.0	7-7					
	4D	8.0	3-4	Stiff light brown clayey silt, some fine sand (ML)	T2	10	↓	End of Boring at 12'.
		10.0	6-8					
18:30	2U	10.0	PUSH=24"	Brown gray silty fine to medium sand, trace clay, gravel (SM)		12		pp=Pocket Penetrometer Unconfined Compressive Strength in tsf.
		12.0	REC=23"					
						15		WC=Water Content in percent of dry weight.
						20		
						25		
						30		
						35		
						40		
						45		
						50		

BORING NO. W-18U

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT WASHINGTON MONUMENT GROUND IMPROVEMENTS
LOCATION WASHINGTON, D.C.
BORING LOCATION SEE BORING LOCATION PLAN

BORING NO. W-18U
SHEET 2 **OF** 2
FILE NO. 9726A
SURFACE ELEV. 16.9
DATUM NGVD

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	☐ YES ☒ NO
TRUCK <u>CME-55</u>	MECHANICAL _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
SKID _____	HYDRAULIC _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE _____	OTHER _____	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER _____			

TYPE AND SIZE OF:	DRILLING MUD USED ☐ YES ☒ NO
D-SAMPLER <u>2" O.D. SPLIT SPOON</u>	DIAMETER OF ROTARY BIT, IN. _____
U-SAMPLER <u>SHELBY HEAD</u>	TYPE OF DRILLING MUD _____
S-SAMPLER _____	
CORE BARREL _____	AUGER USED ☒ YES ☐ NO
CORE BIT _____	TYPE AND DIAMETER, IN. _____
DRILL RODS <u>AW</u>	<u>HOLLOW STEM O.D. 7.5"</u>

CASING HAMMER, LBS. _____ AVERAGE FALL, IN. _____
 *SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

*MECHANICAL HAMMER USED.

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATIONS MADE.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE:	TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT:	TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER:	MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

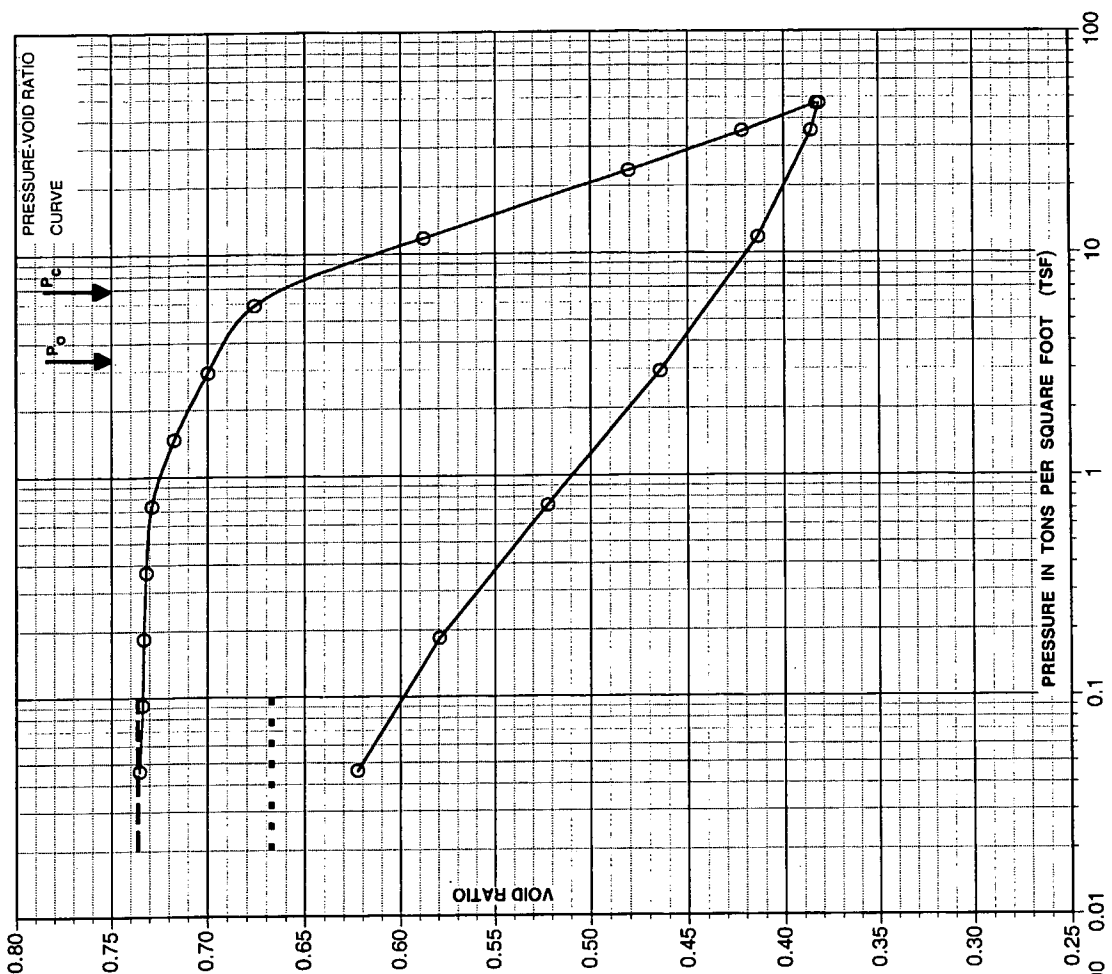
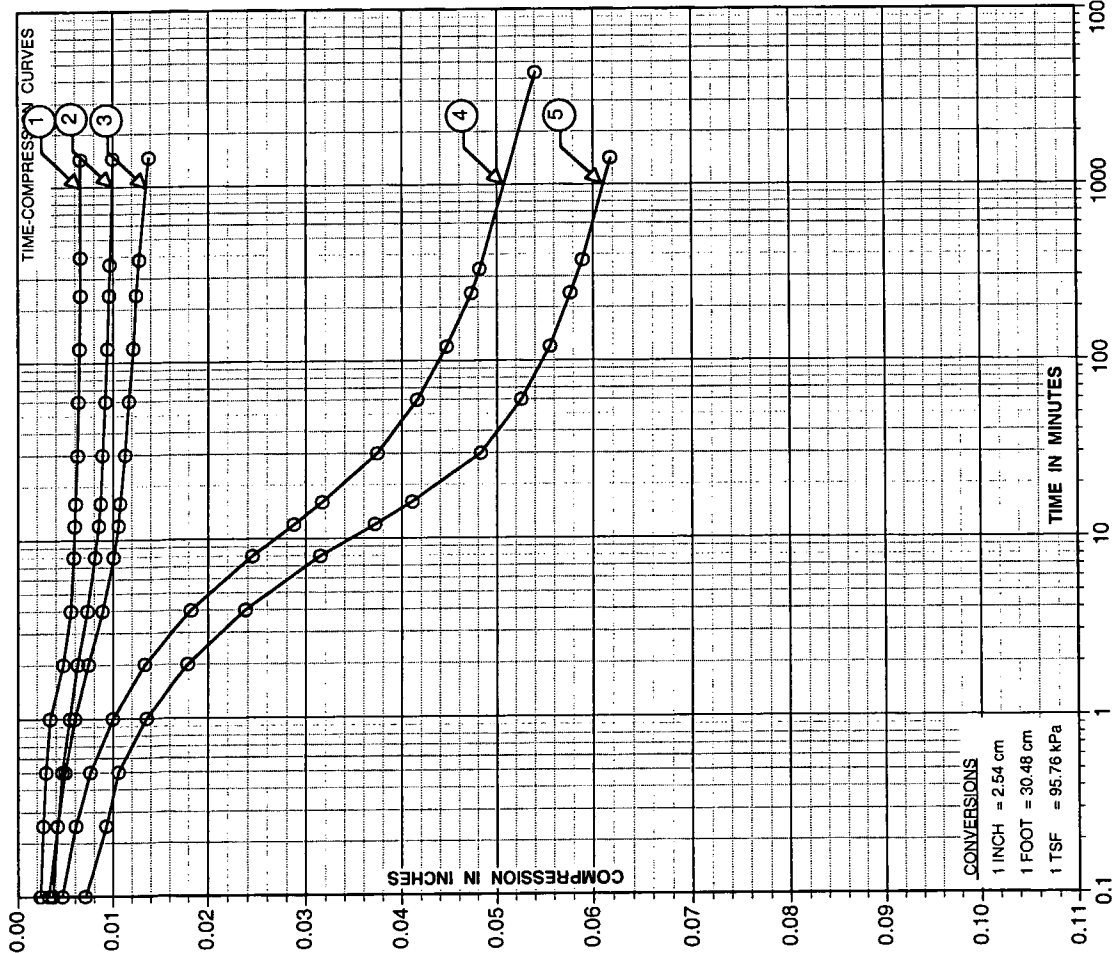
PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>8</u>	NO. OF 3" SHELBY TUBE SAMPLES _____	
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u>4</u>	NO. OF 3" UNDISTURBED SAMPLES _____	<u>2</u>
CORE DRILLING IN ROCK	LIN. FT. _____	OTHER: _____	

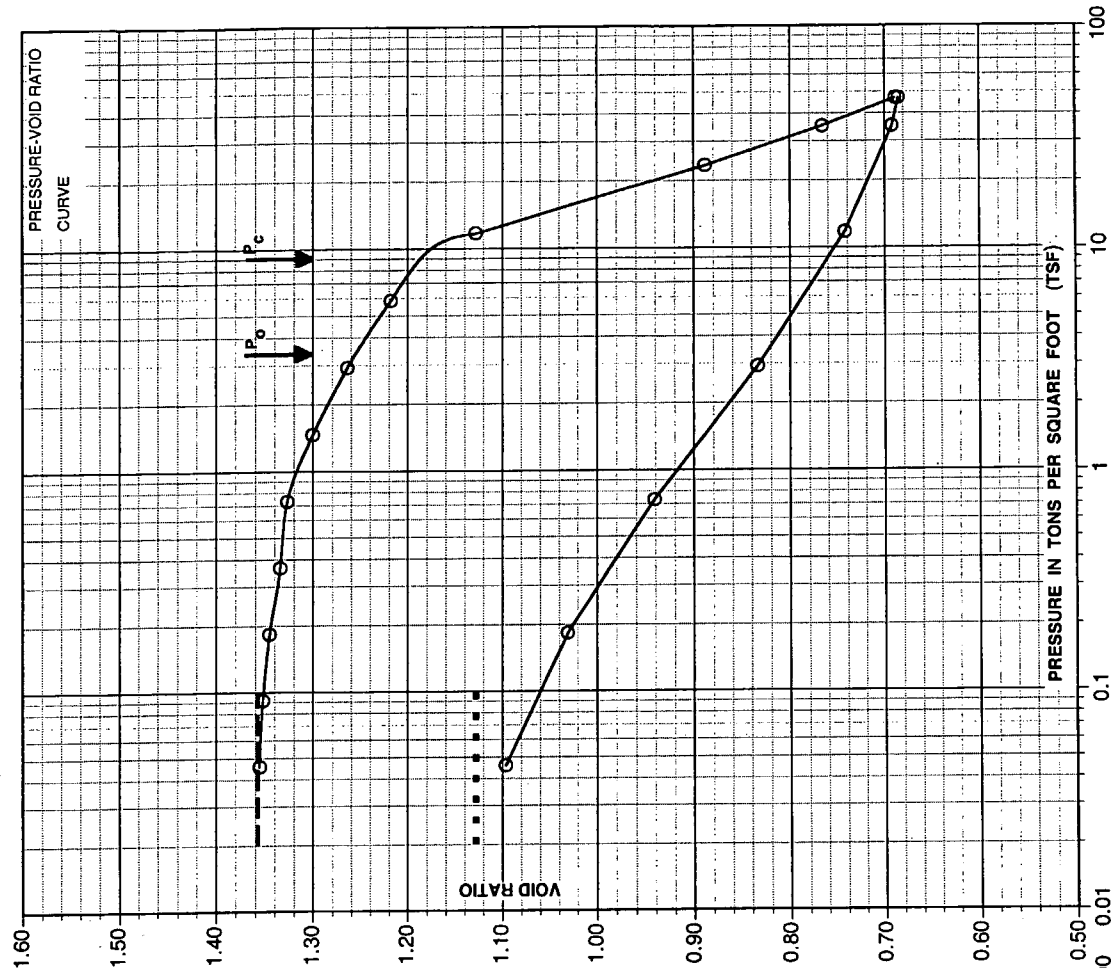
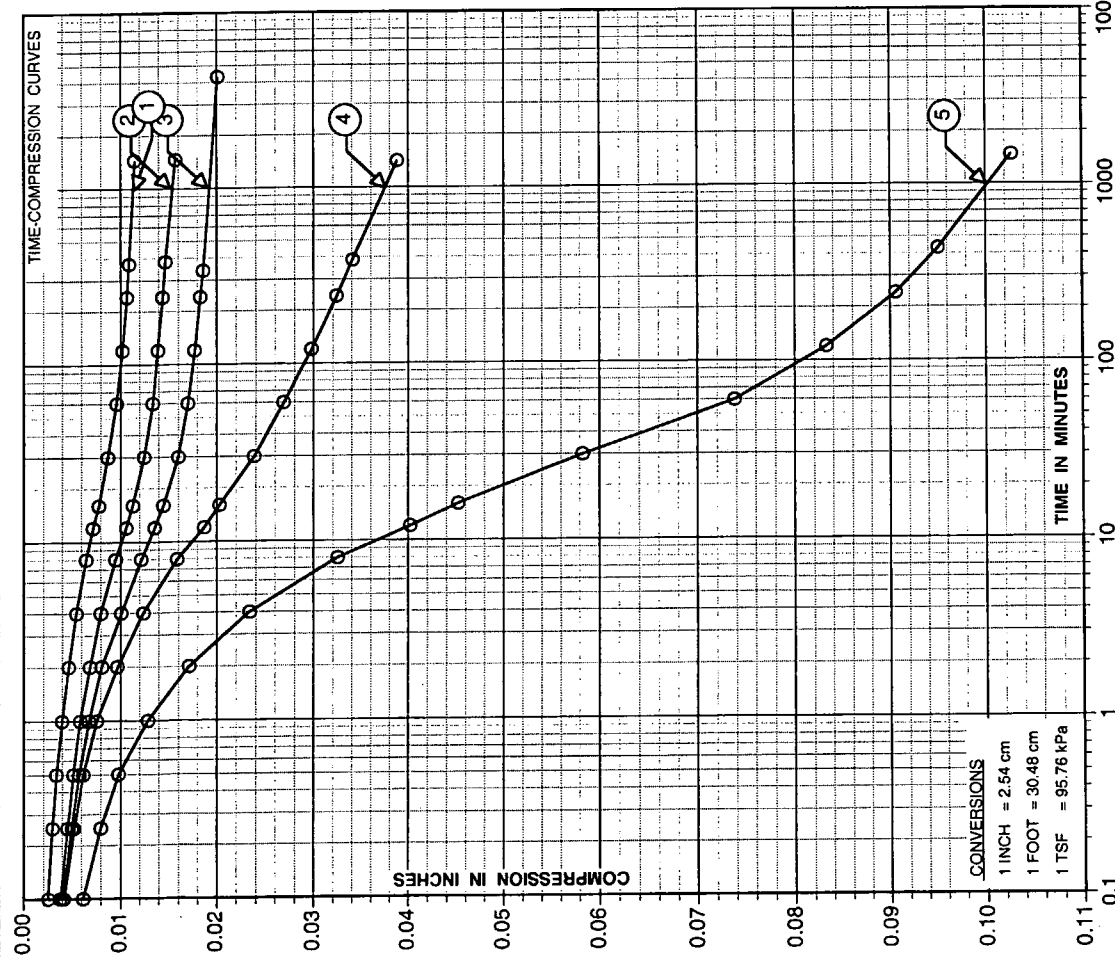
BORING CONTRACTOR GEOSERVICES CORP.
DRILLER STEVE WINGET HELPERS JOHN PERSINGER
REMARKS BOREHOLE WAS GROUTED UPON COMPLETION.
RESIDENT ENGINEER MICHAEL WECKLER **DATE** 3-15-02

BORING NO. W-18U

APPENDIX B



CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION: STIFF GRAY SILTY CLAY, TRACE FINE SAND (CL)				STRATUM T1(D)		WASHINGTON MONUMENT	
		FROM (TSF)		TO (TSF)							
①	0.733	1.47	2.93	UNIFIED SOILS CLASSIFICATION - CL LIQUID LIMIT, $w_L = 43.4$ PLASTIC LIMIT, $w_p = 22.4$ PLASTICITY INDEX, $I_p = 21$ NATURAL WATER CONT. %, $w = 27.5$ LIQUIDITY INDEX, $(w-w_p)/I_p = 0.243$ SPECIFIC GRAVITY, $G_s = 2.75$				ELEVATION OF SPECIMEN = 33.6 DEPTH OF SPECIMEN (FT) = 61 DIAMETER OF SPECIMEN (IN) = 2.5 INITIAL THICKNESS OF SPECIMEN (IN) = 0.99 INITIAL WATER CONTENT, % = 26.8 FINAL WATER CONTENT, % = 26.3 INITIAL DEGREE SATURATION, % = 100.14 FINAL DEGREE SATURATION, % = 108.37			
②	1.47	2.93	5.87								
③	2.93	5.87	11.73	PROPERTIES OF SPECIMEN				ESTIMATED PRECONSOLIDATION STRESS (TSF), $P_c = 7.0$ EXISTING OVERBURDEN STRESS (TSF), $P_o = 3.4$ COMPRESSION INDEX, $C_c = 0.340$ SWELLING INDEX, $C_s = 0.090$, REBOUND FROM $e = 0.382$			
④	5.87	11.73	23.41								
⑤	11.73	23.41		PROPERTIES OF SPECIMEN				CONSOLIDATION TEST			
⑥											
⑦				PROPERTIES OF SPECIMEN				BORING NO. B-1UP SAMPLE NO. 3U			
⑧											
PLATE NO. 1				MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122				WASHINGTON D.C.			



CURVE		INCREMENT		SPECIMEN DESCRIPTION: STIFF GRAY SILT, TRACE FINE SAND (MH)		SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM T1(D)		WASHINGTON MONUMENT	
NO.		FROM (TSF)		UNIFIED SOILS CLASSIFICATION - MH		ELEVATION OF SPECIMEN (FT) = 58.2		ESTIMATED PRECONSOLIDATION STRESS (TSF), $P_0 = 9.5$		INITIAL VOID RATIO, $e_0 = 1.36$		WASHINGTON D.C.	
①		0.73		LIQUID LIMIT, $w_L = 76.9$		DEPTH OF SPECIMEN (FT) = 77		EXISTING OVERBURDEN STRESS (TSF), $P_o = 3.4$		FINAL VOID RATIO, $e_f = 1.13$		MUESER HUTLEDGE CONSULTING ENGINEERS	
②		1.46		PLASTIC LIMIT, $w_p = 39.8$		DIAMETER OF SPECIMEN (IN) = 2.5		INITIAL THICKNESS OF SPECIMEN (IN) = 1.0045		COMPRESSION INDEX, $C_c = 0.750$		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
③		2.93		PLASTICITY INDEX, $I_p = 37.0$		INITIAL WATER CONTENT, % = 47.3		SWELLING INDEX, $C_s = 0.160$, REBOUND FROM $e = 0.685$		MADE BY: MM		DATE: 6-3-02	
④		5.85		NATURAL WATER CONT. %, $w = 47.1$		FINAL WATER CONTENT, % = 42.8		INITIAL DEGREE OF SATURATION, % = 103.16		CHKD BY: AA		DATE: 6-6-02	
⑤		11.7		LIQUIDITY INDEX, $(w - w_p) / I_p = 0.197$		FINAL DEGREE OF SATURATION, % = 94.74		CONSOLIDATION TEST		FILE NO.		9726B	
⑥		11.7		SPECIFIC GRAVITY, $G_s = 2.72$				BORING NO. B-4U		SAMPLE NO. 6U		PLATE NO.	
⑦												3	
⑧													

APPENDIX C

WASHINGTON MONUMENT, WASHINGTON D.C.

SUMMARY OF CONSOLIDATION TESTS BY EDWARD S. BARBER

Plate No.	Initial Density (lb/ft ³)	Specimen			Initial Water Content w (%)	Value For e ₀	USCS Symbol	Slope of Recompression curve		Slope of Virgin curve	
		Depth (ft)	Diameter (in)	Thickness (in)				C _r /1+e ₀	C _r *	C _c /1+e ₀	C _c *
1	122	74	1.75	0.5	29	0.77		0.0155	0.0274	0.2400	0.4244
2	120	78	1.75	0.5	33	0.87		0.0164	0.0307	0.1660	0.3112
3	107	84	1.75	0.5	46	1.22	OH	0.0364	0.0808	0.3070	0.6812
4	108	89	1.75	0.5	47	1.25		Lack of recompression		0.2850	0.6400
5	108	101	1.75	0.5	44	1.17		0.0166	0.0360	0.3460	0.7494
6	126	68	1.75	0.5	25	0.66		0.0143	0.0238	0.2700	0.4489
7	123	73	1.75	0.5	26	0.69		Lack of recompression		0.2100	0.3547
8	120	78	1.75	0.5	32	0.85	CL	0.0255	0.0471	0.2660	0.4916
9	108	82	1.75	0.5	44	1.17		0.0161	0.0349	0.2870	0.6216
10	108	88	1.75	0.5	48	1.27		Lack of recompression		Test terminated early	
11	107	92	1.75	0.5	44	1.17		Lack of recompression		Test terminated early	
12	107	97	1.75	0.5	49	1.30	OH	0.0216	0.0496	0.3060	0.7033
13	102	83	1.75	0.5	55	1.46		0.0281	0.0691	0.3000	0.7373
14	90	88	1.75	0.5	75	1.99		0.0187	0.0559	0.3160	0.9441
15	108	95	1.75	0.5	42	1.11	OH/CH	0.0146	0.0308	0.1910	0.4036
16	108	99	1.75	0.5	43	1.14		0.0174	0.0372	0.1940	0.4151
17	125	15	1.75	0.5	18	0.48		Data quality in question		Test terminated early	
18	116	17	1.75	0.5	31	0.82		0.0191	0.0348	0.1550	0.2823
19	105	44	1.75	0.5	49	1.30	OH	0.0160	0.0368	Test terminated early	
20	108	20	1.75	0.5	44	1.17	CL	0.0167	0.0362	0.1677	0.3632
21	97	25	1.75	0.5	63	1.67		0.0125	0.0334	0.1699	0.4535
22	126	41	1.75	0.5	25	0.66		0.0141	0.0234	Test terminated early	
23	121	47	1.75	0.5	32	0.85	CL	0.0169	0.0312	Test terminated early	
24	115	52	1.75	0.5	36	0.95		0.0100	0.0195	Data quality in question	
25	114	56	1.75	0.5	35	0.93		0.0235	0.0453	Test terminated early	
26	106	62	1.75	0.5	48	1.27		Lack of recompression		Test terminated early	
27	106	67	1.75	0.5	46	1.22	OH	0.0192	0.0426	Test terminated early	
28	104	71	1.75	0.5	51	1.35		0.0259	0.0609	Test terminated early	
29	107	76	1.75	0.5	47	1.25		Data quality in question		Data quality in question	
30	106	61	1.75	0.5	51	1.35		0.0110	0.0259	Data quality in question	
31	106	67	1.75	0.5	51	1.35	CH	Data quality in question		Test terminated early	
32	119	66	1.75	0.5	33	0.87	CH	Data quality in question		Test terminated early	
33	108	77	1.75	0.5	44	1.17		0.0077	0.0166	Data quality in question	
34	110	77	1.75	0.5	47	1.25		0.0217	0.0487	0.3322	0.7460
35	109	82	1.75	0.5	46	1.22		Lack of recompression		0.1900	0.4216
36	N/A	84	2.5	1				Lack of recompression		Test terminated early	
37	N/A	28	2.5	1				Lack of recompression		Test terminated early	
38	N/A	97	2.5	1				Lack of recompression		Test terminated early	
39	N/A	95	2.5	1				Lack of recompression		Test terminated early	
40	N/A	44	2.5	1				Lack of recompression		0.1360	0.1360
41	N/A	67	2.5	1				Lack of recompression		Test terminated early	
42	N/A	76	2.5	1				Lack of recompression		Test terminated early	
43	N/A	67	2.5	1				Lack of recompression		Test terminated early	
44	N/A	66	2.5	1				Lack of recompression		Test terminated early	
								AVERAGE	0.0391	AVERAGE	0.5164

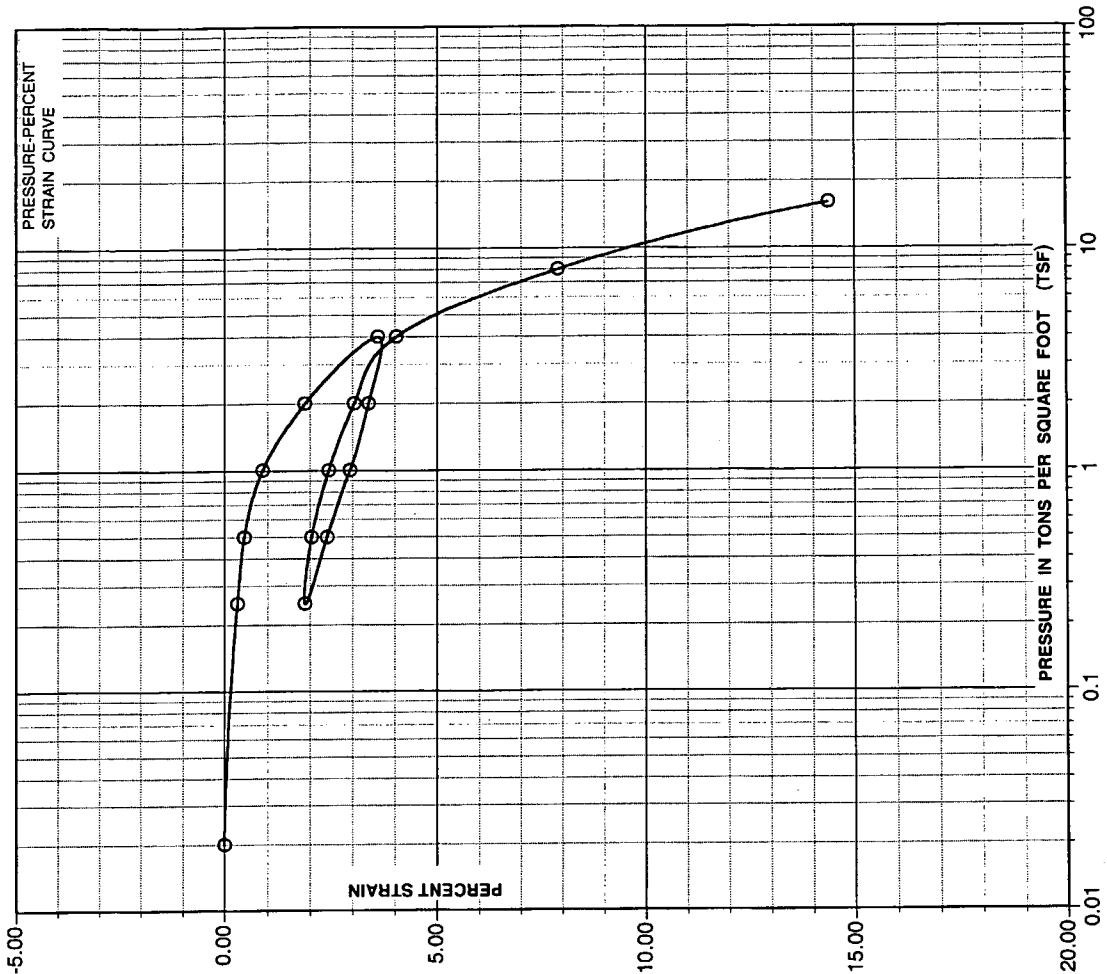
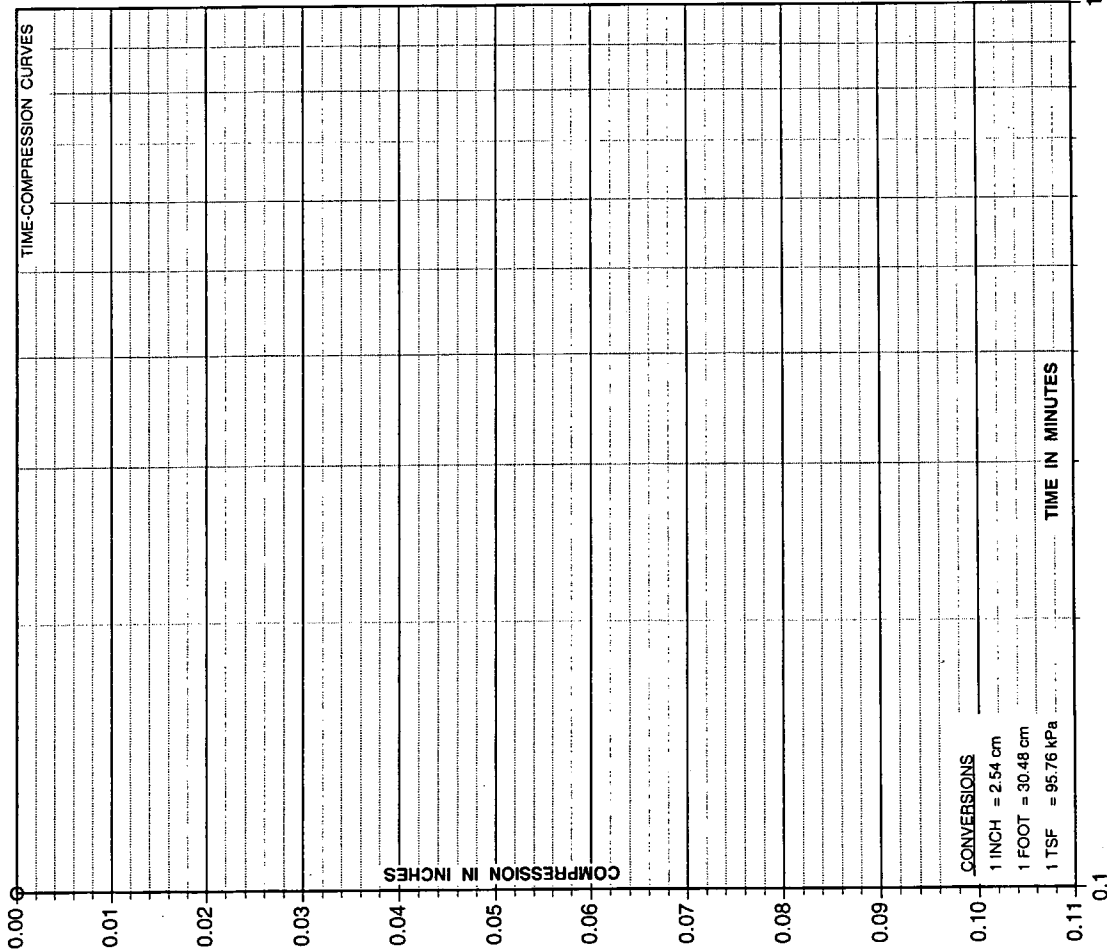
*Value for e₀ Calculated with the formula

$$G_s \cdot w = S \cdot e_0$$

* Estimated G_s=2.65

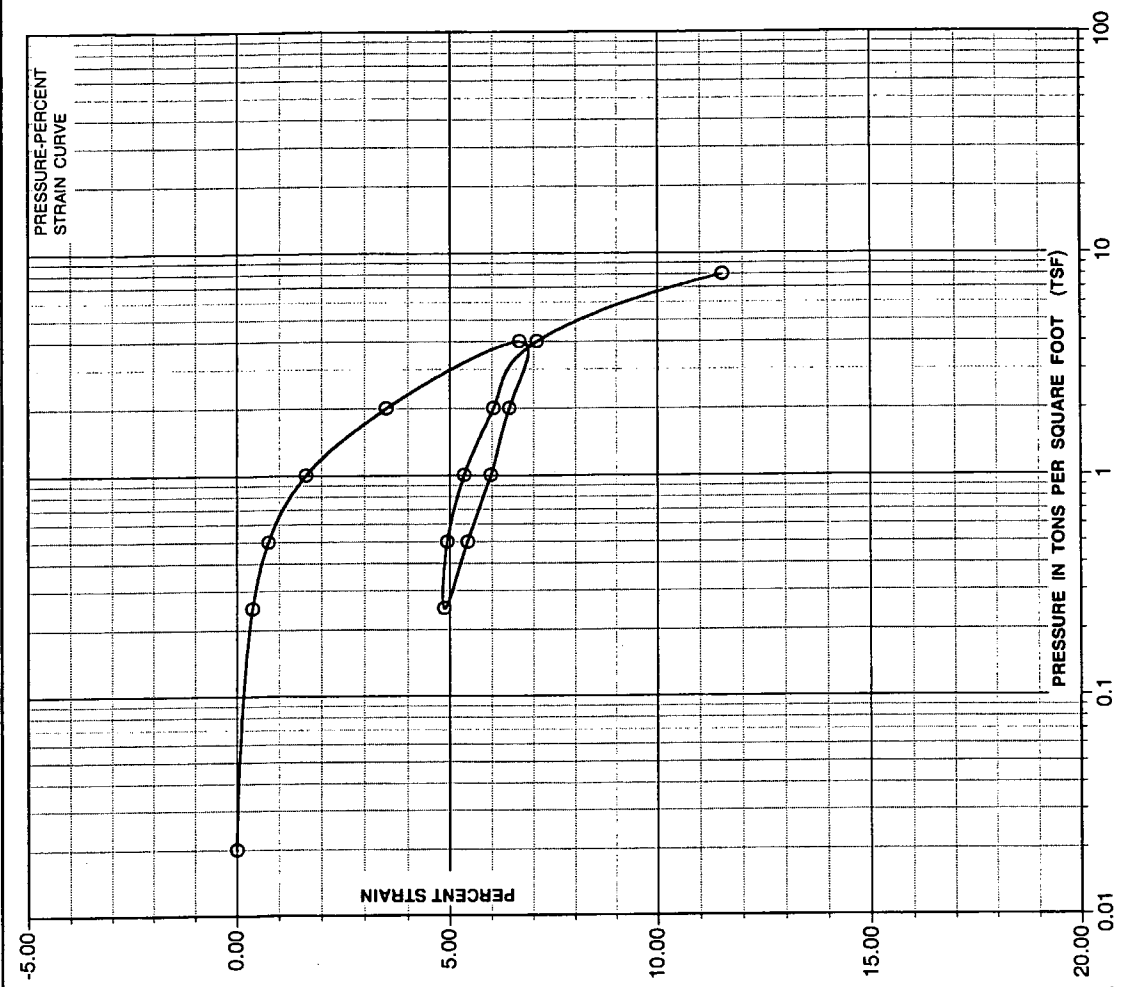
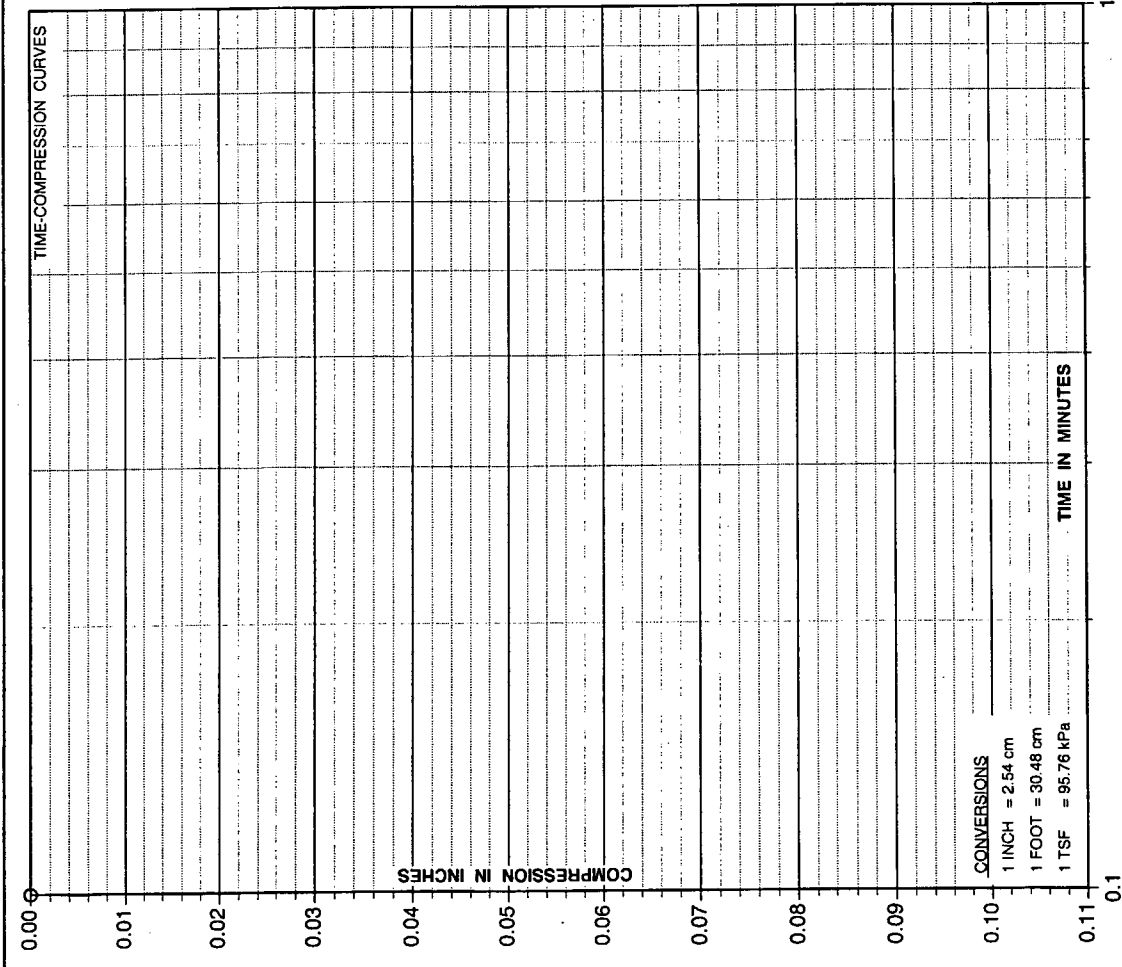
* Assume S=1.0

FILE NO. 9726B



CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
1	2	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		PROPERTIES OF SPECIMEN		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c		WASHINGTON D.C.	
1				LIQUID LIMIT, w_L =		ELEVATION OF SPECIMEN =		DEPTH OF SPECIMEN (FT) = 74		INITIAL VOID RATIO, e_0 =		MUESER RUTLEDGE CONSULTING ENGINEERS	
2				PLASTICITY INDEX, I_p =		DIAMETER OF SPECIMEN (IN) = 1.75		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		FINAL VOID RATIO, e_1 =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
3				NATURAL WATER CONT. % =		INITIAL WATER CONTENT, % = 29		FINAL WATER CONTENT, % =		ESTIMATED OVERBURDEN STRESS (TSF), P_o =		MADE BY: MM DATE: 5-23-02	
4				LIQUIDITY INDEX, $(w-w_p)/I_p$ =		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		COMPRESSION INDEX, C_c =		CHKD BY: AA DATE: 6-6-02	
5				SPECIFIC GRAVITY, G_s =		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		SWELLING INDEX, C_s =		CONSOLIDATION TEST	
6				INITIAL DENSITY, lb/ft ³ = 122						REBOUND FROM e =		BORING NO. B-22 SAMPLE NO. 18	
7												FILE NO. 9726B	
8												PLATE NO. 1	

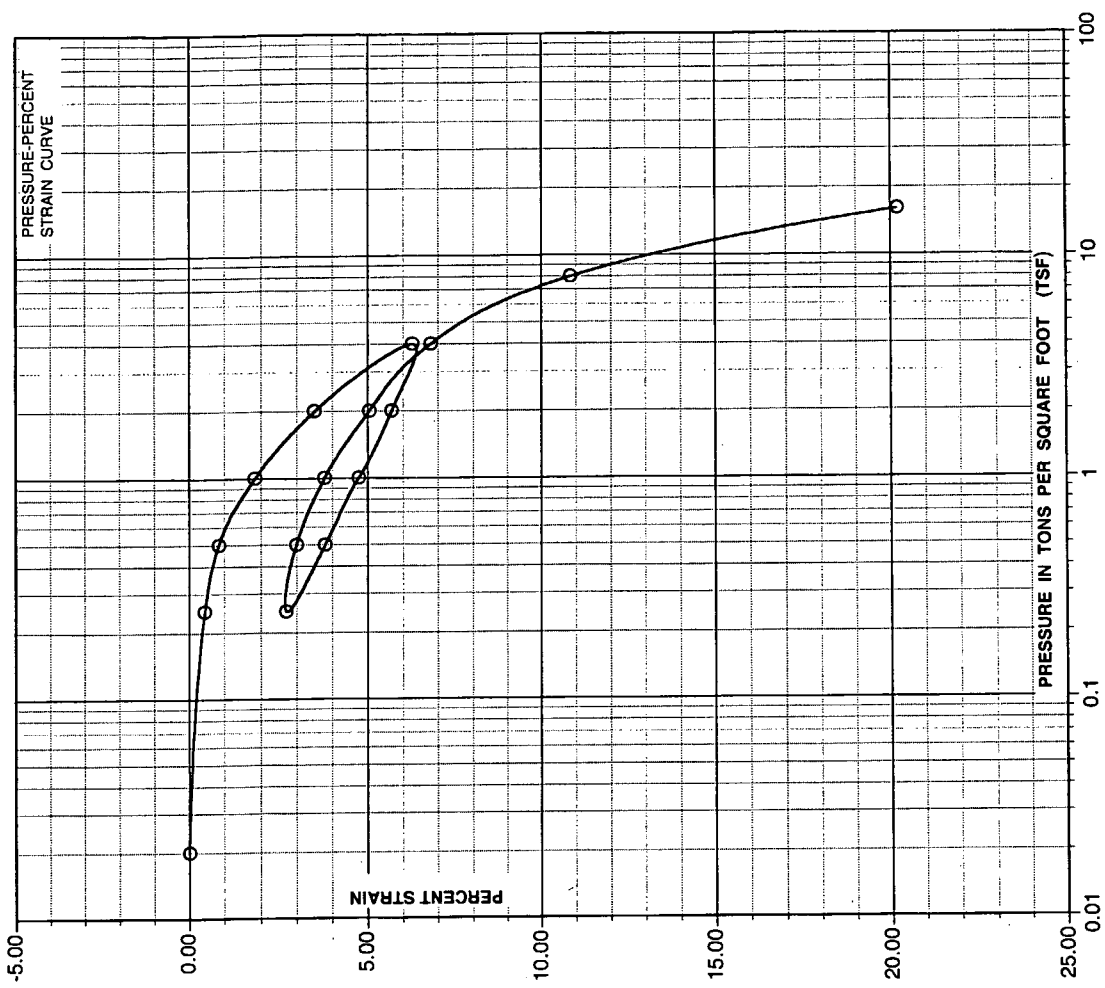
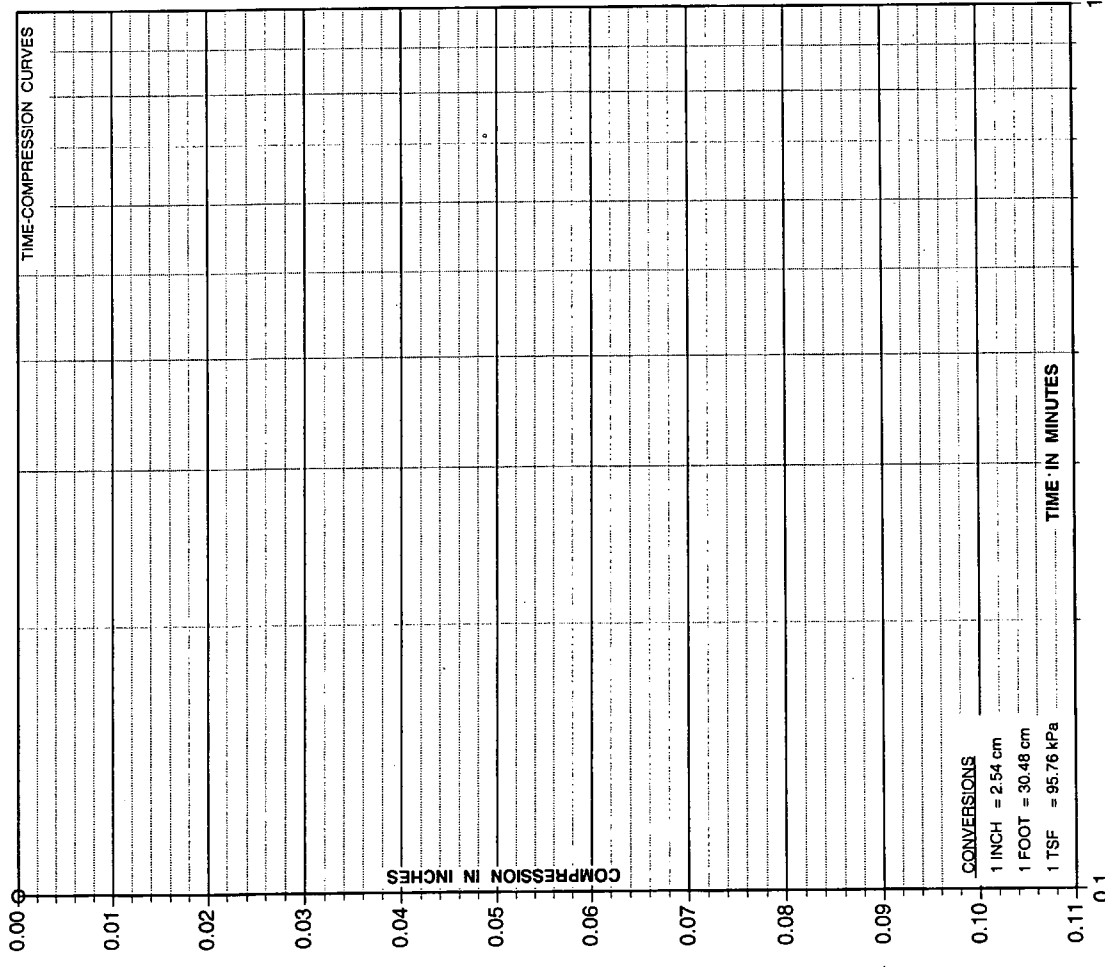
FROM 1962 DATA BY EDWARD S. BARBER



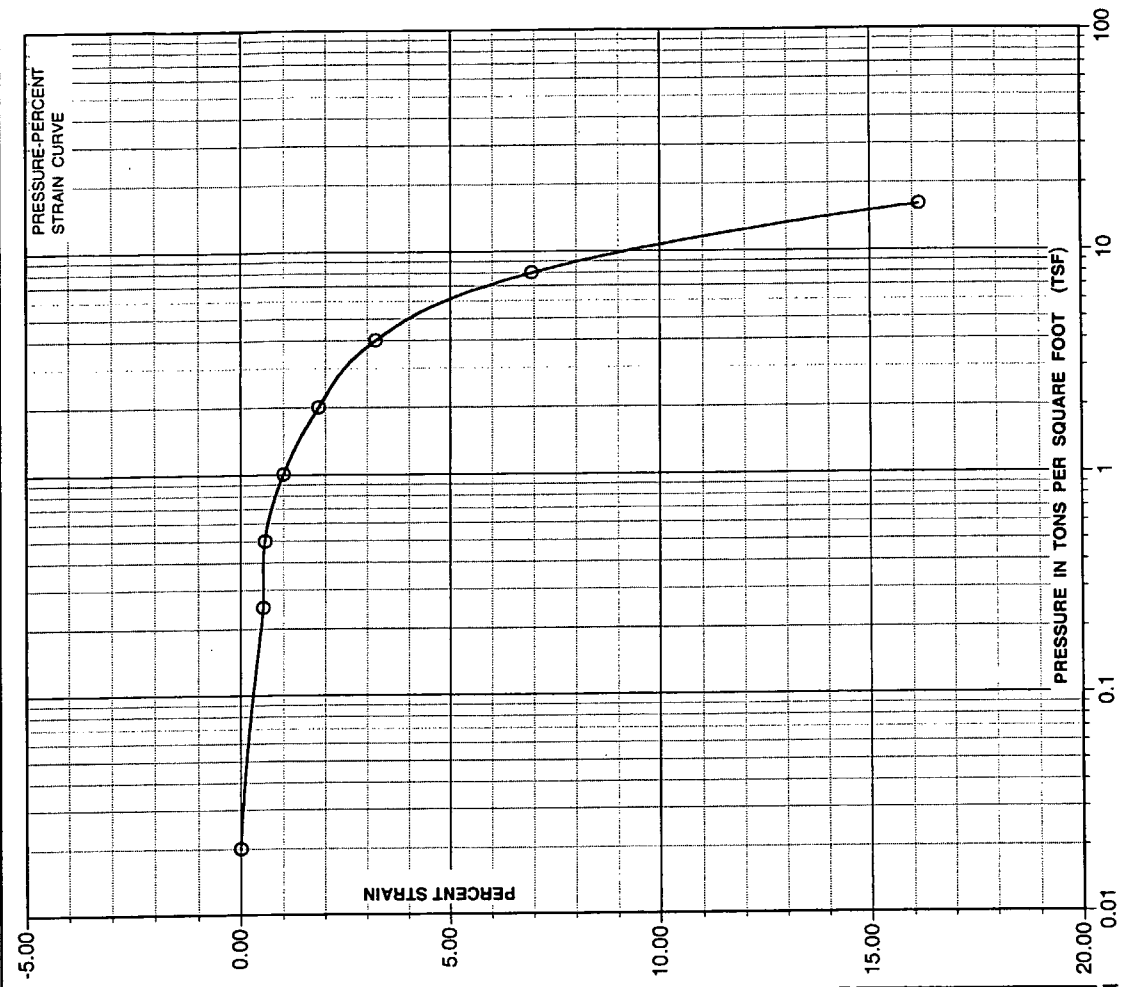
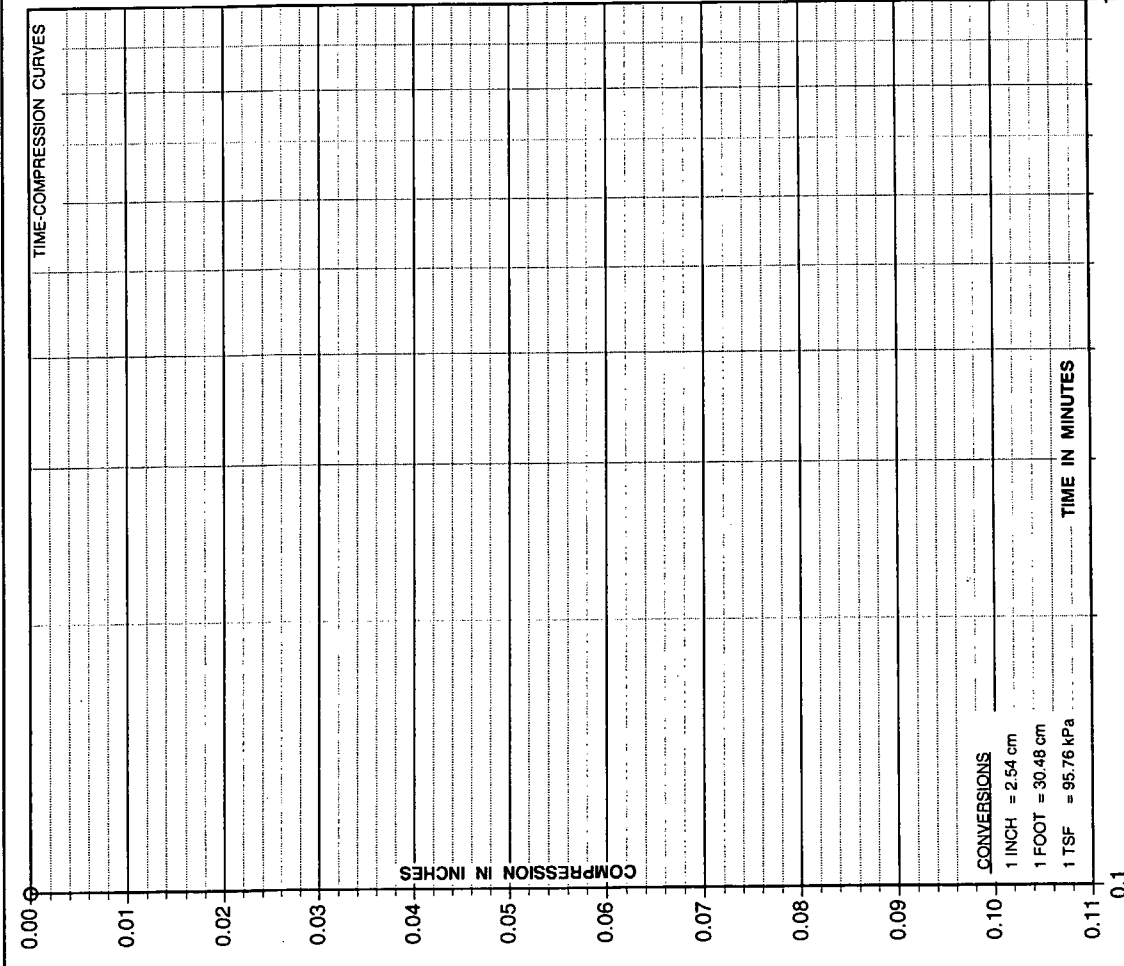
CURVE NO. ① ② ③ ④ ⑤ ⑥ ⑦ ⑧		INCREMENT FROM (TSF) TO (TSF)	SPECIMEN DESCRIPTION: UNIFIED SOILS CLASSIFICATION - LIQUID LIMIT, w_L = PLASTIC LIMIT, w_p = PLASTICITY INDEX, I_p = NATURAL WATER CONT. %, w = LIQUIDITY INDEX, $(w-w_p)/I_p$ = SPECIFIC GRAVITY, G_s = INITIAL DENSITY, lb/ft^3 = 120		PROPERTIES OF PLASTICITY LIMIT SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		ELEVATION OF SPECIMEN = DEPTH OF SPECIMEN (FT) = 78 DIAMETER OF SPECIMEN (IN) = 1.75 INITIAL THICKNESS OF SPECIMEN (IN) = 0.50 INITIAL WATER CONTENT, % = 33 FINAL WATER CONTENT, % = INITIAL DEGREE SATURATION, % = FINAL DEGREE SATURATION, % =		STRATUM --- INITIAL VOID RATIO, e_0 = --- FINAL VOID RATIO, e_f = ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c = EXISTING OVERBURDEN STRESS (TSF), P_o = COMPRESSION INDEX, C_c = SWELLING INDEX, C_s = REBOUND FROM e =		WASHINGTON MONUMENT WASHINGTON D.C. MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122 MADE BY: MM DATE: 5-23-02 FILE NO. CHKD BY: AA DATE: 6-6-02 9726B CONSOLIDATION TEST BORING NO. B-22 SAMPLE NO. 19 2	
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FROM 1962 DATA BY EDWARD S. BARBER

PLATE NO. 2



SPECIMEN DESCRIPTION:			STRATUM		WASHINGTON MONUMENT	
CURVE NO.	INCREMENT		ELEVATION OF SPECIMEN =	INITIAL VOID RATIO, e_0 =	ESTIMATED PRECONSOLIDATION STRESS (TSF), p_c =	WASHINGTON D.C.
	FROM (TSF)	TO (TSF)				
①			DEPTH OF SPECIMEN (FT) = 84	FINAL VOID RATIO, e_f =	EXISTING OVERBURDEN STRESS (TSF), p_o =	MUESER RUTLEDGE CONSULTING ENGINEERS
②			DIAMETER OF SPECIMEN (IN) = 1.75		COMPRESSION INDEX, C_c =	225 WEST 34TH STREET, NEW YORK, N.Y. 10122
③			INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		REBOUND FROM e =	MADE BY: MM DATE: 5-23-02 FILE NO. 9726B
④			INITIAL WATER CONTENT, % = 46			CH'KD BY: DATE:
⑤			FINAL WATER CONTENT, % =			
⑥			INITIAL DEGREE SATURATION, % =			
⑦			FINAL DEGREE SATURATION, % =			
⑧						

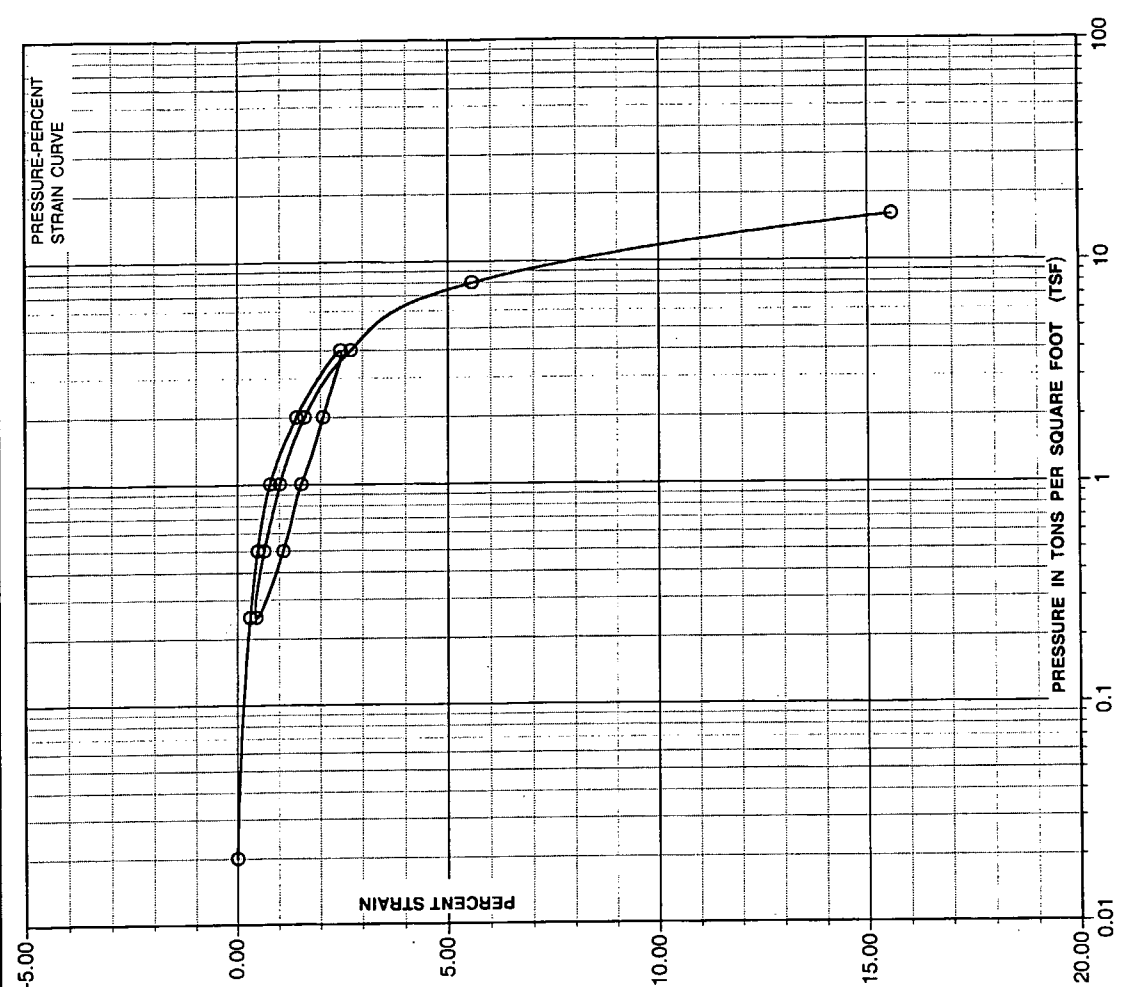
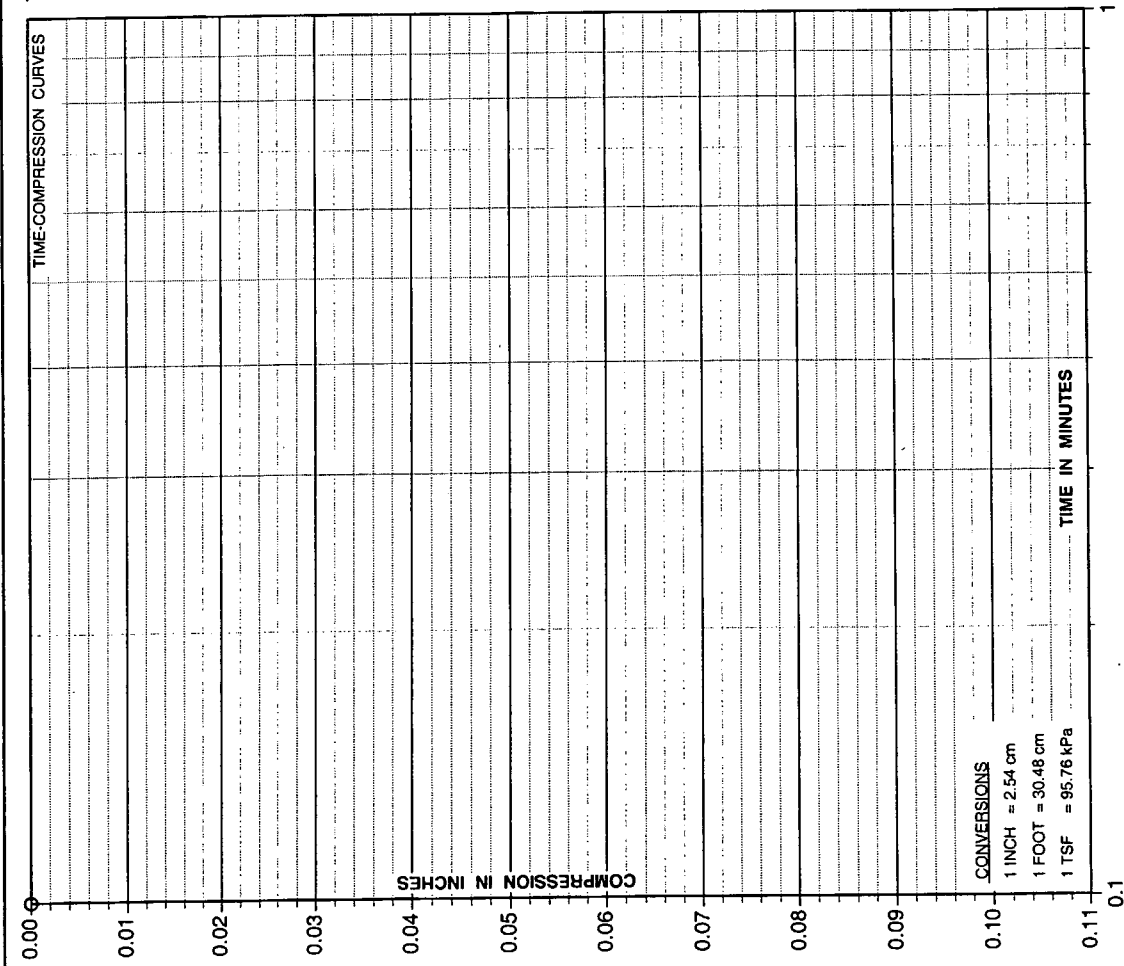


CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION				ELEVATION OF SPECIMEN =				INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
1	2	LIQUID LIMIT, w_L = PLASTIC LIMIT, w_p = PLASTICITY INDEX, I_p = NATURAL WATER CONT. %, w = LIQUIDITY INDEX, $(w-w_p)/I_p$ = SPECIFIC GRAVITY, G_s = INITIAL DENSITY, ρ_{wet}^3 = 108				DEPTH OF SPECIMEN (FT) = 89 DIAMETER OF SPECIMEN (IN) = 1.75 INITIAL THICKNESS OF SPECIMEN (IN) = 0.50 INITIAL WATER CONTENT, % = 47 FINAL WATER CONTENT, % = INITIAL DEGREE OF SATURATION, % = FINAL DEGREE OF SATURATION, % =				ESTIMATED PRECONSOLIDATION STRESS (TSF), p_c = EXISTING OVERBURDEN STRESS (TSF), p_o = COMPRESSION INDEX, C_c = SWELLING INDEX, C_s = REBOUND FROM e =		MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122 MADE BY: MM DATE: 5-23-02 CHKD BY: AA DATE: 6-6-02 FILE NO. 9726B PLATE NO. 4	
2	3												
3	4												
4	5												
5	6												
6	7												
7	8												
8	9												

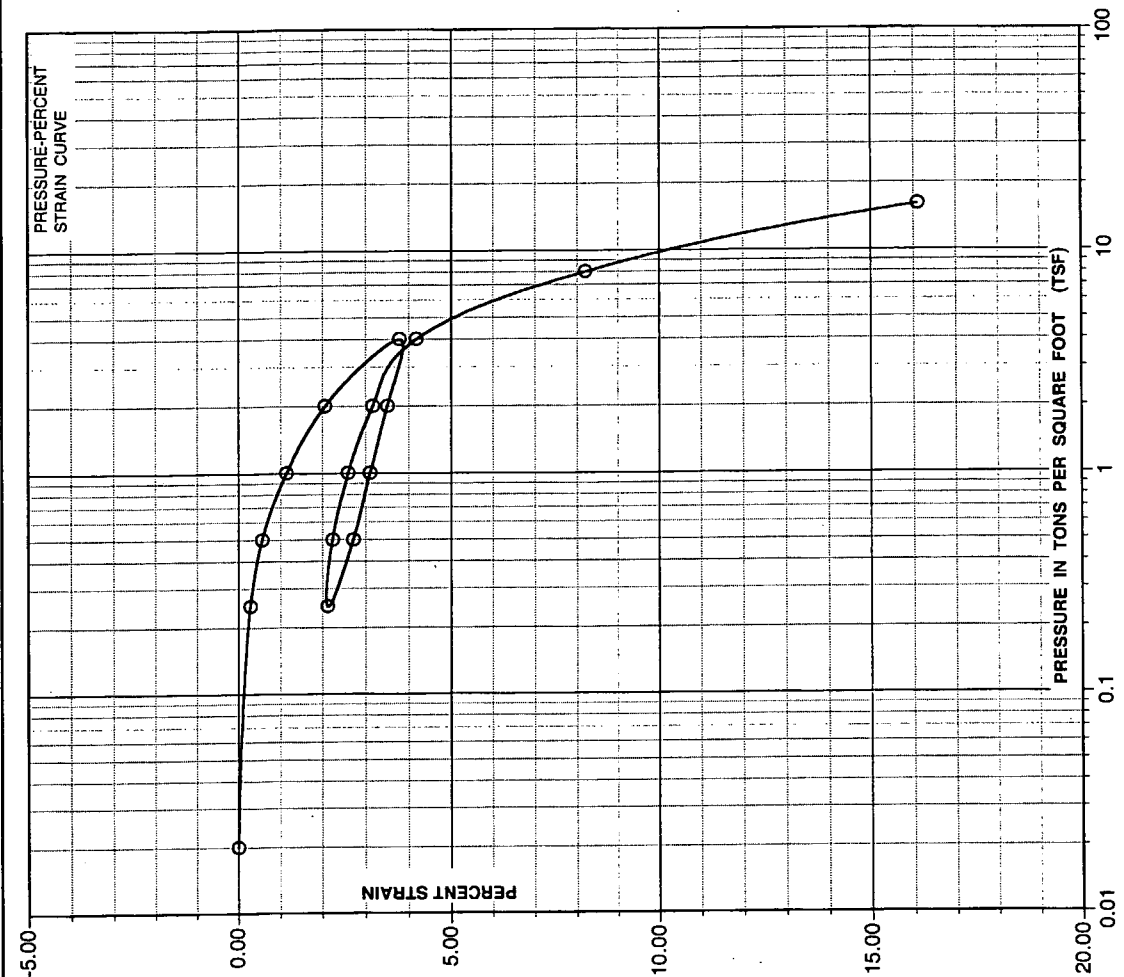
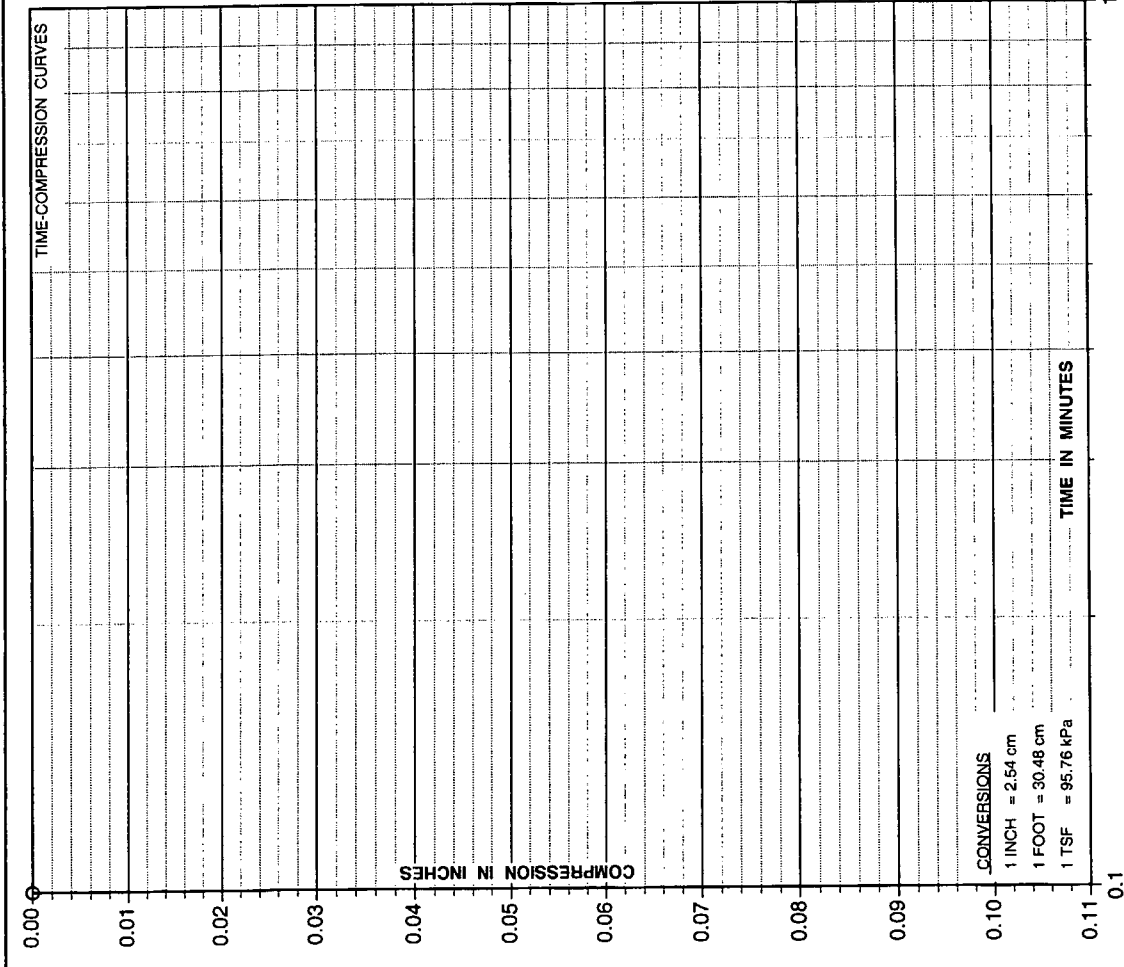
FROM 1962 DATA BY EDWARD S. BARBER

CONSOLIDATION TEST

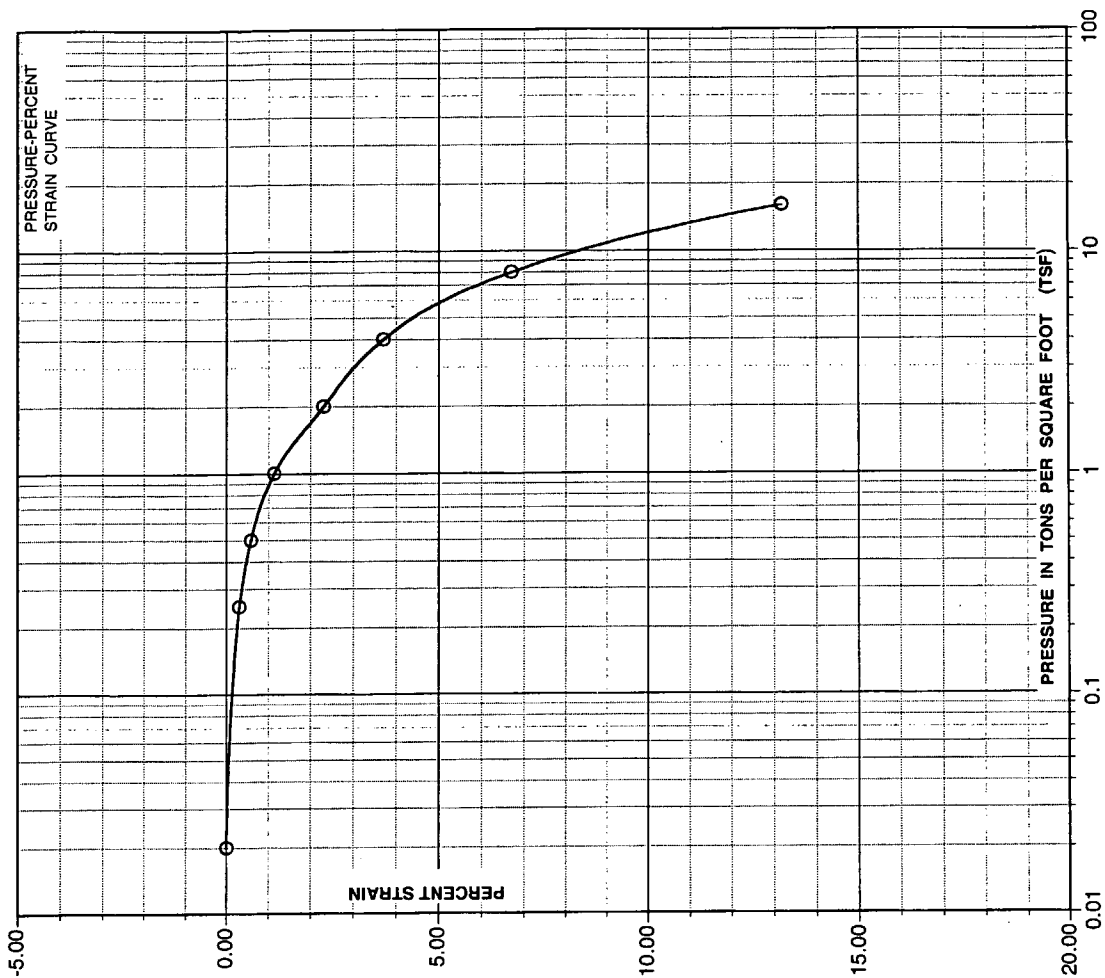
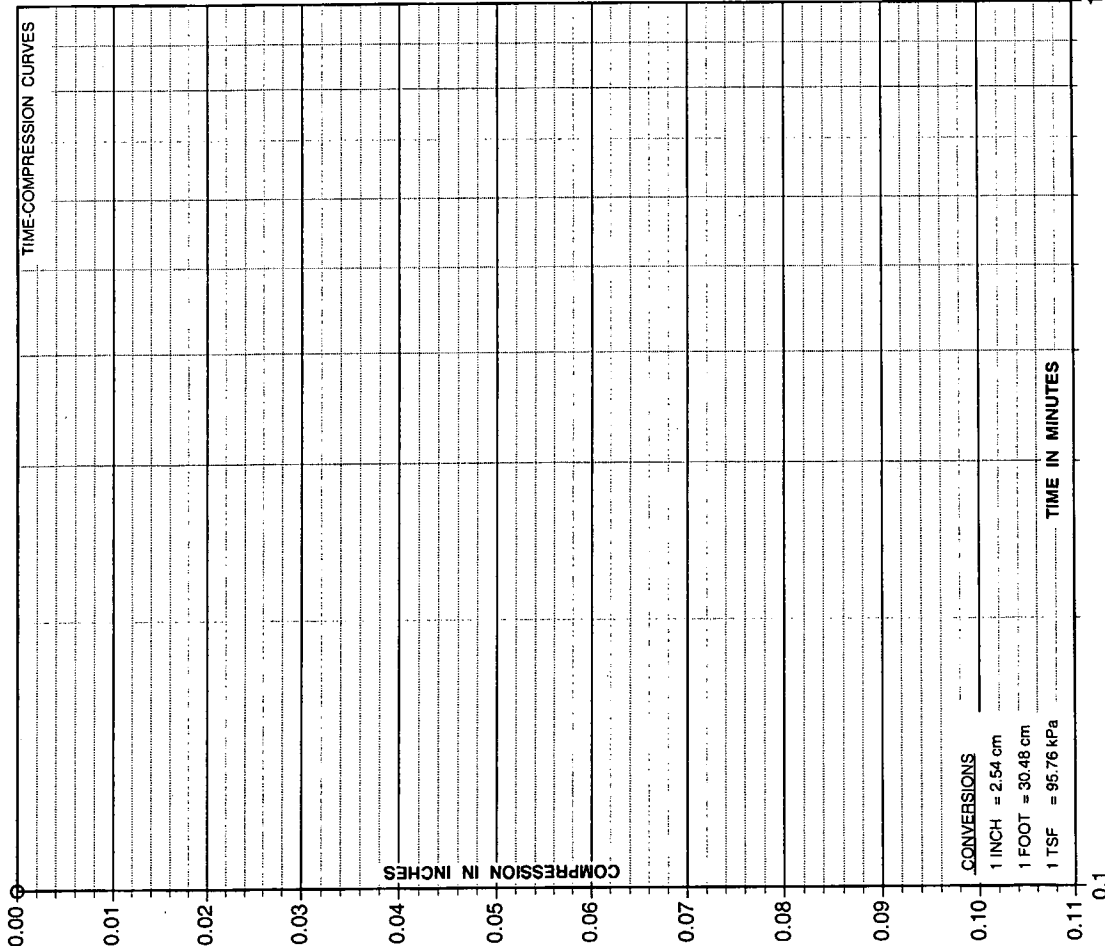
BORING NO. B-22 SAMPLE NO. 23



CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION		STRATUM		WASHINGTON MONUMENT	
		FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		SPECIMEN		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c		WASHINGTON D.C.	
1	1			LIQUID LIMIT, w_L =		ELEVATION OF SPECIMEN =		DEPTH OF SPECIMEN (FT) = 101		INITIAL VOID RATIO, e_0 =		MUESER RUTLEDGE CONSULTING ENGINEERS	
2	2			PLASTIC LIMIT, w_p =		DIAMETER OF SPECIMEN (IN) = 1.75		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		FINAL VOID RATIO, e_f =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
3	3			PLASTICITY INDEX, I_p =		INITIAL WATER CONTENT, % = 44		FINAL WATER CONTENT, % =		COMPRESSION INDEX, C_c =		MADE BY: MM DATE: 5-23-02 FILE NO. 9726B	
4	4			NATURAL WATER CONT. % =		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		SWELLING INDEX, C_s =		CHKD BY: AA DATE: 6-6-02	
5	5			LIQUIDITY INDEX, $(w - w_p)/I_p$ =						REBOUND FROM $e =$		CONSOLIDATION TEST	
6	6			SPECIFIC GRAVITY, G_s =						FROM 1962 DATA BY EDWARD S. BARBER		BORING NO. B-22 SAMPLE NO. 27	
7	7			INITIAL DENSITY, $\text{lb}/\text{ft}^3 = 108$								PLATE NO. 5	
8	8											5	



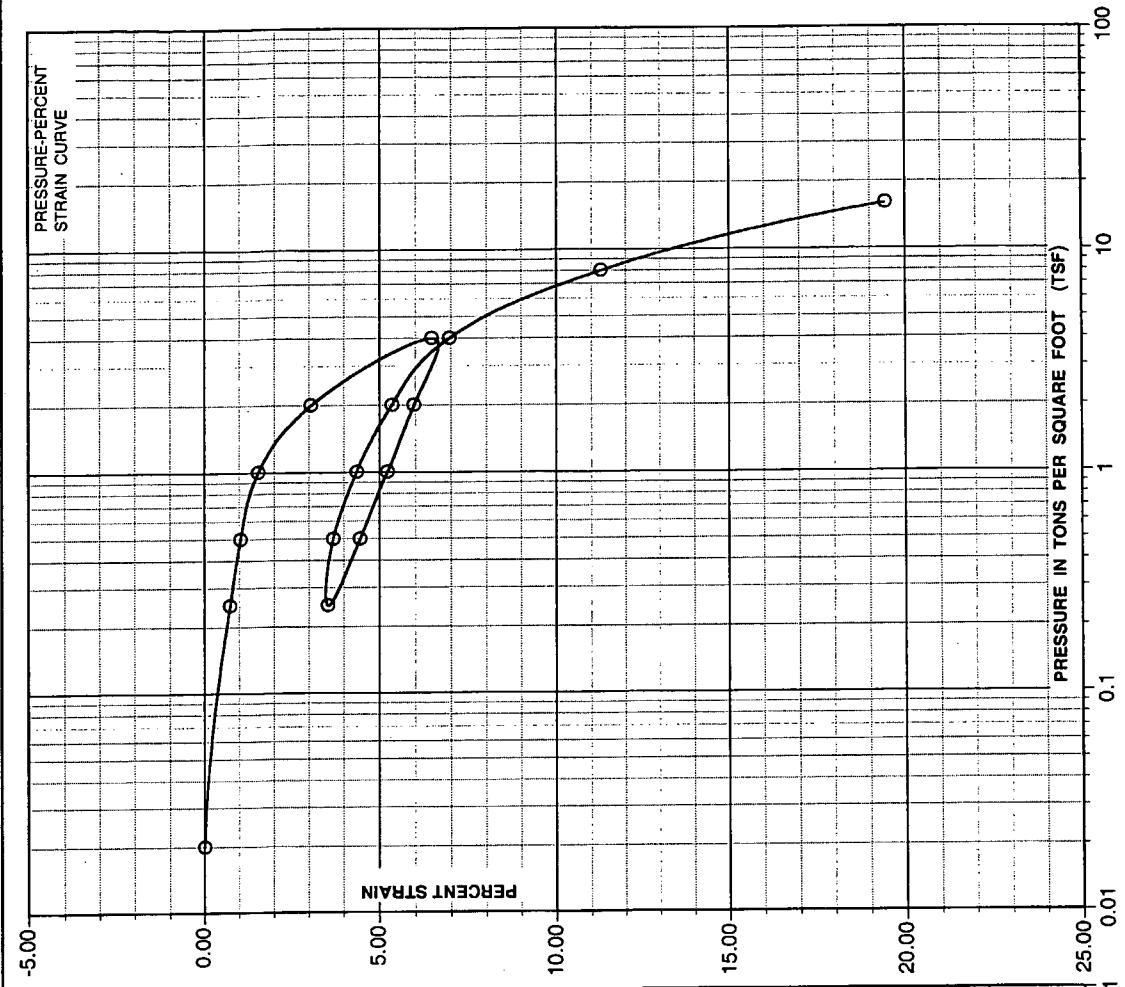
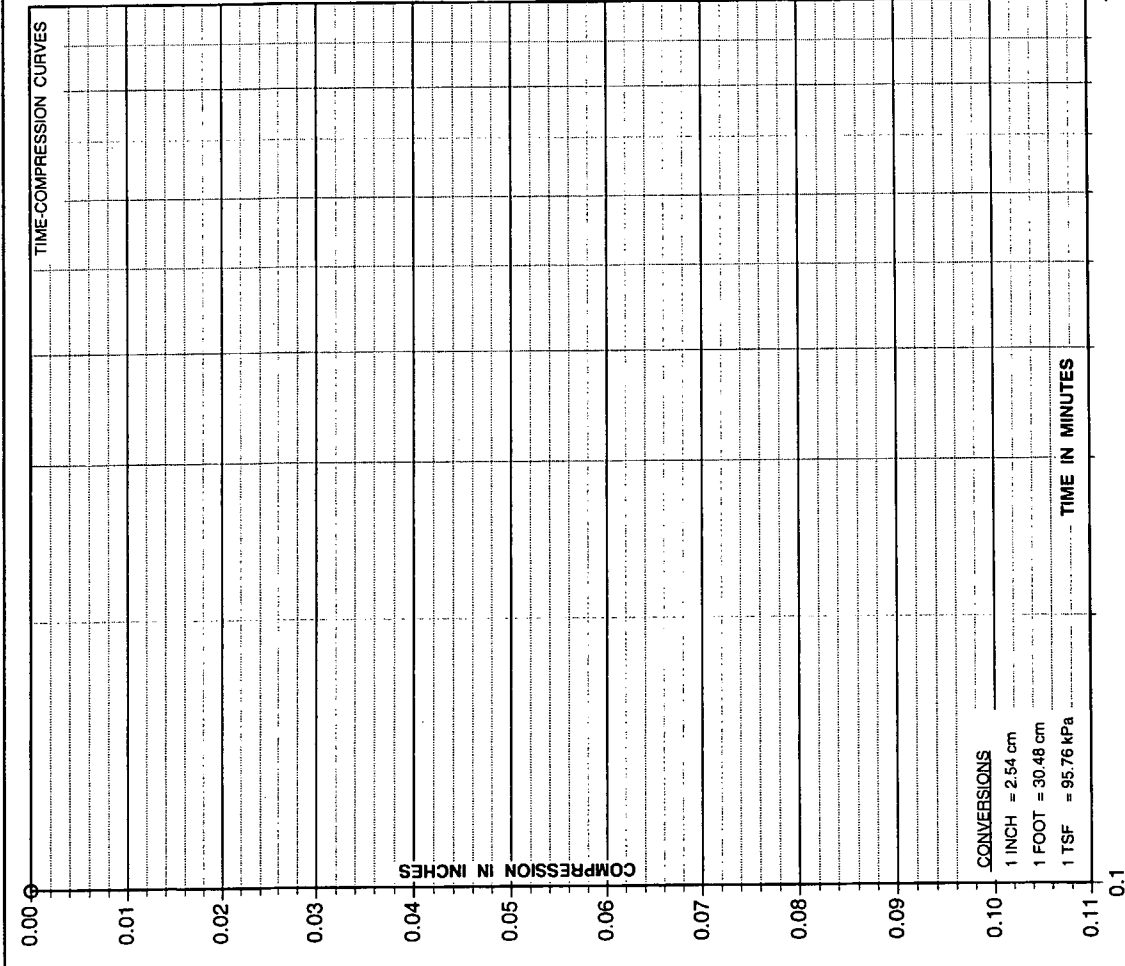
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION		STRATUM		WASHINGTON MONUMENT	
①				UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		ELEVATION OF SPECIMEN =		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
②				LIQUID LIMIT, w_L =		PLASTIC LIMIT, w_p =		DEPTH OF SPECIMEN (FT) = 68		EXISTING OVERBURDEN STRESS (TSF), P_o =		FINAL VOID RATIO, e_f =		MUESER RUTLEDGE CONSULTING ENGINEERS	
③				PLASTICITY INDEX, I_p =		NATURAL WATER CONT. %, w =		DIAMETER OF SPECIMEN (IN) = 1.75		COMPRESSION INDEX, C_c =		REBOUND FROM e =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
④				NATURAL WATER CONT. %, w =		LIQUIDITY INDEX, $(w-w_p)/I_p$ =		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		SWELLING INDEX, C_s =		DATE: 5-23-02		FILE NO. 9726B	
⑤				LIQUIDITY INDEX, $(w-w_p)/I_p$ =		SPECIFIC GRAVITY, G_s =		INITIAL WATER CONTENT, % = 25		FROM 1962 DATA BY EDWARD S. BARBER		DATE: 6-6-02		CONSOLIDATION TEST	
⑥				INITIAL DENSITY, lb/ft^3 = 126				FINAL WATER CONTENT, % =				BORING NO. B-23		SAMPLE NO. 17	
⑦								INITIAL DEGREE SATURATION, % =							
⑧								FINAL DEGREE SATURATION, % =							



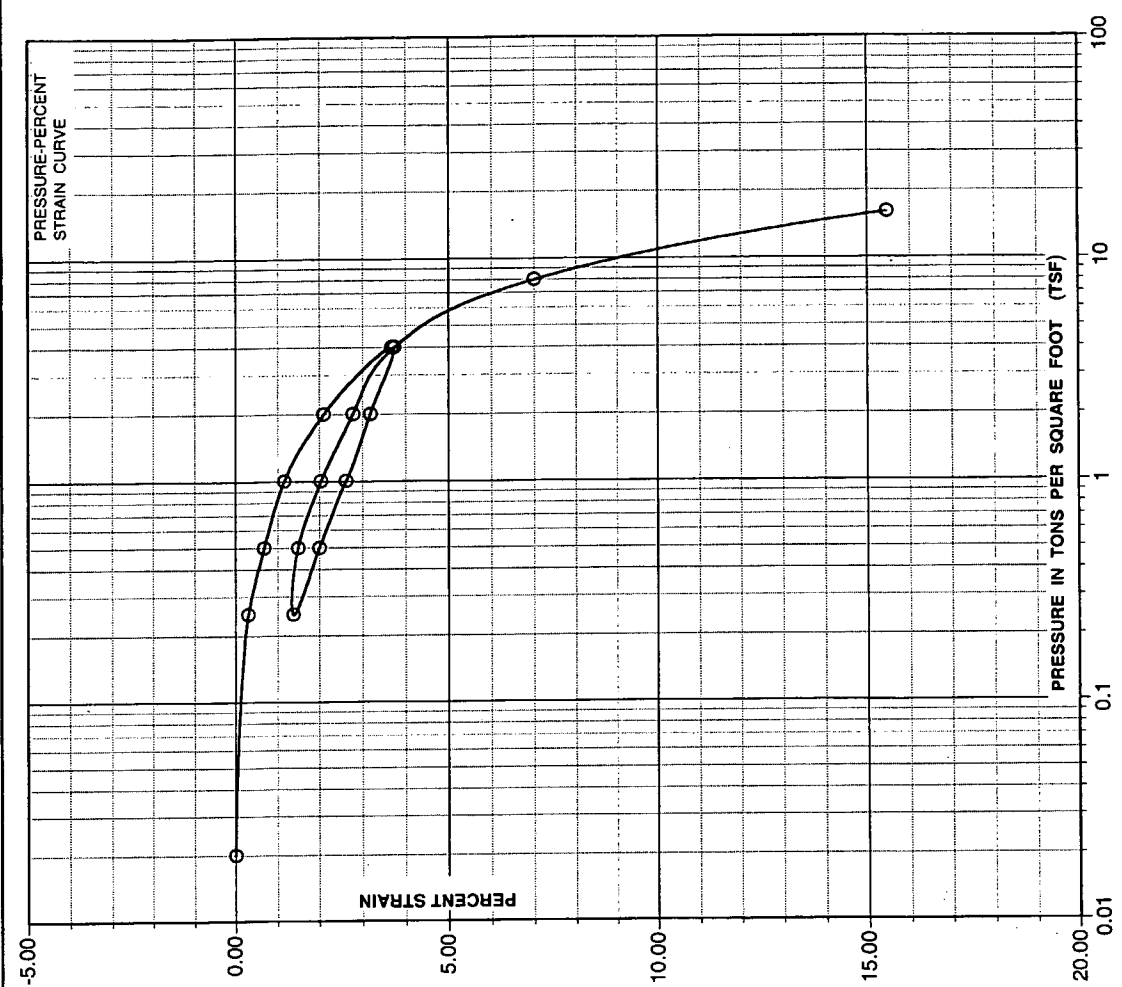
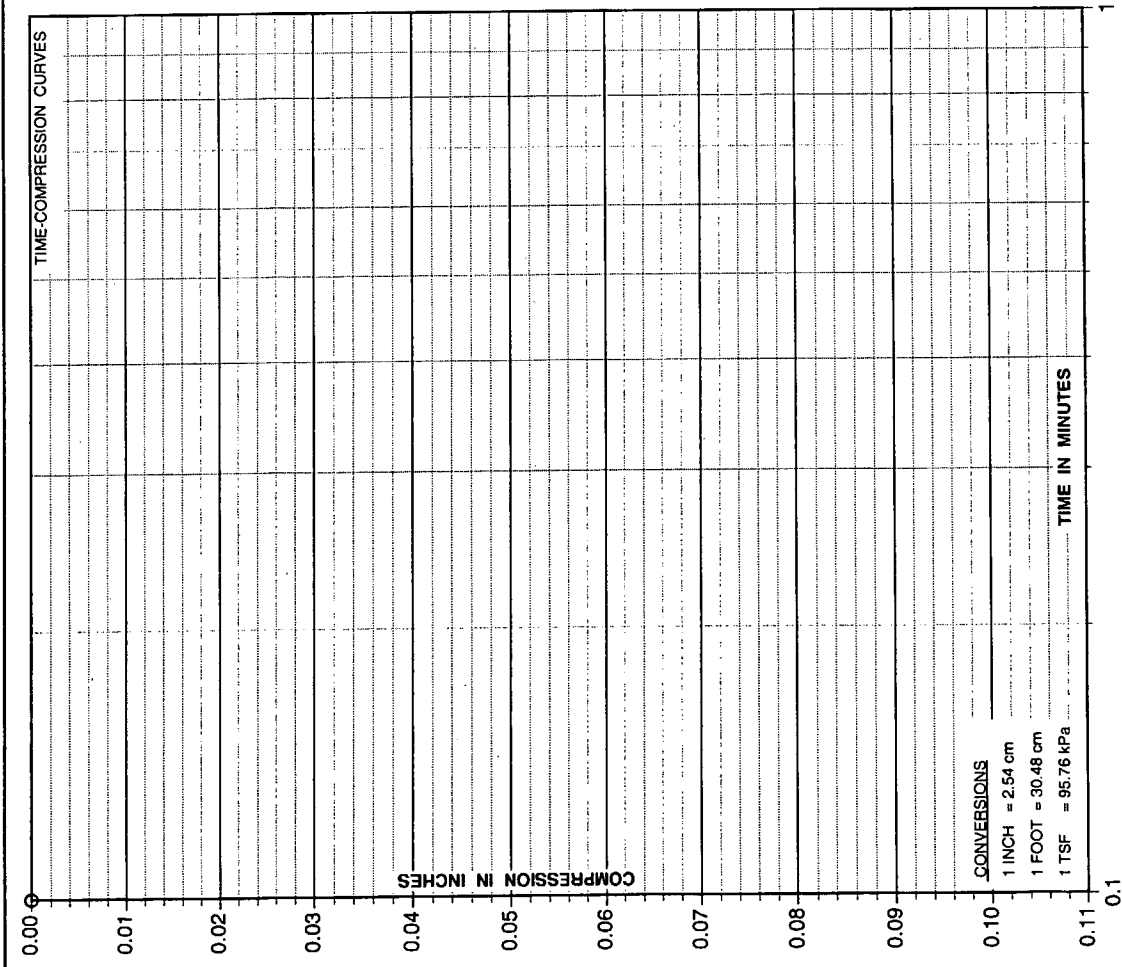
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION	LIQUID LIMIT, w_L	PLASTIC LIMIT, w_p	PLASTICITY INDEX, I_p	NATURAL WATER CONT. %, w	LIQUIDITY INDEX, $(w-w_p)/I_p$	SPECIFIC GRAVITY, G_s	INITIAL DENSITY, lb/ft^3	ELEVATION OF SPECIMEN =	DEPTH OF SPECIMEN (FT) =	DIAMETER OF SPECIMEN (IN) =	THICKNESS OF SPECIMEN (IN) =
1	2												
2	3												
3	4												
4	5												
5	6												
6	7												
7	8												

ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		INITIAL VOID RATIO, e_i =	
EXISTING OVERBURDEN STRESS (TSF), P_o =		FINAL VOID RATIO, e_f =	
COMPRESSION INDEX, C_c =		SWELLING INDEX, C_s =	
REBOUND FROM e =		FROM 1962 DATA BY EDWARD S. BARBER	

WASHINGTON MONUMENT	
WASHINGTON D.C.	
MUESER RUTLEDGE CONSULTING ENGINEERS	
225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
MADE BY: MM	DATE: 5-23-02
CHKD BY: AA	DATE: 6-6-02
CONSOLIDATION TEST	
BORING NO. B-23	SAMPLE NO. 18
PLATE NO. 7	



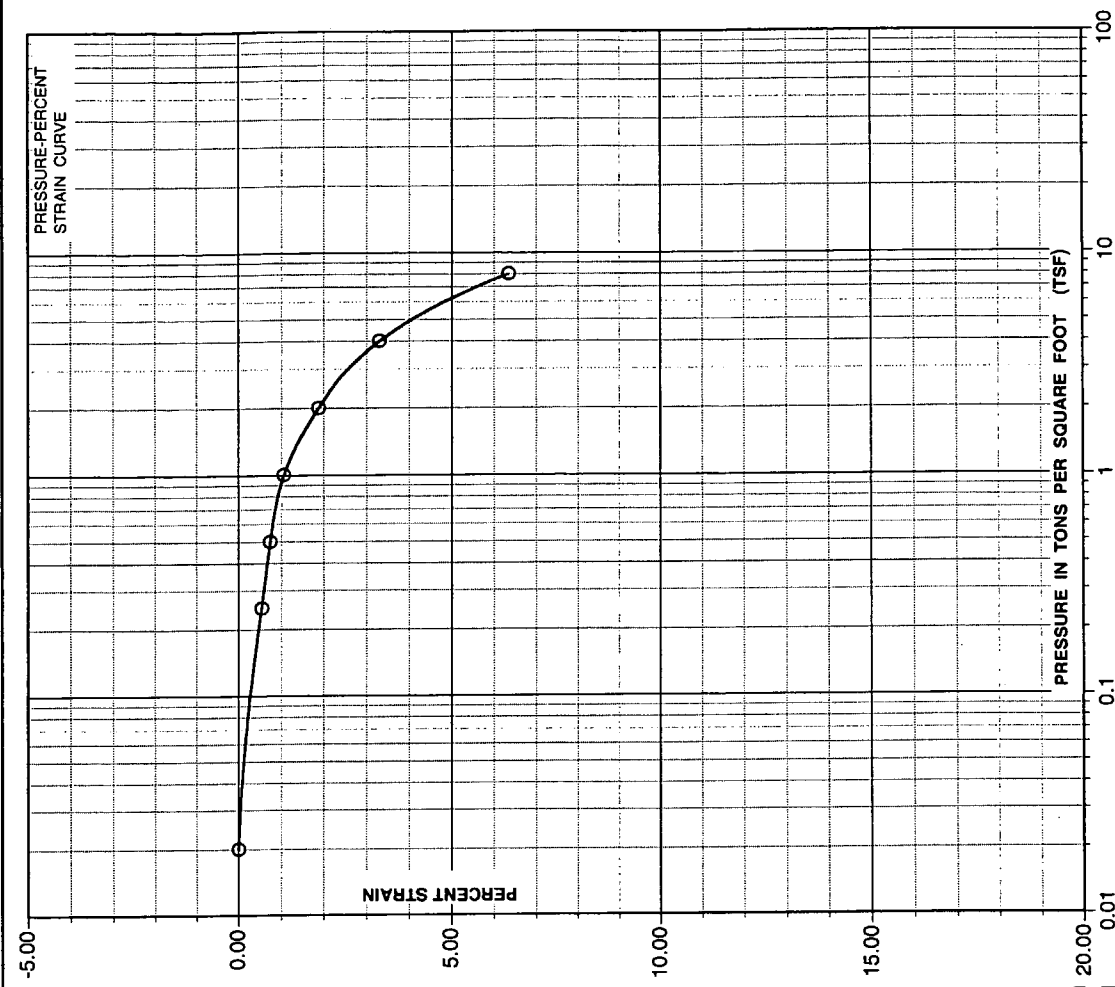
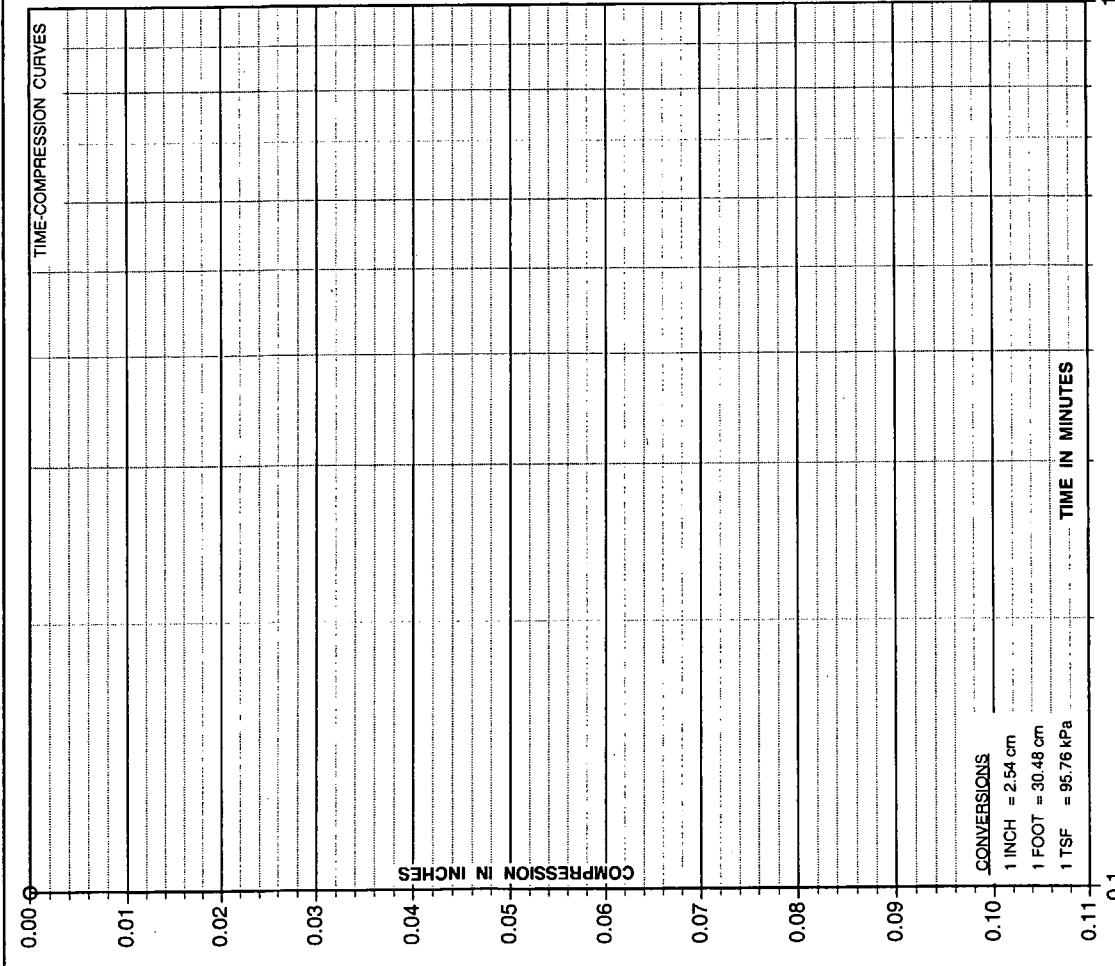
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF PLASTICITY LIMIT SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		ELEVATION OF SPECIMEN =		STRATUM		WASHINGTON MONUMENT	
FROM (TSF)		TO (TSF)		UNIFIED SOILS CLASSIFICATION - CL		LIQUID LIMIT, $w_L = 47$		DEPTH OF SPECIMEN (FT) = 78		ESTIMATED PRECONSOLIDATION STRESS (TSF), $P_c =$		WASHINGTON D.C.		MUESER RUTLEDGE CONSULTING ENGINEERS	
1		2		PLASTICITY INDEX, $I_p = 25$		PLASTIC LIMIT, $w_p = 22$		DIAMETER OF SPECIMEN (IN) = 1.75		EXISTING OVERBURDEN STRESS (TSF), $P_o =$		225 WEST 34TH STREET, NEW YORK, N.Y. 10122		FILE NO.	
2		3		NATURAL WATER CONT. %, $w =$		PLASTICITY INDEX, $(w-w_p)/I_p =$		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		COMPRESSION INDEX, $C_c =$		MADE BY: MM		DATE: 5-23-02	
3		4		LIQUIDITY INDEX, $(w-w_p)/I_p =$		SPECIFIC GRAVITY, $G_s =$		INITIAL WATER CONTENT, % = 32		SWELLING INDEX, $C_s =$		CHMD BY: AA		DATE: 6-6-02	
4		5		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		REBOUND FROM $\theta =$		CONSOLIDATION TEST		BORING NO. B-23	
5		6		INITIAL DENSITY, $lb/ft^3 = 120$										SAMPLE NO. 20	
6		7													
7		8													
8															



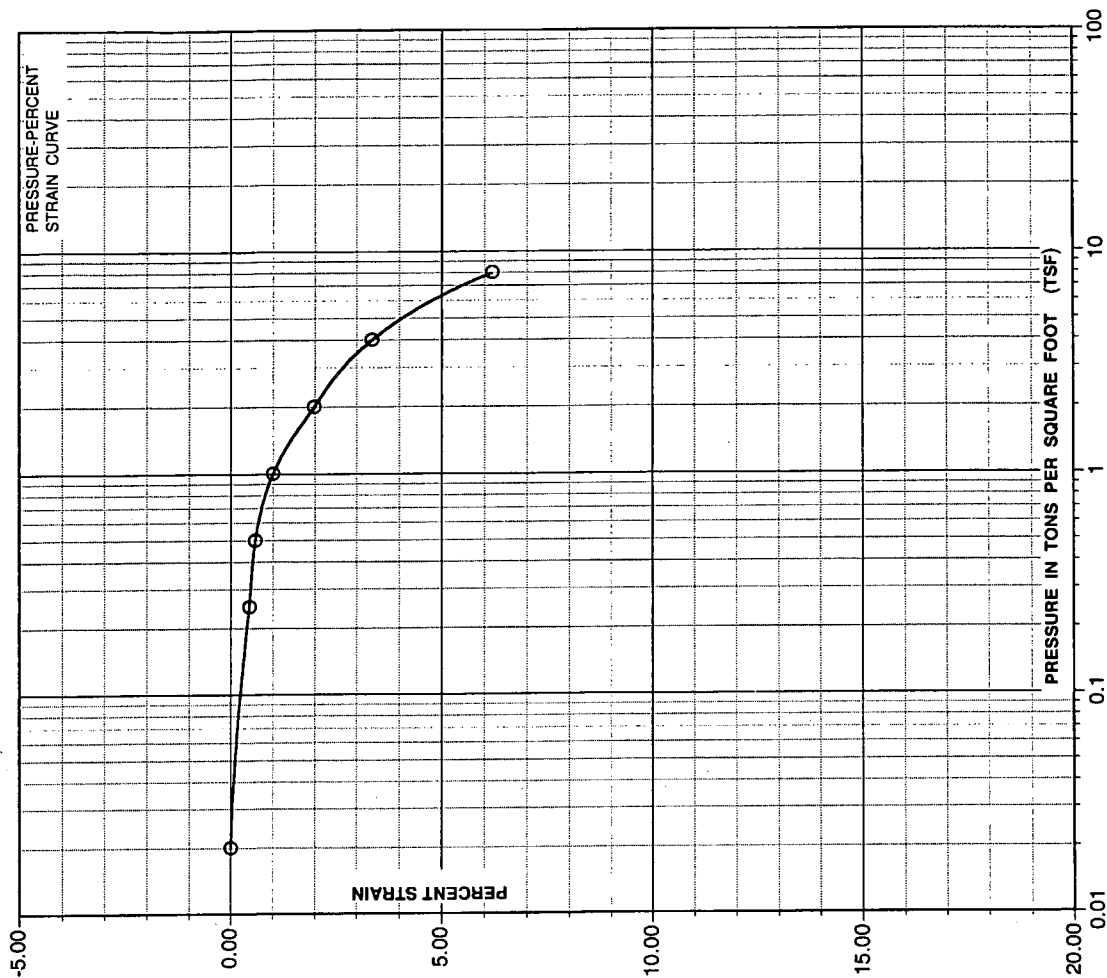
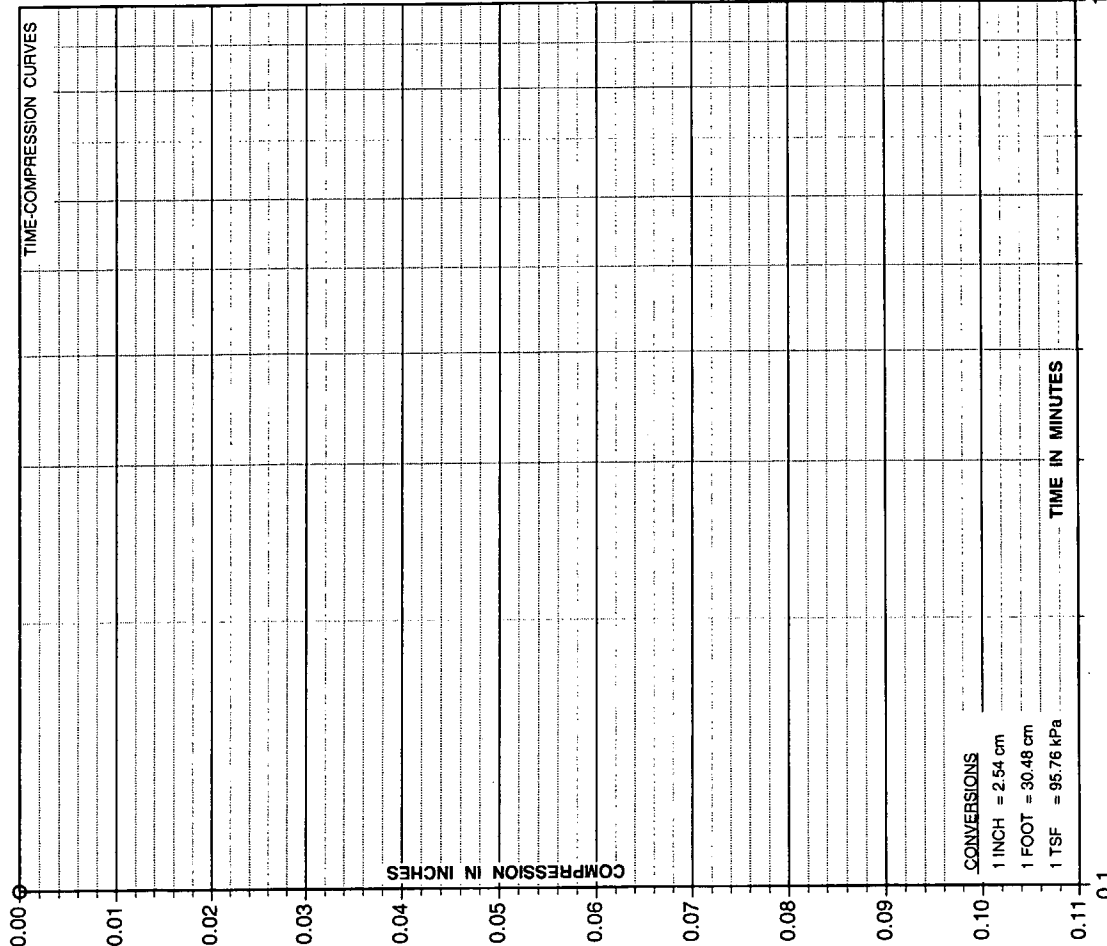
CURVE INCREMENT		SPECIMEN DESCRIPTION:				STRATUM				WASHINGTON MONUMENT		
CURVE NO.	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION -		PROPERTIES OF PLASTICITY LIMIT SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
①			LIQUID LIMIT, w_L =				ELEVATION OF SPECIMEN =		FINAL VOID RATIO, e_f =		MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122 MADE BY: MM DATE: 5-23-02 CHKD BY: AA DATE: 6-6-02 FILE NO. 9726B PLATE NO. 9	
②			PLASTIC LIMIT, w_p =				DEPTH OF SPECIMEN (FT) = 82		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =			
③			PLASTICITY INDEX, I_p =				DIAMETER OF SPECIMEN (IN) = 1.75		EXISTING OVERBURDEN STRESS (TSF), P_o =			
④			NATURAL WATER CONT. %, w =				INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		COMPRESSION INDEX, C_c =			
⑤			LIQUIDITY INDEX, $(w-w_p)/I_p$ =				INITIAL WATER CONTENT, % = 44		SWELLING INDEX, C_s =			
⑥			SPECIFIC GRAVITY, G_s =				FINAL WATER CONTENT, % =		REBOUND FROM e =		FROM 1962 DATA BY EDWARD S. BARBER	
⑦							INITIAL DEGREE SATURATION, % =					
⑧			INITIAL DENSITY, $\rho_{d(1)}$ = 108				FINAL DEGREE SATURATION, % =					

PLATE NO. 9

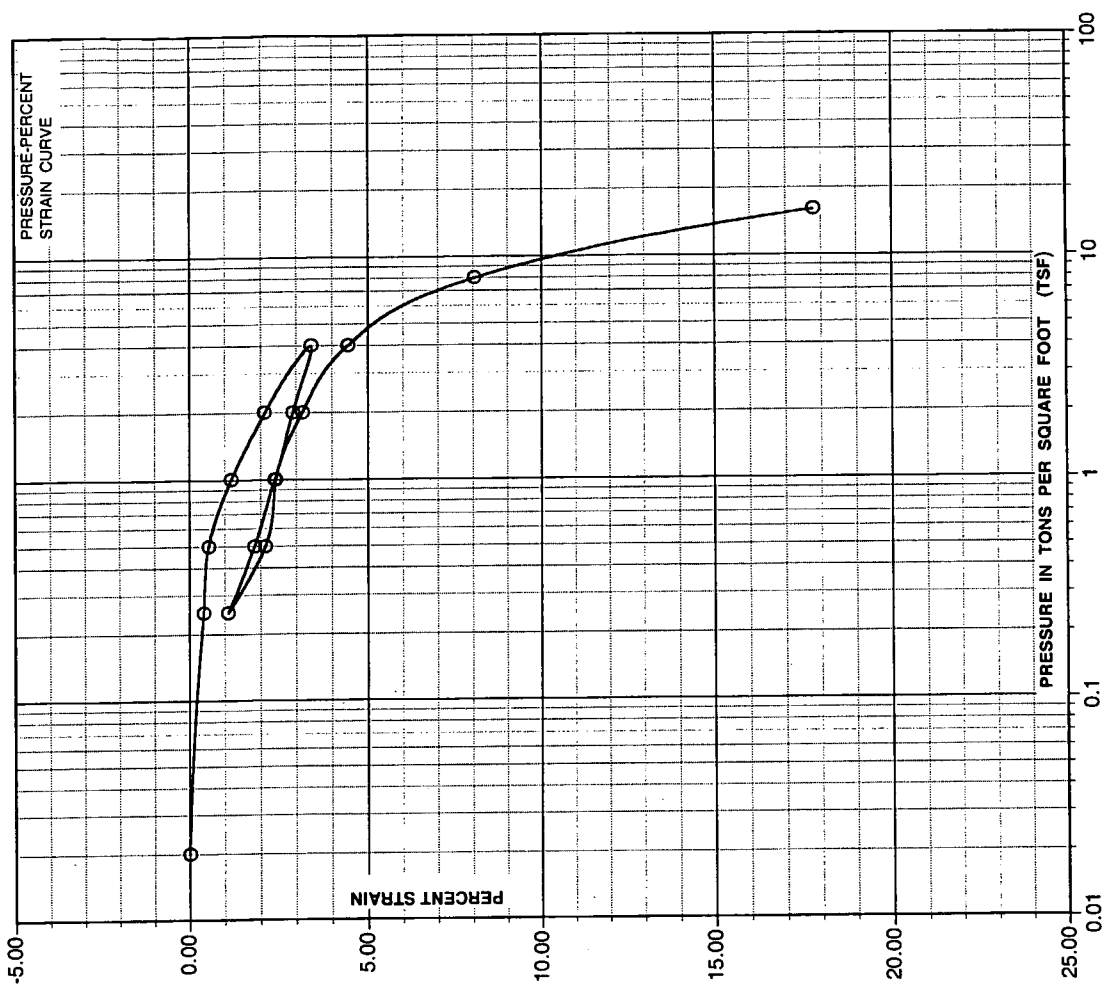
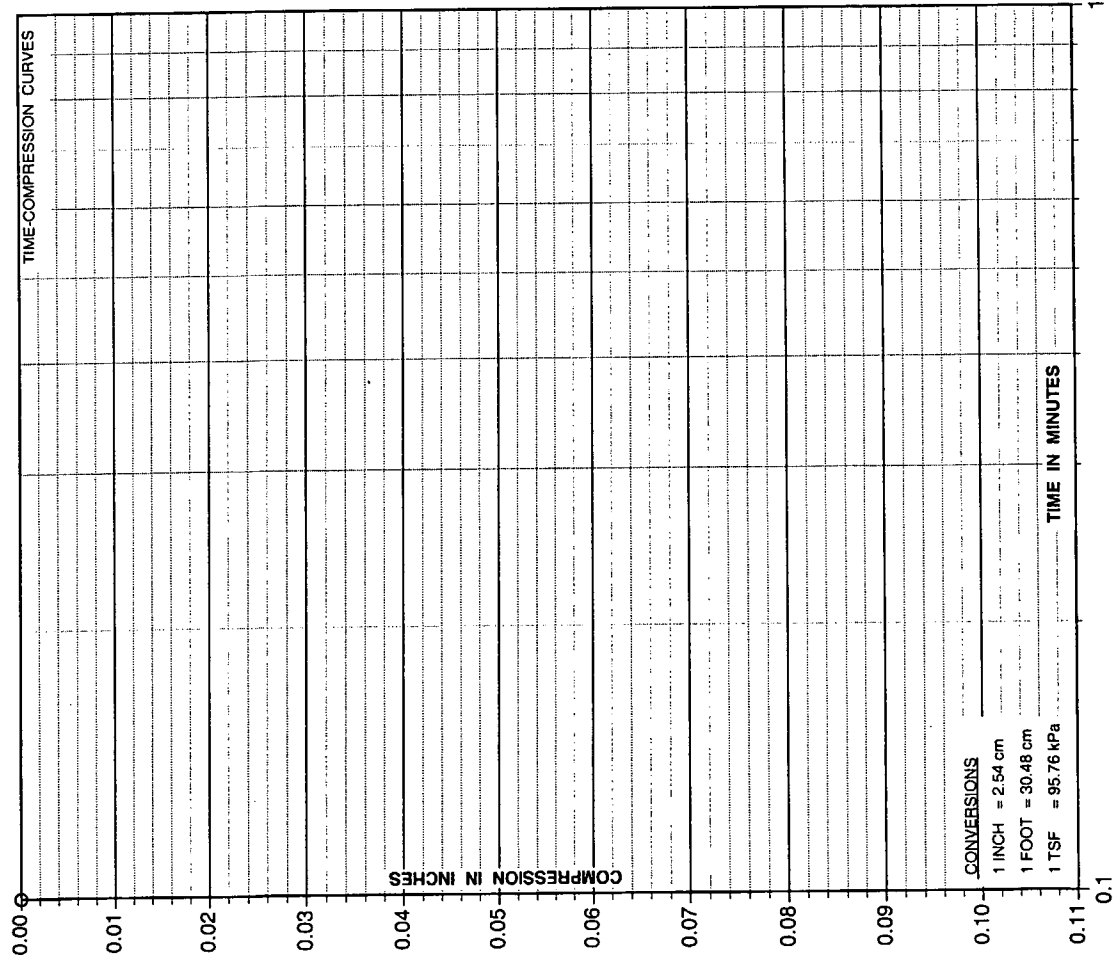
FROM 1962 DATA BY EDWARD S. BARBER



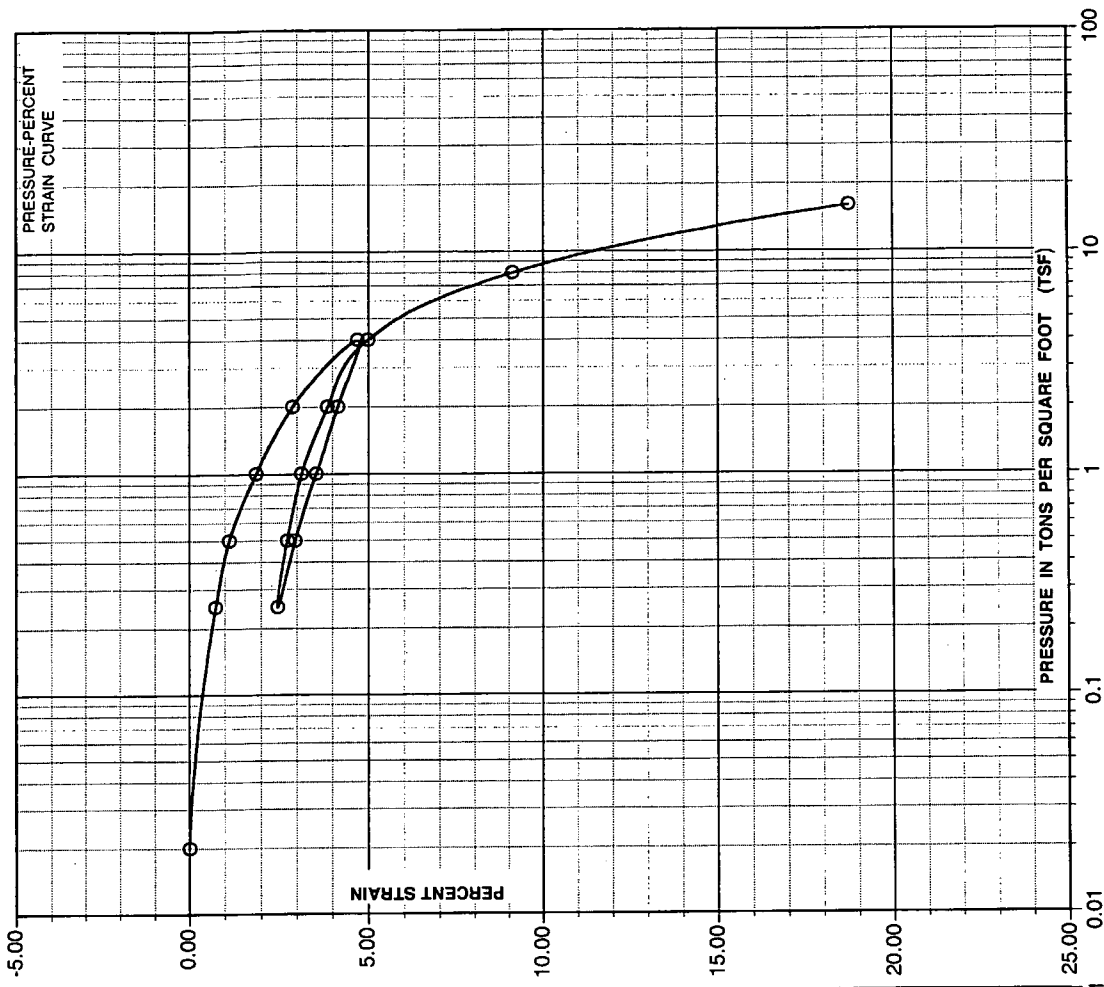
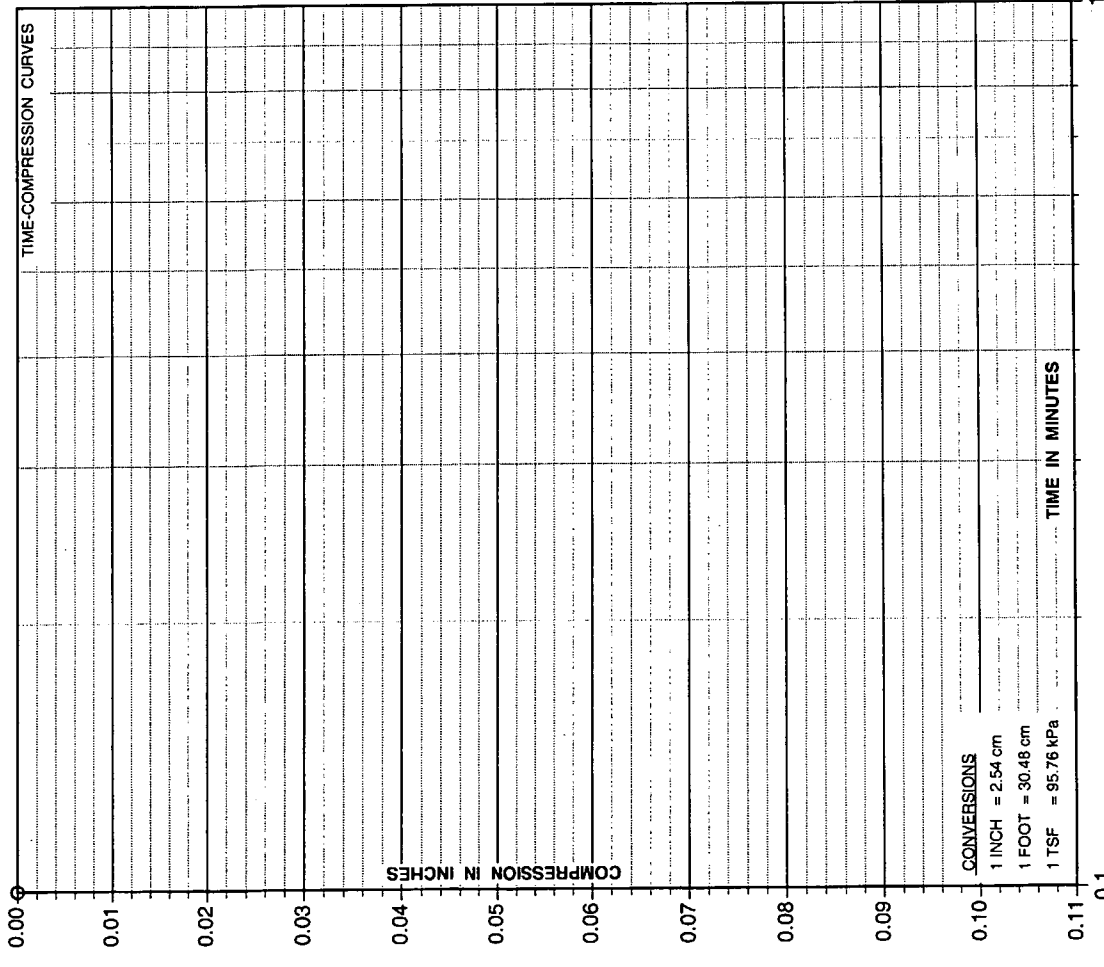
CURVE NO.		INCREMENTS		SPECIMEN DESCRIPTION:		STRATUM		WASHINGTON MONUMENT	
1		FROM (TSF) TO (TSF)		UNIFIED SOILS CLASSIFICATION -		INITIAL VOID RATIO, $e_0 =$		WASHINGTON D.C.	
2				LIQUID LIMIT, $w_L =$		FINAL VOID RATIO, $e_f =$			
3				PLASTIC LIMIT, $w_p =$		ESTIMATED PRECONSOLIDATION STRESS (TSF), $p_c =$		MUESER RUTLEDGE CONSULTING ENGINEERS	
4				PLASTICITY INDEX, $I_p =$		EXISTING OVERBURDEN STRESS (TSF), $p_o =$		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
5				NATURAL WATER CONT. %, $w =$		COMPRESSION INDEX, $C_c =$		MADE BY: MM DATE: 5-23-02 FILE NO.	
6				LIQUIDITY INDEX, $(w-w_p)/I_p =$		SWELLING INDEX, $C_s =$		CHKD BY: AA DATE: 6-6-02 9726B	
7				SPECIFIC GRAVITY, $G_s =$		REBOUND FROM $e =$		CONSOLIDATION TEST	
8				INITIAL DENSITY, $\gamma_{d(1/3)} = 108$		FROM 1962 DATA BY EDWARD S. BARBER		BORING NO. B-23 SAMPLE NO. 24	
PLATE NO. 10									



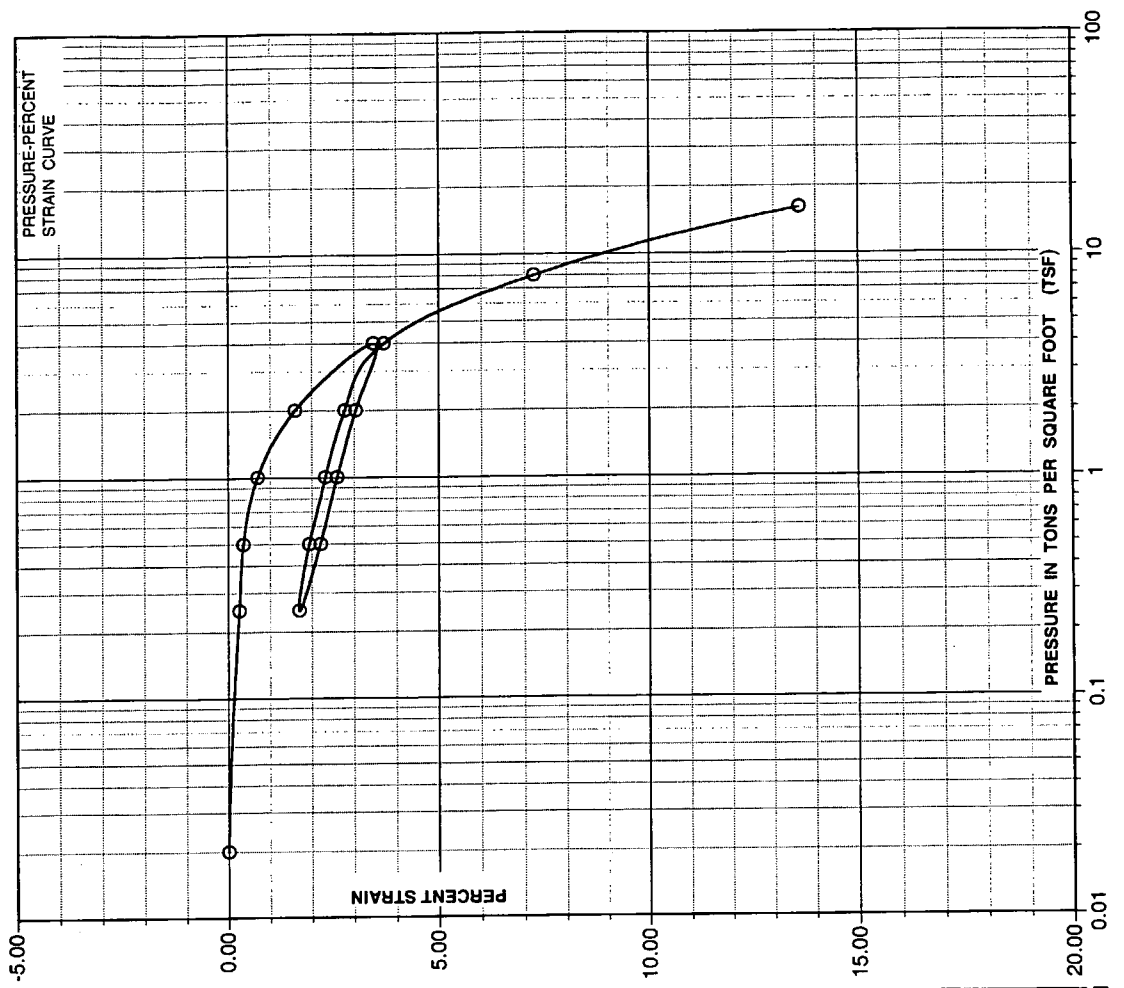
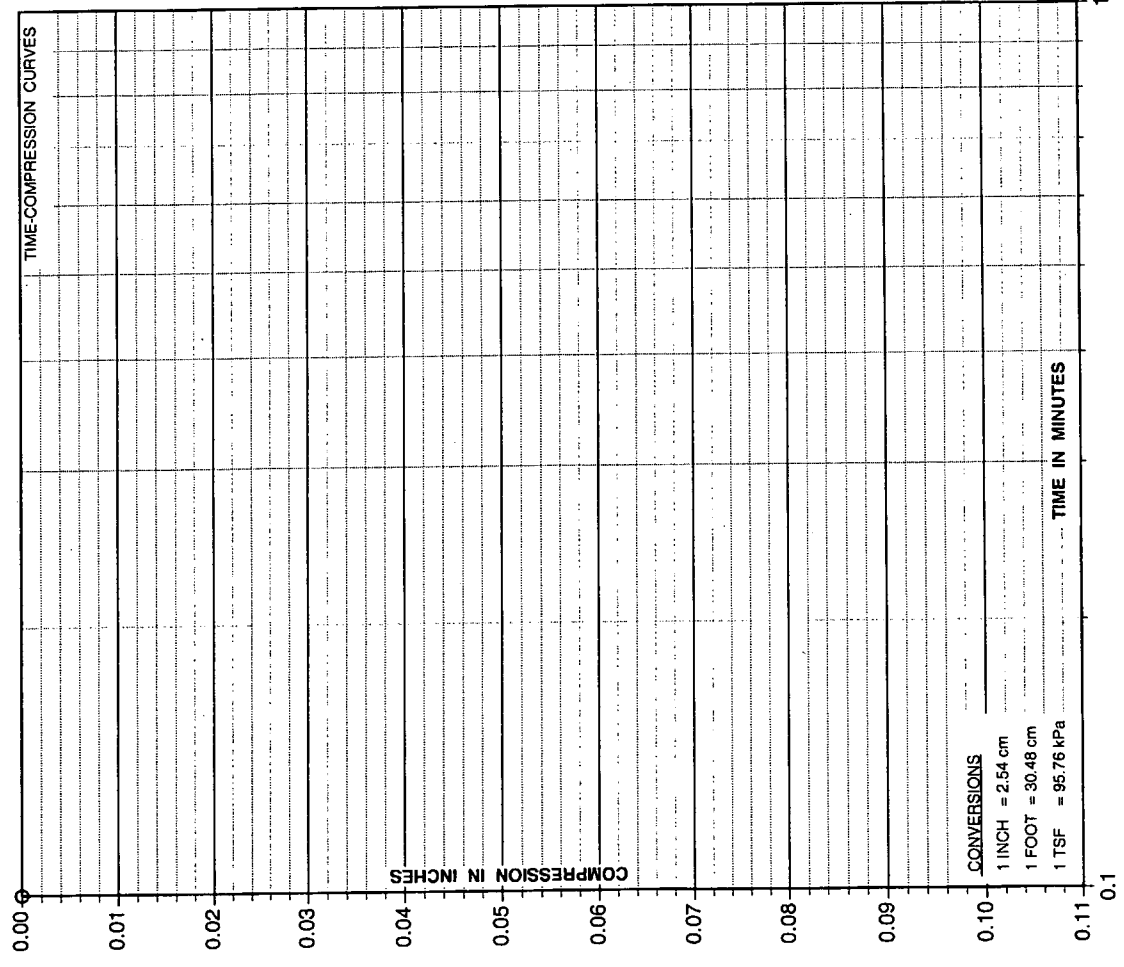
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
1	2	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION	PLASTICITY LIMIT	PLASTICITY INDEX	PROPERTIES OF SPECIMEN	PROPERTIES OF SPECIMEN	INITIAL VOID RATIO, e_0	FINAL VOID RATIO, e_f	WASHINGTON D.C.	WASHINGTON D.C.	
1				LIQUID LIMIT, w_L			ELEVATION OF SPECIMEN =	DEPTH OF SPECIMEN (FT) = 92	ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c	FINAL VOID RATIO, e_f	MUESER RUTLEDGE CONSULTING ENGINEERS	MUESER RUTLEDGE CONSULTING ENGINEERS	
2				PLASTIC LIMIT, w_p			DIAMETER OF SPECIMEN (IN) = 1.75	DIAMETER OF SPECIMEN (IN) = 1.75	EXISTING OVERBURDEN STRESS (TSF), P_o		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
3				PLASTICITY INDEX, I_p			INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	COMPRESSION INDEX, C_c		MADE BY: MM	MADE BY: MM	
4				NATURAL WATER CONT. %, w			INITIAL WATER CONTENT, % = 44	INITIAL WATER CONTENT, % = 44	SWELLING INDEX, C_s		CHKD BY: AA	CHKD BY: AA	
5				LIQUIDITY INDEX, $(w-w_p)/I_p$			FINAL WATER CONTENT, % =	FINAL WATER CONTENT, % =	REBOUND FROM e		DATE: 5-23-02	DATE: 5-23-02	
6				SPECIFIC GRAVITY, G_s			INITIAL DEGREE SATURATION, % =	INITIAL DEGREE SATURATION, % =			DATE: 6-6-02	DATE: 6-6-02	
7				INITIAL DENSITY, lb/ft^3			FINAL DEGREE SATURATION, % =	FINAL DEGREE SATURATION, % =			CONSOLIDATION TEST	CONSOLIDATION TEST	
8											BORING NO. B-23	BORING NO. B-23	
											SAMPLE NO. 26	SAMPLE NO. 26	
											PLATE NO. 11	PLATE NO. 11	



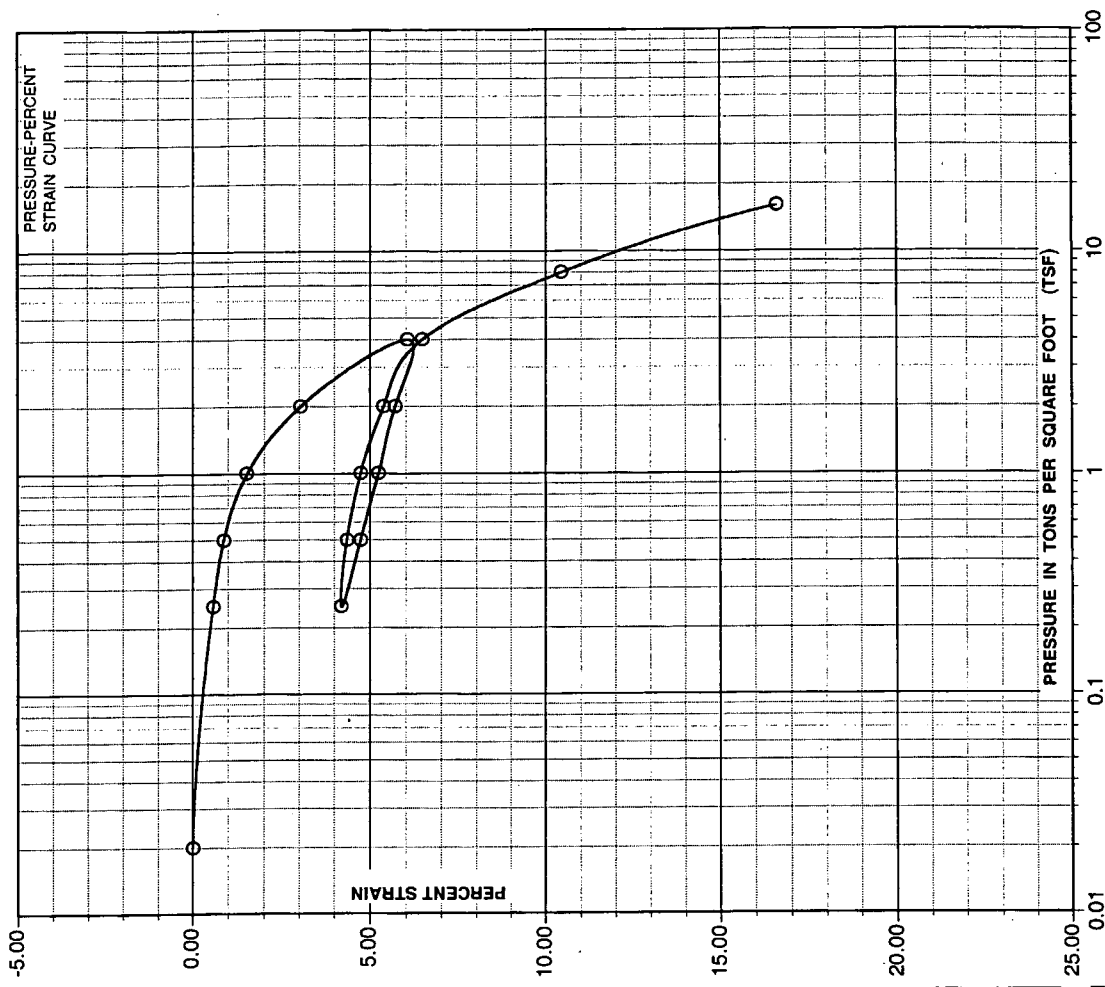
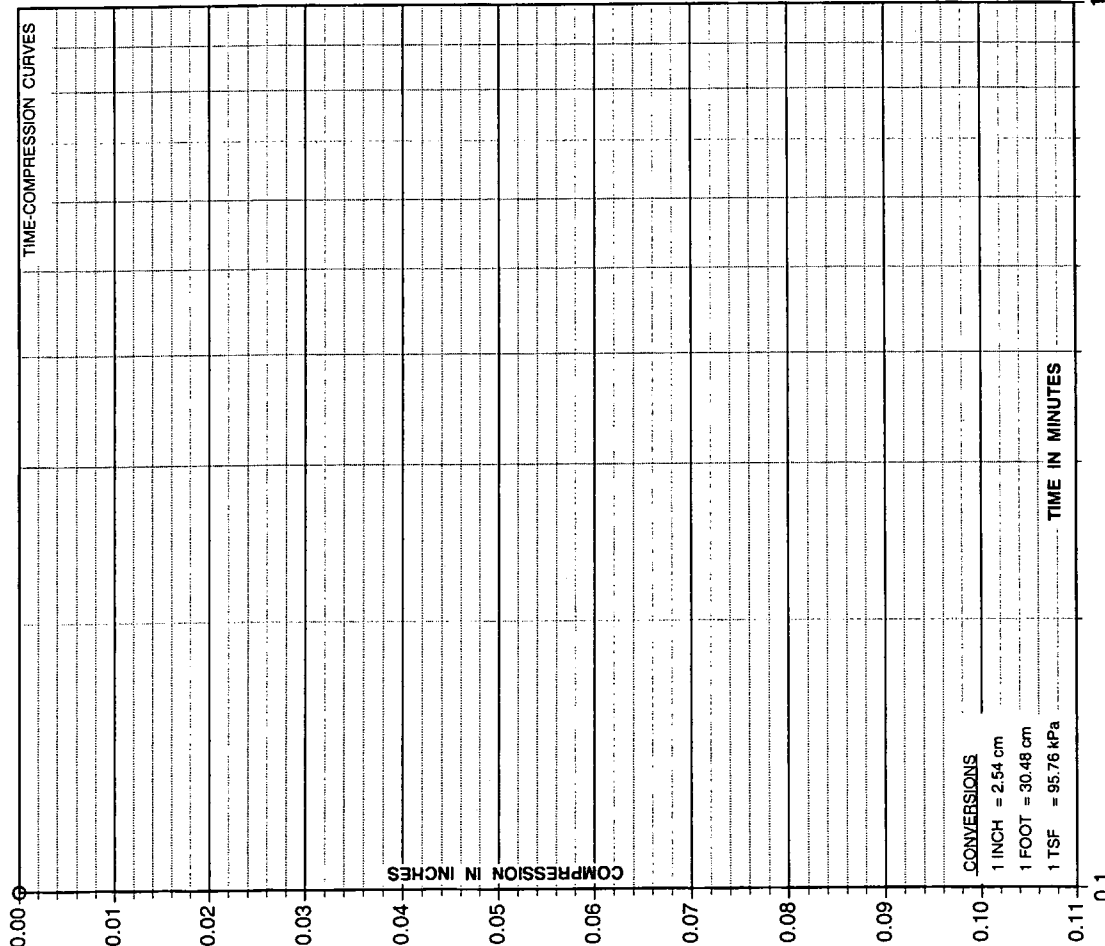
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
①				UNIFIED SOILS CLASSIFICATION - OH		PLASTICITY LIMIT		LIQUID LIMIT, $w_L = 73$		ELEVATION OF SPECIMEN =		INITIAL VOID RATIO, $e_0 =$		WASHINGTON D.C.	
②				PLASTICITY LIMIT, $w_p = 35$		PLASTICITY INDEX, $I_p = 38$		PLASTICITY INDEX, $I_p = 38$		DEPTH OF SPECIMEN (FT) = 97		FINAL VOID RATIO, $e_f =$		MUESER RUTLEDGE CONSULTING ENGINEERS	
③				PLASTICITY INDEX, $I_p = 38$		PLASTICITY INDEX, $I_p = 38$		PLASTICITY INDEX, $I_p = 38$		DIAMETER OF SPECIMEN (IN) = 1.75		EXISTING OVERBURDEN STRESS (TSF), $p_o =$		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
④				NATURAL WATER CONT. %, $w =$		NATURAL WATER CONT. %, $w =$		NATURAL WATER CONT. %, $w =$		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		COMPRESSION INDEX, $C_c =$		MADE BY: MM DATE: 5-23-02 FILE NO. 9726B	
⑤				LIQUIDITY INDEX, $(w-w_p)/I_p =$		LIQUIDITY INDEX, $(w-w_p)/I_p =$		LIQUIDITY INDEX, $(w-w_p)/I_p =$		INITIAL WATER CONTENT, % = 49		REBOUND FROM $e =$		CHKD BY: AA DATE: 6-6-02	
⑥				SPECIFIC GRAVITY, $G_s =$		SPECIFIC GRAVITY, $G_s =$		SPECIFIC GRAVITY, $G_s =$		FINAL WATER CONTENT, % =		SWELLING INDEX, $C_s =$		CONSOLIDATION TEST	
⑦				INITIAL DENSITY, $\text{lb/ft}^3 = 107$		INITIAL DENSITY, $\text{lb/ft}^3 = 107$		INITIAL DENSITY, $\text{lb/ft}^3 = 107$		INITIAL DEGREE SATURATION, % =		BORING NO. B-23		SAMPLE NO. 28	
⑧										FINAL DEGREE SATURATION, % =		FROM 1962 DATA BY EDWARD S. BARBER		PLATE NO. 12	



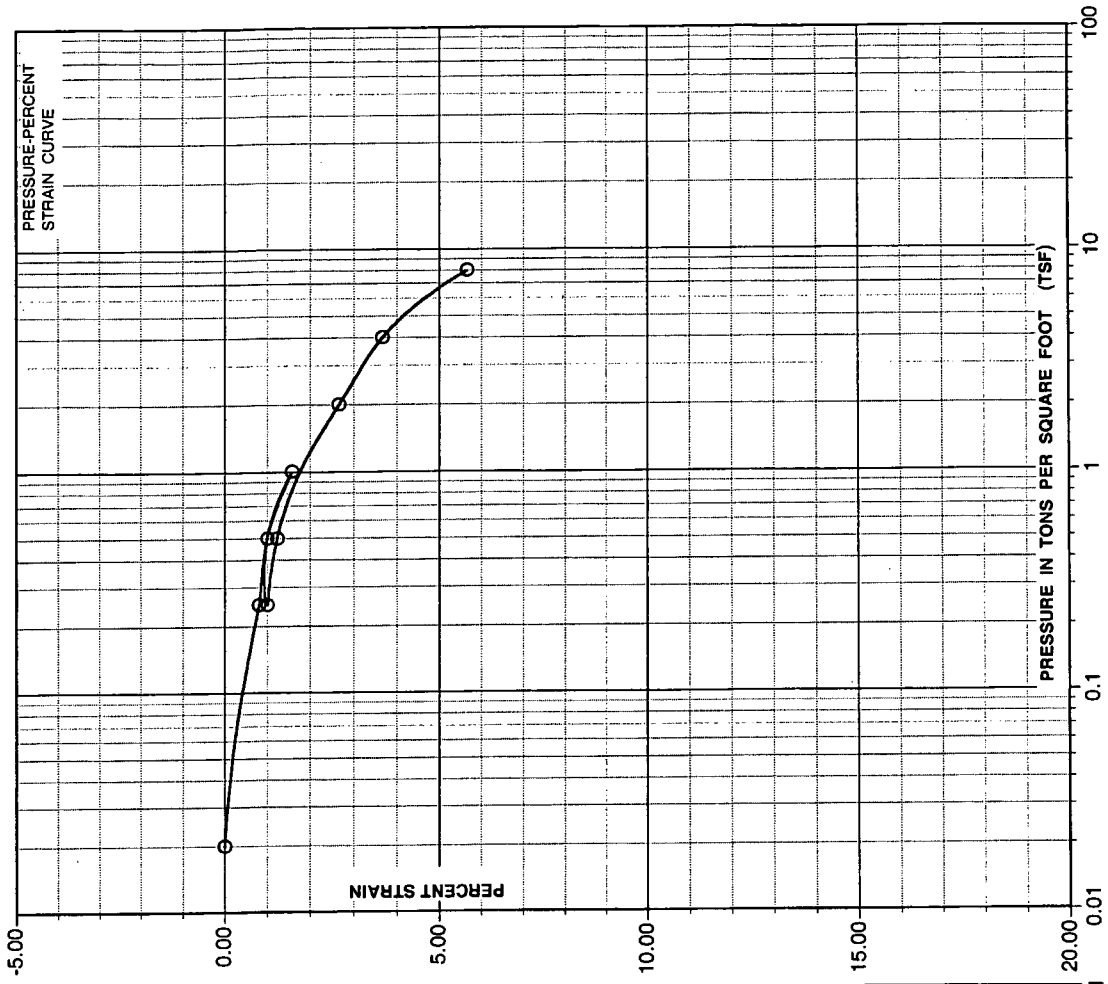
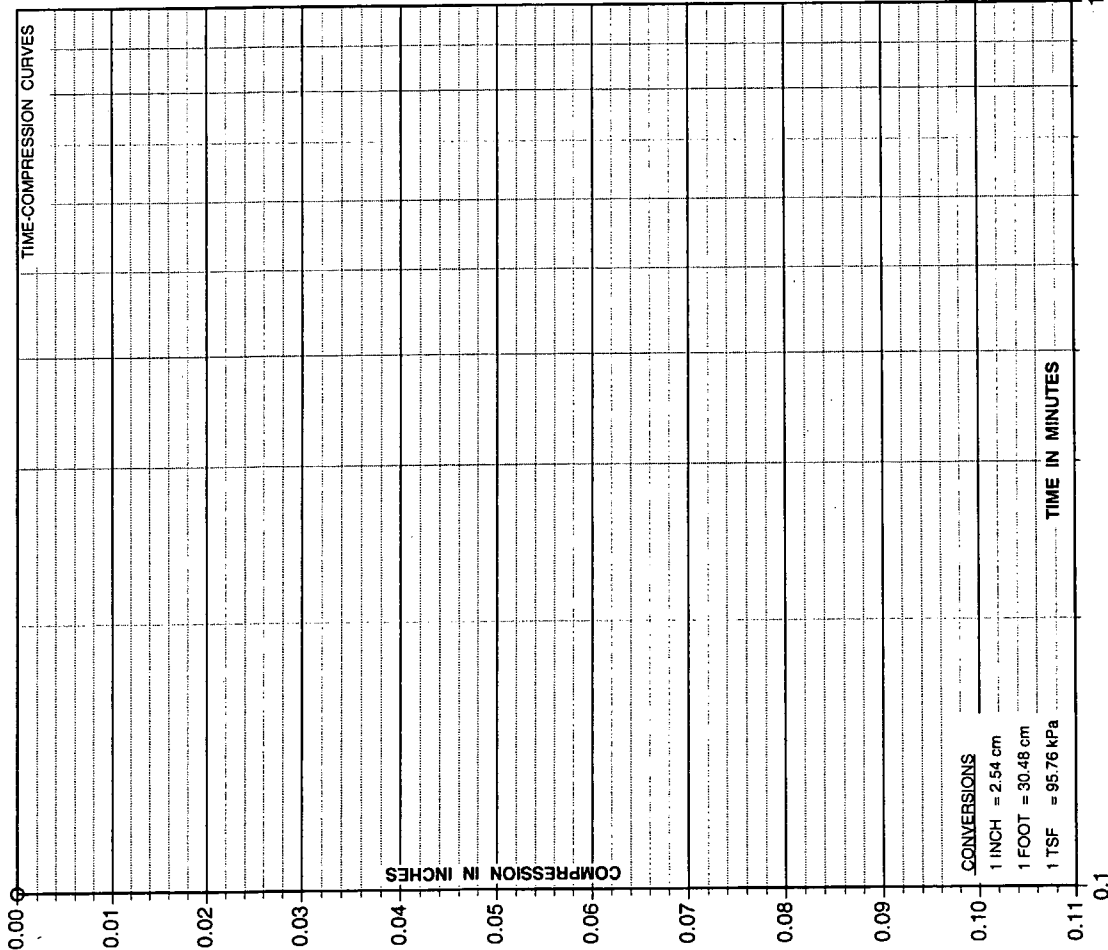
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF 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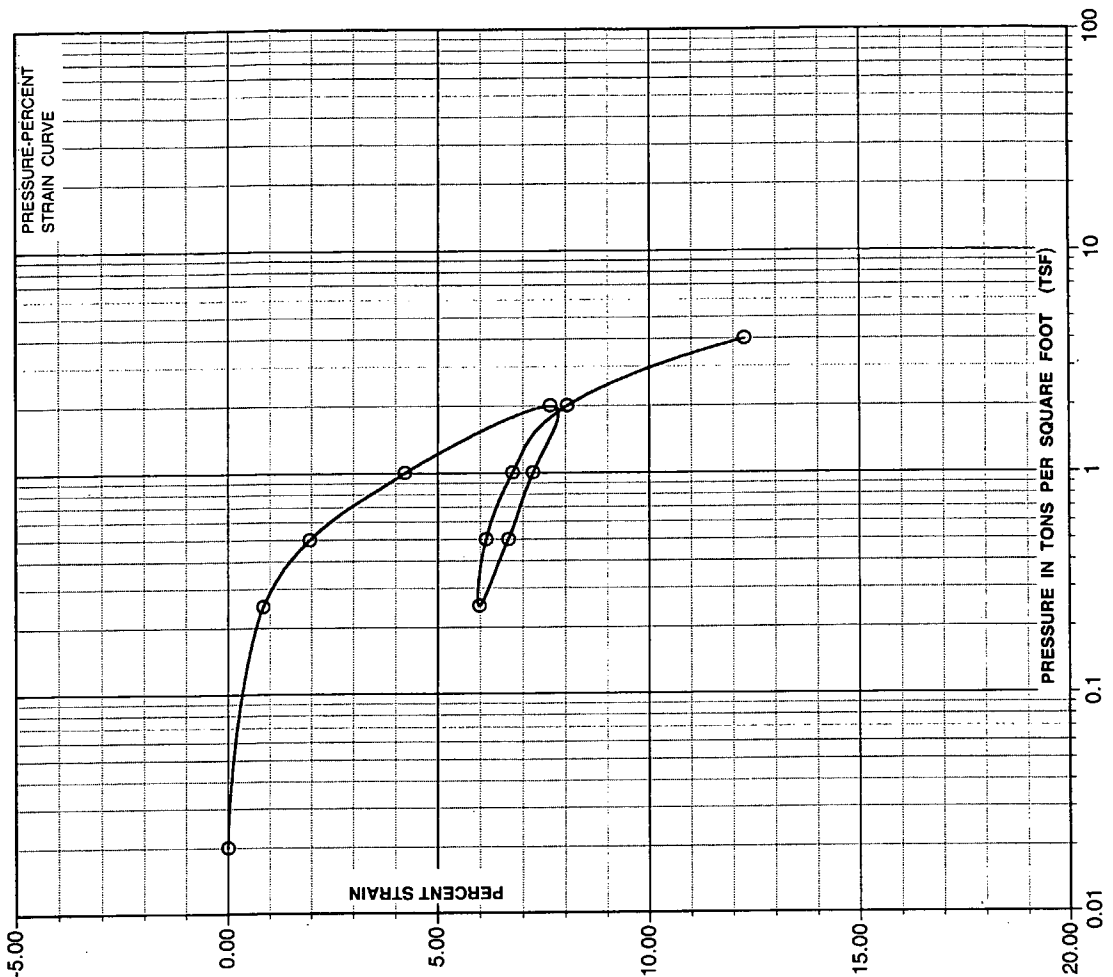
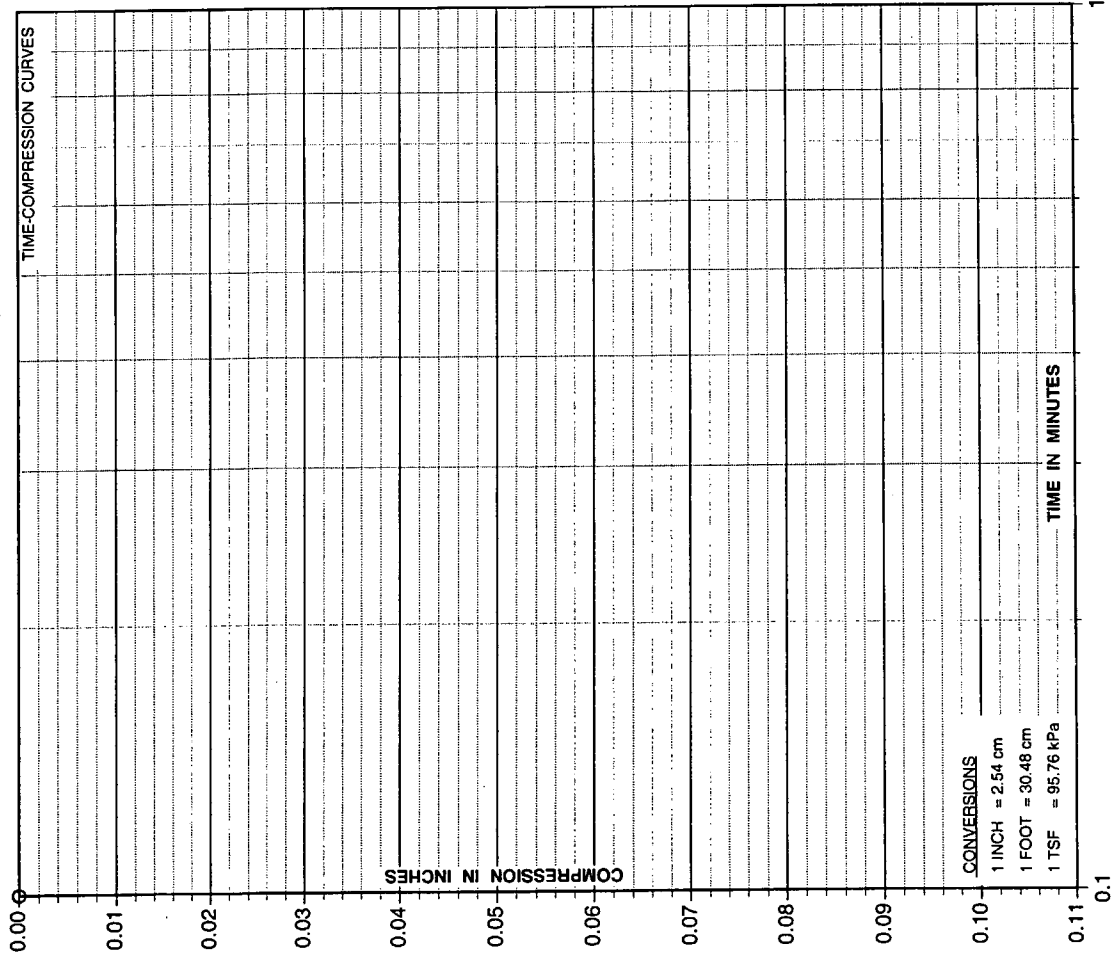
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
1	2	2	1	UNIFIED SOILS CLASSIFICATION	OH/CH	LIQUID LIMIT, $w_L = 65$	ELEVATION OF SPECIMEN =	ESTIMATED PRECONSOLIDATION STRESS (TSF), $P_c =$	INITIAL VOID RATIO, $e_0 =$	WASHINGTON D.C.		MUESER RUTLEDGE CONSULTING ENGINEERS	
2	3	1	1	PLASTIC LIMIT, $w_p = 32$		PLASTICITY INDEX, $I_p = 33$	DEPTH OF SPECIMEN (FT) = 95	DIAMETER OF SPECIMEN (IN) = 1.75	FINAL VOID RATIO, $e_f =$	225 WEST 34TH STREET, NEW YORK, N.Y. 10122		MADE BY: MM	
3	4	1	1	NATURAL WATER CONT. %, $w =$		LIQUIDITY INDEX, $(w - w_p) / I_p =$	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	INITIAL WATER CONTENT, % = 42	COMPRESSION INDEX, $C_c =$	DATE: 5-23-02		FILE NO.	
4	5	1	1	SPECIFIC GRAVITY, $G_s =$		INITIAL DENSITY, $\text{lb/ft}^3 = 108$	FINAL WATER CONTENT, % =	FINAL DEGREE SATURATION, % =	SWELLING INDEX, $C_s =$	DATE: 6-6-02		CHKD BY: AA	
5	6	1	1						REBOUND FROM $e =$	CONSOLIDATION TEST		9726B	
6	7	1	1							BORING NO. B-24		SAMPLE NO. 20	
7	8	1	1							15		PLATE NO.	



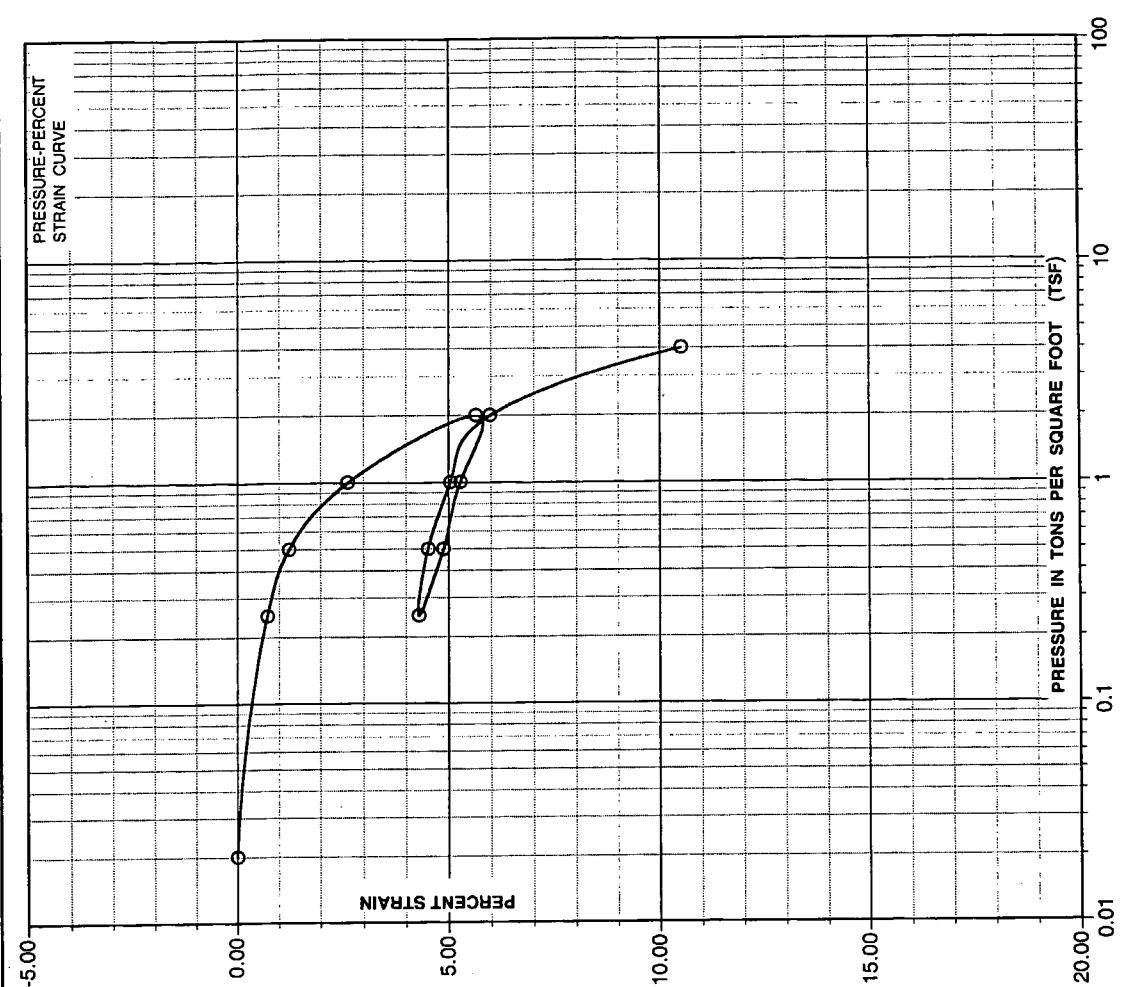
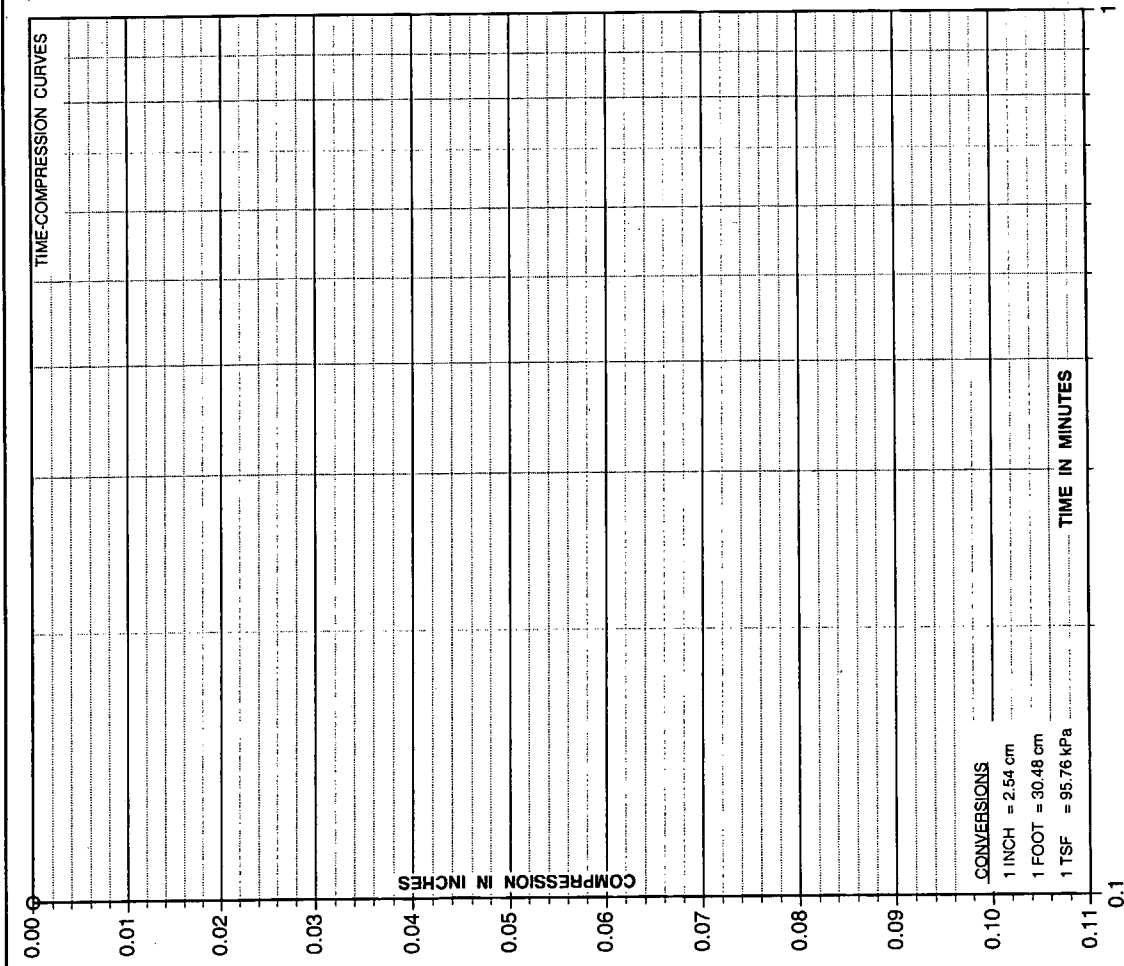
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
		FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		ELEVATION OF SPECIMEN (FT) = 99		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		WASHINGTON D.C.	
1				LIQUID LIMIT, w_L =		PLASTICITY INDEX, I_p =		DIAMETER OF SPECIMEN (IN) = 1.75		EXISTING OVERBURDEN STRESS (TSF), P_0 =		MUESER RUTLEDGE CONSULTING ENGINEERS	
2				PLASTIC LIMIT, w_p =		NATURAL WATER CONT. %, w =		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		SWELLING INDEX, C_s =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
3				PLASTICITY INDEX, I_p =		LIQUIDITY INDEX, $(w-w_p)/I_p$ =		INITIAL WATER CONTENT, % = 43		REBOUND FROM e =		MADE BY: MM	
4				NATURAL WATER CONT. %, w =		SPECIFIC GRAVITY, G_s =		FINAL WATER CONTENT, % =		FROM 1962 DATA BY EDWARD S. BARBER		DATE: 5-23-02	
5				LIQUIDITY INDEX, $(w-w_p)/I_p$ =		INITIAL DENSITY, lb/ft^3 = 108		FINAL DEGREE SATURATION, % =				DATE: 6-6-02	
6				SPECIFIC GRAVITY, G_s =								CHKD BY: AA	
7												CONSOLIDATION TEST	
8												BORING NO. B-24 SAMPLE NO. 22	
												PLATE NO. 16	



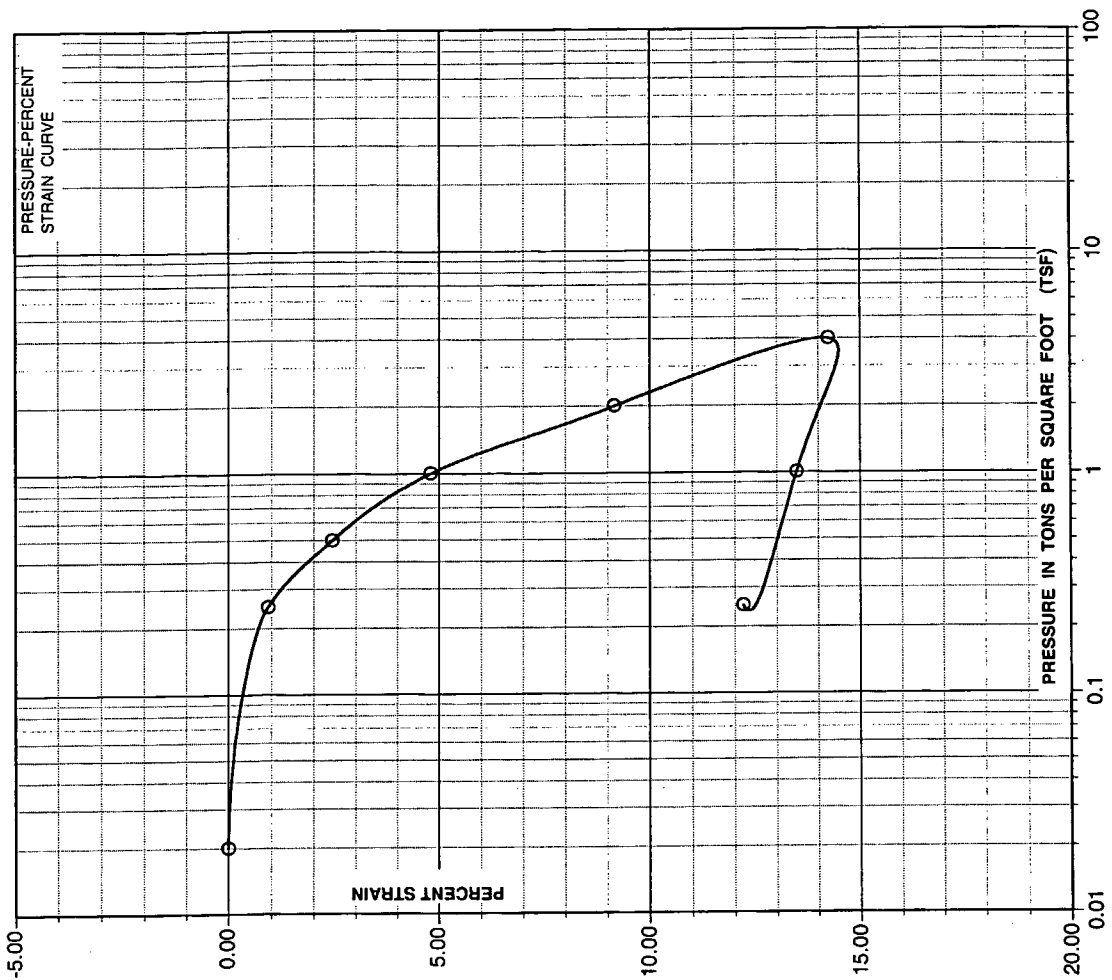
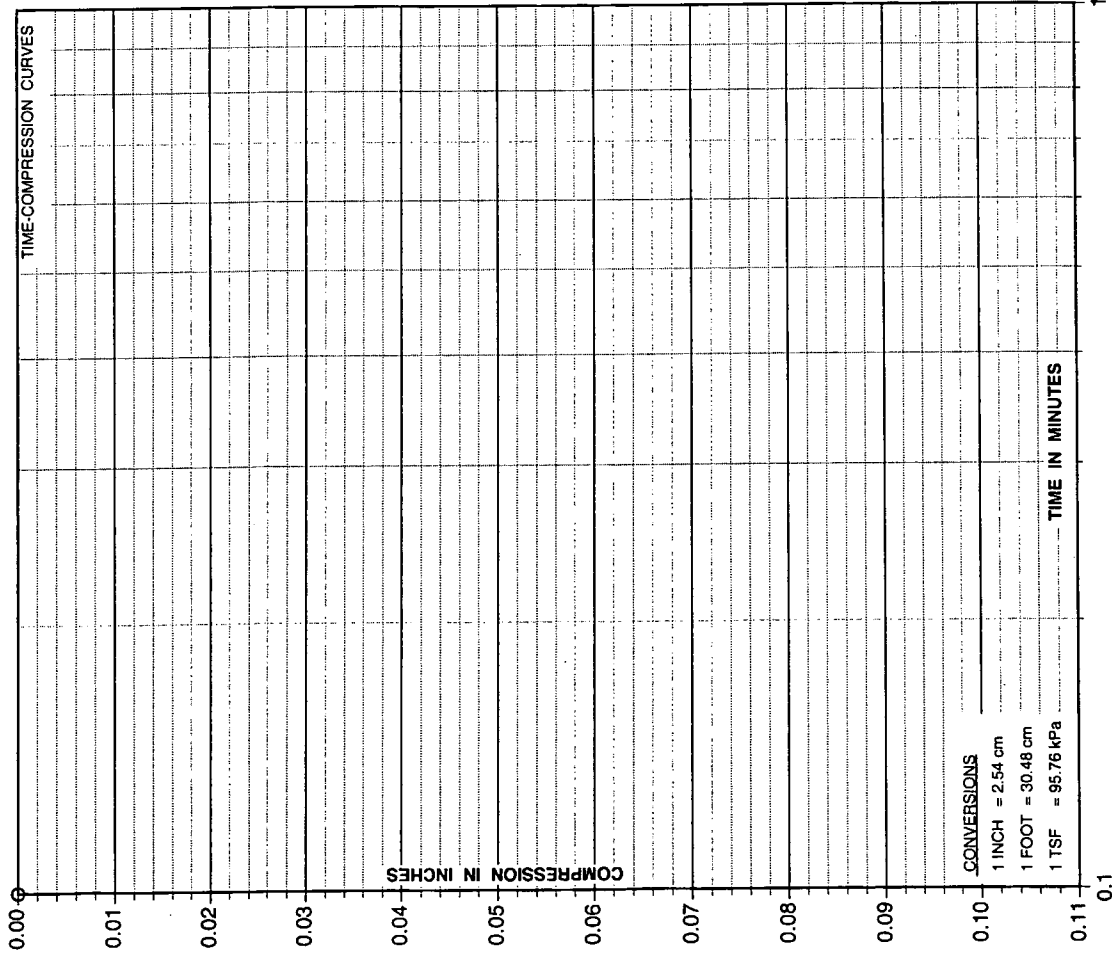
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:				STRATUM		WASHINGTON MONUMENT	
1	2	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION -				INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
1	2			LIQUID LIMIT, w_L =				ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		MUESER RUTLEDGE CONSULTING ENGINEERS	
3	4			PLASTIC LIMIT, w_p =				EXISTING OVERBURDEN STRESS (TSF), P_o =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
5	6			PLASTICITY INDEX, I_p =				COMPRESSION INDEX, C_c =		MADE BY: MM DATE: 5-23-02 FILE NO. 9726B	
7	8			NATURAL WATER CONT. %, w =				SWELLING INDEX, C_s =		CHKD BY: AA DATE: 6-6-02	
9	10			LIQUIDITY INDEX, $(w-w_p)/I_p$ =				REBOUND FROM e =		CONSOLIDATION TEST	
11	12			SPECIFIC GRAVITY, G_s =				FROM 1962 DATA BY EDWARD S. BARBER		BORING NO. B-25 SAMPLE NO. 5	
13	14			INITIAL DENSITY, $\text{lb/ft}^3 = 125$						PLATE NO. 17	



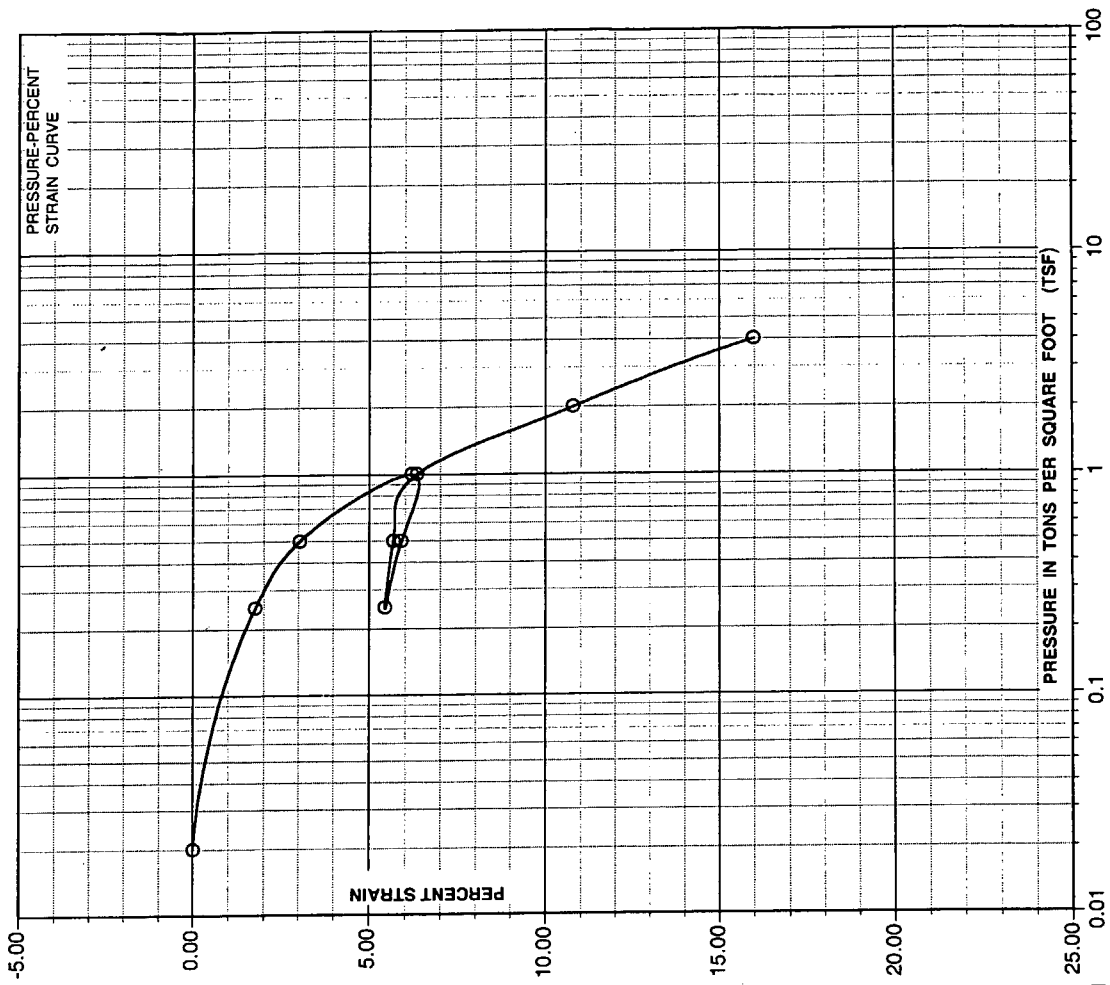
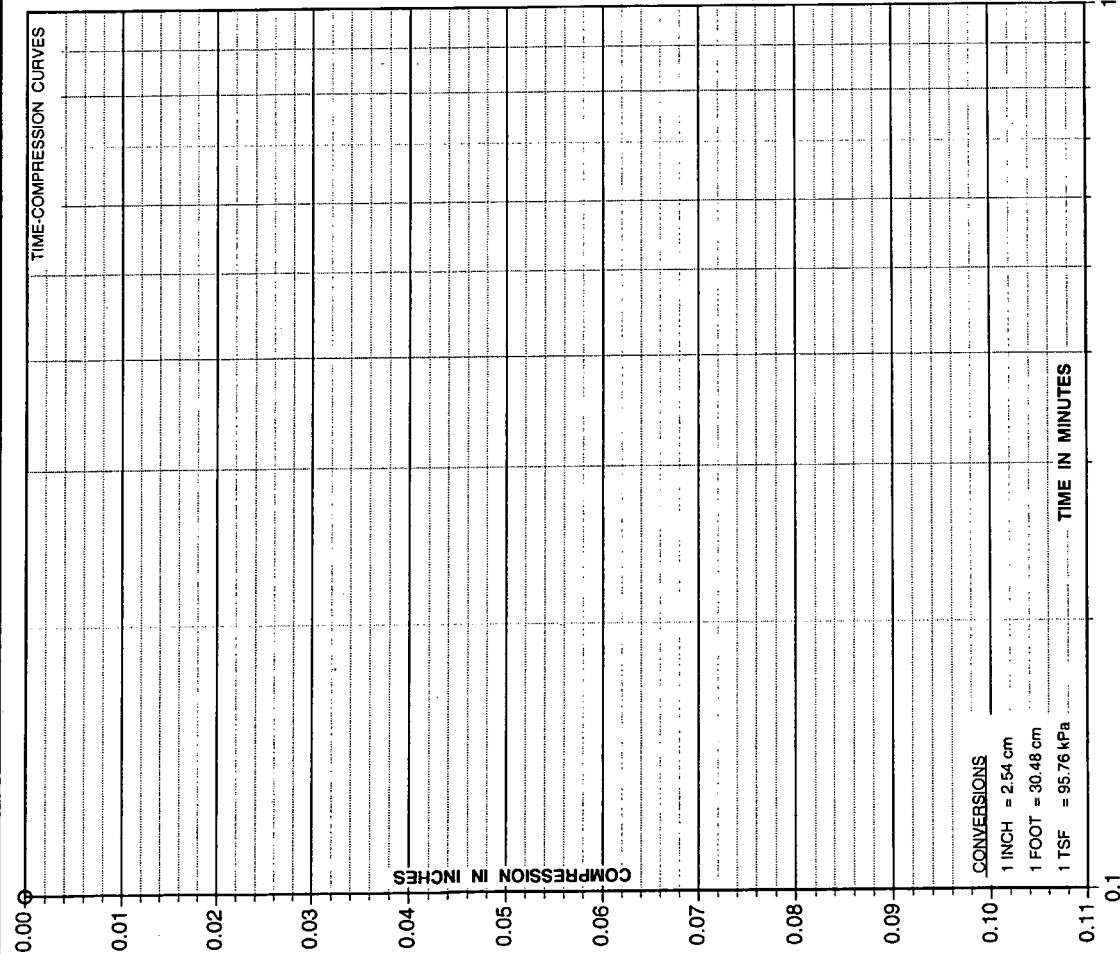
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
1	2	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION	LIQUID LIMIT, w_L	PLASTIC LIMIT, w_p	PLASTICITY INDEX, I_p	NATURAL WATER CONT. %, w	LIQUIDITY INDEX, $(w - w_p)/I_p$	SPECIFIC GRAVITY, G_s	INITIAL DENSITY, lb/ft^3	ELEVATION OF SPECIMEN (FT)	DEPTH OF SPECIMEN (FT)
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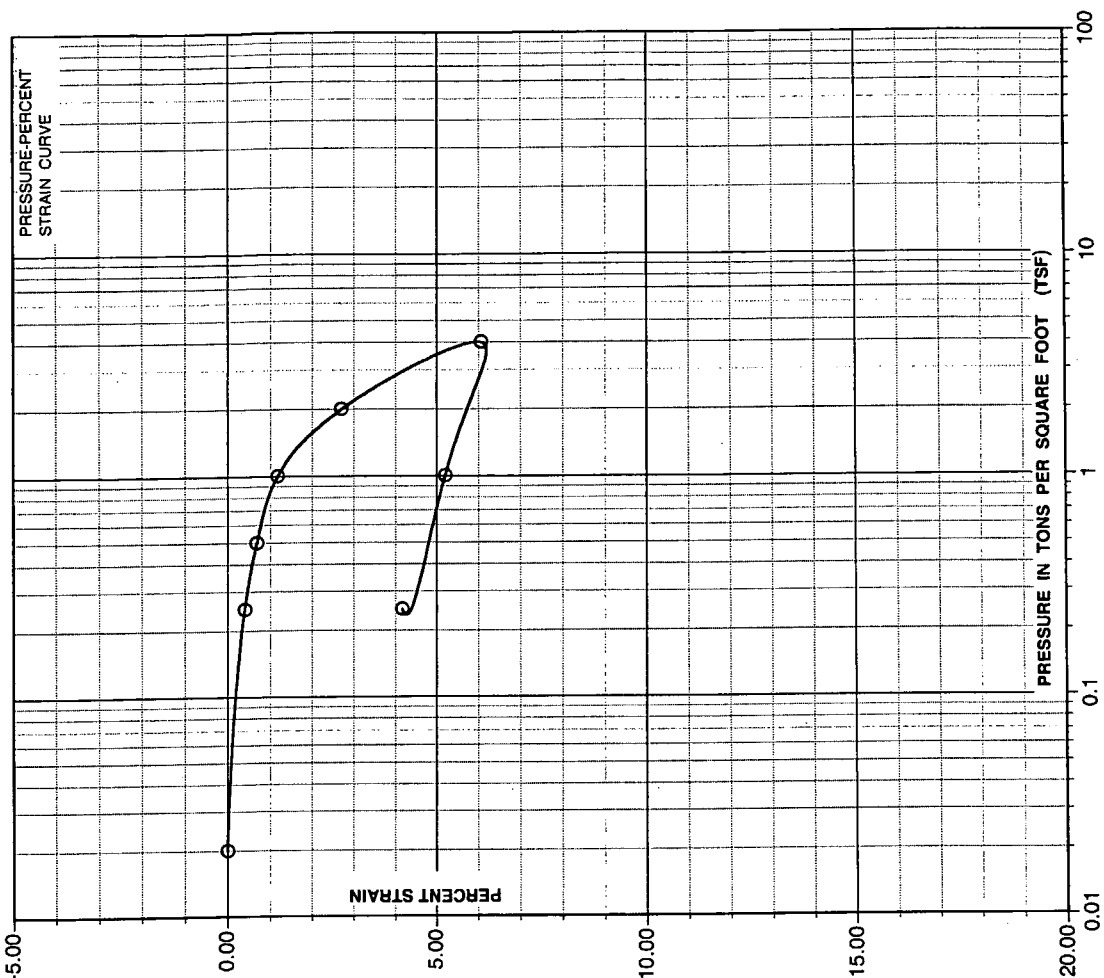
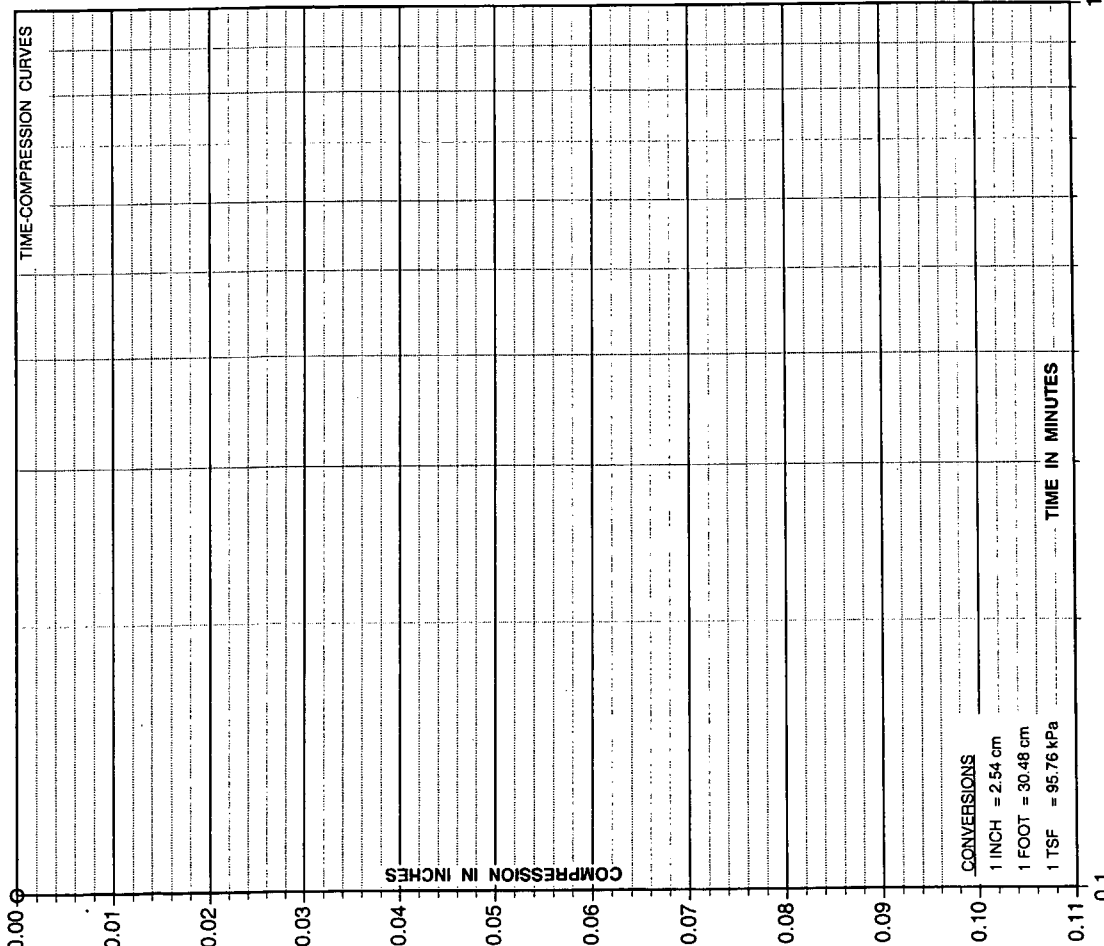
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
FROM (TSF)		TO (TSF)		UNIFIED SOILS CLASSIFICATION - OH		SPECIMEN		CONSOLIDATION		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		WASHINGTON D.C.	
1	2			LIQUID LIMIT, w_L = 65	PLASTICITY LIMIT, w_p = 33	PLASTICITY INDEX, I_p = 32	PLASTICITY INDEX, I_p = 32	PLASTICITY INDEX, I_p = 32	PLASTICITY INDEX, I_p = 32	ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =	ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =	MUESER RUTLEDGE CONSULTING ENGINEERS	
3	4			NATURAL WATER CONT. %, w =	NATURAL WATER CONT. %, w =	NATURAL WATER CONT. %, w =	NATURAL WATER CONT. %, w =	NATURAL WATER CONT. %, w =	NATURAL WATER CONT. %, w =	EXISTING OVERBURDEN STRESS (TSF), P_o =	EXISTING OVERBURDEN STRESS (TSF), P_o =	225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
5	6			LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	COMPRESSION INDEX, C_c =	COMPRESSION INDEX, C_c =	MADE BY: MM	FILE NO. 9726B
7	8			SPECIFIC GRAVITY, G_s =	SPECIFIC GRAVITY, G_s =	SPECIFIC GRAVITY, G_s =	SPECIFIC GRAVITY, G_s =	SPECIFIC GRAVITY, G_s =	SPECIFIC GRAVITY, G_s =	SWELLING INDEX, C_s =	SWELLING INDEX, C_s =	CHKD BY: AA	DATE: 5-23-02
										REBOUND FROM σ =		DATE: 6-6-02	
										FROM 1962 DATA BY EDWARD S. BARBER		CONSOLIDATION TEST	
										BORING NO. B-26		SAMPLE NO. 14	
												19	



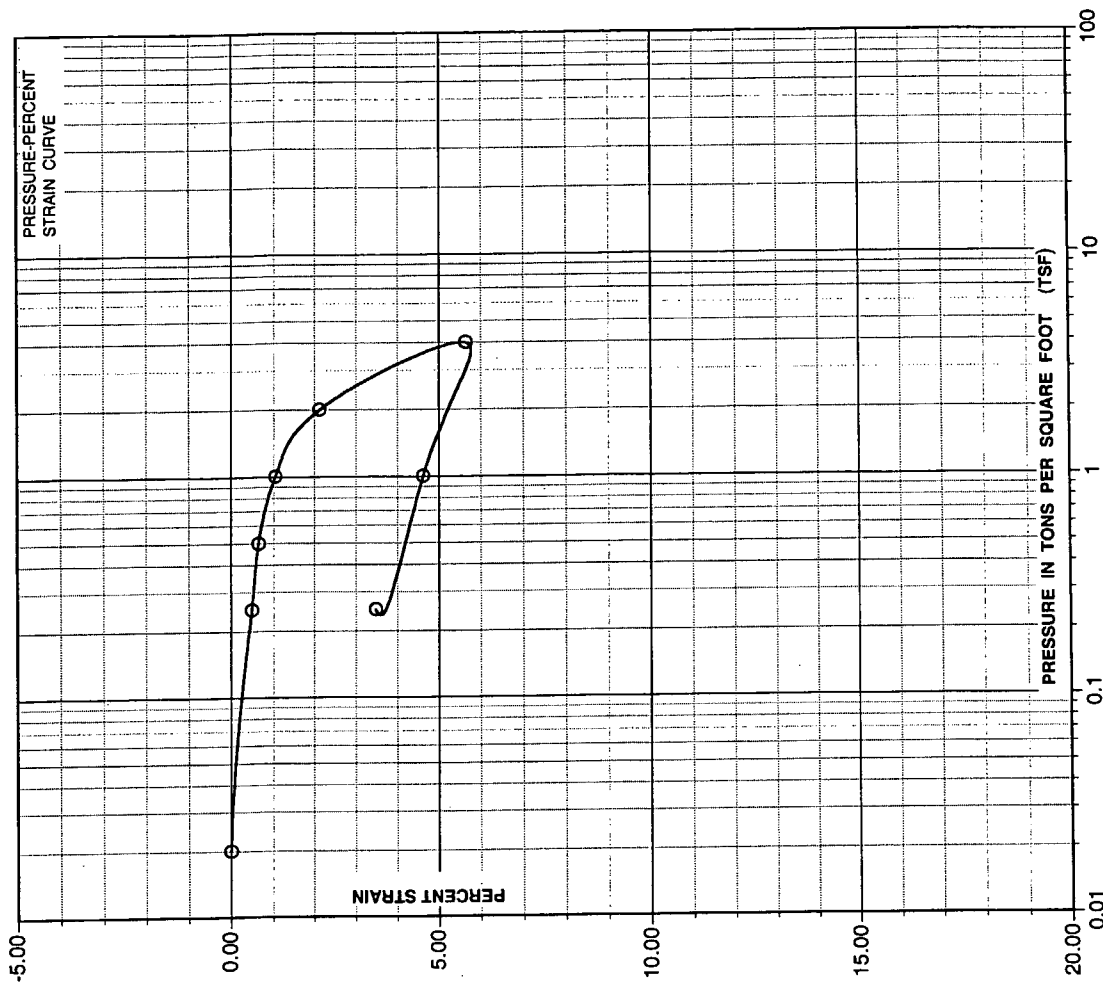
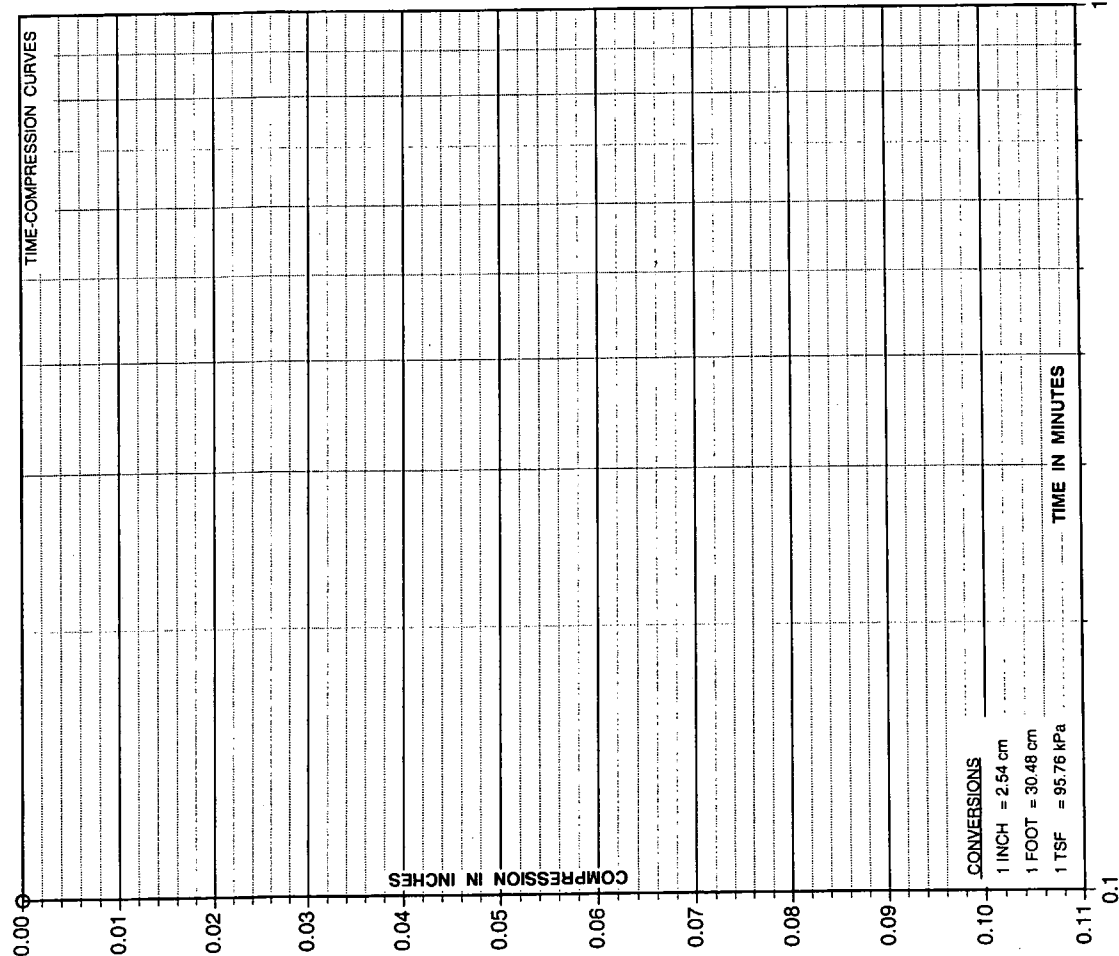
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
				UNIFIED SOILS CLASSIFICATION - CL		CONSOLIDATION		ELEVATION OF SPECIMEN =		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		WASHINGTON D.C.	
1	2	3	4	LIQUID LIMIT, w_L = 46	PLASTIC LIMIT, w_p = 27	PLASTICITY INDEX, I_p = 19	PLASTICITY INDEX, I_p = 19	DEPTH OF SPECIMEN (FT) = 20	DIAMETER OF SPECIMEN (IN) = 1.75	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	INITIAL VOID RATIO, e_0 =	FINAL VOID RATIO, e_f =	MUESER RUTLEDGE CONSULTING ENGINEERS
5	6	7	8	NATURAL WATER CONT. %, w =	PLASTICITY INDEX, I_p =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	LIQUIDITY INDEX, $(w - w_p) / I_p$ =	INITIAL WATER CONTENT, % = 44	FINAL WATER CONTENT, % =	INITIAL DEGREE OF SATURATION, % =	FINAL DEGREE OF SATURATION, % =	EXISTING OVERBURDEN STRESS (TSF), P_o =	225 WEST 34TH STREET, NEW YORK, N.Y. 10122
9	10	11	12	SPECIFIC GRAVITY, G_s =	INITIAL DENSITY, lb/ft^3 = 108			SWELLING INDEX, C_s =	REBOUND FROM e =			COMPRESSION INDEX, C_c =	MADE BY: MM
13	14	15	16									DATE: 5-23-02	FILE NO. 9726B
17	18	19	20									DATE: 6-6-02	PLATE NO. 20
												CONSOLIDATION TEST	
												BORING NO. B-27 SAMPLE NO. 7	
												FROM 1962 DATA BY EDWARD S. BARBER	



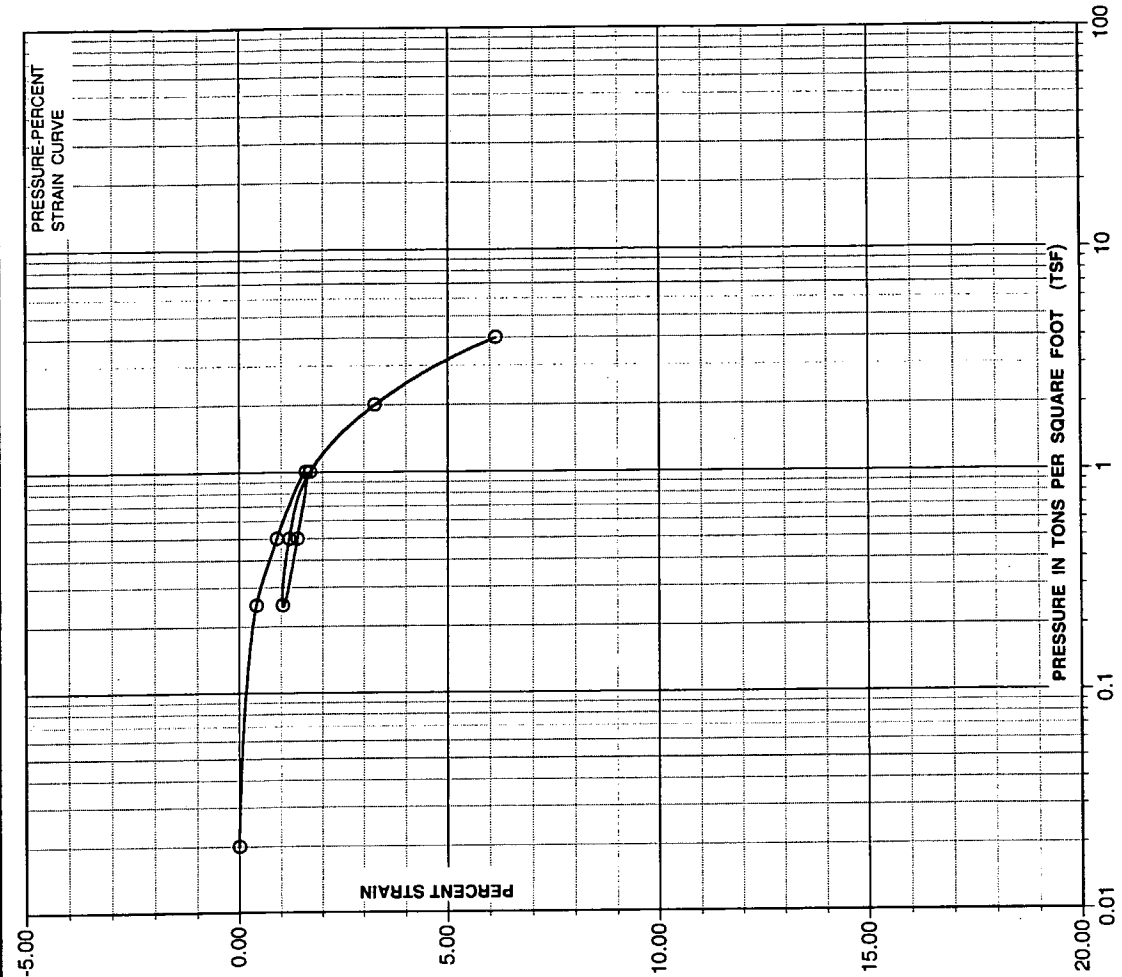
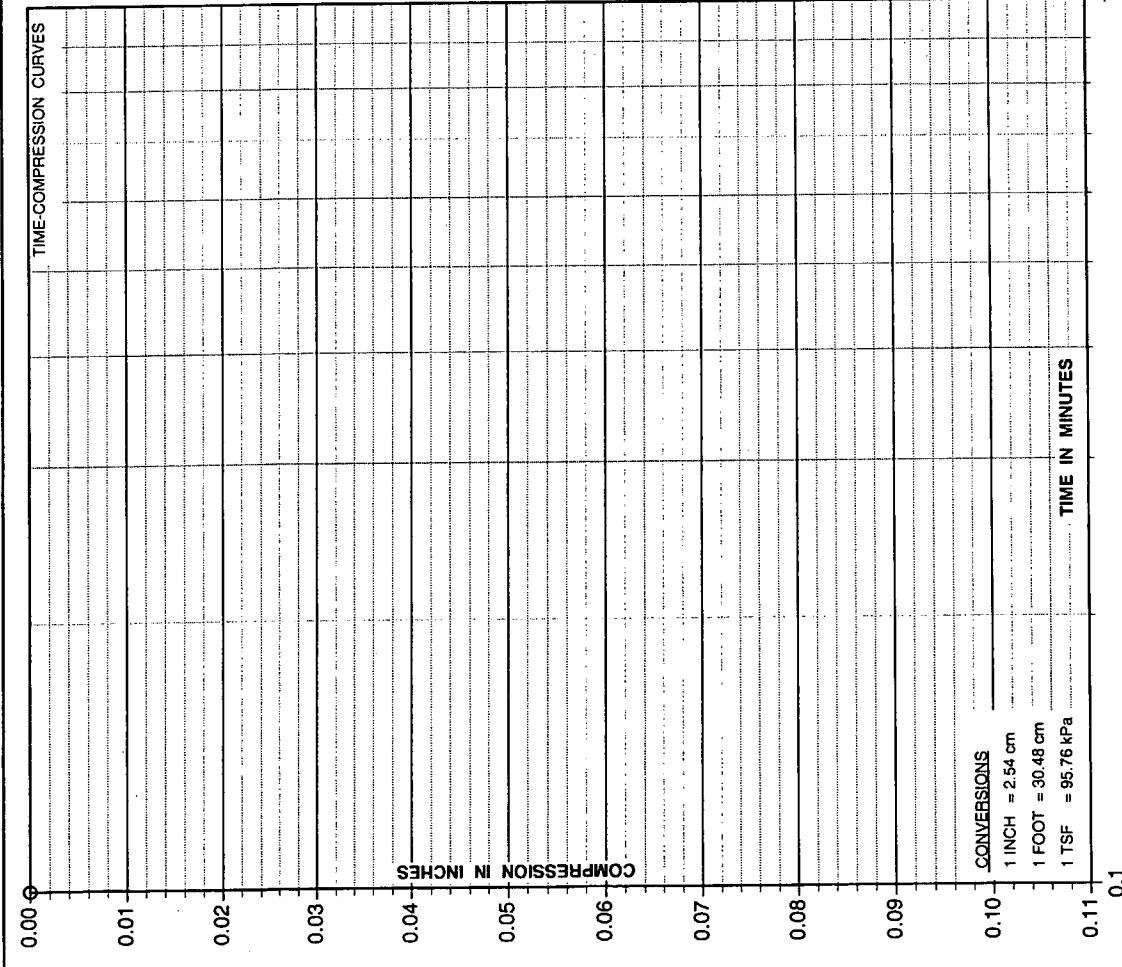
CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
1		FROM (TSF)		UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		CONSOLIDATION		ESTIMATED PRECONSOLIDATION STRESS (TSF), e_0		WASHINGTON D.C.	
2				LIQUID LIMIT, w_L		PLASTICITY INDEX, I_p		ELEVATION OF SPECIMEN (FT) = 25		FINAL VOID RATIO, e_f		MUESER RUTLEDGE CONSULTING ENGINEERS	
3				PLASTICITY INDEX, I_p		NATURAL WATER CONT. %, w		DIAMETER OF SPECIMEN (IN) = 1.75		EXISTING OVERBURDEN STRESS (TSF), P_0		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
4				NATURAL WATER CONT. %, w		LIQUIDITY INDEX, $(w-w_p)/I_p$		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		COMPRESSION INDEX, C_c		MADE BY: MM	
5				LIQUIDITY INDEX, $(w-w_p)/I_p$		SPECIFIC GRAVITY, G_s		INITIAL WATER CONTENT, % = 63		SWELLING INDEX, C_s		DATE: 5-23-02	
6				SPECIFIC GRAVITY, G_s		INITIAL DEGREE SATURATION, %		FINAL WATER CONTENT, %		, REBOUND FROM $e =$		CHKD BY: AA	
7				INITIAL DENSITY, lb/ft^3		INITIAL DEGREE SATURATION, %		FINAL DEGREE SATURATION, %		FROM 1962 DATA BY EDWARD S. BARBER		DATE: 6-6-02	
8												CONSOLIDATION TEST	
												BORING NO. B-27	
												SAMPLE NO. 8	
												PLATE NO. 21	
												9726B	
												FILE NO.	
												21	



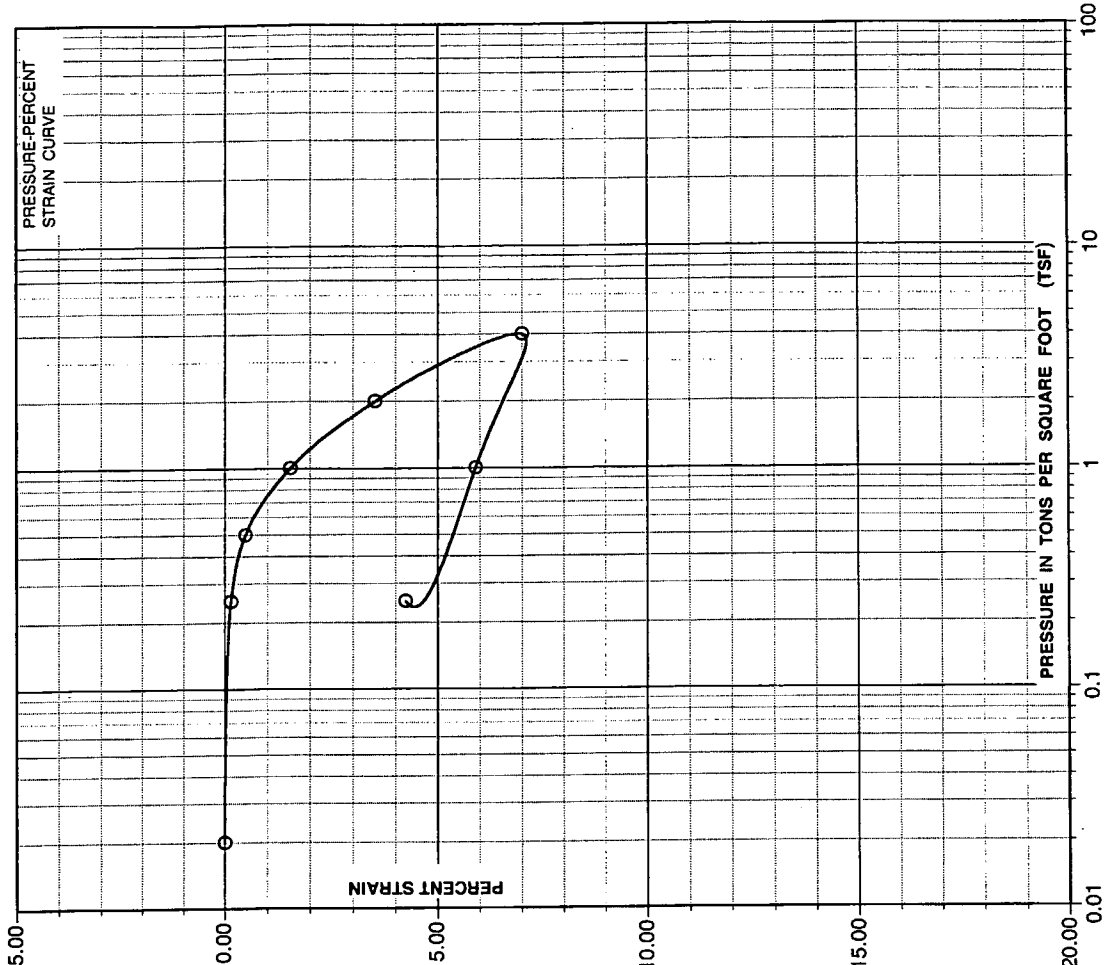
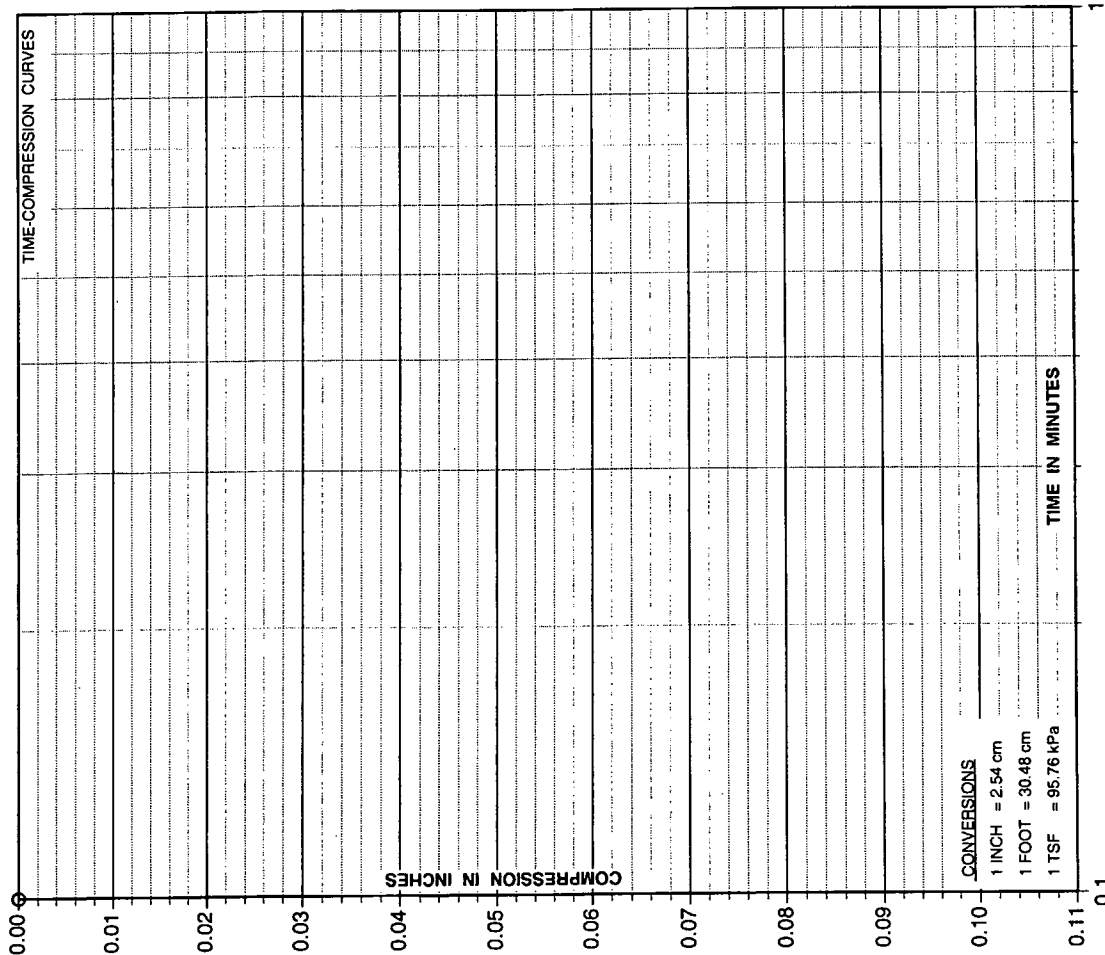
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		ELEVATION OF SPECIMEN =		STRATUM		WASHINGTON MONUMENT			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
UNIFIED SOILS CLASSIFICATION -						ELEVATION OF SPECIMEN (FT) = 41						ESTIMATED PRECONSOLIDATION STRESS (TSF), p_c =				WASHINGTON D.C.	
LIQUID LIMIT, w_L =						DEPTH OF SPECIMEN (IN) = 1.75						FINAL VOID RATIO, e_f =				MUESER RUTLEDGE CONSULTING ENGINEERS	
PLASTIC LIMIT, w_p =						DIAMETER OF SPECIMEN (IN) = 0.50						EXISTING OVERBURDEN STRESS (TSF), p_o =				225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
PLASTICITY INDEX, I_p =						INITIAL THICKNESS OF SPECIMEN (IN) = 0.50						COMPRESSION INDEX, C_c =				MADE BY: MM DATE: 5-23-02	
NATURAL WATER CONT. % =						INITIAL WATER CONTENT, % = 25						SWELLING INDEX, C_s =				CHKD BY: AA DATE: 6-6-02	
LIQUIDITY INDEX, $(w-w_p)/I_p$ =						FINAL WATER CONTENT, % =						REBOUND FROM e =				FILE NO. 9726B	
SPECIFIC GRAVITY, G_s =						INITIAL DEGREE SATURATION, % =						FROM 1962 DATA BY EDWARD S. BARBER				CONSOLIDATION TEST	
INITIAL DENSITY, lb/ft^3 = 126												BORING NO. B-27				SAMPLE NO. 13	
																PLATE NO. 22	

[illegible]

WASHINGTON MONUMENT	WASHINGTON D.C.	MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122	FILE NO. 9728B	PLATE NO. 23
MADE BY: IAM	DATE: 5-23-02	CHKD BY: AA	DATE: 6-6-02	
CONSOLIDATION TEST			BORING NO. B-27	SAMPLE NO. 15

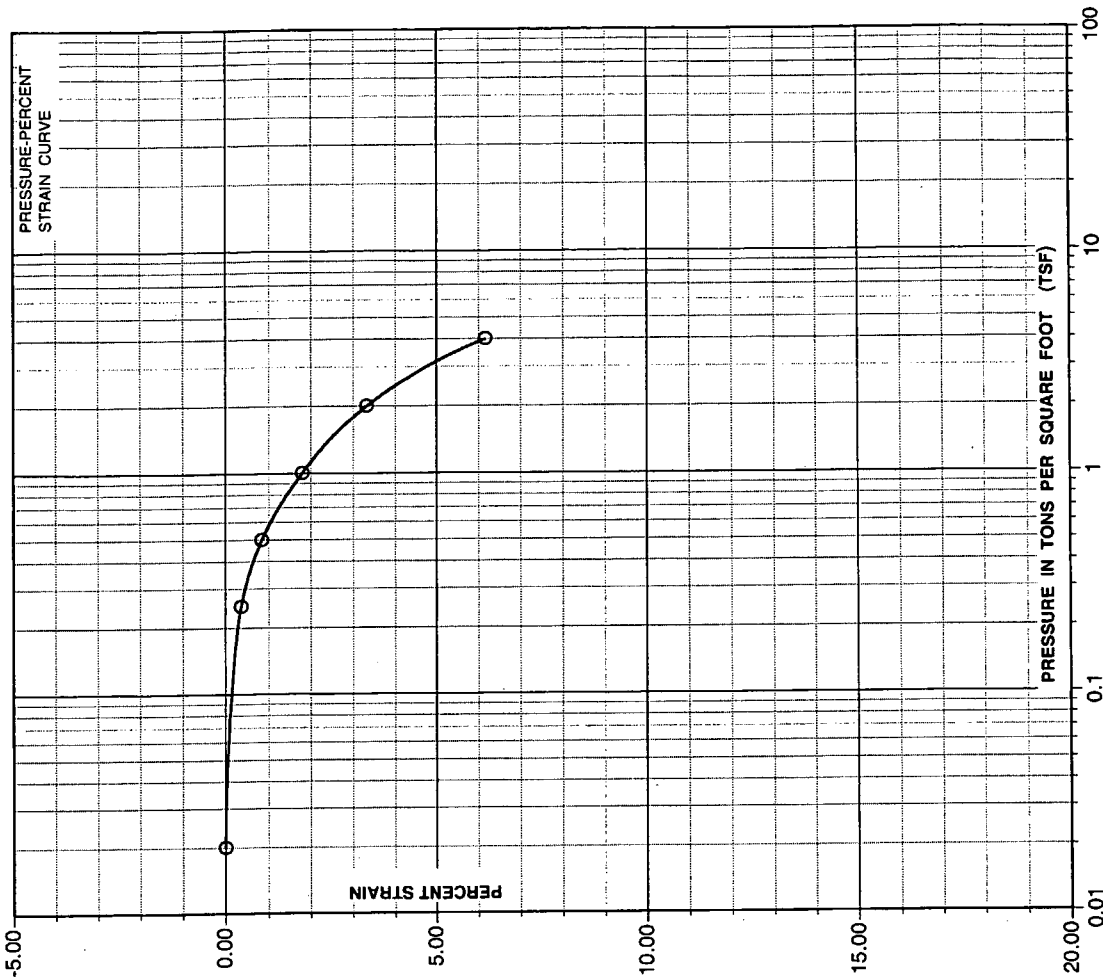
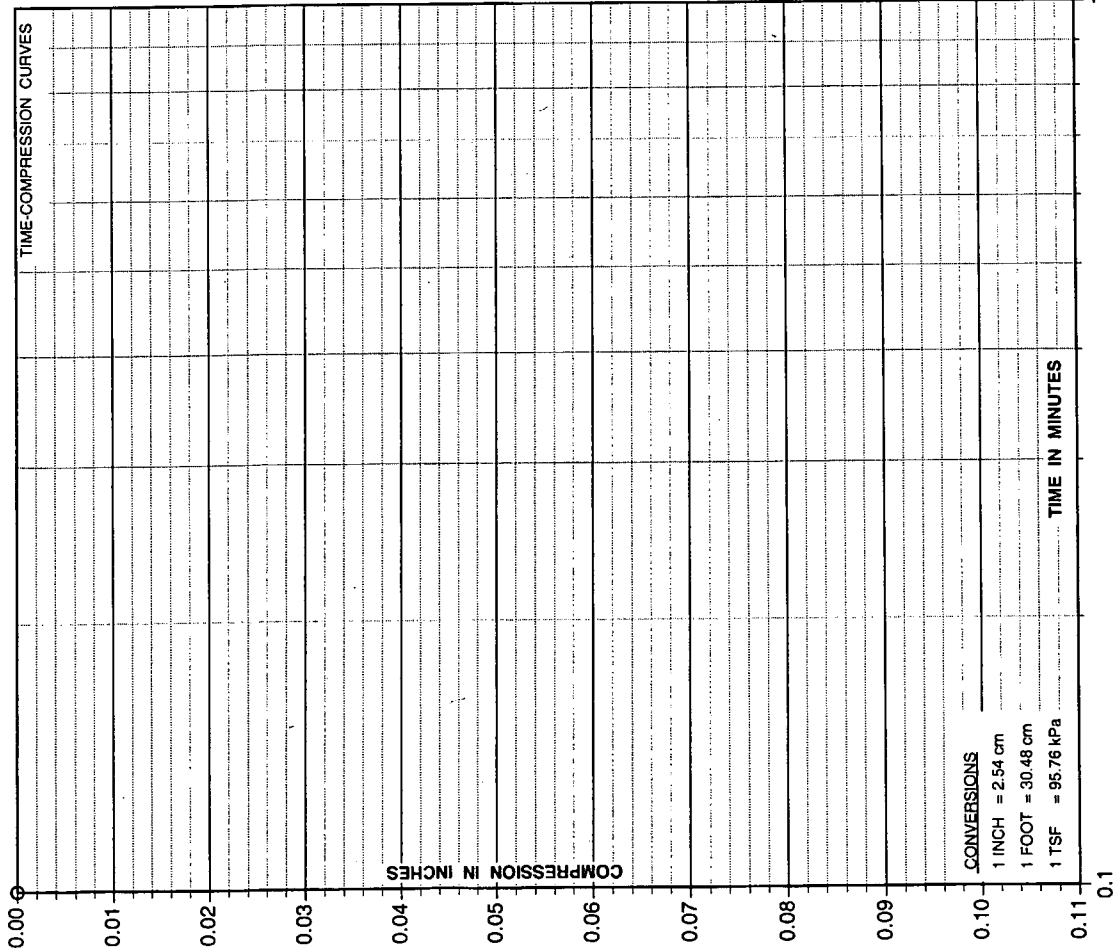


CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
		FROM (TSF)		TO (TSF)		UNIFIED SOILS CLASSIFICATION		PLASTICITY LIMIT		ESTIMATED PRECONSOLIDATION STRESS (TSF), e_1 =		WASHINGTON D.C.	
1						LIQUID LIMIT, w_L =	ELEVATION OF SPECIMEN =	DEPTH OF SPECIMEN (FT) = 52	INITIAL VOID RATIO, e_0 =	MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122 MADE BY: MM DATE: 5-23-02 FILE NO: 9726B CHKD BY: AA DATE: 6-6-02 CONSOLIDATION TEST BORING NO. B-27 SAMPLE NO. 17 24			
2						PLASTIC LIMIT, w_p =	DIAMETER OF SPECIMEN (IN) = 1.75	DIAMETER OF SPECIMEN (IN) = 1.75	FINAL VOID RATIO, e_1 =				
3						PLASTICITY INDEX, I_p =	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50	EXISTING OVERBURDEN STRESS (TSF), P_0 =				
4						NATURAL WATER CONT. %, w =	INITIAL WATER CONTENT, % = 36	INITIAL WATER CONTENT, % = 36	COMPRESSION INDEX, C_c =				
5						LIQUIDITY INDEX, $(w - w_p)/I_p$ =	FINAL WATER CONTENT, % =	FINAL WATER CONTENT, % =	SWELLING INDEX, C_s =				
6						SPECIFIC GRAVITY, G_s =	INITIAL DEGREE SATURATION, % =	INITIAL DEGREE SATURATION, % =	REBOUND FROM $e =$	FROM 1962 DATA BY EDWARD S. BARBER			
7													
8													

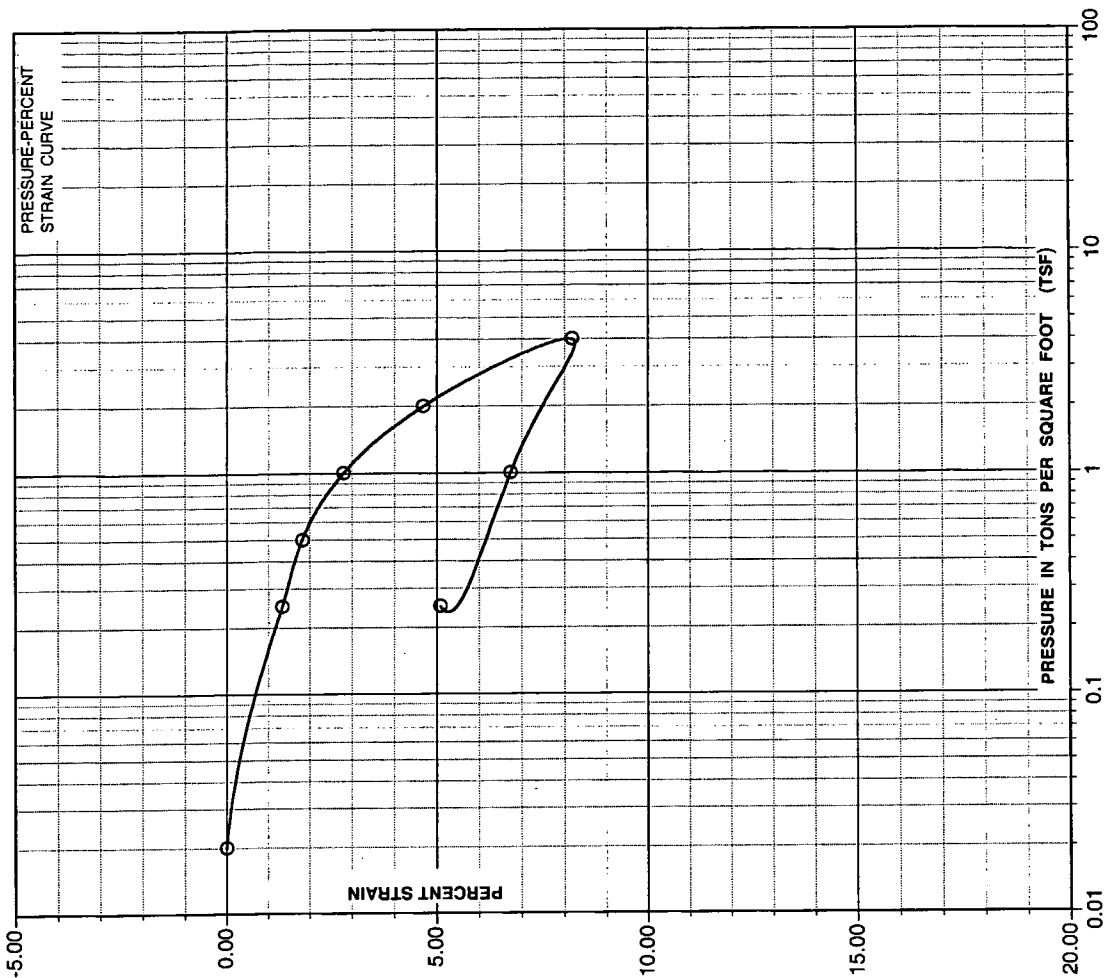
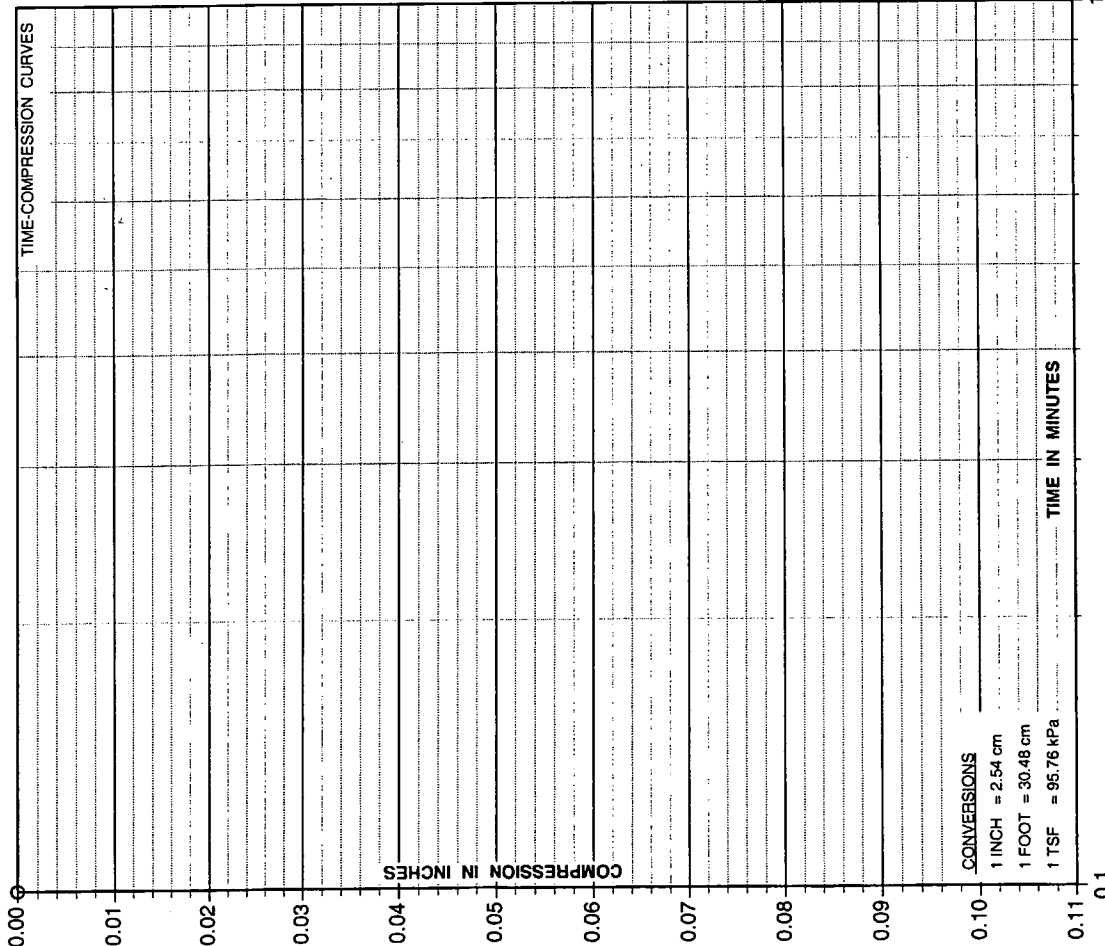


CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
				UNIFIED SOILS CLASSIFICATION -		PLASTICITY LIMIT		CONSOLIDATION		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c		WASHINGTON D.C.	
				LIQUID LIMIT, w_L		PLASTICITY INDEX, I_p		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		EXISTING OVERBURDEN STRESS (TSF), P_o		MUESER RUTLEDGE CONSULTING ENGINEERS	
				NATURAL WATER CONT. %, w		LIQUIDITY INDEX, $(w-w_p)/I_p$		INITIAL WATER CONTENT, % = 35		SWELLING INDEX, C_s		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
				SPECIFIC GRAVITY, G_s		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		REBOUND FROM $\sigma =$		MADE BY: MM DATE: 5-23-02 FILE NO.	
												CHKD BY: AA DATE: 6-6-02 9726B	
												CONSOLIDATION TEST	
												BORING NO. B-27 SAMPLE NO. 18	
												25	
1													
2													
3													
4													
5													
6													
7													
8													

FROM 1962 DATA BY EDWARD S. BARBER



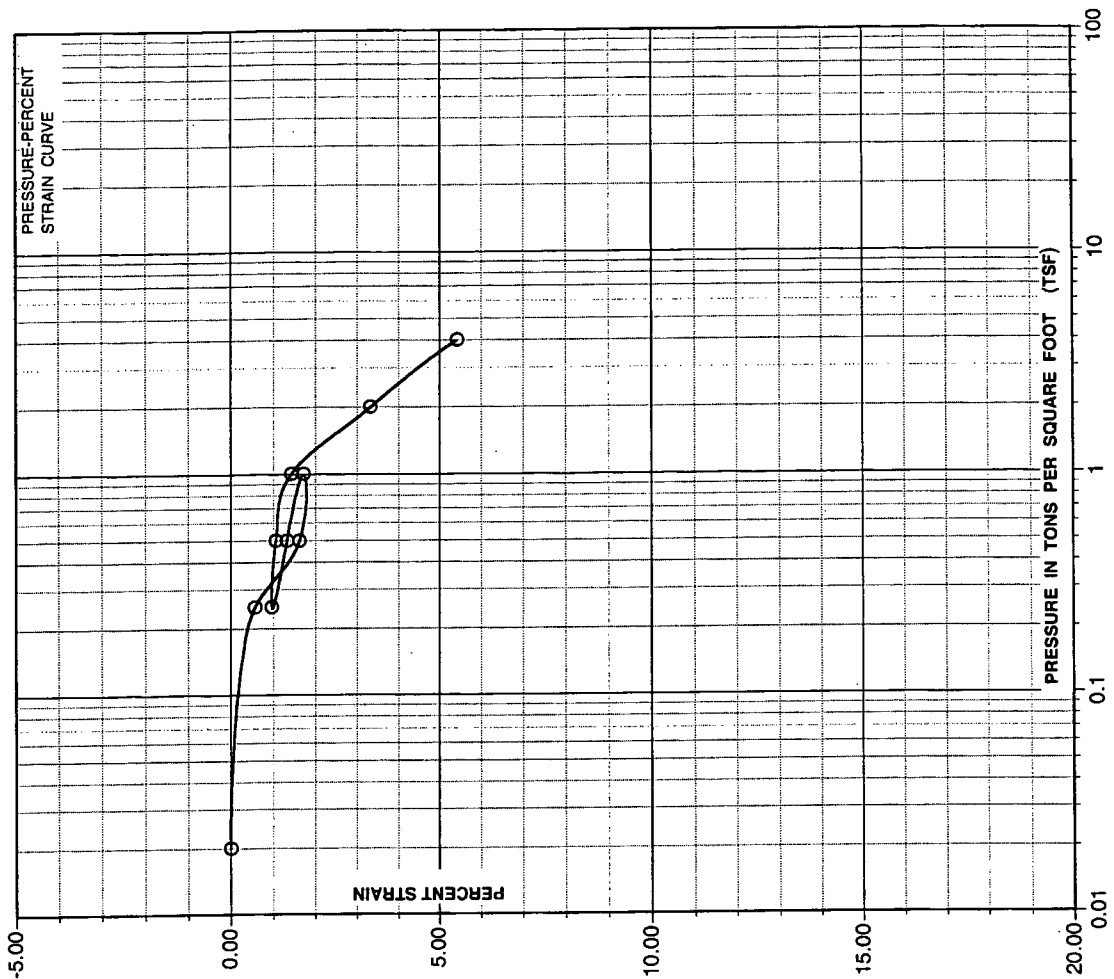
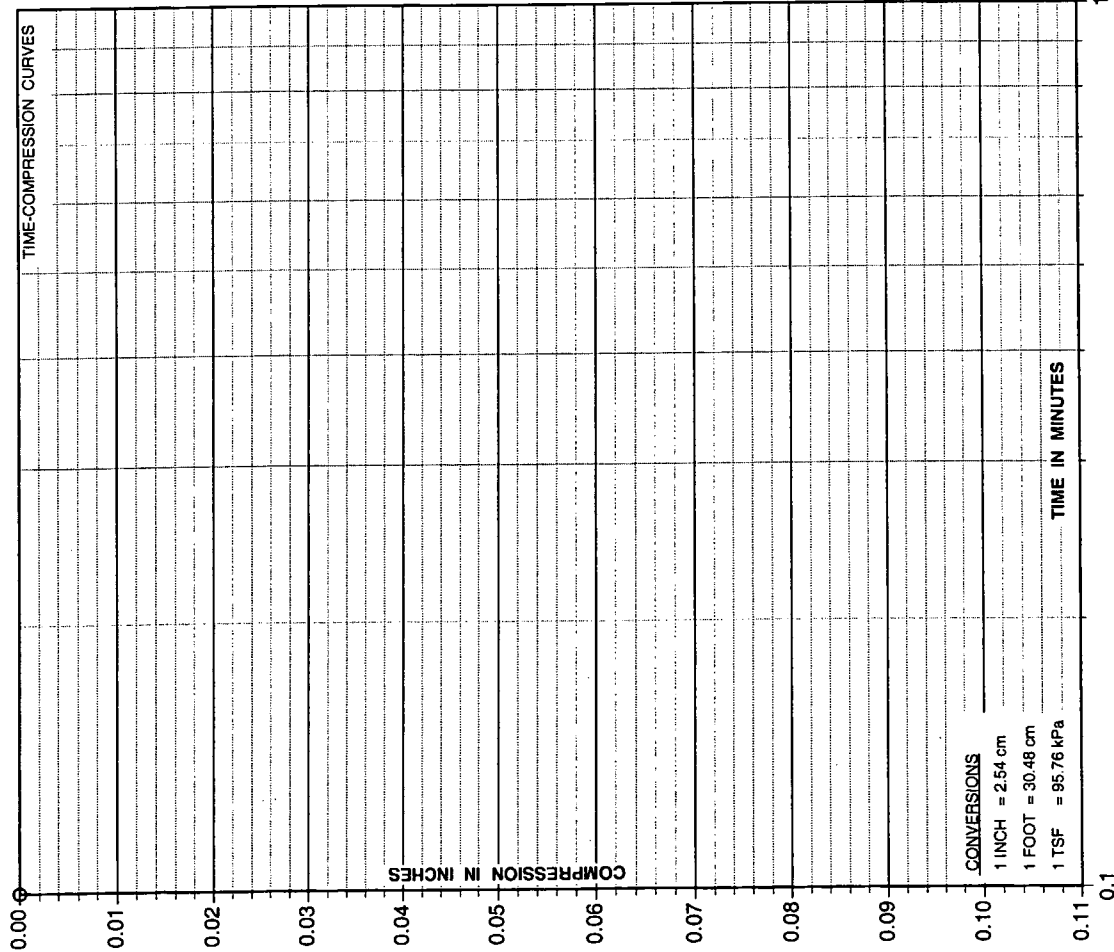
CURVE NO.		INCREMENT FROM (TSF) TO (TSF)		SPECIMEN DESCRIPTION:		SPECIMEN		PROPERTIES OF SPECIMEN		PROPERTIES OF CONSOLIDATION SPECIMEN		STRATUM		WASHINGTON MONUMENT	
①				UNIFIED SOILS CLASSIFICATION -		PLASTICITY LIMIT		ELEVATION OF SPECIMEN =		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
②				LIQUID LIMIT, w_L =		PLASTIC LIMIT, w_p =		DEPTH OF SPECIMEN (FT) = 62		EXISTING OVERBURDEN STRESS (TSF), P_o =		FINAL VOID RATIO, e_f =		MUESER RUTLEDGE CONSULTING ENGINEERS	
③				PLASTICITY INDEX, I_p =		NATURAL WATER CONT. %, w =		DIAMETER OF SPECIMEN (IN) = 1.75		COMPRESSION INDEX, C_c =		SWELLING INDEX, C_s =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
④				LIQUIDITY INDEX, $(w - w_p)/I_p$ =		LIQUIDITY INDEX, $(w - w_p)/I_p$ =		INITIAL THICKNESS OF SPECIMEN (IN) = 0.5		REBOUND FROM e =		DATE: 5-23-02		FILE NO. 9726B	
⑤				SPECIFIC GRAVITY, G_s =		INITIAL DEGREE SATURATION, % =		INITIAL WATER CONTENT, % = 48		FROM 1962 DATA BY EDWARD S. BARBER		DATE: 6-6-02		CHKO BY: AA	
⑥				INITIAL DENSITY, $\text{lb/ft}^3 = 106$		FINAL DEGREE SATURATION, % =		FINAL WATER CONTENT, % =				BORING NO. B-27		SAMPLE NO. 21	
⑦												CONSOLIDATION TEST		PLATE NO.	
⑧														26	



CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		SPECIMEN DESCRIPTION:		STRATUM		WASHINGTON MONUMENT	
1	2	FROM (TSF)	TO (TSF)	UNIFIED SOILS CLASSIFICATION	LIQUID LIMIT, w_L	PLASTIC LIMIT, w_p	PLASTICITY INDEX, I_p	NATURAL WATER CONT. %, w	LIQUIDITY INDEX, $(w - w_p)/I_p$	SPECIFIC GRAVITY, G_s	INITIAL DENSITY, $\text{lb/ft}^3 = 104$	ELEVATION OF SPECIMEN (FT) = 71	DEPTH OF SPECIMEN (IN) = 1.75	DIAMETER OF SPECIMEN (IN) = 1.75	INITIAL THICKNESS OF SPECIMEN (IN) = 0.50
1	2														
3	4														
5	6														
7	8														
9	10														

ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c		EXISTING OVERBURDEN STRESS (TSF), P_o		COMPRESSION INDEX, C_c		SWELLING INDEX, C_s		REBOUND FROM e	

FROM 1962 DATA BY EDWARD S. BARBER	
BORING NO. B-27	SAMPLE NO. 25
CONSOLIDATION TEST	PLATE NO. 28
CHKD BY: AA	DATE: 6-6-02
MADE BY: MM	DATE: 5-23-02
FILE NO. 9726B	
MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, N.Y. 10122 WASHINGTON D.C.	



CURVE NO.		INCREMENT		SPECIMEN DESCRIPTION:		PROPERTIES OF SPECIMEN		PROPERTIES OF SPECIMEN		STRATUM		WASHINGTON MONUMENT	
FROM (TSF)		TO (TSF)		UNIFIED SOILS CLASSIFICATION -		ELEVATION OF SPECIMEN =		ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c =		INITIAL VOID RATIO, e_0 =		WASHINGTON D.C.	
1				LIQUID LIMIT, w_L =		DEPTH OF SPECIMEN (FT) = 76		DIAMETER OF SPECIMEN (IN) = 1.75		FINAL VOID RATIO, e_f =		MUESER RUTLEDGE CONSULTING ENGINEERS	
2				PLASTICITY INDEX, I_p =		INITIAL THICKNESS OF SPECIMEN (IN) = 0.50		INITIAL WATER CONTENT, % = 47		EXISTING OVERBURDEN STRESS (TSF), P_o =		225 WEST 34TH STREET, NEW YORK, N.Y. 10122	
3				NATURAL WATER CONT. %, w =		FINAL WATER CONTENT, % =		INITIAL DEGREE SATURATION, % =		COMPRESSION INDEX, C_c =		MADE BY: MM DATE: 5-23-02 FILE NO.	
4				LIQUIDITY INDEX, $(w-w_p)/I_p$ =		INITIAL DEGREE SATURATION, % =		FINAL DEGREE SATURATION, % =		SWELLING INDEX, C_s =		CHKD BY: AA DATE: 6-6-02 9726B	
5				SPECIFIC GRAVITY, G_s =		INITIAL DENSITY, lb/ft^3 = 107				REBOUND FROM e =		CONSOLIDATION TEST	
6												BORING NO. B-27 SAMPLE NO. 27	
7													
8													