Appendix B

Boring Logs

N)		я	LEAN CLAY, grey, wet, stiff to very stiff.	7	Į,	
		IX:		XX.	29.0	817.5
	24	хх	(Terrace Deposit) -grading fine to coarse grained.		1 1	
	13	IXX)	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing, medium dense.	SP		
					24.0	822.5
	19	ıxxı	brown, moist, medium dense. (Terrace Deposit)	<u>4</u>	1_1_	î i
					21.0	825.5
	19	XXI				
						1,
	18	ХXI			I	U
			(Terrace Deposit)		1	1
	21	KXX	fine to medium grained, brown, moist, medium dense	S. S.	1	
					14.0	832.5
	4	KX				ı
		ж				d.
£.		_xx	grained, brown, moist, loose. (Terrace Deposit)	ww.		'
	h	<u> </u>	POORLY GRADED SAND, fine to medium	SP		
					9.0	837.5
	6	(X)	brown, moist, loose. (Terrace Deposit)	<u>۾</u> د د د		-1
			BOODI V CBADED SAND for coined light	e E	6.0	840.5
	9	XXI			L	
above mean sea level.	_		(Terrace Deposit)	····		L
	Ů.	ΙΧΧ	GRAVEL, fine to medium grained, brown,	MS SP	1	
southwest corner of 28th					2.0	844.5
Benchmark: Top nut of			SANDY LEAN CLAY, black, moist. (Topsoil)	J)	1	1
Tests or Notes	BPF WL	н	Description of Materials (ASTM D2488)	ASTM Symbol	Depth 0.0	Elev. 846.5
SCALE: 1" = 4'	12/14/93		DATE:	,		
	See site map.	See site	Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	nnepin C st Ave. S inneapoli	H:	
MW-1		BORING:		CMKX-93-0202		PROJECT:

813.5	Elev. Depth	PROJECT:
33.0		CMK Henn 21st / Minn
	ASTM Symbol	CMKX-93-0202 Hennepin Count 21st Ave. S. and Minneapolis, Mi
(Glacial Till) END OF BORING Water down 25.5 feet immediately after withdrawal of auger. Monitoring well MW-1 installed in bore hole.	Description of Materials (ASTM D2488)	CMKX-93-0202 Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota
	DATE:	BORING: LOCATION: See site
17 13	BPF W1	
	% 1	
	Tests or Notes	(cont.)

X 10 X 11 X 11 X 11 X 11 X 23 Aning, X 36 X 18	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing, dense to loose. (Terrace Deposit)		1 1 1 1	3. 3
E E E E E E E E E E E E E E E E E E E	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing dense to loose. (Terrace Deposit)		Î Î Î	,
EXX XXX IXXI IXXI XXX XXX	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing dense to loose. (Terrace Deposit)		i i	
E E E E E E E E E E E E E E E E E E E	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing dense to loose. (Terrace Deposit)		1	-1,
E E E E E E E E E E E E E E E E E E E	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, waterbearing dense to loose.	100		
XXX XXX IXXI IXXI	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit)	Ş	1	İ
KXX KXX IXXI IXXI	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit)	3	24.0	822.4
XXX XXX IXXI	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediu dense. (Terrace Deposit)		Ц	1 1
IXXI XXX XXX	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, mediudense			
KXX KXX KXX	POORLY GRADED SAND with GRAVEL	,		
		SP	19.0	827.4
			5	37.
×× 9 10			N:	
×× 9 10			20	
**XX			Ĭ	1
v v			ī	
o O			SES-	10
			1	
4	(Terrace Deposit)		ı	1
3d,	POORLY GRADED SAND, fine grained, brown, moist, medium dense.	q _S		l
			9.0	837.4
× 16	26.63		¥	1
	(TELLACE TOPOSIL)		F	1
	medium dense.		9	1)
VEL,	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, loose to	SP	1	ļ
	medium grained, brown, moist, very loose. (Terrace Deposit)		4.0	842.4
, fine to × 3	POORLY GRADED SAND with SILT, fine to	MS	34	- 31
	brown, moist. (Terrace Deposit)	SP		043.4
	SILTY SAND, fine to	MS	1	045.4
BPF WL Tests or Notes	Description of Materials (ASTM D2488)	ASTM Symbol	Depth 0.0	Elev. 846.4
DATE: 12/15/93 SCALE: 1" = 4'		,		
See site map.	Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	ennepin (Ist Ave. S	У 2. H	
				11001
BORING: MW-2	-0202	CMKX-93-0202		PROIECT

1 1			r	ï	į	j	Ä	Ų.	I.	1	ī	ų.		I		1				813.4	814.4	Elev.			PROJECT:
T I	1 1	T.	_1_	1		1	Ĩ	Ĩ.	_1_			ı.	_1_	ĭ	1		1 1	Ï	1	33.0	32.0	Depth		He 21:	- 1
																				SP		ASTM Symbol	,	nnepin (st Ave. S	CMKX-93-0202
															,t	Monitoring well MW-2 installed in bore hole.	Water down 24.8 feet immediately after withdrawal of auger.	END OF BORING	medium dense. (Terrace Deposit)	POORLY GRADED SAND with GRAVEL,		Description of Materials (ASTM D2488)		Hennepin County Property 21st Ave. S. and 29th St. E. Minneanolis Minnesota	-0202
																				×× 20	2 10	BPF WL Tests or Notes	DATE: 12/15/93 SCALE: 1" = 4'	See site map.	BORING: MW-2 (cont.)

		AVEL,	I COME I CIVILLE CAME WITH CIVI			2
		AVEL	POORLY GRADED SAND with GRAVEL	G Z	29.0	816.1
	t		dense. (Glacial Till)	IIII	1	(SIK)
		EL, fine to medium	SILTY CLAYEY SAND with GRAVEL, fine to medium grained, grey, waterbearing, medium	<u> </u>	SC SM	31
	L XX				26.0	819.1
			LEAN CLAY, grey, wet, rather stiff. (Glacial Till)	<i>1111</i>		:
	12		stiff. (Glacial Till)		23.0	822.1
		, rather	SANDY LEAN CLAY, brown, moist, rather	77	-	
	XI.				21.0	824.1
						ķ
					Ī	Ţ
	X X 22					1
			(Terrace Deposit)		Ĺ	Ï
	X 17	AVEL, t, medium	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense.	Sp		l.
	K		(Terrace regions)		14.0	831.1
	(X) 4	ined,	POORLY GRADED SAND, fine grained, brown, moist, medium dense.	SP		1
	L XX				11.0	834.1
						ï
	IX.		(Terrace Deposit)		_1_	Ţ
	X1 20	AVEL, t, medium	POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium	SP		
	7	medium	POORLY GRADED SAND, fine to medium grained, light brown, moist, loose. (Terrace Deposit)	SP	6.0	 839.1
					4.0	841.1
	(XX) 4	T, fine to loose.	POORLY GRADED SAND with SILT, fine to medium grained, brown, moist, very loose. (Terrace Deposit)	SM		1 1
	2	moist.	SANDY LEAN CLAY, dark brown, moist. (Topsoil)	() ()	1.0	844.1
	BPF WL	rials)	Description of Materials (ASTM D2488)	ASTM Symbol	Depth 0.0 S	Elev. 845.1
	12/16/93	DATE:				
	See site map.	See site	Hennepin County Property 21st Ave. S. and 29th St. E. Minneanolis. Minneanta	nepin C Ave. S.	Hen 21st Min	
MW-		BORING	202	CMKX-93-0202		PROJECT:
- I		Name of the second		0 CO (3/4)	- 1	HOUR

814.4	Elev.	PRC
4 30.7	Depth	PROJECT:
		CM Hen 21st Min
	ASTM Symbol	CMKX-93-0202 Hennepin Count 21st Ave. S. and Minneapolis, M
fine to medium grained, brown, waterbearing, very dense. (Glacial Outwash) END OF BORING Auger refusal at 31 feet. Water down 28.1 feet with 31 feet of hollow-stem auger in the ground. Monitoring well MW-3 installed in bore hole.	Description of Materials (ASTM D2488)	CMKX-93-0202 Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota
	DATE:	BORING: LOCATION: See site
* 50 * 80	12/16/93 BPF WI	
	WI /93	
	Tests or N) (co
	I" = 4'	

	ST-1 page 1 of 2		OX.	POORLY GRADED SAND with GRAVEL, Braun Intertec	SP	0202	CMKX-93-0202
Hemspin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTIM 0.0 Symbol 1.0 SMC SILTY CLAYEY SAND, fine to medium SP ProORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Terrace Deposit) X 15 X 15 X 15 X 16 X 16 X 17 X 18 X 16						29.0	819.4
Hemspin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTIM O(0) Symbol 1.0 SM SM Clermes Deposit) Phoor Grade Deposity fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Terrace Deposity 13 13 15 IOCATION: See site map. IATE: 12/16/93 SCALE BPF WL Tests 15 16 18 19 19 10 10 10 10 10 10 10 10					Valva.	ì	ı
Hemuchin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM O.0 Symbol 1.0 Sym SSC SSC State (Ast Down, moist.) POORLY GRADED SAND with GRAVEL. fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Reference Terrace Deposit) 15 15 16 17 18 18 18 18 18		15	IX X			. 1	1 1
Hemsepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC (ASTM D2488) SC (ASTM D2488) SC (ASTM D2488) SP POORLY GRADED SAND, fine to medium grained, brown, moist, medium dease. (Terrace Deposit) (Terrace Deposit) 21st Ave. S. and 29th St. E. LOCATION: See site map. DATE: 12/16/93 SCALE BPF WI Tests Tests (Terrace Deposit) 13 14 15 15 18		5	O .	too the se	X+X+.		Ţ
Hennepin County Property 21st Ave. S. and 29th St. E. Depth ASTM (ASTM Of Materials SC IIITY CLAYEY SAND, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) X 15 X 23 X 23 X 23							ļ.
Hempin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol 1.0 SM SSC 1.0 SM SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Tests (Terrace Deposit) X 13 X 23						1	Î
Hempin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Dopth ASTM 0.0 Symbol St. TY CLAYEY SAND, fine to medium symbol of medium grained, brown, moist, medium demse. (Terrace Deposit) Tests Tests To medium grained, brown, moist, medium demse. (Terrace Deposit) Tests 13					ente.	Î	i
Hempin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM (ASTM Description of Materials 0.0) Symbol (ASTM D2488) SC SC Surry CLAYEY SAND, fine to medium grained, dark brown, moist. (Terrace Deposit) POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) 23 15		18	XXI		1000		
Hemepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Description of Materials 0.0 Symbol SC SILTY CLAYEY SAND, fine to medium SP POORLY GRADED SAND with GRAVEI, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) 21st See site map. DATE: 12/16/93 SCALE Tests SP WL Tests 15						1	(1)
Hemepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM Description of Materials DATE: 12/16/93 SCALE 1.0 Symbol (ASTM D2488) DATE: 12/16/93 SCALE 1.0 SM SILTY CLAYEY SAND, fine to medium Gained, dark brown, moist. (Terrace Deposit) Fine to medium Gense. (Terrace Deposit) X X X X Tenta County Property DOCATION: Set site map. DATE: 12/16/93 SCALE						ĵ.	ű.
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM (ASTM (ASTM Description of Materials 0.0 Symbol SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) X 15 X 23						Ĺ	1
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol (ASTM Description of Materials (ASTM D2488)) SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Active County Property I CoCATION: DATE: 12/16/93 SCALE BPF WL Tests Tests 15 15 15						ı	1
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol Symbol Symbol SILTY CLAYEY SAND, fine to medium SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Tests (Terrace Deposit) (Terrace Deposit) ASTM D2488) SP SILTY CLAYEY SAND, fine to medium Gense. (Terrace Deposit) ASTM D2488) SCALE BPF WL Tests 15		23	ХХХ			ĺ	
Hempin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SCILTY CLAYEY SAND, fine to medium SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) (Terrace Deposit) Tests (Terrace Deposit) ASTM D2488) DATE: 12/16/93 SCALE DATE: 12/16/93 SCALE BPF WL Tests Tests Tests 1.0 St. Silty Clayer SAND with GRAVEL, fine to medium dense. (Terrace Deposit) 1.1 St. Silty Clayer SAND with GRAVEL, fine to medium dense. (Terrace Deposit) 1.2 St. Silty Clayer SAND with GRAVEL, fine to medium dense. Tests 1.3 Scale							i.
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Tests 15				4400		L	·
Hemnepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SLLTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Tests 15						_1_	110
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol (ASTM D2488) SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, dense. (Terrace Deposit) Tests (Terrace Deposit) ASTM DATE: 12/16/93 SCALE Tests SP WI Tests 15	4					1.	3.
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol 1.0 SM SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Tests (Terrace Deposit) (Terrace Deposit) Tests (Terrace Deposit) Tests 15		13	XXX	2600			İ
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM Description of Materials DATE: 12/16/93 SCALE 1.0 Symbol SILTY CLAYEY SAND, fine to medium grained, dark brown, moist, SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) Terrace Deposit) X 15					·	1	L
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SC SILTY CLAYEY SAND, fine to medium sp POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit)						1	-(d
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM O.0 Symbol (ASTM D2488) SCALE SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium CTerrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit) (Terrace Deposit)					viji vij	_1_	*
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) LOCATION: LOCATION: DATE: 12/16/93 SCALE BPF WL Tests BPF WIL Tests (Terrace Deposit) 15				244.8		T.	l.
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SILTY CLAYEY SAND, fine to medium SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. (Terrace Deposit) LOCATION: LOCATION: Bee site map. 12/16/93 SCALE DATE: 12/16/93 SCALE ASTM D2488) DATE: 12/16/93 SCALE DATE: 12/16/93 SCALE Tests SCALE ASTM D2488) DATE: 12/16/93 SCALE Tests Te		15	XXI			Ĺ	ı
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SILTY CLAYEY SAND, fine to medium grained, dark brown, moist. SP POORLY GRADED SAND with GRAVEL, fine to medium grained, brown, moist, medium dense. LOCATION: LOCATION: DATE: 12/16/93 SCALE: BPF WL Tests BPF WL Tests ACALE: ACATION: CATION: DATE: 12/16/93 SCALE: DATE: 12/16/93 SCALE: BPF WL Tests ACALE: Tests							
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol (ASTM D2488) SC SILTY CLAYEY SAND, fine to medium SP POORLY GRADED SAND with GRAVEL, LOCATION: LOCATION: DATE: 12/16/93 SCALE DATE: 12/16/93 SCALE DATE: 12/16/93 SCALE POORLY GRADED SAND with GRAVEL,				fine to medium grained, brown, moist, medium dense.	yan yan	1	-
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM 0.0 Symbol SC SILTY CLAYEY SAND, fine to medium SC grained, dark brown, moist. LOCATION: LOCATION: See site map. DATE: 12/16/93 SCALE BPF WL Tests				POORLY GRADED SAND with GRAVEL,	<u> </u>		1
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota Depth ASTM O.0 Symbol (ASTM D2488) DESCRIPTION: See site map. DATE: 12/16/93 SCALE: ASTM D2488) Description of Materials (ASTM D2488) DESCRIPTION: ASTM DATE: 12/16/93 SCALE:			>	grained, dark brown, moist.	SX SC	1.0	847.4
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota DATE: 12/16/93				-	ASTM Symbo	_	Elev. 848.4
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis. Minnesota	SCALE:	12/16/93	DATE:		, i		
I OCATION:		ite map.	See s	County Property S. and 29th St. E. is. Minnesota	nnepin st Ave.	He 211	
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ST-1 page 2 of 2	Braun Intertec		-0202	CMKX-93-0202
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	Boring immediately backfilled with cuttings and bentonite.		C 76	1 1
-	Water not observed to cave-in depth of 18 feet immediately after withdrawal of auger.		, E	1 1
	Water down 29 feet with 30 feet of hollow-stem auger in the ground.		00 0	r a
	END OF BORING			1
64	rine to medium grained, brown, waterbearing, very dense. (Terrace Deposit)			81/9
BPF WL Tests or Notes	Description of Materials (ASTM D2488)	ASTM Symbol	ש	Elev.
DATE: 12/16/93 SCALE: 1"				
See site map.	Hennepin County Property 21st Ave. S. and 29th St. E. Minneanolis, Minnesota	Iennepin C 1st Ave. S.	72 H	
BORING: ST-1 (cont.)		CMIKX-93-0202		PROJECT:
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Water not observed to cave-in depth of 20 feet	Water not observed immediately after withdrawal of auger.		LEAN CLAY, grey, wet, stiff. (Glacial Till)	(Terrace Deposit)	grained, brown, waterbearing, medium dense.								(1emace Deposit)	grained, light brown to brown, moist, loose.	TOOTI V CT APTE CANT G										(Terrace Deposit)	POORLY GRADED SAND, fine grained, light brown, moist, loose.	SILTY CLAYEY SAND, tine to medium grained, dark brown, moist. (Terrace Deposit)	Description of Materials (ASTM D2488)		unty Property und 29th St. E. Minnesota	
			_		<u> </u>																								DATE:	Sec	LOCATION
				X) 13					ν V					XX 10					ο ΧΧ					∞ ××I			4	BPF	12/1	site r	
																												¥.	6/93	nap.	
																		Í										Tests or	SCALE:		
																												Notes	1" = 4	ļ	
	Water not observed to cave-in depth of 20 feet	Water not observed immediately after withdrawal of auger. Water not observed to cave-in depth of 20 feet	Water not observed immediately after withdrawal of auger. Water not observed to cave-in depth of 20 feet	Water not observed immediately after withdrawal of auger. Water not observed to cave-in depth of 20 feet	(Terrace Deposit) LEAN CLAY, grey, wet, stiff. (Glacial Till) END OF BORING Water not observed immediately after withdrawal of auger. Water not observed to cave-in depth of 20 feet	24.0 SP POORLY GRADED SAND, nine to medium grained, brown, waterbearing, medium dense. CL (Terrace Deposit) 25.5 LEAN CLAY, grey, wet, stiff. (Glacial Till) END OF BORING Water not observed immediately after withdrawal of auger. Water not observed to cave-in depth of 20 feet	23.0 SP POORLY GRADED SAND, fine to medium grained, brown, waterbearing, medium dense. (Terrace Deposit) 25.5 LEAN CLAY, grey, wet, stiff. 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Braun Intertec																			pentonite.	Boring immediately backfilled with cuttings and	immediately afte	Description of Materials (ASTM D2488)		Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	-0202
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ST-2 page 2 of 2														4								or Notes	3: 1" = 4°		(cont.)

Braun Intertec

ST-2 page 2 of 2

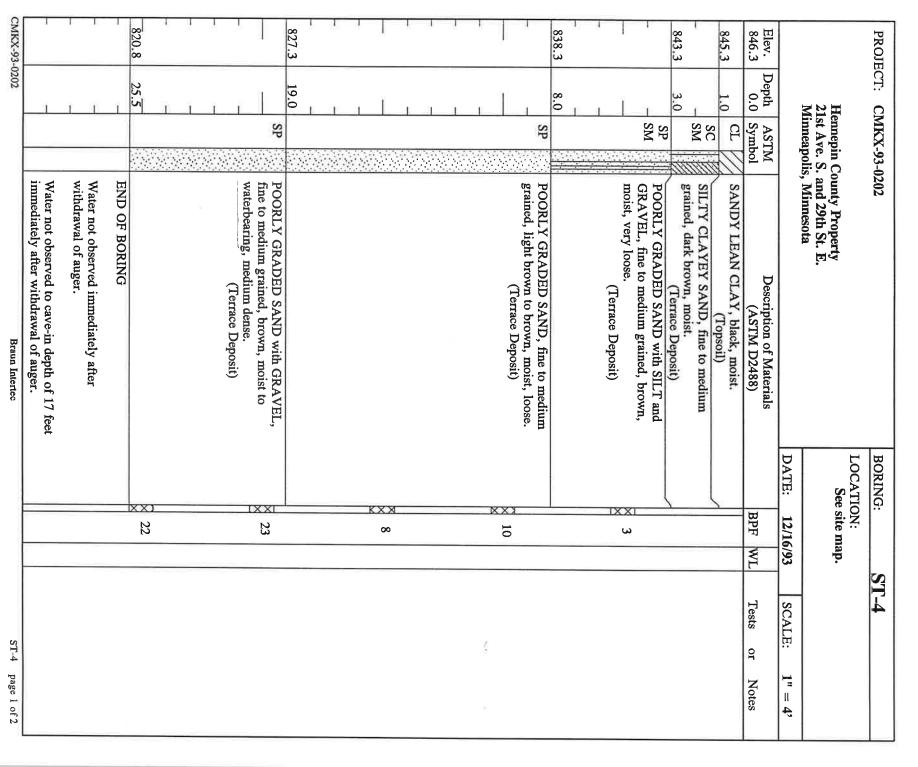
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### Ist Ave. S. and 29th St. E. ### ASTM						7	T
See site map. See site map.				(Terrace Deposit)			
See site map. See site map. See site map. See site map.				brown, moist, loose.		Ť	
Hennepin County Property Ist Ave. S. and 29th St. E. Minneapolis, Minnesota Description of Materials Symbol Symbol Symbol SILTY CLAYEY SAND, fine to medium Sym grained, dark brown, moist. SP POORLY GRADED SAND, fine to medium grained, brown, moist, loose. See site map. DATE: 12/16/93 SCALE: 1" = BPF WL Tests or Note SILTY CLAYEY SAND, fine to medium grained, brown, moist, loose.				(Terrace Deposit)	-	4.0	841.1
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LUCALION:	ap.	site m	See:	ounty Property and 29th St. E. . Minnesota	Iennepin C Ist Ave. S.	72 F	
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																						Boring immediately backfilled with cuttings and bentonite.	Water not observed to cave-in depth of 16 feet immediately after withdrawal of auger.	Description of Materials (ASTM D2488)		Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	0202
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Elev. Dep	Hennepin Count 21st Ave. S. and Minneapolis, M Symbol Bo be	29th St. E. Description of Materials (ASTM D2488) ring immediately backfilled with cuttings and ntonite.	BORING: LOCATION: See site DATE: 12 BPI	 	ST-4 SCALE: Tests o	(cont.) : 1" = 4' or Notes
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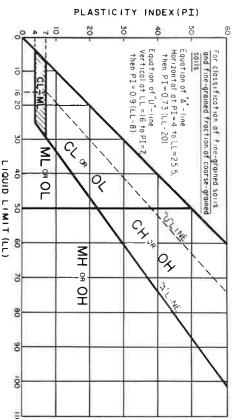
Descriptive Terminology

(III) Designation D 2487 — 83 Standard Test Method for CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

20 75 PH
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< 0.75 OL
PI < 4 or plots below "A" line J ML
CL.
Fines classify as CL or CH SC
ME
$C_U \ge 6$ and $1 \le C_C \le 3$ e SP
Fines classify as CL or CH GC
Fines classify as ML or MH GM
and/or $1 > C_C > 3$ e GP
3 e GW
SYMBOL

			0	0	*	
CO.CM poorly assisted assistance of the contract of the contra	GM-GC well graded gravel with clay	GH-GM well graded gravel with silt	Gravels with 5 to 12% fines require dual symbols	If field sample contained cobbles and/or boulders, add "with cobbles and/or boulders" to group name;	Based on the material passing the 3-in $(75-mm)$ sieve.	

GP-CM poorly graded gravel with silt
GP-CK poorly graded gravel with clay
SANS with 5 to 12% fines require dual symbols
SM-SM well graded sand with clay
SM-SM well graded sand with clay
SM-SC well graded sand with clay
SP-SC poorly graded sand with clay
SP-SC poorly graded sand with clay
SP-SC poorly graded sand with clay
SP-SC poorly graded sand with should GC-GN, SC-SM.
If fines crassily as CL-ML, use dual symbol GC-GN, SC-SM.
If fines crassily as CL-ML, use dual symbol GC-GN, SC-SM.
If fines crassily as CL-ML and "with gravel" to group name.
If fool contains > 15% gravel, add "with gravel" to group name.
If fool contains > 15% gravel, add "with gravel" to group name.
If fool contains > 30% plus No. 200, predominantly sand add "sandy" to group name.
If fool contains > 30% plus No. 200, predominantly sand add "sandy" to group name.
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If fool contains > 30% plus No. 200 predominantly sand add "sandy" to group name.
If fool contains > 30% plus No. 200 predominantly sand add "sandy" to group name.
If fool contains > 30% plus No. 200 predominantly sand and "sandy" to group name.
If fool contains > 30% plus No. 200 predominantly sand add "sandy" to group name.



LABORATORY TESTS

Dry Density, pcf Wet Density, pcf Natural Moisture Content, % Liquid Limit, % Plastic Limit, %

Plasticity Index, %

Unconfined Compressive Strength

Angle of Internal Friction

PPFMSB

900 0000 Organic Content, %
Percent of Saturation, 9
Specific Gravity

PARTICLE SIZE IDENTIFICATION

Clay less than .005 mm	Silt No. 200 — ,005 mm	Fine	Medium No. 10 — No. 40	Coarse No. 4 — No. 10	Sand	Fine	Coarse 34" — 3"	Gravel	Cobbles	Boulders over 12"
9	:	1	:			1	:			
less than .005 mm	No. 200 — ,005 mm	No. 40 — No. 200	No. 10 — No. 40	No. 4 — No. 10		No. 4 — ¾"	3/4" — 3"		. 3" to 12"	over 12"

RELATIVE DENSITY OF COHESIONLESS SOILS

very dense 50+ BPF	dense	medium dense	loose	very loose
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CONSISTENCY OF COHESIVE SOILS

soft 2 - 3 BPF rather soft 4 - 5 BPF medium 6 - 8 BPF rather stiff 9 - 12 BPF stiff 13 - 16 BPF very stiff 17 - 30 BPF hard 30+ BPF	very soft
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soft m stiff	oft
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DRILLING NOTES

prefix "ST" (Split Tube). used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the Standard penetration test borings were advanced by 31/4" or 61/41 .D. hollow-stem augers unless noted otherwise, Jetting water was

and are therefore somewhat approximate, Power auger borings are designated by the prefix "B", Power auger borings were advanced by 4" or 6" diameter, continuous-flite, solid stem augers. Soil classification and strain depths are inferred from disturbed samples augered to the surface

Hand probings were advanced manually with a 1½" diameter probe and are limited to the depth from which the probe can be manually withdrawn. Hand probings are indicated by the prefix manually withdrawn.

(undisturbed) sample. SAMPLING — **APLING** — All samples are taken with the standard 2" O.D. tube sampler, except where noted. TW indicates thin-wall

and added to get BPF. Where they differ significantly, they are reported in the following form — 2/12 for the second and third 6' into undisturbed soil below the hollow-stem auger. Driving resistances are then counted for second and third 6" increments increments respectively. **BPF** — Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value, The sampler is set 6"

hammer and rods alone, driving not required WH indicates that sampler penetrated soil under weight of

NOTE standards All tests run in accordance with applicable ASTM

