MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. SIDEWALK/8.3±
RES. ENGR. J. BIELBY/T. SANDIFORD

BORING NO.

M-1

					ı	NES		J. BIELBY/T. SANDIFORD
DAILY		SAM	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
10:15			22011070	G: == 3=0 G: 1.0.1	01101171			Hand auger to 5'.
H								Tiand adger to 5.
05-18-15							AHEAD	
Monday							4"	
Cloudy					_			
63°F					F	5		Vacuum excavated to
00 1			i					•
	10	0.0	4.4					6'.
	1D	6.0	1-1	Brown silty fine sand, trace medium to coarse				6-8': 0 ppm, no odor
		8.0	1-1	sand, clay (SM)		8		
	2D	8.0	1-1	Black to brown organic silty clay, some fine				2D-3D, 9D: REC=5"
		10.0	2-2	sand, trace gravel (OL)		10		
-	3D	10.0	3-4	Black organic clayey fine sand (SC)				8-10': 0 ppm, faint
	30			black organic clayey line sand (SC)				organic odor
		12.0	3-2					10-12': 0 ppm,
					_			
					0			organic odor
						15		
-	40	1E O	2.2	Plack arganic alovey fine and trace shalls (CC)				WC 65 nn 0.22
	4D	15.0	2-2	Black organic clayey fine sand, trace shells (SC)				WC=65, pp=0.23
		17.0	2-3					15-17': 0.0 ppm, no
								odor
						18.5		0401
						20		
		00.0	7 7	Dadharan dana fira ta madina and tura		20		DEC. 0"
	5D	20.0	7-7	Red brown clayey fine to medium sand, trace				REC=2"
		22.0	8-12	gravel, coarse sand (SC)				20-28': 0 ppm, no
	6D	22.0	12-9	Top 10": Gray brn fine sand, some silt (SM)				odor
		24.0	9-8	Bot 4": Red brn f-m sand, some silt (SM)				odol
	70					25		
	7D	24.0	4-4	Red brown fine sand, some silt (SM)		25		
		26.0	5-7					
	8D	26.0	8-6	Red brown silty fine sand (SM)				
		28.0	7-7	, ,	S			WC=Water Content
-	9D	28.0	5-6	Red brown clayey silt (ML)				in percent of dry
-	שפ			Tred brown clayey siit (IVIL)		20		
		30.0	6-8			30		weight.
	10D	30.0	5-4	Red brown silty fine sand varved with some				28-30': 0 ppm
		32.0	7-11	fine sand, some silt (SM)				pp=Pocket
-				, ,				Penetrometer
-								1
								Unconfined Compres-
						35		sive Strength in tsf.
	11D	35.0	5-12	Top 5": Red brn f-m sand, sm silt, gravel (SM)		36		30-32': 0 ppm
		36.4	100/5"	Bot 4": Brn f-c sa, tr rock fgmts, silt, mica (DR) (SP-SM)	**	36.5	↓	**Decomposed rock
09:00	1C	37.0	REC=94%	Hard unweathered gray gneissic schist,			1	from 36' to 36.5'.
I +	.0							
05-19-15		42.0	RQD=86%	moderately jointed				Rig chatter at 36.5'.
Tuesday						40	*	1C: *Coring time from
Cloudy								09:20 to 09:38.
60°F					В			35-37': 0 ppm
30.	2C	42.0	REC=100%	Do1C	R		*	*Coring time from 09:51
	20			0010		-		
		47.0	RQD=94%					to 10:09.
						45		
			•					
10:15						47		End of Boring at 47'.
10.13						71		Lind of boiling at 47.
						50		
į į								

BORING NO. M-1

							BORING	NO.	M-1	
							SHEET	3	OF	3
PROJECT		WEST 18			STREET/10Th	H AVENUE	FILE NO.		12320	
LOCATIO					EW YORK		SURFACE	E ELEV.	SIDEWA	LK/8.3±
BORING	LOCATIO	<u> </u>	SEE BORIN	NG LOC	ATION PLAN		DATUM		NAVD 88	
ROPING I	EOI IIDMEI	NT AND M	ETHODS OF	STARII	IZING BOREH	OL E				
DOMING	LQUII IVILI		E OF FEED	STABIL	IZING BOKETI	<u>OLL</u>				
TYPE OF E	ORING RIG		ING CORING		CASING L	JSED	X	YES	NO	
TRUCK		_	HANICAL		DIA., IN.	4	DEPTH, FT	1	0 TO	37
SKID		HYD	RAULIC		DIA., IN.		– DEPTH, FT		ТО	
BARGE		OTH	ER		DIA., IN.		_ DEPTH, FT		ТО	
OTHER	TRACK CN	ME-45	_				_			
								-		
TYPE AN	D SIZE OF	:			DRILLING	MUD USED	X	YES	NO	
D-SAMPLE	R 2" O.	D. SPLIT SI	POON		DIAMETE	R OF ROTARY BIT	Γ, IN.		3-7/8	
U-SAMPLE	:R				TYPE OF	DRILLING MUD			QUIK GEL	
S-SAMPLE								1		
	RREL NX D		RREL		AUGER U			YES	X NO	
CORE BIT		IAMOND			TYPE ANI	D DIAMETER, IN.				
DRILL ROD	DS NWJ				CACINGI	IAMMED IDO		۸۷/۲۵۸ ۵۲	ALL INI	
						HAMMER, LBS. R HAMMER, LBS.	140	-	E FALL, IN. E FALL, IN.	30
						ITOMATIC HAMME		AVENAGE		30
WATER L	EVEL OBS	SERVATIO	NS IN BORE	HOLE	OOLD / NO					
		DEPTH		TH OF	DEPTH TO					
DATE	TIME	HOLE		SING	WATER		CONDITIO	NS OF OB	SERVATION	
						NO	WATER LEV	EL OBSEF	RVATIONS MADE	
PIEZOME	TER INST	ALLED	YES	Х	NO SKI	ETCH SHOWN (ON			
							-			
STANDPIP	E:	TYPE			ID, IN.	LENG	GTH, FT.		TOP ELEV.	
INTAKE EL	EMENT:	TYPE			OD, IN.	LEN	GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL			OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
PAY QUA										
	RY SAMPLE		LIN. FT		37	NO. OF 3" SHEL			-	
	-SAMPLE B		LIN. FT			NO. OF 3" UNDI	STURBED S	AMPLES	-	
CORE DRII	LLING IN RO	JCK	LIN. FT	•	10	OTHER:				
BODING (CONTRAC	TOP			AOLUE	ER DRILLING &	TESTING (O INC		
DRILLER		TON	PAUL GA	פוחחי	AQUIFI	HELPERS	I LOTING (NY ROMERO	
REMARK			I AUL GF		OREHOLE GRO	_TILLFERS OUTED UPON C	OMPLETIC		VI KOWILKO	
	O IT ENGINE	ER	,JERF			SA SANDIFORD	J., LE 110	DATE	05-19	9-15
	ICATION C	-		ERYL J.		TYPING CHEC	CK:	· · · -		- · -
MRCE Form B						_		ВО	RING NO.	M-1

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	PI F				CASIN	3
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH		
12:15	140.	DEI III	BLOW6/0	CAMILE DESCRIPTION	OTIVATA	DEI III		D Vacuum excavated to
05-11-15							AHEA	
Monday							4"	Hand augered to 6'.
Sunny							İ	
80°F						5		0-6': faint odor
	1D	6.0	3-2	Black, brown clayey fine to medium sand (SC)				1D, 4D: REC=6"
		8.0	1-1	(6-8': no odor
	2D	8.0	1/12"	Black brown fine to medium sand, some silt,				Odor.
		10.0	1-1	trace wood (SM)	F	10		2D: REC=7"
	3D	10.0	1-3	Black brown silty fine sand (SM)				8-10': 0 ppm, no odor
		12.0	1-1	, , ,				10-12': 0 ppm
								10-12 : 0 ppm
						15		
	4D	15.0	5-10	Black brown fine to medium sand, some silt,				15-17': 0 ppm, no odor
		17.0	9-9	trace gravel (SM)				15-17 : 0 ppm, no odor
						18.5		
						20		
	5D	20.0	6-13	Brown black gravelly fine to coarse sand, trace				20-24': 0 ppm, no odor
		22.0	11-13	silt (SP-SM)	S			20 24 . 0 ppm, no odor
	6D	22.0	8-15	Do 5D (SP-SM)				
		24.0	16-14	,		24		
	7D	24.0	10-10	Brown clayey silt, trace fine sand, gravel (ML)		25		WC=18
		26.0	11-11					24-32': 0 ppm, no odor
	8D	26.0	4-8	Brown fine to medium sand, trace gravel, silt				21 32 : 0 ppm, no odor
		28.0	10-11	(SP-SM)				
	9D	28.0	7-12	Brown fine to coarse sand, trace gravel, silt				
		30.0	9-7	(SP-SM)		30	\	
	10D	30.0	12-10	Brown fine to coarse sand, trace silt, gravel				
		32.0	11-12	(SP-SM)				
					S			
14:15						35		
09:00	11D	35.0	2-2	Brown silty fine sand (SM)				35-37': 0 ppm, no odor
05-12-15		37.0	3-4					
Tuesday								
Sunny								
88°F						40		
	12D	40.0	1-4	Top: Do 11D (SM)		41		
		41.5	100/5.5"	Bot: Gray micaceous fine to medium sand, trace				
				silt (Decomposed Rock) (SP-SM)	DR			
								Easy drilling at 44'.
						45		
	1C	45.0		Medium hard to hard gray schistose gneiss,			*	*Coring time from 11:45
		50.0	RQD=85%	trace pegmatite, slightly weathered to				to 12:18.
				unweathered to intermediate to moderately	_			
				jointed, weathered joints	R			
		=	DEC 1			50	,L	
	2C	50.0		Hard unweathered gray, green gneiss, some			*	*Coring time from 12:35
		55.0	RQD=90%	pegmatite, moderately jointed to jointed				to 12:45.

BORING NO. M-2

M-2

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

					NI			TERESA SANDIFORD
DAILY	NO	SAMI		CAMPLE DESCRIPTION CEDA	A DED		CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION STRAT	A DEP	ΙΗ	BLOWS	REMARKS Paused run near 2'
Cont'd								at 13:10.
05-12-15 Tuesday				R				at 13.10.
Sunny				K				
88°F, 14:00					55	;		End of Boring at 55'.
001,14.00					-			End of Boning at 60.
								WC=Water Content
								in percent of dry
								weight.
					60)		
					0.5			
					65)		
					70)		
					75	5		
					80)		
					85			
					- 63	,		
					90)		
					95	5		
					100	n		
					100	U		

M-2

						BORING I	NO	IVI-2	
						SHEET	4	OF	4
PROJEC1	Γ	WEST 18TH -	WEST 19TH	STREET/10TH	I AVENUE	FILE NO.		12320	
LOCATIO	N	1	NEW YORK, N	NEW YORK		SURFACE	ELEV.	8	3.8±
BORING	LOCATION	SEE	BORING LOC	CATION PLAN		DATUM		NAVD 8	8
						_			
						•			
BORING I	EQUIPME	NT AND METHO	DDS OF STABI	LIZING BOREH	OLE				
		TYPE OF F		-					
TYPE OF B	ORING RIG	_		CASING L	ISED	×	YES	NO	
TRUCK	X	MECHANIC		DIA., IN.	4	DEPTH, FT	J.		O 30
SKID		HYDRAUL	-		_	DEFTH, FT			0
						_ ′			
BARGE		OTHER		DIA., IN.		_DEPTH, FT	. FROIVI	'	0
OTHER									
							l		
TYPE ANI	D SIZE OF	:		DRILLING	MUD USED	X	YES	NO	
D-SAMPLE	R <u>2" O.</u>	D. SPLIT SPOON		DIAMETEI	R OF ROTARY BIT	Γ, IN.		3-7/8	
U-SAMPLE	R			TYPE OF	DRILLING MUD			QUIK GEI	_
S-SAMPLE	R								
CORE BAR	REL NX D	OUBLE BARREL		AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND		TYPE AND	DIAMETER, IN.				
DRILL ROD	NWJ					•			
				CASING H	IAMMER, LBS.		AVERAGE	FALL, IN.	
				*SAMPLEI	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*USED AL	TOMATIC HAMM	ER.		_	
WATER L	EVEL OBS	SERVATIONS IN	N BOREHOLE						
		DEPTH OF	DEPTH OF	DEPTH TO					
DATE	TIME	HOLE	CASING	WATER		CONDITIO	NS OF OBS	SERVATION	
					NO	WATER LEV	EL OBSER	VATIONS MAI	 DE.
			1	¬					
PIEZOME	TER INST	ALLED	YES X	NO SKE	ETCH SHOWN (NC			
STANDPIP	E:	TYPE		ID, IN.	LEN	GTH, FT.		TOP ELEV.	
INTAKE EL	EMENT:	TYPE		OD, IN.	LEN	GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL		OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
		·				•		_	
PAY QUA	NTITIES								
	RY SAMPLE	BORING	LIN. FT.	45	NO. OF 3" SHEL	BY TUBE SA	MPLES		
3.5" DIA. U-	-SAMPLE B	ORING	LIN. FT.		NO. OF 3" UNDI				
	LLING IN RO		LIN. FT.	10	OTHER:	0.0			
JOIL DIVIL					OTTIER.				
BODING (TOP		٨٨١١٢٢		TESTING C	O INC		
	CONTRAC				R DRILLING &	I ESTING C	JO., INC.		
DRILLER		JOH	HN CAMPBELL		HELPERS	OMD: ==:0			
REMARK	-				OUTED UPON C				
	T ENGINE			ERESA SANDIF			DATE	05-	12-15
CLASSIFI	CATION C	HECK:	CHERYL	I. MOSS	TYPING CHEC	CK:			
MRCE Form BS	S-1						BOI	RING NO.	M-2

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.0±
RES. ENGR. TERESA SANDIFORD

DAILY PROGRESS NO. DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS REMARK DRILLED Hand augered Vacuum to 6'. AHEAD Vacuum to 6'. O-6': no odor S No geotech sa No g	with
13:30	with
AHEAD Vacuum to 6'. O-6': no odor S S No geotech sa S S S S S S S S S	
Thursday Sunny 70°F 5	umpling
Thursday Sunny 70°F 5	umpling
Sunny 70°F	nmpling
70°F	nmpling
10	nmpling
10	
15	
15	
15	
15	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown black clayey fine to medium sand (SC) 3" band mid sa	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown, black clayey fine to medium sand (SC) 3" band mid sa	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown, black clayey fine to medium sand (SC) 3" band mid sa	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown, black clayey fine to medium sand (SC) 3" band mid sa	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown, black clayey fine to medium sand (SC) 3" band mid sa	
1D 20.0 9-16 Brown, black clayey fine to medium sand (SC) 22.0 19-14 Brown black clayey fine to medium sand (SC) 3" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
1D20.09-16Brown, black clayey fine to medium sand (SC)Medium sand 822.019-143" band mid sa	
22.0 19-14 3" band mid sa	& black
2D 22.0 17-17 Brown fine to medium sand, trace dravel, silt	-
	faint
24.0 25-32 (SP-SM) odor	
3D 24.0 6-4 Top: Brown clayey silt, trace fine sand (ML) 25 3D Top: WC=1	8
09:00 26.0 10-8 Bot: Brown f-m sand, tr silt, coarse sand (SP-SM) 22-24': 0 ppm,	no odor
05-08-15 4D 26.0 8-11 Brown fine to coarse sand, trace gravel, silt	no odor
(OD OM)	1
Friday 28.0 10-9 (SP-SM) 24-30': 0 ppm,	no odor
75°F 30.0 7-6 Solution of the state (SM)	
75 30.0 7-0	
35	
Hard drilling from	om 37.5'
1C 38.5 REC=88% Medium hard slightly weathered gray gneissic 38.5 to 38.5'. Top of	
43.5 RQD=52% schist, jointed to closely jointed, weathered 40 38.5'. Mica & b	
joints in wood.	lack rock
Joints III wood.	
2C 43.5 REC=87% Medium hard unweathered gray gneissic schist, R Hole collapsed	
48.5 RQD=76% jointed 45 out before 2C.	; drilling
	; drilling
	; drilling
	l; drilling
	l; drilling
13:00 Fnd of Boring :	
48.5 End of Boring a	at 48.5'.
48.5 End of Boring a 50 WC=Water Co	at 48.5'. ntent
48.5 End of Boring a	at 48.5'. ntent

BORING NO. M-3

M-3

						BORING I		IVI	
						SHEET	3	OF	3
PROJEC1	Γ	WEST 18TH -	WEST 19TH	STREET/10TH	I AVENUE	FILE NO.		12320)
LOCATIO	N	1	NEW YORK, I	NEW YORK		SURFACE	ELEV.		9.0±
BORING	LOCATION	SEE	BORING LO	CATION PLAN		DATUM		NAVD	88
						=			
						•			
BORING I	EQUIPME	NT AND METHO	DS OF STABI	LIZING BOREH	OLE				
		TYPE OF F	EED						
TYPE OF B	ORING RIG	DURING C	ORING	CASING L	JSED	X	YES	NO	
TRUCK		MECHANIO	CAL	DIA., IN.	4	DEPTH, FT		0	TO 30
SKID		HYDRAUL				DEPTH, FT.			ТО
BARGE		OTHER		DIA., IN.		DEPTH, FT.			TO
OTHER	TRAC		·	DIA., IIV.			. I KOW		
OTHER	TRAC	<u> </u>							
TVDE ANI	D 017E 0E	·_		55111110	MUDUOED		\/E0		
	D SIZE OF				MUD USED		YES	NO	
D-SAMPLE		D. SPLIT SPOON			R OF ROTARY BIT	Γ, IN.		3-7/8	
U-SAMPLE	R			TYPE OF	DRILLING MUD	-		QUIK GE	EL
S-SAMPLE	R								
CORE BAR	REL NX D	OUBLE BARREL		AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND		TYPE AND	DIAMETER, IN.	_			
DRILL ROD	S NWJ								
				CASING H	IAMMER, LBS.		AVERAGE	FALL, IN.	
				*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*USED AL	JTOMATIC HAMM	ER.		-	
WATER L	EVEL OBS	SERVATIONS IN	BOREHOLE						
		DEPTH OF	DEPTH OF	DEPTH TO					
DATE	TIME	HOLE	CASING	WATER		CONDITIO	NS OF OB	SERVATION	
					NO	WATER LEV	EL OBSEF	RVATIONS MA	ADE.
DIEZOME	TED INCT	ALLED	VEO V		TOU OUOWN	ΩN.I			
PIEZUME	TER INST	ALLED	YES X	NO SKE	ETCH SHOWN (JN			
STANDPIP		TYPE		ID, IN.		GTH, FT.		TOP ELEV.	
INTAKE EL	EMENT:	TYPE		OD, IN.	LEN	GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL		OD, IN.	LEN	GTH, FT.		BOT. ELEV	
<u>PAY QUA</u>	<u>NTITIES</u>								
3.5" DIA. DI	RY SAMPLE	BORING	LIN. FT.	38.5	NO. OF 3" SHEL	BY TUBE SA	MPLES		
3.5" DIA. U-	-SAMPLE B	ORING	LIN. FT.		NO. OF 3" UNDI	STURBED SA	AMPLES		
CORE DRII	LLING IN RO	OCK	LIN. FT.	10	OTHER:				
			-						
BORING (CONTRAC	TOR		AQUIFF	ER DRILLING &	TESTING C	O., INC.		
DRILLER			IN CAMPBELL		HELPERS				
REMARK		001		- BOREHOLE GRO	_	OMPLETIC	N		
	S IT ENGINE	FR		ERESA SANDIF			DATE	OF	5-08-15
	CATION C		CHERYL		TYPING CHE		DAIL		J-00-13
			CHERTL	J. IVIUJJ	_ 1171110 CME	JIV	D.C.	DINC NO	M-3
MRCE Form BS	5-1						ВО	RING NO.	IVI-O

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

 BORING NO.
 M-4P

 SHEET 1 OF
 5

 FILE NO.
 12320

 SURFACE ELEV.
 12.0±

RES. ENGR. NATHAN SEGUIN

DAILY		SAMI	PI F				CASING	14/111/11 02 00 111
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
13:00	1D	0.0	23-14	Dark brown to black fine to coarse sand, some	**			**Pavement from 0' to
04-22-15		2.0	15-15	silt, gravel (Fill) (SM)				0.25'.
Wednesday	2D	2.0	8-10	Brown silty fine to medium sand, some gravel			4"	0-4': 0 ppm, no odor
Clear		4.0	10-15	& brick fragments (Fill) (SM)				o 1. o ppin, no odor
60°F	3NR	4.0	7-6	No recovery		5		
		6.0	5-4					
	4D	6.0	4-10	Dark gray silt, some fine sand, gravel (ML)				6-8': 8 ppm, faint odor
		8.0	10-6					• •
	5D	8.0	3-16	Brown fine to coarse sandy gravel, some silt				5D, 10D, 14D: REC=6"
		10.0	9-11	(Fill) (GM)		10		8-12': 0 ppm, no odor
	6D	10.0	7-6	Red brown brick fragments, some fine to				Spoon bouncing on
14:40		12.0	8-50/2"	coarse sand, some silt & wood fgmts (Fill) (SM)				wood; tip from 10' to
09:00	7D	12.0	52-5	Wood & gravel wash (Fill) (GP)				12'; REC=1"
04-23-15		14.0	7-7		F	45		12-14': 0 ppm
Thursday	8D	14.0	4-7	Dark gray coarse to fine sand, some gravel,	•	15		REC=4"
Clear		16.0	8-8	trace wood, silt, brick (Fill) (SP-SM)				14-16': 1 ppm, no odor,
55°F								black
						20		
	9D	20.0	4-11	Dark gray gravelly coarse to fine sand, trace		20		Casing moved down
	30	22.0	26-12	brick, silt (Fill) (GP)				with blows from 0" to
	10D	22.0	2-2	Dark gray fine to medium sand, gravel, trace				18".
	100	24.0	5-28	silt (Fill) (GP-GM)				9D, 14D: REC=6"
	11D	24.0	11-27	Dark gray fine to coarse sandy gravel, trace		25		•
		26.0	17-11	silt, brick (GP-GM)		_		20-22': 1 ppm, faint odor
	12D	26.0	5-9	Gray fine to coarse sand, some gravel, trace				
		28.0	12-18	silt (SP-SM)		28		22-24': 0 ppm, faint odor
	13D	28.0	11-12	Red brown coarse to fine sand, some gravel,				24-26': 1 ppm, faint
		30.0	11-11	trace silt (SP-SM)		30		odor
	14D	30.0	1-1	Red brown fine to coarse sand, trace silt				26-32': 0 ppm, no odor
		32.0	2-9	(SP-SM)				20-32. 0 ppili, 110 0d01
	450	25.0				35		
	15D	35.0	3-3	Red brown silty fine sand varved with some				35-37': 0 ppm, no odor
		37.0	8-7	brown silt layers (SM&ML)	S			
						40		
	16D	40.0	4-4	Brown silty fine sand (SM)		70		40, 42', 0 mmm, ma adam
	100	42.0	5-5	Drown sitty fine saile (GW)				40-42': 0 ppm, no odor
		12.0	0.0					
						45	+	
	17D	45.0	6-7	Top 15": Red brn fine sand, sm silt, tr mica (SM)			,	45-47': 0 ppm, no odor
		46.9	10-50/5"	Bot 3": Gray brn f-m sand, tr silt (DR) (SP-SM)		46.6		1, 10 pp. 11, 110 odor
	1C	47.0	REC=79%	Intermediate slightly weathered gray gneissic	DR	48		
		54.0	RQD=14%	schist, broken to closely jointed, iron stained				
				& weathered joints	R	50		

BORING NO. M-4P

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. 12.0±
RES. ENGR. JAMES BRICKMAN

						KE5		JAMES BRICKMAN
DAILY		SAMI					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION S	TRATA	DEPTH	BLOWS	REMARKS
Cont'd								
04-23-15							*	*Coring time not taken.
Thurs., Clear					R			Inspecting two rigs.
55°F, 14:00						54		End of Boring at 54'.
00 1 , 14.00						55		End of Boning at o 1.
						33		
						60		
						65		
-								
-						70		
-						70		
						75		
						80		
					,			
-								
-								
-						85		
-						00		
						90		
						95		
						100		
					,	100		

BORING NO. M-4P

M-4P

									BORING	NO.	1	M-4P		
PROJEC1	г	WEST 18	TH - 1	WFST 1	9TH 9	STREET/1	IOTE	I AVENUE	SHEET FILE NO.		5 OI	F 320	5	
LOCATIO		***************************************				EW YORI		171721102	SURFAC			12.0	O±	_
	LOCATION	\				ATION PI			DATUM		NAV			
		-							=					
BORING E	<u>EQUIPME</u> 1	NT AND M	ETHO	DS OF S	TABIL	IZING BOI	REH	<u>OLE</u>						
			OFF							1				
	ORING RIG			ORING		CASI			L	YES	NC		45	
TRUCK	X		HANIC	-		DIA.,		4	DEPTH, FT		0	TO	45	
SKID BARGE		 ОТН	RAULI(Х	DIA., DIA.,			DEPTH, FT DEPTH, FT			TO TO		
OTHER			EK			DIA.,	IIN.		_DEPIH, FI	. FROM		10		
OTTLER														
TYPE ANI	D SIZE OF	:.				DRII	LING	MUD USED	X	YES	NC)		
D-SAMPLE		D. SPLIT SI	POON					R OF ROTARY BIT		1120		7/8		
U-SAMPLE		D. 01 L11 01	0011					DRILLING MUD	,			GEL		
S-SAMPLE	 R			 -						-				
CORE BAR	REL NX D	OUBLE BAF	RREL			AUG	ER U	SED		YES	X NC)		
CORE BIT	NX D	IAMOND				TYPE	E AND	DIAMETER, IN.		_				
DRILL ROD	NWJ													
						*CAS	SING	HAMMER, LBS.	140	AVERAG	GE FALL, IN.		30	
						*SAM	1PLE	R HAMMER, LBS.	140	AVERAG	GE FALL, IN.		30	
						*USE	D AL	JTOMATIC HAMME	R.					
WATER L	EVEL OBS	SERVATIO	NS IN											
		DEPTH		DEPTH		DEPTH								
DATE	TIME	HOLE	=	CASII	NG	WATE	R	NO			BSERVATION			
								NO V	WATER LEV	EL OBSI	ERVATIONS	MADE	•	
PIEZOME	TER INST	ALLED	Х	YES		NO	SKI	ETCH SHOWN C	N	S	EE SHEET	NO. 4	4	
						_								
STANDPIPI	E:	TYPE				ID, IN	١.	LENG	STH, FT.		TOP ELE	EV.		
INTAKE EL	EMENT:	TYPE				OD, I	N.	LENG	GTH, FT.		TIP ELE	V.		
FILTER:		MATERIAL				OD, I	N.	LENG	STH, FT.		BOT. EL	EV.		
PAY QUA	<u>NTITIES</u>													
	RY SAMPLE			LIN. FT.		47	_	NO. OF 3" SHELE						
3.5" DIA. U-	-SAMPLE B	ORING		LIN. FT.			_	NO. OF 3" UNDIS	STURBED S	AMPLES				
CORE DRIL	LING IN RO	OCK		LIN. FT.		7	_	OTHER:			-			
						. =								
	CONTRAC	TOR				AQ	UIFE	ER DRILLING &	LESTING (101:5		
DRILLER			DO	MINIC P	EPE	<u> </u>	-70-	_HELPERS		GEO	RGE RAYN	IOND		
REMARKS	-	·		NIA-	110010			METER INSTALL	EU.	D 4 T C		04.00	1.45	
	T ENGINE						IVIES	BRICKMAN	·//.	DATE		04-23	5-15	
	CATION C	HECK:		CHE	≺YLJ.	MOSS		_TYPING CHEC	n:				N/ 4D	
MRCE Form BS	5-1									В	ORING NO	٠.	M-4P	

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

						RES	. ENGR	TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	i
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BI OWS	REMARKS
	110.	DEI 1111	DLOW0/0	OAIIII EE DEGGAAI 11614	0110/17/	DEI 111		Vacuum excavated to
10:00								
05-14-15							AHEAD	
Thursday							4"	Advanced unsampled
Sunny								6' to 20'.
65°F						5		Casing shifting East
								at 4'. Driller will not
								pull & realign.
								0-6': Petroleum odors
								noted. *No geotech
					F	10		sampling> drill to
					Г			1 0
								20' bgs
								_
								_
						15		
								-
						20		
	45	00.0	0.0	D		20		
	1D	20.0	2-3	Brown silty fine sand, trace mica (SM)				20-22': 1 ppm at top of
		22.0	2-4					spoon. 0.0 ppm for
	2D	22.0	4-4	Do 1D (SM)				remainder of sample,
		24.0	6-6					no odor.
	3D	24.0	2-4	Brown clayey silt varved with trace light brown		25		no odor.
		26.0	4-6	silty clay (ML)				22 20'- 0 mm = 0 0 don
	40							22-30': 0 ppm, no odor
	4D	26.0	6-3	Brown silty fine sand, trace mica (SM)				
		28.0	5-8					
	5D	28.0	3-5	Do 4D (SM)				
		30.0	5-7			30	+	
					S		,	
								_
								_
						25		_
						35		-
								Advanced unsampled
								to top of rock at 40'.
		· <u> </u>						Soft rock at 38'.
								Core to realign at
						40		40' at 12:00.
	1C	40.0	REC=93%	Medium hard slightly weathered to unweathered			*	*Coring time from
	10							
		45.0	RQD=88%	gray gneissic schist to schistose gneiss, jointed				12:05 paused at 12:10,
				to iron stained & weathered joints				12:12 to 12:40.
								Slow drilling; core
		·				45		bouncing side to side.
	2C	45.0	REC=100%	Medium hard unweathered gray gneissic schist	_		*	*Coring time from
	_	50.0		to schistose gneiss, jointed to moderately	R			12:55 to 13:38; slow
		55.0	.(QD=00/0					
				jointed to moderately jointed, weathered joints				drilling.
								<u> </u> ,
13:45						50		End of Boring at 50'.
								_
					i .	1		1

BORING NO. M-5

M-5

								BORING	NO.	M-5	
DDO IFOT		NATOT 40	TII \\/	-CT 4	TI C	TDEET/40TL	I A\/⊏NIII⊏	SHEET	3		3
PROJECT		WEST 18				STREET/10TH EW YORK	AVENUE	FILE NO.		12320	.0±
LOCATION BORING L						ATION PLAN		SURFAC DATUM	E ELEV.	NAVD 88	
BOKING L	.OCATIOI	`	SEE BC	KING	LOC	ATION FLAN		DATON		NAVD 66	
BORING E	QUIPMEI	NT AND M	ETHODS	OF S	TABILI	IZING BOREH	<u>OLE</u>				
		TYP	E OF FEE)					¬		
TYPE OF BO	ORING RIG	DUR	ING CORI	NG		CASING U	JSED	X	YES	NO	
TRUCK	X	MEC	CHANICAL			DIA., IN.	4	_DEPTH, FT		0TC	30
SKID			RAULIC		Х	DIA., IN.		_DEPTH, F1		TC	
BARGE		OTH	IER			DIA., IN.		_DEPTH, FT	Г. FROM	TC	
OTHER											
TVDE AND	0175 05								7,50		
TYPE AND			DOON				MUD USED	L.	YES	NO	
D-SAMPLER U-SAMPLER		D. SPLIT S	POON	_			R OF ROTARY BIT DRILLING MUD	, IIN.	-	3-7/8 QUIK MUD	
S-SAMPLER	-			_		TTPE OF	DRILLING MUD		-	QUIK MUD	
CORE BAR		OURI E BAI	DDEI			AUGER U	SED		YES	X NO	
CORE BIT		IAMOND	XIXLL	_			DIAMETER, IN.		JILO	X	
DRILL RODS		17 (101011)				111 2 7 4 4	DIMINETER, IIV.				
2.1.22.1.02.						CASING H	HAMMER, LBS.		AVERAG	E FALL, IN.	
							R HAMMER, LBS.	140	-	E FALL, IN.	30
							JTOMATIC HAMMI	 ER.	=		
WATER LE	EVEL OBS	SERVATIO	NS IN BO	DREHO	<u>DLE</u>						
		DEPTH	OF	DEPTH	OF	DEPTH TO					
DATE	TIME	HOLE	E	CASIN	IG	WATER		CONDITIO	NS OF OB	SERVATION	
							NO	WATER LEV	/EL OBSEI	RVATIONS MADE	Ē
PIEZOMET	TER INIST	ALLED	YE	9	Х	אט פגו	ETCH SHOWN (N			
I ILZOIVIL	ILIX IINO I	ALLLD		0		jivo ora	_101101101111				
STANDPIPE	:-	TYPE				ID, IN.	I FN	GTH, FT.		TOP ELEV.	
INTAKE ELE		TYPE				OD, IN.	-	GTH, FT.	:	TIP ELEV.	-
FILTER:		MATERIAL	_			OD, IN.		GTH, FT.	-	BOT. ELEV.	
								,			
PAY QUAN	NTITIES										
3.5" DIA. DR		BORING	LIN	l. FT.		40	NO. OF 3" SHEL	BY TUBE SA	AMPLES		
3.5" DIA. U-	SAMPLE B	ORING	LIN	l. FT.			NO. OF 3" UNDI	STURBED S	AMPLES		
CORE DRIL	LING IN RO	OCK	LIN	l. FT.		10	OTHER:				
											-
BORING C	CONTRAC	TOR				AQUIFI	ER DRILLING &	TESTING (CO., INC.		
DRILLER			JOHN (CAMPI	BELL		HELPERS				
REMARKS					BC	REHOLE GRO	OUTED UPON C	OMPLETIO	ON.		
RESIDENT						RESA SANDIF			DATE	05-1	4-15
CLASSIFIC	CATION C	HECK:		CHEF	RYL J.	MOSS	TYPING CHEC	CK:			
MRCE Form BS-	-1								ВО	RING NO.	M-5

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-6

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. +12.0±

RES. ENGR. NATHAN SEGUIN

DAILY		SAMI	PLF				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA		BLOWS	REMARKS
09:30	1D	0.0	49-13	Black fine to coarse sand, some silt, trace	**	0.25	DRILLED	**Pavement from 0' to
04-21-15		2.0	24-45	gravel, brick fragments (Fill) (SM)			AHEAD	0.25'.
Wednesday	2D	2.0	39-66	Red brick, brown fine to medium sand, silt			4"	0-10': 0 ppm
Partly Sunny		4.0	72-80	(Fill) (SM)				0 10.0 ppm
60°F	3D	4.0	9-54	Do 2D (Fill) (SM)		5		
		5.8	112-65/3"					
	4D	6.0	7-100	Do 2D (Fill) (SM)				
		7.0						
	5D	8.0	48-100/3"	Do 2D (Fill) (SM)				
		8.8				10		
	6D	10.0	50-100/1"	Brown silty fine to medium sand, some brick				10-10'7": 0.6 ppm
		10.6		fragments (Fill) (SM)				10 107 голо ррш
					F			
					•	15		
	7D	15.0	115/3"	Do 6D (Fill) (SM)				REC=2"
		15.3						Difficult advancement
								with roller bit below 16'.
								15-15'3": 5 ppm, faint
						20		odor
	8NR	20.0	100/3"	No recovery				20-20'3": 0 ppm
		20.3		, and the second				Highly contaminated;
	9D	22.0	100/3"	Red brown brick fragments, some fine to				sheen/petroleum.
		22.3	, , , ,	coarse sand, silt (Fill) (SM)				22-22.5': Brick w/sheen
	10D	24.0	100/3"	Brown silty fine to medium sand, some gravel		25		& globule (black), 29
	_	24.3		(Fill) (SM)				ppm
	11NR	25.0	26-17	No recovery		27		24-24.5': Sheen &
		27.0	7-10					
	12D	27.0	12-23	Red brown gravelly fine to coarse sand, some				globules (black), odor,
		29.0	23-21	silt (SM)		30		8 ppm
	13D	29.0	29-8	Brown fine to coarse sand, trace silt, gravel				Rig bounce from 24.5'
		31.0	8-8	(SP-SM)				to 25'.
	14D	31.0	7-7	Top 1.5': Do 13D (SP-SM)				Spoon sample split
		33.0	8-6	Bot 0.5': Red brown silty fine to medium sand				at 29.5'.
		00.0		(SM)		35		Spoon sample split
09:00	15D	35.0	6-7	Red brown fine sandy silt (ML)				at 32.5'.
04-22-15		37.0	7-6	,,,, (<u>_</u> ,	S			REC=6"
Thursday								
Clear								27-33': 0 ppm
60°F						40	+	
	16NR	40.0	6-5	No recovery			,	
		42.0	7-9					
						45		Weathered rock in tip.
	17D	45.0	7-100/5"	Brown fine to coarse sand, some silt, gravel		45.9		
		45.9	1 130,0	(SM)		- 3.3	*	*Coring time at 7
	1C	47.0	REC=100%	Medium hard slightly weathered to unweathered				minutes per foot.
		52.0	RQD=58%	gray schistose gneiss, closely jointed to jointed,	R			
				iron stained & weathered joints	, r	50		
				in the second second				
	1		I	1	1	1	1	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. +12.0±
RES. ENGR. NATHAN SEGUIN

DAILY		SAMI	DI E			INEO	CASING	NATHAN SEGUIN
DAILY	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	CTDATA	DEDTH	BLOWS	REMARKS
PROGRESS Cont'd	INO.	DEFIN	BLOWS/6	SAMPLE DESCRIPTION	SIRAIA	DEFIN	BLOWS	KEWIAKKS
04-22-15							*	*Coring time from 12
Thursday	2C	52.0	RFC=100%	Medium hard slightly weathered gray schistose				to 13 minutes per foot.
Clear		54.0		gneiss, broken to closely jointed, Fe & WJts	R		*	*Coring time at 5
60°F	3C	54.0		Medium hard slightly weathered to unweathered		55		minutes per foot.
00 1	- 00	57.0		gray schistose gneiss to gneissic schist,				inimated per reet.
11:50		0.10		jointed, iron stained joints		57		End of Boring at 57'.
				J				
						60		
						65		
						70		
						75		
						73		
						80		
						85		
						90		
						OF		
						95		
						-		
						100		
						. 30		
	L							

BORING NO. M-6

M-6

							BORING I	NO.	M-6	
							SHEET	4	OF	4
PROJECT	V	VEST 18TH			TREET/10TH	AVENUE	FILE NO.		12320	
LOCATION					EW YORK		SURFACE	E ELEV.	+12	.0±
BORING LOC	CATION	SE	E BORING	LOC	ATION PLAN		DATUM		NAVD 88	
BODING FOI	IIDMENI	L VND WETI	HODS OF S	TARILI	ZING BOREH	OLE				
BONING EQC	JII IVILIN	TYPE OI		IADIL	ZING BOKETI	OLL				
TYPE OF BORI	NG RIG		CORING		CASING L	ISED	X	YES	NO	
TRUCK	X	MECHAN			DIA., IN.	4	DEPTH, FT		0 TO	40
SKID		HYDRAU		Х	DIA., IN.	-	- DEPTH, FT		ТО	-
BARGE		OTHER			DIA., IN.		_ DEPTH, FT		ТО	
OTHER							- ·			
TYPE AND SI	IZE OF:				DRILLING	MUD USED	X	YES	NO	
D-SAMPLER	2" O. D	. SPLIT SPOC	DN		DIAMETE	R OF ROTARY BIT	, IN.		3-7/8	
U-SAMPLER					TYPE OF	DRILLING MUD			QUIK GEL	
S-SAMPLER										
CORE BARREL	NX DO	UBLE BARRE	L		AUGER U	SED		YES	X NO	
CORE BIT	NX DIA	MOND			TYPE ANI	DIAMETER, IN.	:			
DRILL RODS	NWJ									
						HAMMER, LBS.		AVERAGE		30
						R HAMMER, LBS.		AVERAGE	FALL, IN.	30
\\\\ TED E\\\		-D) /A TIONIO		0.5	*USED AL	JTOMATIC HAMME	ER.			
WATER LEVE	EL OBSE				DEDTILTO					
DATE 1	TIME	DEPTH OF HOLE	DEPTH CASII		DEPTH TO WATER		CONDITIO	NS OF OR	SERVATION	
DATE	TIIVIL	HOLL	OAGII	10	WATER	NO			VATIONS MADE	<u> </u>
						110	***************************************			•
<u>PIEZOMETER</u>	R INSTA	LLED	YES	Χ	NO SKI	ETCH SHOWN C	ON			
STANDPIPE:		TYPE			ID, IN.		GTH, FT.		TOP ELEV.	
INTAKE ELEME		TYPE			OD, IN.		GTH, FT.		_TIP ELEV.	
FILTER:	N	MATERIAL			OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
DAYOUANT	TIFC									
PAY QUANTI		ODING	LINI CT		47	NO OF SUCCES		MDLEO		
3.5" DIA. DRY S			LIN. FT.		47	NO. OF 3" SHEL				
3.5" DIA. U-SAN			LIN. FT.		10	NO. OF 3" UNDIS	STUKBED S	AIVIPLES		
CORE DRILLIN	IN ROC	ĸ	LIN. FT.		10	OTHER:				
BORING CON	NTPACT	OR			۵۵۱ اات	ER DRILLING &	TESTING (ר ואור		
DRILLER	VINACI		OMENIC P	EDE	AQUIFI	HELPERS	I LOTING (GE RAYMOND	1
REMARKS			ONIENIO P		REHOLE GPO	_ NELPERS OUTED UPON C	OMPLETIC		JE NATIVIOND	•
RESIDENT EI	NGINEE	R			RESA SANDI		OWN LLTIC	DATE	04-2	2-15
CLASSIFICAT			CHF		MOSS	TYPING CHEC	CK:	<i>5</i> / (1 L	UT-2.	_ 10
MRCE Form BS-1			J. 121					BOI	RING NO.	M-6
										•

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

						KES	. E	NGR.	TERESA SANDIFORD
DAILY		SAME	PLE				C	ASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEDTU			REMARKS
	NO.	DEPIR	BLUVV5/6	SAMPLE DESCRIPTION	SIRAIA	DEPIN			
08:00							DF	RILLED	0-6': no odor
05-01-15								HEAD	
								4" 3"	-
Friday								+ 3	
Cloudy									
55°F						5			
00 1									-
	1D	6.0	5-5	Brown, tan gravel (GP)	_				1D, 4D: REC=1"
		8.0	4-4		F				
	2D	8.0	4-3	Brown, tan fine to coarse sandy gravel, trace					REC=2"
	20					4.0			
		10.0	3-3	silt (GP-GM)		10			6-14': 0 ppm, no odor
	3D	10.0	7-5	Brown gravelly fine to coarse sand, some silt					
		12.0	3-5	(SM)					
	40								-
	4D	12.0	2-7	Black gravel, trace fine to coarse sand (GP)					
		14.0	5-7						
						14.5			1
		45.0	40.7	Otiff and a superior all the along the superior all all a fine		17.0			WO 50
	5D	15.0	19-7	Stiff gray organic silty clay, trace shells, fine					WC=53
		17.0	4-3	sand (OH)					15-17': 0 ppm, no odor
					0				-
						20			
	6D	20.0	7-11	Stiff gray organic silty clay, some fine sand (OH)					WC=36
		22.0	15-19	July gray organic only only; come into carra (or i)		22			Blows from driller.
						22			blows from driller.
	7D	22.0	11-9	Brown fine to medium sand, some silt, trace					
		24.0	11-11	coarse sand (SM)					Cobbles spun from
	8D	24.0	8-8	Brown fine to medium sand, trace silt (SP-SM)		25			10:40 to 12:00.
	00			brown line to medium sand, trace siit (SF-Sivi)		23			
		26.0	9-8						Blows from driller.
	9D	26.0	10-9	Do 8D (SP-SM)					Blows from driller.
		28.0	9-9	,					20-32': 0 ppm, no odor
	400			D				 	20-32. 0 ppin, no odoi
	10D	28.0	6-8	Brown, green silt, some fine sand (ML)					
		30.0	6-7			30			
	11D	30.0	9-10	Brown fine to coarse sand, some silt, trace					1
	110								-
		32.0	9-9	gravel, clay (SM)					
						35			-
						33			_
	12D	35.0	6-17	Brown gravel, trace fine to coarse sand (GP)					35-37': 0 ppm, no odor
		37.0	14-10						
09:00					S				-
									-
05-04-15									
Monday						40	1	,	
Sunny	13NR	40.0	26-13	No recovery					1
	101111	42.0	17-12	110 10001019					
80°F		42.0	17-12						
]
						45			-
				- W. 6		40			
	14D	45.0	8-5	Brown silty fine sand, trace clay (SM)					45-47': 0 ppm, no odor
		47.0	5-8						11 ,
		-							1
							-		-
						50			
	15D	50.0	5-4	Brown, red brown silty fine sand, trace mica					50-52': 0 ppm, no odor
	.00			T			 		50 52.0 ppm, no odor
		52.0	5-5	(SP)			<u> </u>	▼	

BORING NO. M-7

M-7

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

		0 4 8 41			1		CACUIC.	TERREST STRING I STRE
DAILY		SAMI		CAMPLE DECORPTION	0.70 4.74		CASING	DEMARKO
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd							DRILLED	
05-04-15							AHEAD	
Monday							3"	
Sunny								
80°F					s	55		
	16D	55.0	8-5	Do 15D (SM)	3			55-57': 0 ppm, no odor
		57.0	6-8					
								Hard drilling at 58'.
						60	V	3" Casing to 60'.
	1C	60.0	REC=92%	Medium hard slightly weathered to unweathered			*	*Coring time from 12:55
		65.0		gray gneissic schist, closely jointed to jointed,				to 13:15 at 4 minutes
				slightly weathered joints				per foot.
				,				
					_	65		
	2C	65.0	REC=100%	Medium hard unweathered gray schistose	R			Did not get core times;
		70.0		gneiss & gneissic schist, closely jointed to				covering two rigs.
			1142-0070	jointed, slightly weathered joints				govornig two rigo:
				Johnson, diiginay wodanorod johnso				
14:30						70		End of Boring at 70'.
14.50						10		Life of Boiling at 70.
								WC=Water Content
								in percent of dry
								weight.
						75		weight.
						73		
						- 00		
						80		
						85		
						90		
						95		
						100		
						1		
L					1	1	1	

M-7

							BORING	NO.	M-7	
							SHEET	4		4
PROJEC [*]	-	WEST 18			STREET/10Th	H AVENUE	FILE NO.		12320	
LOCATIO	-				EW YORK	<u> </u>	SURFAC	E ELEV.	8.9	
BORING	LOCATION	<u> </u>	SEE BORII	NG LOC	ATION PLAN		DATUM		NAVD 88	
BORING	FQUIPME	NT AND M	ETHODS OF	STABIL	IZING BOREH	OLF.				
BOTUITO	LGOII IVILI		E OF FEED	OTTIBLE	ILLING BOILETT	<u> </u>				
TYPE OF E	BORING RIG		ING CORING		CASING L	JSED	Х	YES	NO	
TRUCK		MEC	HANICAL		DIA., IN.	4	DEPTH, FT	4	0 TC	40
SKID		HYD	RAULIC	Х	DIA., IN.	3	DEPTH, FT	. FROM	0 TC	60
BARGE		OTH	ER		DIA., IN.		DEPTH, FT	. FROM	TC)
OTHER	TRAC	K					_			
								٦		
TYPE AN	ID SIZE OF	:			DRILLING	MUD USED	X	YES	NO	
D-SAMPLE		D. SPLIT SI	POON			R OF ROTARY BI	T, IN.		3-7/8	
U-SAMPLE					TYPE OF	DRILLING MUD			QUIK MUD	
S-SAMPLE								7		
	RREL NX D		RREL		AUGER U			YES	X NO	
CORE BIT		IAMOND			TYPE ANI	D DIAMETER, IN.				
DRILL ROL	DS NWJ				CASING	HAMMER, LBS.		AVEDAGE	E FALL, IN.	
						R HAMMER, LBS.	140	-	E FALL, IN E FALL, IN.	30
						JTOMATIC HAMM				
WATER L	_EVEL OBS	SERVATIO	NS IN BORE	HOLE	0025710					
		DEPTH		TH OF	DEPTH TO					
DATE	TIME	HOLE	E CA	SING	WATER		CONDITIO	NS OF OB	SERVATION	
						NO	WATER LEV	/EL OBSEF	RVATIONS MADE	Ξ.
PIEZOME	ETER INST	ALLED	YES	X	NO SKI	ETCH SHOWN (ON			
		71222								
STANDPIP	E:	TYPE			ID, IN.	LEN	GTH, FT.		TOP ELEV.	
INTAKE EL		TYPE	-		OD, IN.	-	GTH, FT.		TIP ELEV.	-
FILTER:		MATERIAL			OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
									_	
PAY QUA	<u>ANTITIES</u>									
3.5" DIA. D	RY SAMPLE	BORING	LIN. FT	·	60	NO. OF 3" SHEL	BY TUBE SA	AMPLES		
3.5" DIA. U	J-SAMPLE B	ORING	LIN. FT	·		NO. OF 3" UNDI	STURBED S	AMPLES		
CORE DRI	LLING IN RO	OCK	LIN. FT	·	10	OTHER:				
					_					
	CONTRAC	TOR			AQUIFI	ER DRILLING &	TESTING (<u></u>	
DRILLER			PAUL GA			HELPERS			RIS RUBAN	
REMARK	-					OUTED UPON C	OMPLETIC		0= 0	4.45
	NT ENGINE	-	<u></u>		RESA SANDIF		OK.	DATE	05-0	4-15
	ICATION C	HECK:	CF	IERYL J.	IVIUSS	TYPING CHE	UN:	BO	DING NO	117
MRCE Form B	ა-1							ЬΟ	RING NO.	M-7

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.6±
RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	PLE				CAS	SING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLO	ws	REMARKS
11:00							DRIL	LED	Drove casing to 20'.
04-30-15							AHE	AD	0-5': 0 ppm, no odor
Thursday							4	."	**
Sunny									
60°F						5			
						10			
						10			
						15			
	1D	20.0	8-6	Dad brown fine to engree conductrous trace		20			REC=2"; no contami-
	טו	22.0		Red brown fine to coarse sandy gravel, trace silt (GP)					nation from 20' to 30'.
	2D	22.0	8-7	Red brown fine to coarse sand, some gravel,					20-22': 0 ppm, no odor
		24.0		trace silt (SP-SM)					22-24': 3 ppm
	3D	24.0	4-5	Red brown fine to coarse sand, trace gravel,		25			24-26': 0 ppm, no odor
		26.0	6-7	silt (SP-SM)					26-28': 0 ppm, no odor
	4D	26.0	8-7	Red brown silty fine sand, trace mica (SM)					20 20 to ppin, no ouer
		28.0	10-10	D 4D (011)					
	5D	28.0	17-12	Do 4D (SM)		30			
		30.0	10-9			30			
					S	35			
					3				
						40			
						70			
						45			
						50	*	ŧ	*Coring time from
	1C	50.0	REC=100%	Medium hard slightly weathered gray gneissic	_	30			13:28 to 13:44 at 3.2
		55.0		schist, moderately jointed to jointed, WJts	R				minutes per foot.
<u> </u>	1			, , , , , , , , , , , , , , , , , , , ,	1	I	1		1

BORING NO. M-8

M-8

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.6±
RES. ENGR. TERESA SANDIFORD

	1					KES		TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd								
05-20-15								
Wednesday								
Partly Sunny								
65°F					R	55		
	2C	55.0	REC=85%	Top 1.5": Do 1C	1		*	*Coring time from
		60.0	RQD=58%	Bot: Hard unweathered gray pegmatite,				14:00 to 14:28 at 5.6
				moderately jointed				minutes per foot.
				• •				
14:30						60		End of Boring at 60'.
14.50						- 00		End of Boning at oo.
						65		
						70		
						70		
						75		
						80		
						85		
						00		
						90		
						95		
						30		
		-						
						100		
						- 30		

M-8

							BORING	NO.	M-8	
PROJEC [*]	т	WEST 18	TH - WEST	19TH S	STREET/10TH	I AVENUE	SHEET FILE NO.	4	OF 12320	4
LOCATIO	-	***************************************			EW YORK	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	SURFAC		9.0	6±
	LOCATION	\			ATION PLAN		DATUM		NAVD 88	
		-								
BORING	EQUIPMEI			STABIL	IZING BOREH	<u>OLE</u>				
			E OF FEED					7		
_	BORING RIG	_	ING CORING		CASING L		l————	YES	NO TO	20
TRUCK			HANICAL		DIA., IN.	4	DEPTH, FT		0TC	
SKID BARGE	-	OTH	RAULIC	Х	DIA., IN. DIA., IN.	-	DEPTH, FT DEPTH, FT		TC	
OTHER	TRAC				DIA., IIV.			. I KOW	10	
OTTLER	110.10									
TYPE AN	D SIZE OF	:			DRILLING	MUD USED	Х	YES	NO	
D-SAMPLE		D. SPLIT SI	POON			R OF ROTARY BIT	L]. =-	3-7/8	
U-SAMPLE	R				TYPE OF	DRILLING MUD	•		QUIK GEL	
S-SAMPLE	R									
CORE BAR	RREL NX D	OUBLE BAF	RREL		AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND			TYPE AND	DIAMETER, IN.				
DRILL ROD	OS NWJ									
					CASING F	IAMMER, LBS.		AVERAGE	E FALL, IN.	
					*SAMPLE	R HAMMER, LBS.	140	AVERAGE	E FALL, IN.	30
					*USED AL	ITOMATIC HAMMI	ER.			
WATER L	EVEL OBS		NS IN BORE		I					
DATE	TIME	DEPTH			DEPTH TO		CONDITIO	NIC OF OR	CEDVATION	
DATE	TIME	HOLE	E CAS	ING	WATER	NO			SERVATION RVATIONS MADE	
						NO	VVAILIVLLV	/LL OBSLI	VATIONS MADE	
	-	•	1		T.					
PIEZOME	TER INST	ALLED	YES	X	NO SKE	ETCH SHOWN (NC			
					_					
STANDPIP	E:	TYPE			ID, IN.	LEN	GTH, FT.		TOP ELEV.	
INTAKE EL	LEMENT:	TYPE			OD, IN.	LEN	GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL			OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
PAY QUA										
	RY SAMPLE		LIN. FT.		50	NO. OF 3" SHEL			-	
	-SAMPLE B		LIN. FT.			NO. OF 3" UNDI	STURBEDS	AMPLES		
CORE DRI	LLING IN RO	JCK	LIN. FT.	-	10	OTHER:			-	
BODING:	CONTRAC	TOP			۵۵۱ اا	ER DRILLING &	TESTING (
DRILLER		TOIN	DOUG WO	חטט	AQUIFE	HELPERS	LLOTING (CO., IINO.		
REMARK			שוא פטטט		DREHOLE GRO	_ NELFERS OUTED UPON C	OMPLETIC	ON		
	.5 IT ENGINE	FR			RESA SANDIF		OWN LLTIC	DATE	04-3	0-15
	ICATION C		CHF		MOSS	TYPING CHEC	CK:			- 10
MRCE Form B		=				_		ВО	RING NO.	M-8

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

MRCE Form BL-1

BORING NO. M-9

SHEET 1 OF 3

FILE NO. 12320

SURFACE ELEV. 8.8±

RES. ENGR. TERESA SANDIFORD

SAMPLE **CASING** DAILY DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS PROGRESS** DRILLED Hand auger to 1.5'. 11:45 05-11-15 AHEAD Vacuum excavated to 1.5'. Roller bit slowly Monday Sunny through brick obstruc-50°F 1D 4.0 5-3 Brown, red fine to coarse sand, some gravel, 5 tion. 2-2 6.0 clay, trace brick fragments (SC) Harder drilling at 3.5'. 2D 6.0 3-3 Do 1D (SC) Wash shows brick & F 8.0 4-4 gravel pieces; 4' 3NR 8.0 16-5 No recovery softened. 10.0 4-2 10 1D: REC=6" 4D 10.0 1-1 Brown clayey fine to coarse sand, trace gravel 2D: REC=2" 12.0 1-3 (SC) 4D: REC=3" 4-8': 0 ppm, no odor 10-12': 0 ppm, no odor 15 5D 15.0 2-2 Black, brown gravelly organic silty clay (OH) 15-17': 1 ppm, faint 17.0 8-11 organic odor 20 6D 20.0 7-7 Brown black clayey silt, some fine sand (ML) 1" Coarse gravel & 2" 7-11 medium sand at top of 22.0 14:45 7D 22.0 12-11 Interlayered brown fine to medium sand, some sample. 09:00 24.0 10-8 silt & fine to coarse sand, trace silt (SM&SP-SM) 6D: WC=19 05-12-15 8D 24.0 6-8 Brown black fine to coarse sand, trace silt 25 Top had 1" band of Tuesday 26.0 9-12 (SP-SM) silty clay. Sunny 9D 26.0 4-5 Brown fine to coarse sand, trace silt (SP-SM) 86°F S 28.0 9-12 10D 28.0 11-11 Brown clayey fine sand, trace silt, gravel (SM) REC=1" 30.0 11-12 30 20-32': 0 ppm, no odor 11D 30.0 9-7 Brown silty fine sand varved with some clayey 7-10 silt (SM&ML) 32.0 35-37': 0 ppm, no odor 35 12D 35.0 1-2 Red brown silty fine sand (SM) WC=Water Content 37.0 4-8 in percent of dry weight. 40-42': 0 ppm 39.5 Hard drilling at 39.5'. DR 13D 40.0 100/1" Gray micaceous fine to medium sand, trace 41 1C: *Coring time from 12.58 to 13:11 at 8.6 40.1 silt (Decomposed Rock) (SP-SM) 1C REC=83% Medium hard unweathered to slightly weathered 41.0 minutes per foot. 42.5 gray gneissic schist, jointed to MdJtd RQD=50% At 13:11, core barrel 45 2C 42.5 REC=98% Do 1C iammed. 46.0 RQD=98% 2C: *Coring time from R REC=97% Do 1C 3C 46.0 13:25 to 13:40 at 4.3 51.0 **RQD=87%** minutes per foot. 3C: *Coring time from 50 13:51 to 14:02 at 2.2 14:00 51 minutes per foot. End of Boring at 51'.

BORING NO. M-9

								BORING	NO.	M-9)
PROJECT	г	WEST 18	8TH - \	WEST 1	OTH S	STREET/10TH	I AVENI IE	SHEET FILE NO.	3	OF 12320	3
LOCATIO	-	WEOT IC				EW YORK	IAVLINOL	SURFACI			.8±
	LOCATIO	\				ATION PLAN		DATUM	,	NAVD 88	
BORING	200/11101	`		50111110		71110111 27111				10,000	<u>, </u>
BORING I	EQUIPMEI	NT AND M	<u>1ETHO</u>	DS OF S	TABILI	IZING BOREH	<u>OLE</u>				
			E OF FI						1		
	BORING RIG		RING CO			CASING U		L	YES	NO T	0 00
TRUCK		_	CHANIC			DIA., IN.	4	_ DEPTH, FT		0T0	
SKID)RAULI(Х	DIA., IN.		_DEPTH, FT DEPTH, FT		T(
BARGE OTHER	TRAC	OTH	IEK	-		DIA., IN.			. FROIVI		J
OTTLER	TICAO										
TYPE AN	D SIZE OF	:				DRILLING	MUD USED	Х	YES	NO	
D-SAMPLE	R 2" O.	D. SPLIT S	POON			DIAMETE	R OF ROTARY BIT		1	3-7/8	
U-SAMPLE	R					TYPE OF	DRILLING MUD			QUIK GEL	
S-SAMPLE	R										
CORE BAR	RREL NX D	OUBLE BA	RREL			AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND				TYPE ANI	DIAMETER, IN.				
DRILL ROD	DS NWJ										
							IAMMER, LBS.		-	E FALL, IN.	
						SAMPLER	R HAMMER, LBS.	140	AVERAG	E FALL, IN.	30
\/\ATED)	יאו סואכ	DODELI	OL E						
WATERL	EVEL OBS	DEPTH		DEPTH		DEPTH TO					
DATE	TIME	HOL		CASII		WATER		CONDITIO	NS OF OE	SERVATION	
							NO			RVATIONS MAD	
DIE 7014E	TED INOT						-TOU OU ON (N)	211			
PIEZOME	TER INST	ALLED		YES	X	NO SKI	ETCH SHOWN (JN			
CTANDDID	г.	TVDE				ID IN	LEN	CTU ET		TOD ELEV	
STANDPIP INTAKE EL		TYPE TYPE				ID, IN. OD, IN.	-	GTH, FT. GTH, FT.	-	TOP ELEV. TIP ELEV.	
FILTER:	LIVILINI.	MATERIA				OD, IN.	-	GTH, FT.		BOT. ELEV.	
TILILIX.		MATERIA	L			OD, IIV.	LLIN	O111, 1 1.			-
PAY QUA	NTITIES										
	RY SAMPLE	BORING		LIN. FT.		41	NO. OF 3" SHEL	BY TUBE SA	AMPLES		
3.5" DIA. U	-SAMPLE B	ORING		LIN. FT.			NO. OF 3" UNDI				
CORE DRII	LLING IN RO	OCK		LIN. FT.		10	OTHER:			-	
BORING (CONTRAC	TOR	_			AQUIFE	ER DRILLING &	TESTING (CO., INC.	<u>. </u>	
DRILLER			PA	UL GAD	DIS		HELPERS				
REMARK	S				ВС	REHOLE GRO	OUTED UPON C	OMPLETIC	DN.		
	IT ENGINE					RESA SANDIF			DATE	05-1	12-15
CLASSIFI	ICATION C	HECK:		CHE	RYL J.	MOSS	TYPING CHEC	CK:			
MRCE Form BS	S-1								ВС	ORING NO.	M-9

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-10

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. 14.0±

RES. ENGR. J. BRICKMAN/T. SANDIFORD

DAILY		SAM	PI F				CASING	J. BRICKMAN/T. SANDIFORD
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION		DEPTH	BLOWS	REMARKS
14:00	1D	0.0	27-18	Black fine to coarse sand, some silt, trace gravel,	**	0.33	DRILLED	**Asphalt from 0' to
04-23-15		2.0	28-31	brick (SM)			AHEAD	0.33'.
Thurs., Clear	2D	2.0	20-24	Gray fine to coarse sand, some silt, trace			4"	0-2': 90 ppm, odor at
55°F, 14:15		4.0	20-21	gravel (SM)				tip
11:30	3D	4.0	13-9	Gray & brown fine to coarse sand, some silt,		5		3D, 5D, 8D: Petroleum
04-24-15		6.0	10-10	trace gravel (SM)	F			odor.
Friday	4D	6.0	10-14	Gray fine to coarse sand, some silt, gravel (SM)				2-4': 500 ppm, strong
Clear		8.0	15-18	Gray into to course barra, contro ont, graver (cm)				odor
50°F	5D	8.0	9-16	Gray fine to coarse sand, some gravel, silt				4-6': 1080 ppm, strong
30 1	30	10.0	62-33	(SM)		10		odor
	6D	10.0	17-21	Gray fine to coarse sand, some gravel fragments,		- 10		6-8': 850 ppm, strong
	OD	12.0	41-22	trace silt (SP-SM)				odor
		12.0	41-22	trace siit (SF-Sivi)				
								8-10': 355 ppm, strong
						45		odor
		45.0				15		10-12': 163 ppm
	7D	15.0	12-14	Gray gravel fragments, some fine to coarse				REC=3"
		17.0	12-10	sand, trace silt (GP)	S			15-17': 2 ppm, faint
								odor
14:00			•			20		
09:15	8D	20.0	100/4"	Brown fine to coarse sand, some gravel, trace				
09.13		20.3		clayey silt (SP-SM)				Wood pieces from 22'
Monday	9D	22.0	15-73	Brown fine to medium sand, some gravel, silt				to 24'.
		24.0	50-17	(SM)		24		22-24': 1 ppm, faint
Cloudy	10D	24.0	41-60	Red brown fine to coarse sand, some gravel,		25		odor
60°F		26.0	36-34	silt (SM)				24-26': 1 ppm, faint
	11D	26.0	27-21	Do 10D (SM)				odor
		28.0	20-39					26-32': 0 ppm, no odor
	12D	28.0	15-25	Do 10D (SM)				20 32 : 0 ppin, no odor
		30.0	20-20			30	V	
	13D	30.0	10-15	Brown fine to medium sand, trace silt (SP-SM)				
		32.0	15-17					
			•			35		
	14D	35.0	8-9	Do 13D (SP-SM)	•			35-37': 0 ppm, no odor
		37.0	9-13		S			, , , , , , , , , , , , , , , , , , ,
			:			40		
	15D	40.0	4-7	Brown fine sand, some silt, trace mica (SM)				40-42': 0 ppm, no odor
		42.0	11-11	(,				40-42 : 0 ppin, no odor
		1						
						45		
	16D	45.0	WH-2	Brown silty fine sand, trace mica (SM)				45-47': 0 ppm, no odor
		47.0	4-7					15 17 . 0 ppin, no odoi
	1C	48.0	REC=92%	Medium hard slightly weathered gray gneissic		48		Hard drilling at 48'.
	٠٠	53.0	RQD=92%	schist, jointed, iron stained joints		5	*	*Coring time between
		55.5		John Ca, Horr Staniou John	_	50		13:06 to 13:20 at 2.8
			•		R			minutes per foot.
								atoo por 100t.
						1		

BORING NO. M-10

 PROJECT:
 WEST 18TH - WEST 19TH STREET/10TH AVENUE
 FILE NO.
 12320

 LOCATION:
 NEW YORK, NEW YORK
 SURFACE ELEV.
 14.0±

RES. ENGR. J. BRICKMAN/T. SANDIFORD

BORING NO.

M-10

				I		KES		J. BRICKMAN/T. SANDIFORD
DAILY		SAM					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd								Coring time not taken;
04-27-15								covering two rigs.
Monday								
Cloudy	2C	53.0		Medium hard unweathered gray gneissic schist,	R			
60°F		58.0	RQD=88%	jointed	1	55		
14:00						58		End of Boring at 58'.
						60		
						65		
			•					
			•					
						70		
						75		
						80		
						0.5		
						85		
						90		
						90		
						95		
						95		
						-		
			1					
						100		
						100		
						1		

BORING NO. M-10

							BORING I	NO.	M-10	
							SHEET	4	OF	4
PROJECT	Γ	WEST 18	TH - WEST	19TH S	STREET/10TH	I AVENUE	FILE NO.		12320	
LOCATIO	N		NEW Y	ORK, N	EW YORK		SURFACE	ELEV.	14.	0±
BORING I	LOCATION	\	SEE BORIN	NG LOC	ATION PLAN		DATUM		NAVD 88	
					.=	-				
BORING E	<u>=QUIPME</u>			STABIL	IZING BOREH	<u> DLE</u>				
T)/DE 0E D	ODINO DIO		OF FEED		040000	1055	V	VE0	No	
TYPE OF B	ORING RIG	_	ING CORING		CASING L		X DEPTH, FT	YES	NO TO	20
TRUCK SKID		_	HANICAL RAULIC	Х	DIA., IN. DIA., IN.	4	DEPTH, FT		0 TC	
BARGE		OTH	_	^	DIA., IN.		DEPTH, FT		TC	-
OTHER	TRACK (C		_		DIA., IN.		_ DEFIN, FI	. FROIVI	1C	
OTTLER	TRAOR (C	JIVIL)								
TYPE AND	D SIZE OF	·:			DRILLING	MUD USED	X	YES	NO	
D-SAMPLEI	R 2" O.	D. SPLIT SI	POON		DIAMETEI	R OF ROTARY BIT		JI	3-7/8	
U-SAMPLEI	R		_		TYPE OF	DRILLING MUD				
S-SAMPLE	R									
CORE BAR	REL NX D	OUBLE BAF	RREL		AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND			TYPE AND	DIAMETER, IN.				
DRILL ROD	S NWJ									
					CASING F	IAMMER, LBS.		AVERAGE	FALL, IN.	
						R HAMMER, LBS.		AVERAGE	FALL, IN.	30
					*USED AL	ITOMATIC HAMME	R.			
WATER L	EVEL OBS		NS IN BORE			1				
DATE	TIME	DEPTH HOLE		TH OF SING	DEPTH TO WATER		CONDITIO	NS OF OR	SERVATION	
DATE	TIIVIL	HOLL	- 0/	Silvo	WATER	NO V			VATIONS MADE	
						110	VV/(1 LI(LL V	LL ODOLI	WATION ON THE	- -
					¬					
PIEZOME	TER INST	<u>ALLED</u>	YES	X	NO SKE	ETCH SHOWN C)N			
	_									
STANDPIPE		TYPE			ID, IN.	-	GTH, FT.		TOP ELEV.	
INTAKE ELI	EMENI:	TYPE MATERIAL			OD, IN.	-	STH, FT.		_ TIP ELEV. BOT. ELEV.	
FILTER:		WATERIAL			OD, IN.	LEING	STH, FT.		BOT. ELEV.	
PAY QUA	NTITIES									
	RY SAMPLE	BORING	LIN. FT		48	NO. OF 3" SHELE	RY TURE SA	MPLES		
	SAMPLE BO		LIN. FT			NO. OF 3" UNDIS				
	LING IN RO		LIN. FT		10	OTHER:				
···-					-	-				
BORING (CONTRAC	TOR			AQUIFE	R DRILLING &	TESTING (CO., INC.		
DRILLER			OUG/DOMIN	IICK PEI		HELPERS			RGE RAYMO	ND
REMARKS	S			ВС	DREHOLE GRO	OUTED UPON C	OMPLETIC	N.		
RESIDEN'	T ENGINE	ER	JAM	ES BRIC	KMAN/TERES	A SANDIFORD		DATE	04-2	7-15
CLASSIFI	CATION C	HECK:	CH	ERYL J.	MOSS	TYPING CHEC	K: _	-		
MRCE Form BS	S-1							BOI	RING NO.	M-10

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-11

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. 11.8±

RES. ENGR. N. SEGUIN/J. BRICKMAN

DAILY		SAMI	PLF				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA		BLOWS	REMARKS
09:30	1D	0.0	35-51	Dark brown to black silty fine to coarse sand,	**	0.25	DRILLED	**Pavement from 0' to
04-22-15		2.0	34-22	some gravel, trace brick fragments (SM)			AHEAD	0.25'.
Wednesday	2D	2.0	12-20	Red brick & fine to coarse sand, some gravel,			4"	0-4': 0 ppm, no odor
Clear		3.5	47-25/0"	silt (SM)	F			11
65°F	3D	4.0	11-16	Red brown fine to coarse sand, trace brick,	-	5		REC=6"
		6.0	21-15	silt (SP-SM)				4-6': 0 ppm
	4D	6.0	6-10	Top: Red brn f-c sand, some silt, gravel (SM)		7		4D, 10D: Spoon sample
		0.8	6-9	Bot: Brown silty fine sand, trace gravel (SM)				split.
	5D	8.0	11-11	Brown silty fine sand, some gravel (SM)				6-8': 25 ppm, faint
		10.0	7-8		_	10		odor, no sheen
	6D	10.0	6-5	Do 5D (SM)	S			8-10': 0 ppm, no odor
		12.0	6-6					10-12': 0 ppm, no odor
								11 /
						13.5		
						15		
	7D	15.0	3-2	Dark gray to brown clayey silt, some fine sand				15-17': 5 ppm, faint
		17.0	2-3	(ML)				odor, no sheen
					M			
						-00		
	0.0	00.0	0.4			20		
	8D	20.0	2-1	Dark gray clayey silt, some fine sand, trace		00		20-22': 2 ppm, no odor
	0.0	22.0	1-3	gravel (ML)		22		22-24': 5 ppm, faint
	9D	22.0	4-6 7.11	Dark gray gravelly fine to coarse sand, some				odor
	10D	24.0 24.0	7-11 7-11	silt (SM)		25		24-26': 18ppm, faint
	לטו	26.0	7-11 29-29	Dark gray fine to medium sand, some silt, trace		23		odor
	11D	26.0	29-29 14-13	gravel (SM) Red brown fine to medium sand, some silt				26-28': 11 ppm, faint
	טוו	28.0	17-19	(SP-SM)				odor
	12D	28.0	13-15	Red brown fine to coarse sand, some gravel,				28-30': 5 ppm, faint
	120	30.0	21-18	trace silt (SP-SM)		30		odor
	13D	30.0	11-9	Top: Brown fine to coarse sand, some gravel,				Highly contaminated
		32.0	8-9	silt (SM)				spoon sample split.
				Bot: Brown silty fine sand (SM)				30-31': Tar-like
					S			material at top, 20 ppm
						35		31-32': 0 ppm
	14D	35.0	8-9	Brown silty fine sand (SM)				35-37': 0 ppm, no odor
14:40		37.0	10-11					or or oppin, no odor
09:00								
04-23-15								
Thursday						40		
Clear	15D	40.0	7-11	Brown silty fine sand (SM)				40-42': 2 ppm, faint
55°F		42.0	12-12					odor
						4-		
	465	45.0	00 50/4"			45		Intermediate rock from
	16D	45.0	69-50/1"	Gray brown micaceous fine to medium sand,	DR	46	2.5*	46' to 48.5', medium
	40	45.6	DEC 2001	some silt (Decomposed Rock) (SM)			3.5*	hard below.
	1C	46.0 51.0	REC=92%	Medium hard slightly weathered to unweathered			4* 4*	*Coring time in
		01.0	RQD=87%	gray gneissic schist, schistose gneiss, jointed to blocky, iron stained & weathered joints	R	50	5*	minutes per foot.
				to blocky, from Staffied & Weathered Johns		50	3*	
							3	

BORING NO. M-11

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. JAMES BRICKMAN

DAILY		SAMI	PI F		CASING					
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS			
	NO.	DEFIII	BLOVV3/0	SAMIFEE DESCRIPTION	DR	51	BLOWS	KLWAKKS		
Cont'd	00	54.0	DEC 4000/		DK	31		NIi		
04-23-15	2C	51.0	REC=100%	Hard unweathered gray schistose gneiss,			-	- No coring time taken.		
Thursday		56.0	RQD=100%	massive	_		-			
Clear					R		-			
55°F						55	3.5*			
12:00						56	3*	End of Boring at 56'.		
						60				
								1		
			-							
			-							
			-							
			_			65				
						- 00				
			-							
			_							
			-							
			-			70				
						70				
			-							
			-							
						75				
			-							
			-			80				
			-							
			_							
			-			85				
			-			65		-		
			-							
			-							
			-							
			-							
						90				
						95				
			1							
			1							
			1							
			1			100				
	—		1							
			-			-				
		<u> </u>				<u> </u>				

BORING NO. M-11

M-11

							BORING	NO.	M-11		
PROJEC [*]	т	WEST 18	TH - WEST	19TH S	STREET/10TH	I AVENUE	SHEET FILE NO.	4	OF 12320	4	
LOCATIO	-	***************************************			EW YORK	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	SURFACI		11.8±		
	LOCATION	\			ATION PLAN		DATUM		NAVD 88		
BORING	EQUIPME			STABIL	IZING BOREH	<u>OLE</u>					
TYPE OF E	BORING RIG		E OF FEED ING CORING		CASING L	ISED	Y	YES	NO		
TRUCK		_	HANICAL		DIA., IN.	4	DEPTH, FT	4	0 TO)	
SKID			RAULIC	Х	DIA., IN.	<u> </u>	_DEPTH, FT		TC	-	
BARGE		OTH			DIA., IN.		DEPTH, FT		TC	-	
OTHER	TRAC						,				
T) (DE AN)	ID 017E 0E							1			
–	ID SIZE OF	-	2001		_	MUD USED		YES	NO NO		
D-SAMPLE		D. SPLIT SI	POON			R OF ROTARY BIT	, IN.		3-7/8		
U-SAMPLE					TYPE OF	DRILLING MUD			QUIK GEL		
S-SAMPLE			DDE!		ALICEDII	CED		YES	V NO		
CORE BIT	RREL NX D	IAMOND	KKEL		AUGER U	DIAMETER, IN.		TES	X NO		
DRILL ROI		IAWOND	<u></u>		ITPE AINL	DIAWETER, IN.					
DIVILLE NOT		I 2' AWJ AB\	V SPOON		*SAMPLE	HAMMER, LBS. R HAMMER, LBS.	140	-	E FALL, IN.	30	
\\\\ATED	EVEL OBG	CEDVATIO	NC IN DODEL	101 E	*USED AL	JTOMATIC HAMME	ΞR.				
WAIERL	LEVEL OBS	DEPTH	NS IN BOREH OF DEPT		DEPTH TO						
DATE	TIME	HOLE			WATER		CONDITIO	NS OF OB	SERVATION		
						NO			RVATIONS MAD	 E.	
PIEZOME	ETER INST	<u>ALLED</u>	YES	Х	NO SKE	ETCH SHOWN C	DN				
STANDPIP	oE.	TYPE			ID, IN.	I ENI	GTH, FT.		TOP ELEV.		
INTAKE EL		TYPE			OD, IN.		GTH, FT.		TIP ELEV.		
FILTER:	LLIVILIAI.	MATERIAL			OD, IN.		GTH, FT.		BOT. ELEV.	-	
							,	-		-	
PAY QUA	ANTITIES										
3.5" DIA. D	RY SAMPLE	BORING	LIN. FT.		46	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
3.5" DIA. U	J-SAMPLE B	ORING	LIN. FT.	-		NO. OF 3" UNDIS	STURBED S	AMPLES		-	
CORE DRI	ILLING IN RO	OCK	LIN. FT.		10	OTHER:					
BORING	CONTRAC	TOR			AQUIFE	ER DRILLING &	TESTING (CO., INC.			
DRILLER			DOUG WO	OOD		HELPERS		,			
REMARK					OREHOLE GRO	OUTED UPON C	OMPLETIC	DN.			
	NT ENGINE	ER	NA ⁻		EGUIN/JAMES			DATE	04-2	23-15	
CLASSIF	ICATION C	HECK:	CHE	RYL J.	MOSS	TYPING CHEC	CK:	=	-		
MRCE Form B	IS-1					-		ВО	RING NO.	M-11	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE NEW YORK, NEW YORK

BORING NO. M-12

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. 11.0±

RES. ENGR. TERESA SANDIFORD SAMPLE DAILY **CASING** DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS** NO. **PROGRESS** 0.33 DRILLED **Asphalt from 0' to 1D 0.0 32-11 Gray fine to coarse sand, some silt, trace gravel 10:00 17-15 2.0 (SM) AHEAD 0.33' at surface. 04-27-15 2NR 11-13 2.0 No recovery No recovery. Monday Cloudy 4.0 14-11 0-2': no odor 3D 4.0 7-7 Gray fine to coarse sand, some gravel, silt (SM) 5 4-6': 5 ppm, 50°F 6.0 5-6 faint odor 4D 6.0 4-5 Gray fine to coarse sand, some gravel, silt (SM) 4D, 13D: REC=1" 8.0 5-3 6-8': 0 ppm 5D 8.0 9-12 Gray & red fine to coarse sand, some brick REC=5"; brick in 10 10.0 4-3 fragments, gravel, silt (Fill) (SM) sample. 6D 10.0 1-1 Gray black fine to medium sand, some organic Rig chatter; stopped 12.0 2-1 clay (SC) filling from 12:24 to 11:27. 10-12': 1 ppm, faint 15 odor F 7D 15.0 9-12 Gray black fine to medium sand, some gravel, 15-17': 1 ppm, faint trace silt, mica (SP-SM) 17.0 6-6 odor 20 8D 20.0 6-5 Gray, red fine to medium sand, some clay, brick 8D-10D: Petroleum 22.0 3-6 fragments (SC) odor. 9D 22.0 100/5" Gray to black fine to coarse sand, some gravel, 8D: REC=5" 22.4 silt (SM) 9D: Spoon bouncing. 10D 24.0 4-5 Do 9D (SM) 25 20-22': Tar-like 26.0 15-15 material at tip; asphalt-11D 26.0 12-13 Brown silt, trace fine to coarse sand (ML) like w/sheen; 17 ppm, 28.0 14-26 moderate odor 12NR 28.0 15-14 No recovery 22-22.5': Tar and tar-30.0 14-9 30 like material w/ 13D 30.0 6-7 Gray gravel (GP) globules; black; 78 ppm 32.0 9-6 24-26': 7 ppm, 09:00 moderate odor; sheen 04-28-15 26-28': 0 ppm, no odor 35 Tuesday 14D Cloudy 35.0 2-4 Red brown fine to medium sand, some silt, 35-37': 0 ppm, no odor 50°F 37.0 2-4 trace mica (SM) S 40 15D 40.0 3-4 Brown to red brown silty fine sand, trace mica 40-42': 0 ppm, no odor 42.0 3-4 (SM) 45 16D 45.0 2-1 Brown silty fine sand varved with trace fine sandy 45-47': 0 ppm, no odor 47.0 2-3 silt (SM) 48.5 50 DR 17D 50.0 60-100/1" Gray to black micacaceous fine to medium 51 REC=6" 50.6 sand, trace silt (Decomposed Rock) (SP-SM)

BORING NO. M-12

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	PIF			1120	CASING	TERLON GARAGII ORD
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH		REMARKS
Cont'd								No coring time
04-28-15	1C	51.0	REC=92%	Medium hard unweathered gray gneissic				recorded; covering
Tuesday		56.0	RQD=78%	schist, closely jointed to jointed				2 rigs.
Cloudy								
50°F						55		
					R			
	2C	56.0		Hard unweathered gray schistose gneiss,				
		61.0	RQD=75%	moderately jointed				
						60		
14:00						61		End of Boring at 61'.
						CE		
						65		
						70		
						70		
						75		
						80		
						85		
						90		
						O.F		
						95		
						100		
						100		

BORING NO. M-12

M-12

						BORING I	NO.	M-12	
						SHEET	4	OF	4
PROJECT	,	WEST 18TH -	WEST 19TH	STREET/10TH	I AVENUE	FILE NO.		12320	
LOCATION	1	l	NEW YORK, I	NEW YORK		SURFACE	ELEV.	11.	0±
BORING LO	OCATION	SEE	BORING LO	CATION PLAN		DATUM		NAVD 88	
				=	o. =				
BORING E	QUIPMEN			LIZING BOREH	<u>OLE</u>				
TVDE OF BO	DINC DIC	TYPE OF I		CACINGI	ICED	V	VEC	NO	
TYPE OF BO		MECHANII		CASING U DIA., IN.		DEPTH, FT	YES		20
SKID	X				4	=			30
BARGE		HYDRAUL OTHER		DIA., IN. DIA., IN.		DEPTH, FT.		TO	-
OTHER		OTHER	-	DIA., IN.		_ DEFIN, FI	. FROIVI	10	
OTTLER _									
TYPE AND	SIZE OF	:		DRILLING	MUD USED	Х	YES	NO	
D-SAMPLER	2" O.	D. SPLIT SPOON		DIAMETE	R OF ROTARY BIT			3-7/8	
U-SAMPLER				TYPE OF	DRILLING MUD			QUIK GEL	
S-SAMPLER						•			
CORE BARR	EL NX D	OUBLE BARREL		AUGER U	SED		YES	X NO	
CORE BIT	NX D	AMOND		TYPE ANI	DIAMETER, IN.				
DRILL RODS	NWJ								
				CASING H	HAMMER, LBS.		AVERAGE	FALL, IN.	
				*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*USED AL	JTOMATIC HAMME	R.			
WATER LE	VEL OBS	ERVATIONS II			I				
DATE	T11.45	DEPTH OF	DEPTH OF	DEPTH TO		001017101	05 050	NED! (4 TION)	
DATE	TIME	HOLE	CASING	WATER	NO			SERVATION	
					NO	WATER LEV	EL OBSER	VATIONS MADE	•
			1		1				
PIEZOMET	ER INST	ALLED	YES X	NO SKI	ETCH SHOWN C	N			
STANDPIPE:		TYPE		ID, IN.		GTH, FT.		TOP ELEV.	
INTAKE ELEI	MENT:	TYPE		OD, IN.		GTH, FT.		_TIP ELEV.	
FILTER:		MATERIAL		OD, IN.	LENC	STH, FT.		BOT. ELEV.	
DAY OLIAN	TITIES								
PAY QUAN 3.5" DIA. DR		POPING	LIN. FT.	51	NO. OF 3" SHELI	OV TUDE CA	MDLES		
3.5" DIA. U-S			LIN. FT.	31	NO. OF 3" UNDIS				
CORE DRILL			LIN. FT.	10	OTHER:	TONDED SA	AVII LES		
CORE DRILL	.IIVO IIV NC	OCK	LIN. F1.	10	OTTEK.				
BORING CO	ONTRAC	TOR		AQUIFI	ER DRILLING &	TESTING C	O., INC.		
DRILLER			DDIS/DOMINIC		HELPERS		,		
REMARKS	-				OUTED UPON C	OMPLETIC	N.		
RESIDENT	ENGINE	ER		ERESA SANDIF			DATE	04-28	3-15
CLASSIFIC			CHERYL	J. MOSS	TYPING CHEC	K:		-	
MRCE Form BS-1					_		BOF	RING NO.	M-12

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	PLE				CASING	6
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH		
11:00							DRILLE	Hand auger to 6'.
05-13-15							AHEAD	Vacuum excavated to
Wednesday							4"	6'.
Cloudy								Advanced unsampled
65°F						5		to 20'.
								0-6': sandy fill,
								petroleum odor; *No
								geotech sampling>
								environmental
					F	10		sampling 20-30' ONLY
					_			
						4.5		
						15		_
								_
								_
						20		
	1D	20.0	3-3	Brown silty fine sand, trace mica (SM)				20-30': 0 ppm, no odor
		22.0	3-3	Brown sitty fine same, trace fined (Sitt)				20-30. 0 ppin, no odoi
	2D	22.0	2-5	Do 1D (SM)				
		24.0	4-6					
	3D	24.0	2-3	Do 1D (SM)		25		
		26.0	4-4					
	4D	26.0	5-5	Do 1D (SM)				
		28.0	7-9	, ,	S			
	5D	28.0	6-7	Do 1D varved with trace silt (SM)				
		30.0	9-9			30	\	
								Chunky drilling at 33.5'.
								Advanced unsampled
						35	*	to 35'; top of rock.
	1C	35.0		Medium hard slightly weathered to unweathered			•	*Coring time from 12:15
		40.0	RQD=/3%	gray gneissic schist to schistose gneiss,				to 12:34 at 3.8 minutes
				jointed to moderately jointed, weathered joints				per foot.
						40		_
	2C	40.0	REC-100%	Hard unweathered gray schistose gneiss,	R	40	*	*Coring time from 12:45
	20	45.0		moderately jointed to jointed				to 13:02 at 3.4 minutes
		10.0	1142-10070	Thousand Johnson to Johnson				per foot.
								- F
13:15						45		End of Boring at 45'.
-								
						50		

BORING NO. M-13

M-13

								BORING	NO.	M-13	3	
PROJECT	Г	WEST 18	3TH - WE	ST 19	OTH S	STREET/10TH	I AVENUE	SHEET FILE NO.	3	OF 12320	3	
LOCATIO						EW YORK		SURFACI		9.3±		
BORING	LOCATIO	\				ATION PLAN		DATUM		NAVD 88		
								_				
BORING I	<u>EQUIPMEI</u>				ΓAΒIL	IZING BOREH	OLE					
T/DE 05 D			E OF FEED			0.4.011.0.1	1055		\/F0			
	BORING RIG		RING CORI	NG		CASING L			YES	NO TO	20	
TRUCK	X		CHANICAL DRAULIC			DIA., IN.	4	_DEPTH, FT		0TC		
SKID BARGE	-	OTH			Х	DIA., IN. DIA., IN.		_DEPTH, FT DEPTH, FT		T(
OTHER			ILK			DIA., IN.			. FROW		,	
OTTLER												
TYPE ANI	D SIZE OF	:				DRILLING	MUD USED	X	YES	NO		
D-SAMPLE		D. SPLIT S	POON				R OF ROTARY BIT].20	3-7/8		
U-SAMPLE				_			DRILLING MUD	,	-	QUIK MUD		
S-SAMPLE	R			_								
CORE BAR	RREL NX D	OUBLE BA	RREL	_		AUGER U	SED		YES	X NO		
CORE BIT	NX D	IAMOND				TYPE ANI	DIAMETER, IN.					
DRILL ROD	os NWJ											
						CASING F	HAMMER, LBS.		AVERAG	E FALL, IN.		
						*SAMPLE	R HAMMER, LBS.	140	AVERAG	E FALL, IN.	30	
						*USED AL	JTOMATIC HAMMI	ER.				
WATER L	EVEL OBS	SERVATIO					T					
		DEPTH		DEPTH		DEPTH TO						
DATE	TIME	HOL	E	CASIN	IG	WATER	NO			SERVATION		
							NO	WATER LEV	EL OBSE	RVATIONS MAD	E.	
PIEZOME	TER INST	ALLED	YE	S	Х	NO SKI	ETCH SHOWN (ON				
STANDPIP	E:	TYPE				ID, IN.	LEN	GTH, FT.		TOP ELEV.		
INTAKE EL	EMENT:	TYPE				OD, IN.		GTH, FT.		TIP ELEV.		
FILTER:		MATERIAI				OD, IN.	LEN	GTH, FT.		BOT. ELEV.		
										<u> </u>		
PAY QUA	NTITIES											
3.5" DIA. DI	RY SAMPLE	BORING	LIN	. FT.		35	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
3.5" DIA. U-	-SAMPLE B	ORING	LIN	. FT.			NO. OF 3" UNDI	STURBED S	AMPLES			
CORE DRII	LLING IN RO	OCK	LIN	. FT.		10	OTHER:					
					· <u> </u>							
BORING (CONTRAC	TOR	-			AQUIFE	ER DRILLING &	TESTING (CO., INC.			
DRILLER			JOHN (CAMP			HELPERS					
REMARK							OUTED UPON C	OMPLETIC				
	IT ENGINE	-				RESA SANDIF			DATE	05-1	3-15	
CLASSIFI	ICATION C	HECK:		CHER	RYL J.	MOSS	TYPING CHEC	CK:				
MRCE Form BS	S-1								BC	RING NO.	M-13	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	DI E			I I	CASING	TERESA SANDIFORD
PROGRESS		SAIVII	BLOWS/6"	SAMPLE DESCRIPTION	STDATA	DEDTH	BLOWS	REMARKS
13:30			DLOVVO/0	OAMI LE DESCRIF HOR	SINAIA	PETIN		Advanced unsampled
04-28-15							AHEAD	
Tuesday						-	4" 5"	10 20.
							1 1	
Sunny						5		
55°F						3		
						10		
						10		
						15		
						13		
						20		4" Casing to 20'.
	1D	20.0	2-3	Black, brown fine to medium sand, some silt,		20	V	1D-2D: Petroleum
	טו	22.0	2-3 2-1	gravel (SM)	S			odor.
	2D	22.0	100/4"	Brown fine to coarse sand, some gravel, silt		22.4	V	5" Casing over top to
09:00	20	22.4	100/4	(SM)		22.4		22.4'.
05-29-15		22.4		(SIVI)		25		Obstruction at 22.4'
Wednesday						23		causing water pressure
Sunny								from spinning casing
65°F, 10:00								to cause leak in pave-
								ment 15' away.
						30		Cobbles observed in
						30		casing at 22.4'.
								Boring offset 11' North.
								End of Boring at 22.4'.
								_
						35		20-22': 7 ppm,
								moderate odor; black;
								debris (brick and
								mortar)
								22-22.5': 35 ppm,
						40		moderate odor;
						<u> </u>		mortar-like debris w/
								black silt
						45		
						<u> </u>		
						50		
						T		
				<u>L</u>	1	1		

BORING NO. M-14

M-14

							BORING I	NO.	M-14	
							SHEET	2	OF	2
PROJECT	•	WEST 18TH	- WEST 19	TH STR	EET/10TH	I AVENUE	FILE NO.		12320	
LOCATIO	N		NEW YORI		SURFACE	ELEV.	10.	9±		
BORING L	OCATION	SE	E BORING I	_OCATI	ON PLAN		DATUM		NAVD 88	
BORING E	QUIPMEN	NT AND METH		ABILIZIN	IG BOREH	<u>DLE</u>				
T)/DE OF D		TYPE OF			040111011	1055	V	\/F0	No	
TYPE OF BO			CORING		CASING U			YES	NO TO	20.5
TRUCK	X	MECHAN	-	V	DIA., IN.	5	DEPTH, FT		0 TO	
SKID		HYDRAU		X	DIA., IN.	4	DEPTH, FT		0 TO	-
BARGE OTHER		OTHER	-		DIA., IN.		DEPTH, FT	. FROIVI	TO	· -
OTHER -										
TYPE AND	SIZE OF				DRILLING	MUD USED		YES	X NO	
D-SAMPLER		D. SPLIT SPOC)NI		_	R OF ROTARY BIT		1123	3-7/8	
U-SAMPLER		D. OI LIT OF OC	714			DRILLING MUD	, 114.		3-110	
S-SAMPLER					111 2 01	DIVIDENTO MOD				
		OUBLE BARRE	 I		AUGER U	SED		YES	X NO	
CORE BIT		AMOND	-			DIAMETER, IN.		, 0		
DRILL ROD						,				
					CASING H	IAMMER, LBS.		AVERAGE	FALL. IN.	
						R HAMMER, LBS.		AVERAGE	· · · · · · · · · · · · · · · · · · ·	30
						TOMATIC HAMME		=	·	
WATER LE	EVEL OBS	ERVATIONS	IN BOREHOI	<u>_E</u>						
		DEPTH OF	DEPTH C		DEPTH TO					
DATE	TIME	HOLE	CASING	3	WATER				SERVATION	
						NO V	WATER LEV	EL OBSER	VATIONS MADE	
PIEZOME ⁻	TER INST.	ALLED	YES	X NO	SKE	TCH SHOWN C	N			
1 ILZONIL	I LIVII VOI	<u> </u>		χο	OIL					
STANDPIPE	:	TYPE			ID, IN.	LENG	STH, FT.		TOP ELEV.	
INTAKE ELE		TYPE			OD, IN.		GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL			OD, IN.	-	GTH, FT.		BOT. ELEV.	
					_ '				= -	
PAY QUAI	NTITIES									
3.5" DIA. DF	RY SAMPLE	BORING	LIN. FT.	22.	4	NO. OF 3" SHELE	BY TUBE SA	MPLES		
3.5" DIA. U-	SAMPLE BO	ORING	LIN. FT.			NO. OF 3" UNDIS	STURBED SA	AMPLES	-	
CORE DRIL	LING IN RC	CK	LIN. FT.			OTHER:			-	
			-							
BORING C	CONTRAC	TOR			AQUIFE	R DRILLING &	TESTING C	CO., INC.		
DRILLER			DOMINICK		· 	HELPERS		· 		
REMARKS	3			BORE	HOLE GRO	UTED UPON C	OMPLETIC	N.		
RESIDEN				TERES	SA SANDIF			DATE	04-2	9-15
CLASSIFIC	CATION C	HECK:	CHER\	/L J. MO	SS	TYPING CHEC	K:			
MRCE Form BS	-1							BOF	RING NO.	M-14

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

									TERESA SANDIFORD	
DAILY		SAMI	PLE				CAS	SING		
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLC	ws	REMARKS	
11:30				Advanced down to 22' unsampled.					Spun 4" casing.	
04-29-15				navarioca down to 22 undampica.						
									Advanced down to 22'	
Wednesday							4	F"	unsampled; offset	
Sunny									12' North of M-14.	
65°F						5				
						10				
						10				
						15				
						00				
						20				
						22				
	1D	22.0	4-7	Brown, black gravel, some fine to coarse					REC=4"	
		24.0	10-12	sand, trace silt (GP)					22-24': 1 ppm, faint	
	2D	24.0	10-6	Brown, black medium to fine sand, trace		25			odor; grey	
		26.0	7-8	coarse sand, silt (SP-SM)						
	3D		4-4						24-26': 3 ppm, faint	
	3D	26.0		Brown fine to coarse sand, trace gravel, silt					odor	
		28.0	5-4	(SP-SM)					26-30': 0 ppm, faint	
	4D	28.0	4-5	Brown fine to medium sand, trace silt (SP-SM)					odor	
		30.0	6-4			30	4	,		
									Casing to 30'.	
									Clearing mud tub at	
									11:20.	
						35				
						33				
					S					
						40				
						AF				
						45				
14:45						49			Top of rock at 49'.	
09:00	1C	49.0	REC=100%	Medium hard to hard slightly weathered to		50	4	*	*Coring time from 09:00	
09.00 04-30, Thurs.	٠٠	59.0	RQD=78%	unweathered gray gneissic schist, jointed to	R				to 09:55 at 5 minutes	
		JJ.U	1/40=10/0		1				per foot 10' core.	
Cldy., 55°F				moderately jointed, iron stained & WJts					per root to core.	

BORING NO. M-14A

M-14A

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

								TERESA SANDIFORD
DAILY		SAME	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION STRAT	AD	EPTH	BLOWS	REMARKS
Cont'd								
04-30-15					-			
					-			
Thursday								
Cloudy								
55°F				R		55		
					_			
								Baring offset 12' North
								Boring offset 12' North
								of Boring Log M-14.
14:00						59		End of Boring at 59'.
						60		
					-			
						65		
						-		1
					\vdash			
						70		
					_			
-								
						75		
					-			
					-			
						80		
					-	-		
					-			
						85		
					_			
					-			
					\perp			
						1		
						90		
					\vdash			1
					-			
								1
					L			
						95		1
					+			
					\vdash			
					L			
						100		
					+			
					-			

BORING NO. M-14A

M-14A

					BORING I	NO.	M-14/	A		
						SHEET	4	OF	4	
PROJECT		WEST 18TH	- WEST 19T	H STREET/10T	H AVENUE	FILE NO.		12320		
LOCATION	1		NEW YORK	, NEW YORK		SURFACE	ELEV.	. 10.9±		
BORING L	OCATION	SE	BORING LO	OCATION PLAN	1	DATUM		NAVD 88		
DODING E	011101451	IT AND MET	1000 05 074		101 5					
BORING E	QUIPMEN			BILIZING BOREF	<u>IOLE</u>					
TYPE OF BC	DINC DIC	TYPE OF		CACINO	HEED	V	VEC	NO		
TRUCK		DURING MECHAN		CASING DIA., IN.		X DEPTH, FT	YES		20	
SKID	X				4	-				
BARGE		HYDRAU OTHER		X DIA., IN. DIA., IN.		DEPTH, FT DEPTH, FT		TC		
OTHER		OTHER	-	DIA., IN.			. FROIVI		,	
OTTIER _										
TYPE AND	SIZE OF	:		DRILLING	G MUD USED	Х	YES	NO		
D-SAMPLER	2" O.	D. SPLIT SPOO	N	DIAMETE	R OF ROTARY BIT		J	3-7/8		
U-SAMPLER				TYPE OF	DRILLING MUD	•		QUIK GEL		
S-SAMPLER										
CORE BARR	REL NX D	OUBLE BARREI	<u> </u>	AUGER I	JSED		YES	X NO		
CORE BIT	NX D	IAMOND		TYPE AN	D DIAMETER, IN.		<u>'</u>			
DRILL RODS	S NWJ					•				
				CASING	HAMMER, LBS.		AVERAGE	FALL, IN.		
				*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30	
				*USED A	UTOMATIC HAMME	R.				
WATER LE	VEL OBS		<u>IN BOREHOLE</u>	_	I					
D. 4.T.F.	T11.45	DEPTH OF	DEPTH OF			0011017101	NO OF OD	NEDY (4 TION)		
DATE	TIME	HOLE	CASING	WATER	NO			SERVATION		
					NO '	WATER LEV	EL OBSER	VATIONS MADE	<u> </u>	
<u>PIEZOMET</u>	ER INST	ALLED	YES	X NO SK	ETCH SHOWN C	DN				
STANDPIPE		TYPE		ID, IN.		GTH, FT.		TOP ELEV.	-	
INTAKE ELE	MENT:	TYPE		OD, IN.		GTH, FT.		_TIP ELEV.		
FILTER:		MATERIAL		OD, IN.	LENG	GTH, FT.		BOT. ELEV.		
PAY QUAN	ITITIES									
3.5" DIA. DR		PODING	LIN. FT.	49	NO. OF 3" SHELI	DV TI IDE QA	MDLES			
3.5" DIA. U-S			LIN. FT.	43	NO. OF 3" UNDIS					
CORE DRILL			LIN. FT.	10	OTHER:	STORDED OF	WIII LLO	-		
JOINE DINIEL	10 11110			10	JIIILIN.					
BORING C	ONTRAC	TOR		AQUIF	ER DRILLING &	TESTING C	CO., INC.			
DRILLER					HELPERS		,			
REMARKS			DOMINICK	BOREHOLE GR	OUTED UPON C	OMPLETIC	N.			
	RESIDENT ENGINEER			TERESA SANDIFORD				04-2	9-15	
CLASSIFIC		-	CHERYL	K:	=	-				
MRCE Form BS-	1						BOF	RING NO.	M-14A	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE NEW YORK, NEW YORK

BORING NO. M-15

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. +10.0±

RES. ENGR. L. LINCOLN/N. SEGUIN SAMPLE DAILY **CASING** DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS PROGRESS** NO. 0.25 DRILLED **Asphalt from 0' to 1D 0.0 61-9 Black fine to coarse sand, some gravel, silt, 11:30 7-16 2.0 trace brick (Fill) (SM) AHEAD 0.25'. 04-19-15 2D 13-9 Black brown fine to medium sand, some Petroleum odor. 2.0 Sunday Clear 4.0 22-34 gravel, silt, trace brick (Fill) (SM) 3D. 6D: REC=5" 60°F 3D 4.0 2-6 Black fine to coarse sandy gravel, trace silt, 5 12-7 brick (Fill) (GP-GM) 6.0 0-2': 200 ppm, strong 4D 6.0 4-4 Black fine to coarse sand, some silt, trace odor; ash 8.0 4-4 gravel (Fill) (SM) 4-6': 153 ppm, strong 5NR 8.0 9-5 No recovery odor 10 10.0 1-1 6-8': 400 ppm, strong 6D 10.0 WH/12" Black fine to coarse sand, some clay (SC) odor 12.0 1/12" 10-12': 60 ppm, odor F 7D WH/24" Dark brown fine to medium sand, trace silt, 12.0 12-14': 5 ppm, fain 14.0 clayey silt seams (SP-SM) odor; some debris (ash 15 and brick) 8D 15.0 1-2 Black fine to coarse sand, some gravel, trace REC=3" 1-4 17.0 silt (SP-SM) 15-17': 5 ppm 20 9D 20.0 1-100/4" Black fine to coarse sandy gravel, trace brick, REC=4" silt (GP-GM) 22.0 20-22': 460 ppm, 10D 22.0 19-18 Brown fine to coarse sandy gravel, some silt creosote-like odor; 24.0 14-13 24 black coal tar and sand 11D 24.0 4-3 Brown silty fine sand varved with trace clayey 25 22-24': 190 ppm, strong S 26.0 3-4 silt seams (SM) 26 odor: 1" band of debris 12D 26.0 28-34 Brown fine sand, some silt varved with some C (ash-like), 1" band of 24-10 28.5 28.0 clayey silt (SM&ML) sand w/sheen 13D 28.0 4-12 Brown fine to coarse sandy gravel, trace silt 10:00 24-26': 10 ppm, faint 30 30.0 8-7 (GP-GM) 04-20-15 odor 31 14D 30.0 Top: Red brown fine to coarse sand, some 6-4 Monday Spoon sample split. gravel, silt (SM) 5-5 32.0 Rain 26-28': 5 ppm, faint Bot: Red brown fine to medium sand, some 50°F odor silt (SM) 28-30': 2 ppm 35 30-32': 0 ppm, no odor 15NR 35.0 4-5 No recovery 37.0 4-3 40 S 16D 40.0 2-3 Red brown fine sand, some silt (SM) 40-42': 0 ppm, no odor 42.0 3-4 45 17D 45.0 6-5 Red brown silty fine sand (SM) 45-47': 0 ppm, no odor 7-7 47.0 49 50 R 1C 50.0 REC=100% Hard unweathered to slightly weathered gray *Coring time at 4

RQD=91% gneissic schist, jointed to MdJtd, Fe & WJts

BORING NO. M-15

minutes per foot.

55.0

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. +10.0±
RES. ENGR. L. LINCOLN/N. SEGUIN

BORING NO.

M-15

						KES		L. LINCOLN/N. SEGUIN
DAILY		SAMI					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd								
04-20-15								
Monday								
Rain								
50°F					_ n	55		
	2C	55.0	REC=100%	Hard unweathered gray gneissic schist, blocky	R		*	*Coring time at 4
		60.0	RQD=97%					minutes per foot.
13:15						60		End of Boring at 60'.
								at 20g at 20
								-
						CE		-
•						65		
						70		
						75		
								-
ŀ								
						80		
						00		
-								-
								-
						0.5		
						85		
						90		
						95		1
ŀ								
								-
								-
						100		-
						100		

BORING NO. M-15

		BORING NO.	M-15
		SHEET 4	OF 4
PROJECT WEST 18TH - WEST 19TH		FILE NO.	12320
LOCATION NEW YORK,		SURFACE ELEV.	+10.0±
BORING LOCATION SEE BORING LO	CATION PLAN	DATUM	NAVD 88
DODING FOLUDIATING METHODS OF STAD	II IZING BORELIOLE		
BORING EQUIPMENT AND METHODS OF STAB TYPE OF FEED	ILIZING BOREHOLE		
TYPE OF BORING RIG DURING CORING	CASING USED	X YES	NO
TRUCK X MECHANICAL	DIA., IN. 4	DEPTH, FT. FROM	0 TO 50
SKID HYDRAULIC X	 - ' 	DEPTH, FT. FROM	TO
BARGE OTHER	DIA., IN.	DEPTH, FT. FROM	TO
OTHER		_	
TYPE AND SIZE OF:	DRILLING MUD USED	X YES	NO
D-SAMPLER 2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT	, IN.	3-7/8
U-SAMPLER	TYPE OF DRILLING MUD		QUIK GEL
S-SAMPLER			
CORE BARREL NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS NWJ			
	*CASING HAMMER, LBS.	140AVERAGE	FALL, IN30
	*SAMPLER HAMMER, LBS.	140AVERAGE	FALL, IN30
	*USED AUTOMATIC HAMMI	ĒR.	
WATER LEVEL OBSERVATIONS IN BOREHOLE			
DEPTH OF DEPTH OF DEPTH OF DATE TIME HOLE CASING	DEPTH TO WATER	CONDITIONS OF OB	CED/ATION
DATE TIME HOLE CASING		WATER LEVEL OBSER	
	140	WATER LEVEL OBOLI	CVATIONO MADE.
PIEZOMETER INSTALLED YES X	NO SKETCH SHOWN (ON	
STANDPIPE: TYPE		GTH, FT	TOP ELEV.
INTAKE ELEMENT: TYPE		GTH, FT	TIP ELEV.
FILTER: MATERIAL	OD, INLEN	GTH, FT	BOT. ELEV.
DAY OHANTITIES			
PAY QUANTITIES	50 NO OF 011 OUE	DV TUDE OAMDLEO	
3.5" DIA. LI SAMPLE BORING LIN. FT.		BY TUBE SAMPLES STURBED SAMPLES	
3.5" DIA. U-SAMPLE BORING LIN. FT.		STURBED SAMPLES	
CORE DRILLING IN ROCK LIN. FT.	10 OTHER:		
BORING CONTRACTOR	AQUIFER DRILLING &	TESTING CO. INC.	
DRILLER DOMENIC PEPE			GE RAYMOND
	BOREHOLE GROUTED UPON C		OL WITHOUT
	A LINCOLN/NATHAN SEGUIN	DATE	04-20-15
CLASSIFICATION CHECK: CHERYL			
MRCE Form BS-1			RING NO. M-15

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK

RES. ENGR. ALEXANDRA PATRONE

						RES		ALEXANDRA PATRONE
DAILY		SAME					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA		BLOWS	
11:15	1D	0.0	36-18	Brown fine to medium sand, some silt, trace	**	0.25		**Asphalt from 0' to
04-18-15		2.0	20-20	gravel, concrete, brick (Fill) (SM)	F	2		0.25'.
Saturday	2D	2.0	11-15	Do 1D (Fill) (SM)				
Clear		3.5	50/2"	50 15 (1 m) (6m)				0-4': 0 ppm, no odor
	20			Dod briek from conto (Fill) (CD CM)		5		
70°F	3D	4.0	50/2"	Red brick fragments (Fill) (GP-GM)	BRICK	<u> </u>		
		4.2			WALL			
								Hard drilling to 8'.
								Offset Boring.
12:30						10		End of Boring at 10'.
	4D	10.0	50/2"					
						4.5		
						15		
						20		
						25		
						25		
						30		
						35		
						33		
						40		
						45		
						0		
						50		
L	l	1		I .		1	I .	

BORING NO. M-16

M-16

							BORING NO.		M-16		
	\A/E 0	T 40TH	WEOT 4	o -	TDEET/40TI		SHEET	2	OF_	2	
PROJECT	WES				TREET/10Th	AVENUE	FILE NO.		12320 -EV. +12.0±		
LOCATION	TION				EW YORK		SURFACI	E ELEV.			
BORING LOCA	ATION	SEE	BORING	LOC	ATION PLAN		DATUM		NAVD 88	3	
BORING EQUI	PMENT AN			TABILI	ZING BOREH	<u>OLE</u>					
TYPE OF BORING	G RIG	TYPE OF F			CASING L	ISED		YES	X NO		
TRUCK	01110	MECHANIC			DIA., IN.	,025	DEPTH, FT	4	TO)	
SKID		HYDRAULI		Х	 DIA., IN.		– DEPTH, FT		т	-	
BARGE		OTHER	·		DIA., IN.		_ DEPTH, FT		T(o	
OTHER	TRACK	_									
		=						7			
TYPE AND SIZ						MUD USED		YES	X NO		
D-SAMPLER	2" O. D. SP	LIT SPOON				R OF ROTARY BIT	Γ, IN.				
U-SAMPLER					TYPE OF	DRILLING MUD					
S-SAMPLER								1			
	NX DOUBL				AUGER U			YES	X NO		
CORE BIT	NX DIAMOI	ND			TYPE ANI	D DIAMETER, IN.		-			
DRILL RODS					CACINICI	IAMMED LDC		A\/EDAOI	All INI		
						HAMMER, LBS.	140	-	E FALL, IN.	20	
						R HAMMER, LBS. JTOMATIC HAMMI	140 =D	AVERAGI	E FALL, IN.	30	
WATER LEVEL	OBSER\/	ATIONS IN	BOREHO) E	USED AC	TOMATIC HAMMI	EK.				
WATER LEVEL		EPTH OF	DEPTH		DEPTH TO						
DATE TII	ME D	HOLE	CASIN		WATER		CONDITIO	NS OF OB	SERVATION		
						NO	WATER LEV	/EL OBSEF	RVATIONS MAD	E.	
		_	1								
PIEZOMETER	INSTALLE	<u>D</u>	YES	Х	NO SKI	ETCH SHOWN (N				
STANDPIPE:	TYPE	=			ID, IN.	LEN	GTH, FT.		TOP ELEV.		
INTAKE ELEMEN					OD, IN.		GTH, FT.		TIP ELEV.		
FILTER:		- ERIAL			OD, IN.	-	GTH, FT.		BOT. ELEV.	-	
							- ,				
PAY QUANTIT	<u>IES</u>										
3.5" DIA. DRY SA		ING	LIN. FT.		10	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
3.5" DIA. U-SAMF	PLE BORING	3	LIN. FT.			NO. OF 3" UNDI	STURBED S	AMPLES			
CORE DRILLING	IN ROCK		LIN. FT.			OTHER:					
BORING CONT	RACTOR				AQUIF	ER DRILLING &	TESTING (CO., INC.			
DRILLER		D	OUG WOO	DD		_HELPERS					
REMARKS			BOREHOLE OFFSET BAC			(FILLED.	- ·				
RESIDENT EN			C:	ALEXANDRA PATRONE CHERYL J. MOSS TYPING CHE		217	DATE	04-1	18-15		
CLASSIFICATI	ON CHEC	K:	CHEF	۲YL J.	MOSS	_TYPING CHEC	JK:			NA 40	
MRCE Form BS-1								во	RING NO.	M-16	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK

RES. ENGR. A. PATRONE/L. LINCOLN/N. SEGUIN

DAILY		SAMI	PI F				CAS	ING	A. PATRONE/L. LINCOLIVIN. SEGUIN
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEDTU			REMARKS
	NO.	DEFIN	BLOW5/6	SAMPLE DESCRIPTION	SIKAIA	DEFIN			KEWIAKKS
12:30							DRIL		
04-18-15							AHE		
Saturday							4'	"	
Clear					BRICK				
70°F						5			
					WALL				
						40			D::!!!!
	45	40.0	40.40	T 41 D 11 11 () () () () () ()		10			Drilled ahead to 10'.
	1D	10.0	16-10	Top 4": Red brick fragments (GP-GM)					1D, 4D: Petroleum
		12.0	4-6	Bot 2": Black fine to medium sand, some					odor.
				organic silt (Fill) (SM)	F				10-12': 3 ppm, faint
									odor; black
						15			odor, black
	2D	15.0	WH-1	Black organic silty fine sand (SM)					15-17': 10 ppm,
		17.0	1-2	That is gaine only into earna (em)					
		17.0	1 2						moderate odor; black
					S				
						20			
	3D	20.0	WH-2	Black fine to coarse sand, some silt (SM)					20-22': 5 ppm; grey/
14:40		22.0	5-14			22			black, ash-like material
07:30	4D	22.0	14-25	Black to brown fine to coarse sand, some brick,	F				22-24': 10 ppm; black/
04-19-15		24.0	96-66	gravel, silt (Fill) (SM)	Г	24			grey, fill debris (brick,
Sunday	5D	24.0	14-14	Black to brown, red brown silty fine to medium		25			ash)
Clear		26.0	23-19	sand, trace gravel (SM)					*
60°F	6D	26.0	22-26	Brown fine to coarse sand, some gravel, silt					24-26': 5 ppm, faint
001	- 55	28.0	38-21	(SM)					odor
	7D	28.0	7-8	Brown silty fine to medium sand, trace gravel					26-28': 0 ppm, no odor
	70	30.0	12-26	(SM)	S	30			28-30': 0 ppm, no odor
	0.D					30			
	8D	30.0	16-17	Brown silty fine sand (SM)					
		32.0	20-29						
						33.5			
						35	\ \		
	9D	35.0	7-14	Brown fine sandy silt varved with some silty fine	V				35-37': 0 ppm, no odor
		37.0	15-19	sand (ML&SM)	V				11
						38.5			
						40			
	10D	40.0	16-14	Red brown coarse to fine sand, some gravel,					40-42': 0 ppm, no odor
	100	42.0	14-13	trace silt (SP-SM)					40-42 : 0 ppiii, iio odoi
		72.0	14-15	trace sit (or -ow)	G				
						45			
						45			
	11D	45.0	17-16	Top: Red brown gravelly coarse to fine sand,		46			
		47.0						45-47': 0 ppm, no odor	
				Bot 12": Red brown clayey silt, some fine sand					11D Bot: WC=27
				(ML)	V				
					V	50			
	12D	50.0	12-14	Red brown fine sandy silt, trace gravel (ML)					REC=2"
		52.0	15-21						-
1		JU	10 2 1		1	l			

BORING NO. M-16A

M-16A

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK

RES. ENGR. A. PATRONE/L. LINCOLN/N. SEGUIN

						KES	. ENGR.	A. PATRONE/L. LINCOLN/N. SEGUIN
DAILY		SAMI	PLE				CASING	
	NO			SAMPLE DESCRIPTION	CTDATA	DEDTU		REMARKS
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REWARNS
Cont'd								
04-19-15								
Sunday					V			
Clear					_			
60°F						55		
	13D	55.0	11-15	Red brown clayey silt varved with silt, some	,	56		
14:30	130				**			
11:50		56.5		fine sand (ML&SM)	**	56.5		**Till from 56' to 56.5'.
	1C	56.5	REC=100%	Hard slightly weathered to unweathered gray			*	*Coring time in 2
04-20-15	_	61.5		gneissic schist, trace pegmatite, blocky				minutes per foot.
Monday		01.5	NQD=04 /6	grieissic scriist, trace pegmatite, blocky				minutes per 100t.
Rain						60		
55°F	2C	61.5	DEC_1000/	Hard alightly weathered to unweathered gray	R		*	*Coring time in 7
	20			Hard slightly weathered to unweathered gray	N			
		64.8	RQD=93%	pegmatite, trace gneissic schist, jointed				minutes per foot.
	20	C4 0	DEC 4000/	Llord alighthy was the great to way on the great great		65	*	*Coming times in 10
	3C	64.8		Hard slightly weathered to unweathered gray		00		*Coring time in 10
		66.5	RQD=76%	pegmatite, moderately jointed				minutes per foot.
13:25				, ,		66.5		End of Boring at 66.5'.
						00.0		End of Borning at 66.6.
								WC=Water Content
						70		in percent of dry
					,			
								weight.
						75		
					,			
						80		
						0.5		
						85		
		-					-	
						90		
						30		
			1			95		
						100		
					1			
			<u> </u>					
			•	•				

BORING NO. M-16A

M-16A

					BORING N	NO.	M-16	SA
					SHEET	4	OF	4
PROJECT WES			STREET/10TH	I AVENUE	FILE NO.		12320	
LOCATION		W YORK, N			SURFACE	ELEV.		2.0±
BORING LOCATION	SEE BO	ORING LOC	ATION PLAN		DATUM		NAVD 8	8
					-			
PODING EQUIDMENT AN	ND METHOD	C OE CTADII	IZING BODEU) E				
BORING EQUIPMENT AN	TYPE OF FEE		IZING BOKER	<u>JLE</u>				
TYPE OF BORING RIG	DURING COR		CASING U	ISED	X	YES	NO	
TRUCK	MECHANICAL		DIA., IN.	4	DEPTH, FT.			O 35
SKID	HYDRAULIC	X	DIA., IN.	<u> </u>	DEPTH, FT.			0
BARGE	OTHER		DIA., IN.	-	DEPTH, FT.			0
OTHER TRACK							·	
	=							
TYPE AND SIZE OF:			DRILLING	MUD USED		YES	X NO	
D-SAMPLER 2" O. D. SP	LIT SPOON		DIAMETER	R OF ROTARY BIT	, IN.			
U-SAMPLER			TYPE OF	DRILLING MUD				
S-SAMPLER								
CORE BARREL NX DOUBL	E BARREL		AUGER U	SED		YES	X NO	
CORE BIT NX DIAMO	ND		TYPE AND	DIAMETER, IN.	-			
DRILL RODS NWJ								
			*CASING I	HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				R HAMMER, LBS.		AVERAGE	FALL, IN.	30
	.		*USED AU	ITOMATIC HAMME	R.			
WATER LEVEL OBSERV		-		1				
DATE TIME	EPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER		CONDITION	US OF ORS	SERVATION	
DATE HIVE	TIOLL	CASINO	WAILK	NO			VATIONS MAI)E
				110	VV/(1 L1 (LL V	LL ODOLIN	V/(1101401W/	<i>5</i> L.
			1					
PIEZOMETER INSTALLE	<u>D</u> YI	ES X	NO SKE	ETCH SHOWN C)N			
STANDPIPE: TYPE	-		ID, IN.	I ENI/	GTH, FT.		TOP ELEV.	
INTAKE ELEMENT: TYPE			OD, IN.		GTH, FT.		TIP ELEV.	-
	ERIAL		OD, IN.		GTH, FT.		BOT. ELEV.	
TIETER. WAT			OD, IIV.	LLIN	J 11 1, 1 1			
PAY QUANTITIES								
3.5" DIA. DRY SAMPLE BOR	ING LI	N. FT.	56.5	NO. OF 3" SHEL	BY TUBE SA	MPLES		
3.5" DIA. U-SAMPLE BORING		N. FT.		NO. OF 3" UNDIS				
CORE DRILLING IN ROCK		N. FT.	10	OTHER:				
								
BORING CONTRACTOR			AQUIFE	R DRILLING &	TESTING C	O., INC.		
DRILLER	DOL	JG WOOD		HELPERS				
REMARKS	·	ВС	REHOLE GRO	OUTED UPON C	OMPLETIO	N.	-	
RESIDENT ENGINEER	ALEXAND	RA PATRONE	THERESA SAND	DIFORD/NATHAN S	SEGUIN	DATE	04-	20-15
CLASSIFICATION CHEC	K:	CHERYL J.	MOSS	TYPING CHEC	CK:			
MRCE Form BS-1						BOF	RING NO.	M-16A

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE NEW YORK, NEW YORK

BORING NO. M-17

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. +11.0±

RES. ENGR. A. PATRONE/L. LINCOLN SAMPLE **CASING** DAILY DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS** NO. **PROGRESS** 0.25 DRILLED **Asphalt from 0' to 08:30 1D 1.0 10-12 Black, gray, red, medium to fine sand, some AHEAD 0.25'. 04-18-15 19-32 Petroleum odor from 3.0 brick, gravel, concrete, tr silt (Fill) (SP-SM) Saturday Clear 2D 3.0 10-10 Black gravel, some fine to coarse sand, trace 0' to 35'. 70°F 5.0 8-12 silt (GP-GM) 5 2D, 11D: REC=6" 3NR 5.0 7-8 No recovery 1-5': 0 ppm, no odor 7.0 6-8 4D 7.0 5-3 Gray medium to fine sand, some silt, trace 7-9': 3 ppm, faint odor 9.0 4-4 gravel, brick (Fill) (SM) 9-11': 2 ppm, faint 10 5D 9.0 12-7 Gray fine to medium sand, some silt, trace odor 11.0 5-4 coarse sand, gravel (SM) F 11-12': 0.8 ppm, no 6D 11.0 4-2 Gray fine to coarse sand, some gravel, silt, odor 13.0 5-5 trace coarse sand (SM) 15 7NR 15.0 4-2 No recovery 4-9 17-19': no odor 17.0 8D 17.0 2-2 Black to red gravel & brick, trace fine to coarse REC=2" 19.0 5-8 sand, silt (Fill) (GP) 20-21': 3 ppm 20 21-22': 10 ppm, some 9D 20.0 5-50/2" Black to red fine to coarse sand, trace brick, 20.5 coal tar Refusal at 20.8'. gravel, silt (Fill) (SP-SM) 20.8 CONC Refusal at 22'. 1CNR 20.8 REC=0% No recovery 21.5 23 Drill ahead to 23'; rods 10D 21.5 100/6" Do 9D (Fill) (SP-SM) 25 drop. 22.0 11D 23.0 13-19 Brown coarse to fine sand, some gravel, trace REC=6" 15-10 brick, concrete, silt (Fill) (SP-SM) 25.0 Safety hammer used F 12D 25.0 29-31 Black fine to medium sand, some gravel, trace for Sample 12D. 27.0 12-28 silt, coarse sand (Fill) (SP-SM) 30 23-25': 1 ppm 13D 27.0 17-29 Brown black fine to medium sand, some silt, 25-27': 25 ppm 12-12 trace coarse sand, gravel (SM) 29.0 27-29': 10 ppm, faint 12-10 14NR 33 29.0 No recovery odor 31.0 11-13 29-31': 2 ppm, faint 35 odor 15D 7-7 35.0 Red brown fine sand, some silt (SM) 35-37': no odor 14:00 37.0 8-12 07:00 Switch mud at 35'. 04-19-15 40 Sunday 16D 40.0 4-5 Red brown silty fine to medium sand (SM) Clear S 42.0 6-7 60°F 45 17D 4-7 45.0 Do 16D varved with trace clayey silt (SM) 47.0 9-13 Hard drilling at 48'. 48.5 50 R 1C 50.0 REC=100% | Medium hard to intermediate slightly weathered

RQD=52% gray gneissic schist, jointed to broken, Fe & WJts

BORING NO. M-17

55.0

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK SURFACE ELEV. +11.0±

DAILY		SAMI	PI F			1120	CASING	A. PATRONE/L. LINCOLN
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd	110.	<i>D</i> 2	22011070	57 IIII 22 32 33 III II 31	0110111	<i>DEI</i> 1111	DEGTTO	
04-19-15								
Sunday								
Clear								
60°F					_	55		
	2C	55.0	REC=100%	Intermediate to medium hard slightly weathered	R			
		60.0	RQD=48%	gray gneissic schist, broken to jointed, iron				
				stained & weathered joints				
				•				
09:30						60		End of Boring at 60'.
						65		
						70		
						70		
						75		
						73		
						80		
						85		
						90		
						95		
						100		
		·						

BORING NO. M-17

M-17

RES. ENGR. A. PATRONE/L. LINCOLN

							BORING	NO.	M-17		
PROJECT	-	WEST 18TH	H - WEST 1	19TH S	STREET/10TH	1 AVENUE	SHEET FILE NO.	4	OF 12320	4	
LOCATIO	-				EW YORK	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	SURFACI				
	LOCATION	\ SI			ATION PLAN		DATUM		NAVD 88		
							=				
BORING E	EQUIPME			STABIL	IZING BOREH	<u>OLE</u>					
	00000000		F FEED					1			
TYPE OF B		_	G CORING		CASING U			YES	NO TO		
TRUCK	X	MECHA			DIA., IN.	4	DEPTH, FT		0TC		
SKID		HYDRA		Х	DIA., IN.	-	DEPTH, FT		TC	-	
BARGE OTHER		OTHER			DIA., IN.		_DEPTH, FT	. FROM	1	· 	
OTTLEN											
TYPE ANI	D SIZE OF				DRILLING	MUD USED	X	YES	NO		
D-SAMPLE		D. SPLIT SPO	ON			R OF ROTARY BIT].20	3-7/8		
U-SAMPLE		D. O. L. 1 O. O				DRILLING MUD	,		QUIK MUD		
S-SAMPLEI	-				0.	J. 1.12 1002			Q002		
		OUBLE BARRI	 EL		AUGER U	SED		YES	X NO		
CORE BIT		IAMOND			TYPE ANI	D DIAMETER, IN.]			
DRILL ROD	S NWJ					•		-			
					*CASING	HAMMER, LBS.	140	AVERAGE	FALL, IN.	30	
					*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30	
					*USED AL	JTOMATIC HAMME	R.	-			
WATER L	EVEL OBS	SERVATIONS	IN BOREH	OLE							
		DEPTH OF	DEPTI	H OF	DEPTH TO						
DATE	TIME	HOLE	CASI	NG	WATER				SERVATION		
						NO '	WATER LEV	EL OBSEF	RVATIONS MADE	Ī	
PIEZOME	TER INST	ALLED	YES	Х	אט פגו	ETCH SHOWN C	M				
TILZONIL	TER INOT	ALLED	123		jivo orti	_1011011077110					
STANDPIPE	E.	TYPE			ID, IN.	LENG	GTH, FT.		TOP ELEV.		
INTAKE EL		TYPE			OD, IN.	-	GTH, FT.		TIP ELEV.		
FILTER:	LIVILIVI.	MATERIAL			OD, IN.		3TH, FT.		BOT. ELEV.	-	
							J,				
PAY QUA	NTITIES										
	RY SAMPLE	BORING	LIN. FT.			NO. OF 3" SHEL	BY TUBE SA	AMPLES			
3.5" DIA. U-			LIN. FT.			NO. OF 3" UNDIS		_			
CORE DRIL			LIN. FT.	-		OTHER:		===	-		
30 BINE				-		J <u>-</u>			-		
BORING (CONTRAC	TOR			AQUIFE	ER DRILLING &	TESTING (CO., INC.			
DRILLER GUS				RI		HELPERS					
REMARKS											
RESIDEN	-	ER	ALEXAN	DRA P	ATRONE/LYS/	ANDRA LINCOLI	V	DATE	04-1	9-15	
CLASSIFI	CATION C	HECK:	CHE	RYL J.	MOSS	TYPING CHEC	K:	=	-		
MRCE Form BS	S-1					_		ВО	RING NO.	M-17	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE

BORING NO. M-18

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. +10.5±

LOCATION: NEW YORK, NEW YORK RES. ENGR. A. PATRONE/L. LINCOLN SAMPLE DAILY **CASING** DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS** NO. **PROGRESS 0.25** DRILLED **Asphalt from 0' to 1D 0.0 33-15 Black fine to medium sand, some gravel, silt, 08:20 20-14 2.0 trace brick, concrete (Fill) (SM) AHEAD 0.25'. 04-18-15 2D 15-16 Red to black fine to coarse sand, some brick, Petroleum odor from 2.0 Saturday Clear 4.0 12-14 gravel, silt (Fill) (SM) 0' to 35'. Red to green fine to coarse sand, some gravel, 70°F 3D 4.0 8-11 5 0-2': no odor 6.0 6-7 brick, silt (Fill) (SM) 2-4': 137 ppm, 4D 6.0 15-9 Black to gray fine to medium sand, some gravel, petroleum odor 8.0 6-6 silt (Fill) (SM) 4-6': 225 ppm 5D 8.0 6-6 Gray fine to coarse sandy gravel, trace wood, 5D, 7D: RÊC=2" 10.0 11-3 silt (Fill) (GP-GM) 10 F 6D 10.0 2-11 Gray fine to coarse sand, some gravel, trace 6D. 12D: REC=6" 12.0 11-4 silt (Fill) (SP-SM) 6-8': 98 ppm, odor 8-10': 23 ppm, moderate odor, 15 no sheen 7D 15.0 9-1 Gray to red gravel & brick, some fine to coarse 10-12': 11 ppm sand, trace silt (Fill) (GP-GM) 17.0 1-6 15-17': no odor 20 Free phase (internal) 8D 20.0 1/12" Black fine to medium sand, some silt, organic from 20' to 22'. M/S 24-45 silty clay layer, trace gravel (SM&OH) 22.0 Contaminated at bot-9D 22.0 64-30 Top 2": Brown f-m sand, some silt (SM) 22.3 tom of tank from 20' to 24.0 21-44 Bot 22": Brn f-c sand, tr qvl, brk, si (Fill) (SP-SM) 22.3'. **10NR** 24.0 5-6 No recovery 25 20-22': 100 ppm, 26.0 9-11 creosote-like odor; 11D 26.0 15-15 Black fine to medium sand, some gravel, trace black impacts (possibly silt, coarse sand (Fill) (SP-SM) 28.0 19-30 MGP) F 12D 28.0 30-12 Black fine to coarse sand, some gravel, trace 22-24': 50 ppm, same as 30.0 15-14 brick, silt (Fill) (SP-SM) 30 above 13D 30.0 22-18 Do 13D (Fill) (SP-SM) Switch mud; drum 12-13 32.0 cuttings. 24-26': 2 ppm; sheen 33.5 on split spoon 35 26-28': 22 ppm, odor; 14D 35.0 3-3 Red brown fine sand, some silt (SM) black 37.0 3-4 28-30': 1 ppm, faint odor; globules noted in drill mud 40 30-32': 1ppm, faint 15D 40.0 2-2 Do 14D (SM) odor 42.0 S 3-4 35-37': 0 ppm, no odor 40-42': 0 ppm 45 16D 45.0 2-2 Do 14D (SM) 45-47': 0 ppm 47.0 4-3 Mica in return at 49.5'. ***Decomposed rock 49.5 from 49.5' to 50'. *** 17D 50.0 50/0" Gray micaceous fine to medium sand, trace R

silt (Decomposed Rock) (SP-SM)

14:00

MRCE Form BL-1

BORING NO. M-18

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. A. PATRONE/L. LINCOLN

DAILY		SAMI	PIF				CASING	A. I ATRONE/E. EINOOEN
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	
07:00	110.	DEI III	BLOWOIO	Original Education Florida	01101171	DEI III	3*	*Coring time in
04-19-15	1C	50.5	REC=95%	Hard unweathered gray gneissic schist, jointed			2*	minutes per foot.
Sunday		55.5	RQD=92%	to moderately jointed, iron stained joints			2*	Timidedo por root.
Clear		00.0		lo moderatory fermour, memeratament fermo			3*	
60°F						55	3*	
00 1	2C	55.5	RFC=100%	Hard unweathered gray gneissic schist, blocky	R		2*	1
		60.5	RQD=88%	That animodation of gray griologic comot, blooky			2*	
		00.0					2*	
							2*	
						60	2*	
09:15						60.5		End of Boring at 60.5'.
						65		
						70		
						75		
						80		
						O.F		
						85		
						90		
						- 30		
						95		
						100		

BORING NO. M-18

M-18

						BORING N	١٥.	M-18	
						SHEET	4	OF	4
PROJECT	V			STREET/10T	H AVENUE	FILE NO.		12320	
LOCATION			· · · · · · · · · · · · · · · · · · ·	NEW YORK		SURFACE	ELEV.).5±
BORING LO	CATION	SEE	BORING LO	CATION PLAN	١	DATUM		NAVD 88	
						=			
BODINO FOI	LUDATA	T AND METIC	ND0 OF OTA		101 5				
BORING EQ	UIPMEN			BILIZING BOREH	HOLE				
TYPE OF BOR	INC DIC	TYPE OF F		CASING	LICED	V	YES	NO	
TRUCK	X	MECHANIC		DIA., IN.	5	DEPTH, FT.		0 TC	35
SKID		HYDRAUL	-	X DIA., IN.		DEFTH, FT.		TC	-
BARGE		OTHER		DIA., IN.		DEFTH, FT.		TC	
OTHER		OTTLER	-	DIA., IIV.	-		TROW		· -
TYPE AND S	SIZE OF:			DRILLING	G MUD USED	Х	YES	NO	
D-SAMPLER). SPLIT SPOON			ER OF ROTARY BIT			3-7/8	
U-SAMPLER					DRILLING MUD	-		QUIK MUD	
S-SAMPLER	-					-			
CORE BARRE	L NX DC	UBLE BARREL		AUGER I	JSED		YES	X NO	
CORE BIT	NX DIA	AMOND		TYPE AN	ID DIAMETER, IN.				
DRILL RODS	NWJ					-			
	-			*CASING	HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*SAMPLE	ER HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*USED A	UTOMATIC HAMMI	ER.			
WATER LEV	EL OBSI	ERVATIONS IN	N BOREHOLE	<u> </u>					
		DEPTH OF	DEPTH OF						
DATE	TIME	HOLE	CASING	WATER				SERVATION	
					NO	WATER LEVI	EL OBSER	VATIONS MADE	E.
PIEZOMETE	R INSTA	LLED	YES	x NO SK	ETCH SHOWN (ON			
STANDPIPE:	-	TYPE		ID, IN.	LEN	GTH, FT.		TOP ELEV.	
INTAKE ELEM		TYPE		OD, IN.		GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL		OD, IN.		GTH, FT.		BOT. ELEV.	
						-		_	
PAY QUANT	ITIES								
3.5" DIA. DRY	SAMPLE	BORING	LIN. FT.		NO. OF 3" SHEL	BY TUBE SA	MPLES		
3.5" DIA. U-SA	MPLE BO	RING	LIN. FT.		NO. OF 3" UNDI	STURBED SA	AMPLES		
CORE DRILLIN	NG IN RO	CK	LIN. FT.		OTHER:				
									-
BORING CO	NTRACT	OR		AQUIF	ER DRILLING &	TESTING C	O., INC.		
DRILLER		DC	MENIC PEPE	Ī	HELPERS		GEOR	SE RAYMOND)
REMARKS				BOREHOLE GR	OUTED UPON C	OMPLETIO	N.		
RESIDENT E	ENGINEE	R	ALEXANDRA	PATRONE/LYS	SANDRA LINCOL	.N	DATE	04-1	9-15
CLASSIFICA	TION CH	HECK:	CHERYL	J. MOSS	TYPING CHEC	CK:			
MRCE Form BS-1							BOI	RING NO.	M-18

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.8±
RES. ENGR. TERESA SANDIFORD

DAILY PROGRESS 10:00 05-15-15 Friday Cloudy 60°F	NO.	SAMI DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING	REMARKS
05-15-15 Friday Cloudy								
	1D 2D 3D 4D 5D 6D	18.0 20.0 22.0 24.0 26.0 28.0 30.0	6-5 5-4 5-5 4-5 3-4 5-5 2-3 3-5 3-4 5-8 5-13 8-14	Brown fine to coarse sand, some gravel, trace silt (SP) Do 1D (SP) Brown fine to coarse sand, trace gravel, silt (SP) Brown silty fine sand, trace mica (SM) Do 4D (SM) Red brown & brown silt, some fine sand (ML)	F S	5 10 15 18 20 25 28 30 35 40	AHEAD 4"	Hand excavated to 5'. Cuttings & drill water contaminated from 0' to 30'. Advanced unsampled from 6' to 18'. 6-20': ambient odors noted during drillin; 1-5 ppm spike Hard drilling at 16' to 16.9'. Mud shows white specs. Possible foundation mat. 18-20': 3 ppm, faint odor 20-22': 0 ppm, no odor REC=2" 22-30': 0 ppm, no odor
	1C	47.0 52.0	REC=97% RQD=78%	Medium hard slightly weathered to unweathered gray gneissic schist, jointed, iron stained & weathered joints	R	50	*	*Coring time from 13:22 to 13:37 at 3 minutes per foot.

BORING NO. M-19

M-19

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.8±
RES. ENGR. TERESA SANDIFORD

	ı					NES		TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd								
05-15-15								
	2C	FO 0	DEC 070/	Lland way athough and are your air air ashipt to			*	*Coning a time of the me
Friday	20	52.0	REC=97%	Hard unweathered gray gneissic schist to	_			*Coring time from
Cloudy		57.0	RQD=92%	schistose gneiss, moderately jointed	R			13:50 to 14:15 at 5
60°F						55		minutes per foot.
								Note: Rig pressure
14:15						57		inconsistant.
								End of Boring at 57'.
								Zila di Balling at di .
						60		
						00		-
						65		
						70		
						75		
						75		
						80		
						85		
						90		-
						90		1
						1		
								1
						95		
								1
						-		
						100		
]
								1
						1		

BORING NO. M-19

M-19

							BORING I	NO.	M-19	
							SHEET	4	OF	4
PROJECT		WEST 18TH	I - WEST 19	TH S	TREET/10TH	AVENUE	FILE NO.		12320	
LOCATION	N		NEW YOR	K, NE	W YORK		SURFACE	ELEV.	9.8	3±
BORING L	OCATION	SE	E BORING	LOCA	TION PLAN		DATUM		NAVD 88	
						=				
BORING E	QUIPMEN			ABILIZ	ZING BOREHO	<u>)LE</u>				
TYPE OF BO	DINC DIC	TYPE O	F FEED S CORING		CASING U	QED.	Х	YES	NO	
TRUCK	X Driing Xid	MECHA			DIA., IN.	3ED 4	DEPTH, FT	l .	0 TO	30
SKID	^	HYDRAI		Х	DIA., IN.	4	DEPTH, FT		TO	
BARGE		OTHER			DIA., IN.		DEPTH, FT		то	-
OTHER		OITILIX			DIA., IN.		- DEI 111,1 1	. I KOW	10	-
-										
TYPE AND	SIZE OF	:			DRILLING	MUD USED	X	YES	NO	
D-SAMPLER	R 2" O.	D. SPLIT SPO	ON		DIAMETER	R OF ROTARY BIT		I	3-7/8	
U-SAMPLER	₹				TYPE OF I	ORILLING MUD	•		QUIK MUD	
S-SAMPLER	₹									
CORE BAR	REL NX D	OUBLE BARRE	EL .		AUGER US	SED		YES	X NO	
CORE BIT	NX D	IAMOND			TYPE AND	DIAMETER, IN.				
DRILL RODS	S NWJ									
					CASING H	AMMER, LBS.		AVERAGE	FALL, IN.	
						R HAMMER, LBS.		AVERAGE	FALL, IN.	30
					*USED AU	TOMATIC HAMME	R.			
WATER LE	EVEL OBS		IN BOREHO							
DATE	TIME	DEPTH OF HOLE	DEPTH (DEPTH TO WATER		CONDITIO	NS OF ORS	SERVATION	
DATE	TIIVIL	TIOLE	CASIN	3	WATER	NO V			VATIONS MADE	:
						110	WITH LIVEL V	LL ODOLIN	V/(IIOI4O W//(DE	••
		_								
PIEZOMET	TER INST	ALLED	YES	X	NO SKE	TCH SHOWN C	N			
OTANDDIDE		T) (DE			15.11		X-11		TOD 51 51/	
STANDPIPE		TYPE			ID, IN.		STH, FT.		TOP ELEV.	
INTAKE ELE FILTER:	IVIENT:	TYPE			OD, IN. OD, IN.		STH, FT. STH, FT.		_TIP ELEV. BOT. ELEV.	
FILTEN.		WATERIAL			OD, IN.	LEING) II I, F I .		BOT. ELEV.	
PAY QUAN	NTITIES									
3.5" DIA. DR		BORING	LIN. FT.		47	NO. OF 3" SHELE	BY TUBE SA	MPI FS		
3.5" DIA. U-			LIN. FT.			NO. OF 3" UNDIS				
CORE DRIL			LIN. FT.		10	OTHER:				
					`	·			-	
BORING C	ONTRAC	TOR			AQUIFE	R DRILLING &	TESTING C	CO., INC.		
DRILLER			PAUL GADD	IS		HELPERS		·		
REMARKS				BOI	REHOLE GRO	UTED UPON C	OMPLETIC	N.		
RESIDENT	Γ EN <mark>GINE</mark>	ER		TER	ESA SANDIF	ORD		DATE	05-1	5-15
CLASSIFIC	CATION C	HECK:	CHER	YL J. N	MOSS	TYPING CHEC	K: _	-		
MRCE Form BS-	-1						·	BOF	RING NO.	M-19

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. MARK CHANCY

DAILY	y SAMPLE					KES		SING	MARK CHANCT
DAILY	110			CAMPLE DECORIDED	0.70 4.74	DEDTI			DEMARKO
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH			REMARKS
11:10									Unsampled to 20'.
04-28-15									Unsampled from 32'
Tuesday							4.	.5"	to 55'.
Sunny									
61°F						5			
0.1									
						10			
						15			
									Hard drilling to 18'
						00			approximately; bore-
	45	22.2	40.45	5		20			hole keeps collapsing.
	1D	20.0	13-15	Black fine to coarse sandy gravel, trace silt					REC=6"
04-29-15		22.0	13-11	(GP-GM)					
Wednesday	2D	22.0	7-8	Black medium to coarse sand, trace silt					REC=5"
		24.0	7-6	(SP-SM)					
	3D	24.0	11-7	Black gravelly fine coarse sandy gravel, trace		25			REC=2"
		26.0	7-12	silt (SM)					
	4D	26.0	14-14	Black gravel, trace silt, some fine to coarse	S				REC=3"
		28.0	26-24	sand (GP-GM)					20, 221, 0
	5D	28.0	14-10	Light brown fine to coarse sandy gravel, trace					20-22': 0 ppm, faint
		30.0	6-4	silt GP-GM)		30			odor
	6D	30.0	3-3	Brown fine to coarse sand, trace silt (SP-SM)					22-24': 0 ppm, no odor
	- 02	32.0	5-6	Drown into to ocaroo carra, trace on (or own)		32			24-26': 0 ppm
		02.0	0 0			02			26-28': 0 ppm, no odor
									30-32': 3 ppm, faint
						35			odor
						33			35-37': 0 ppm, no odor
									33 37 . 0 ррш, по оцог
						40			
						45			
						_			
						50			
						50		\vdash	
							1	†	

BORING NO. M-20

M-20

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. P.4±
RES. ENGR. MARK CHANCY

			–		I	1110	. ENGK.	MARK CHANCT
DAILY		SAMI					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd							DRILLED	
04-29-15							AHEAD	
Wednesday							4.5"	
						55	l l	
	1C	55.0	REC=88%	Medium hard slightly weathered to unweathered			4*	*Coring time in
	10	60.0	RQD=76%	gray gneissic schist, trace pegmatite,				minutes per foot.
		00.0	NQD=10%				3*	ininutes per 100t.
				moderately to jointed, iron stained & weathered jo				
							3*	
					R	60	3.5*	
	2C	60.0	REC=96%	Medium hard unweathered gray gneissic			5*	
		65.0	RQD=93%	schist, moderately jointed, iron stained &			1.5*	
				weathered joints			2*	
							2*	
						65		End of Boring at 65'.
						-		
						-		
						70		
						70		
						75		
						80		
						85		
						03		
						90		
						95		
						100		

BORING NO. M-20

M-20

							BORING	NO.	M-20)
							SHEET	4	OF	4
PROJECT		WEST 18			STREET/10TH	1 AVENUE	FILE NO.		12320	
LOCATIO					EW YORK		SURFAC	E ELEV.		4±
BORING	LOCATIO	\	SEE BORING	3 LOC	ATION PLAN		DATUM		NAVD 88	
BORING I	FOLIIPMEI	NT AND ME	THODS OF S	STARII	IZING BOREH	OLE.				
DOMING	LQUII IVILI		OF FEED	JIADIL	IZING BOKETI	<u>OLL</u>				
TYPE OF E	ORING RIG		NG CORING		CASING L	JSED	Х	YES	NO	
TRUCK			HANICAL		DIA., IN.	4.5	DEPTH, FT	-	0 TC	55
SKID	X	HYDF	RAULIC	Х	DIA., IN.		DEPTH, FT	. FROM	TC)
BARGE		OTHE	R		DIA., IN.		DEPTH, FT	. FROM	TC)
OTHER							_			
								-		
TYPE AN	D SIZE OF	÷			DRILLING	MUD USED	X	YES	NO	
D-SAMPLE	2" O.	D. SPLIT SP	OON		DIAMETE	R OF ROTARY BIT	Γ, IN.		3-7/8	
U-SAMPLE	:R				TYPE OF	DRILLING MUD			QUIK GEL	
S-SAMPLE	-							7		
CORE BAR	-				AUGER U			YES	X NO	
CORE BIT	5-3/4	"			TYPE ANI	D DIAMETER, IN.				
DRILL ROD	DS NW									
						HAMMER, LBS.	140	-	E FALL, IN.	30
						R HAMMER, LBS.		AVERAGI	E FALL, IN.	
\/\ATED		SEDVATIO	IC IN BODEL		^USED AU	JTOMATIC HAMME	=K.			
WAIERL	EVELOB	DEPTH	NS IN BOREH DEPT		DEPTH TO					
DATE	TIME	HOLE			WATER		CONDITIO	NS OF OB	SERVATION	
						NO			RVATIONS MADI	E.
					1					
PIEZOME	TER INST	ALLED	YES	X	NO SKI	ETCH SHOWN (ON			
	_						a			
STANDPIP		TYPE			ID, IN.		GTH, FT.	-	TOP ELEV.	-
INTAKE EL	EMENI:	TYPE			OD, IN.		GTH, FT.		TIP ELEV.	-
FILTER:		MATERIAL			OD, IN.	LEN	GTH, FT.		BOT. ELEV.	
PAY QUA	NITITIES									
	RY SAMPLE	BODING	LIN. FT.		55	NO. OF 3" SHEL	RV THRE S/	MDI ES		
	-SAMPLE B		LIN. FT.	-		NO. OF 3" UNDI				
	LLING IN RO		LIN. FT.		10	OTHER:	STONDED S	AIVII LLO		
JOIL DIVI	LLIIVO IIV NO		LIIN. I I.		10	OTTIEN.				
BORING	CONTRAC	TOR			AOUIF	ER DRILLING &	TESTING (CO. INC		
DRILLER			PAUL GAE	DIS	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	HELPERS		- J.,J.		
REMARK					REHOLE GRO	_TIEEL EIGO DUTED UPON C	OMPLETIC	ON.		
	T ENGINE	ER			MARK CHANC			DATE	04-2	9-15
	ICATION C	-	CHE		MOSS	TYPING CHEC	CK:			
MRCE Form B						_		ВО	RING NO.	M-20

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. 8.6±

RES. ENGR. TERESA SANDIFORD SAMPLE DAILY **CASING** DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS PROGRESS** DRILLED Vacuum excavated to 13:15 AHEAD 6'. 04-30-15 Hand excavated to 5'. Thursday Sunny Cobbles & coarse gravel observed in 65°F 5 cuttings of vacuum. 1D 6.0 3-5 Brown gravel, trace fine to coarse sand (GP) Part of recovery filled 8.0 5-3 water observed at 6.5'. 2D 8.0 5-4 Brown fine to coarse sand, some silt, trace 1D, 16D, 19D: REC=3" 10.0 5-3 gravel (SM) 10 2D: REC=5" F 3D 10.0 2-2 Brown tan gravel, trace fine to coarse sand REC=1" 12.0 3-2 (GP) Shells in sample. 6-8': 0 ppm, no odor 8-10': 0.5 ppm, no 15 odor 4D 15.0 3-3 Brown black fine to coarse sand, gravel, 10-12': 0 ppm, no 17.0 6-3 trace silt, organic clay (GP-GM) odor REC=2" Sand in sample. 20 15-17': 0 ppm 5NR 20.0 1-1 No recovery 22.0 2-1 Cuttings is clay & 6D 22.0 3-2 Soft brown black organic silty clay, trace fine gravel. 24.0 2-2 sand, shells (OH) 14:30 7D 24.0 3-3 Brown gray clayey fine to medium sand (SC) 25 09:00 WC=63 26.0 7-7 05-01-15 20-22': 0 ppm, no odor 8D 26.0 8-9 Top: Do 7D, trace gravel (SC) Friday 7-12 Bot: Stiff light brown silty clay (CL) 8D Bot: WC=30 28.0 Cloudy 9D 28.0 4-6 Do with medium sand, some clay and stiff 55°F 22-32': 0 ppm, no odor 30 30.0 11-14 brown silty (SC+CL) 10D 30.0 10-12 Brown silty fine sand (SM) 13-15 32.0 35 11D 35.0 6-5 Brown silt (ML) Fixing hammer from 37.0 6-6 10:00 to 11:45. 35-37': 0 ppm, no odor 40 12D 40.0 8-9 Brown fine to coarse sand with fine gravel 40-42': 0 ppm, no odor S 42.0 10-7 (GP) 45 13D 20-18 Do 12D (GP) 45.0 REC=6" 47.0 24-10 45-47': 0 ppm, no odor 50 14D 50.0 13-10 Do 12D (GP) 52.0 7-18

BORING NO. M-21

M-21

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

DAILY	SAMPLE						CASING	TERCEON GARABII GRA
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd 05-01-15 Fri., Cloudy 55°F								
13:00 10:30 5-5-15 Tuesday Partly	15NR	55.0 57.0	9-8 18-13	No recovery		55		Rig chatter at 58'.
Cloudy 77°F	16D	60.0 62.0	12-10 11-12	Purple clay (CL)		60		Hole collapsed at 60'. 60-62': 0 ppm, no odor
	17D	65.0 67.0	10-14 30-30	Brown fine to medium sand (SP)	s	65		65-67': 0 ppm, no odor Rig chatter at 68'.
	18D	70.0 72.0	18-16 18-16	Brown medium to coarse sand, trace fine gravel (SP)		70		70-72': 0 ppm, no odor
	19D	75.0 77.0	19-16 18-12	Do 18D (SP)		75		REC=3" 75-77': 0 ppm, no odor
14:30 09:00 05-06-15 Wednesday Cloudy	20D	80.0 82.0	9-9 10-10	Brown fine sand, some silt (SM)		80		
60°F	21D	85.0 86.1	8-15 100/2"	Brown fine to medium sand, some silt, trace rock fragments (SM)	DR	85 86 88		
	1C	88.0 93.0		Hard slightly weathered to unweathered gray schistose gneiss to gneissic schist, jointed to moderately jointed, slightly weathered joints		90	*	*Coring time from 13:29 to 13:50 at 4.2 minutes per foot. Driller advanced to 88' for stick up purposes.
	2C	93.0 98.0		Hard unweathered gray gneissic schist, moderately jointed to jointed	R	95	*	*Coring time from 14:09 to 14:28 at 3.8 minutes per foot.
14:28						98		End of Boring at 98'.
						100		WC=Water Content in percent of dry weight.

BORING NO. M-21

M-21

						BORING I	NO.	M-21	
						SHEET	4	OF	4
PROJECT		WEST 18TH -	WEST 19TH	STREET/10Th	H AVENUE	FILE NO.		12320	
LOCATION	N	ľ	IEW YORK, N	NEW YORK		SURFACE	ELEV.	8.6)±
BORING L	OCATION	SEE	BORING LO	CATION PLAN		DATUM		NAVD 88	
						= :			
BORING E	QUIPMEN			LIZING BOREH	<u>OLE</u>				
		TYPE OF F							
TYPE OF BO				CASING U		L	YES	NO	
TRUCK	Х	MECHANIC		DIA., IN.	4	DEPTH, FT		0TO	35
SKID		HYDRAUL	c <u>x</u>			DEPTH, FT		TO	-
BARGE		OTHER		DIA., IN.		DEPTH, FT	. FROM	TO	
OTHER _									
TYPE AND	SIZE OE			DDILLING	MUD USED	V	YES	NO	
D-SAMPLER		D. SPLIT SPOON			R OF ROTARY BIT		ILS	3-7/8	
U-SAMPLER	-	D. 31 E11 31 001			DRILLING MUD	, IIN.		QUIK GEL	
S-SAMPLER				111 2 01	DIVILLING MOD			QUIN OLL	
		OUBLE BARREL		AUGER U	SED		YES	X NO	
CORE BIT	-	IAMOND			DIAMETER, IN.		. 20	X	
DRILL RODS	-			2744	o on avierent, inte				
				CASING H	HAMMER, LBS.		AVERAGE	FALL. IN.	
					R HAMMER, LBS.		AVERAGE		30
					JTOMATIC HAMME			· —	
WATER LE	EVEL OBS	SERVATIONS IN	BOREHOLE						
		DEPTH OF	DEPTH OF	DEPTH TO					
DATE	TIME	HOLE	CASING	WATER		CONDITIO	NS OF OBS	SERVATION	
					NO	WATER LEV	EL OBSER	VATIONS MADE	
PIEZOMET	TER INST	ALLED	YES X	NO SKI	ETCH SHOWN C	N			
1 ILZONIL	ILIX IIVO I	KLLLD	120 X		_10110110WW				
STANDPIPE	i <u>.</u>	TYPE		ID, IN.	I FNC	GTH, FT.		TOP ELEV.	
INTAKE ELE		TYPE		OD, IN.	-	GTH, FT.		TIP ELEV.	
FILTER:		MATERIAL		OD, IN.	-	GTH, FT.		BOT. ELEV.	
PAY QUAN	NTITIES								
3.5" DIA. DR		BORING	LIN. FT.	88	NO. OF 3" SHELI	BY TUBE SA	MPLES		
3.5" DIA. U-9	SAMPLE BO	ORING	LIN. FT.		NO. OF 3" UNDIS	STURBED SA	AMPLES		
CORE DRIL	LING IN RC	OCK	LIN. FT.	10	OTHER:			-	
								-	
BORING C	ONTRAC	TOR		AQUIFI	ER DRILLING &	TESTING C	O., INC.		
DRILLER	_	DOMINIC	PEPE/PAUL G	ADDIS	HELPERS		GEORG	SE RAYMOND	
REMARKS	;		В	OREHOLE GRO	DUTED UPON C	OMPLETIC	N.		
RESIDENT	FENGINE	ER	TI	ERESA SANDIF	ORD		DATE	05-05	5-15
CLASSIFIC	CATION C	HECK:	CHERYL	I. MOSS	TYPING CHEC	CK:			
MRCE Form BS-	-1						BOI	RING NO.	M-21

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

				T	1	RES	. ENGR.	TERESA SANDIFORD
DAILY		SAMF	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
09:00							DRILLED	Hand auger to 6'.
05-01-15							AHEAD	i iaiia aagei te e i
							4" 3"	Vacuum cleared of
Friday							4 3	
Cloudy								utilities to 6'.
55°F						5		0-6': 0 ppm, no odor
								Driller accidentally
								advanced to 15' with-
								out sampling.
						10		Covering 3 rigs,
					F	10		0 0
								inspection; did not
								noticed to revert.
						15		
	1D	15.0	22-21	Brown gravel, some fine to coarse sand, trace				REC=3"
		17.0	9-5	silt (GP-GM)				15-17': 60 ppm,
		17.0	9-5	Silt (OI -OIVI)				
								petroleum odor
						20		
	2D	20.0	18-14	Brown, purple, gravel, some fine to coarse				Driller blows.
		22.0	10-10	sand, trace silt (GP-GM)				River deposit with
	3D	22.0	13-7	Top: Brn f-c sand, tr gravel, silt (SP-SM)				shell fragments from
	00	24.0	5-4	Bot: Brn blk organic si clay, tr f sand, shells (OH)				23' to 26'.
	40					25		20-22': 3 ppm,
	4D	24.0	1-2	Do 3D Bottom (OH)		25		
		26.0	2-3					moderate odor
	5D	26.0	7-4	Do 3D Bottom (OH)				WC=52
		28.0	4-4					22-28': 0 ppm
	6D	28.0	9-13	Brown fine to coarse sand, some gravel, trace				28-30': 0 ppm, no
		30.0	14-17	silt (SP-SM)		30		
	7D	30.0	29-32	Do 6D (SP-SM)		30		odor
	70			D0 0D (3F-3NI)				30-32': 0 ppm, no
		32.0	19-19					odor
						35		35-37': 0 ppm, no odor
	8D	35.0	12-19	Brown gravel, some fine to coarse sand, silt	_			33 37 . 0 ppin, no odor
		37.0	25-34	(GM)	S			
		37.0	20-04	(GW)				
						40		
	9D	40.0	12-17	Brown fine to medium sand, some silt (SM)				40-42': 0 ppm, no odor
		42.0	14-14					
						AE		
						45		
	10D	45.0	9-16	Top: Brown fine to coarse sand, some gravel,				45-47': 0 ppm, no odor
13:15		47.0	18-23	trace silt (SP-SM)				
09:00				Bot: Red brown silt varved with trace clayey silt				10D Bot: WC=29
05-04-15				(ML)				
Monday				` '		50		Casing to 50'.
-	11D	50.0	39-73	Brown, gray gravelly fine to coarse sand (SP-SM		- 50	++-	_
Sunny	טוו			Drown, gray gravelly lifte to coarse same (SP-SIVI	1		\perp	50-52': 0 ppm, no odor
80°F		52.0	19-20				▼ ▼	

BORING NO. M-22P

M-22P

BORING NO.

MRCE Form BL-1

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-22P

SHEET 2 OF 7

FILE NO. 12320

SURFACE ELEV. 8.0±

RES. ENGR. TERESA SANDIFORD SAMPLE **CASING** DAILY DEPTH BLOWS/6" **SAMPLE DESCRIPTION** STRATA DEPTH BLOWS **REMARKS PROGRESS** NO. **DRILLED** Cont'd **AHEAD** 05-04-15 3" Monday Sunny 55 80°F 12D 19-21 55.0 Brown fine to medium sand, some gravel, trace 55-57': 0 ppm, no odor 57.0 20-17 silt (SP-SM) 60 11-29 13D 60.0 Brown fine to coarse sand, some gravel, trace 60-62': 0 ppm, no odor 62.0 32-37 silt (SP-SM) 1C REC= Cobble to sandstone, hard red brown Hard drilling at 62.5'. 63.0 68.0 1C Cored for 1' then 65 rods dropped through 68'. 14D 68.0 17-26 Brown, red brown gravelly fine to coarse sand, Borehole collapsed 70 70.0 53-42 trace silt (SP-SM) at 70'; clearing out. 13:00 15D 70.0 18-21 Brown fine to coarse sandy gravel, trace silt 09:00 68-70': 0 ppm, no odor 31-22 (GP-GM) 72.0 05-05-15 70-72': 0 ppm, no odor Tuesday Cloudy 75 77°F 16D 75.0 18-21 Brown fine to coarse sand, trace gravel, silt S 75-77': 0 ppm, no odor 77.0 20-25 (SP-SM) 80 Hole collapsed at 80' 17D 80.0 97-32 Do 16D (SP-SM) pulling rods created 26-24 vacuum for sand to 82.0 fill hole up to 76'. Keeping possible 85 13:00 head while putting 18D 09:00 85.0 18-20 Brown fine to coarse sand, some gravel, trace rods. 05-06-15 87.0 21-16 silt (SP-SM) 80-82': 0 ppm, no odor 85-87': 0 ppm, no odor Wednesday Cloudy, 90 Rain 19D 90.0 21-31 REC=0.25" Brown clayey gravel (GC) 60°F 92.0 31-46 90-92': 0 ppm, no odor 95 20D 95.0 19-24 Brown fine to coarse sand, trace gravel, silt 95-97': 0 ppm 97.0 26-26 (SP-SM) 100 21D 100.0 15-26 Do 20D (SP-SM) 100-102': 0 ppm 102.0 33-34

BORING NO. M-22P

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

					T	KES		TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd								
05-06-15								
Wednesday					S			Mica & decomposed
						104		rock in wash at 104'.
Cldy., Rain								
60°F					DR	105		Hard drilling at 104'.
09:00	22D	105.0	50/1.5"	Top: Brn f-m sand, some silt (SP-SM)				Bit punched through
05-07-15		105.1		Bot: Gray f-m sand, some silt (DR) (SM)				to 105'.
Thursday	1C	105.0	REC=100%	Medium hard slightly weathered to unweathered				22D: REC=1.5"
Sunny		110.0	RQD=88%	gray & black hornblende schist, trace			*	*Coring time from
75°F				pegmatite, jointed, weathered joints	_	110		10:09 to 10:29 at 4
	2C	110.0	REC=100%	Hard unweathered gray hornblende schist,	R			minutes per foot.
		115.0		moderately jointed, mineral coated & iron				,
		110.0	11QD=10070	stained joints				
				Stanled Johns				
						445		First of Davis a st 4451
14:25						115		End of Boring at 115'.
								WC=Water Content
								in percent of dry
								weight.
						120		
						125		
						420		
						130		
						135		
						140		
						-		
						145		
						140		
						150		
			-	•	•	•		

BORING NO. M-22P

M-22P

									BORING	NO.	M-22P			
									SHEET		7 OF	7		
PROJEC1	「 <u> </u>	WEST 18						H AVENUE	FILE NO.		1232			
LOCATIO				EW YO					SURFAC	E ELEV.		8.0±		
BORING I	LOCATION	\	SEE	BORING	LOC	AHOI	N PLAN		DATUM		NAVD	88		
BORING F		NT AND ME	THO	DS OF S	TΔRII	IZING	R∩REH	OLE						
BOKING I	<u> </u>		OF FE		IADIL	IZING	BOKEII	OLL						
TYPE OF B	ORING RIG		NG CC			(CASING U	JSFD	X	YES	NO			
TRUCK		_	HANIC				DIA., IN.	4	DEPTH, F1	-	0	TO 20		
SKID			RAULIC		Х		DIA., IN.	3	 DEPTH, F1		0	TO 80		
BARGE		OTHE	R	-			DIA., IN.		_ DEPTH, F1			то		
OTHER	TRAC	K							_					
TYPE ANI	D SIZE OF	:					RILLING	MUD USED	Х	YES	NO			
D-SAMPLE	R 2" O.	D. SPLIT SP	NOO				DIAMETE	R OF ROTARY BIT	Γ, IN.		3-7/8, 2	-7/8		
U-SAMPLE	R					7	YPE OF	DRILLING MUD			QUIK G	EL		
S-SAMPLE										7				
		OUBLE BAR	REL				UGER U			YES	X NO			
CORE BIT		IAMOND				7	YPE AN	D DIAMETER, IN.		-				
DRILL ROD	S NWJ									A) (ED A (SE EALL IN			
								HAMMER, LBS.	440	_	GE FALL, IN.			
								R HAMMER, LBS. JTOMATIC HAMMI	140 ED	AVERA	GE FALL, IN.	30		
WATERI	EVEL OBS	SERVATIO	NS IN	BORFH	OLF.		USED A	J TOWATIC HAWWI	LIX.					
WATERLE	LVLLOBO	DEPTH		DEPTH		DEF	OT HT							
DATE	TIME	HOLE		CASI			ATER		CONDITIC	NS OF O	BSERVATION			
					SEE PIEZOMETER						SHEET NO. 5.			
DIEZOME	TED INICT	ALLED	Χ	VEC		NO	SK.	ETCH SHOWN (NI.	0	EE SHEET N	IO 5		
FIEZONE	TER INST	ALLED	^	TES		NO	SK	ETCH SHOWN C		3	DEE SHEET I	NO. 5		
STANDPIPI	E.	TYPE					D, IN.	I EN	GTH, FT.		TOP ELEV			
INTAKE EL		TYPE					D, IIV. DD, IN.		GTH, FT.	-	TIP ELEV.	•		
FILTER:		MATERIAL					DD, IN.		GTH, FT.	-	BOT. ELE\			
						`	,		O 111, 1 1.			··		
PAY QUA	NTITIES													
	RY SAMPLE	BORING		LIN. FT.				NO. OF 3" SHEL	BY TUBE SA	AMPLES				
3.5" DIA. U-	SAMPLE BO	ORING		LIN. FT.				NO. OF 3" UNDI	DISTURBED SAMPLES					
CORE DRIL	LING IN RO	OCK		LIN. FT.				OTHER:						
							_							
BORING (CONTRAC	TOR					AQUIF	ER DRILLING &	TESTING (CO., INC				
DRILLER			DC	DUG WO	OD			HELPERS			LEO			
REMARK						METER INSTALL	_ED.							
RESIDEN				A. :			SANDIF		214	DATE	0	5-07-15		
CLASSIFI		HECK:		CHE	₹YL J.	MOSS	5	_TYPING CHEC	JK:			14.005		
MRCE Form BS	S-1									В	ORING NO.	M-22P		

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-23

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. 7.7±

RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	PIF				CAS	 TEREOR OF HADII ORD
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH		REMARKS
10:45	_							Hand excavated to 5'.
05-20-15								0-6': 0 ppm, no odor
Wednesday							4'	, , , , , , , , , , , , , , , , , , , ,
Partly Cloudy								
65°F						5		
	1D	6.0	4-5	Brown gravelly fine to coarse sand, some silt,				6-8': 0 ppm, no odor
		8.0	6-6	trace organic silt clay layer (SM)				
	2D	8.0	3-3	Brown fine to coarse sand, some silt, trace				Petroleum odor.
	0.0	10.0	3-5	gravel (SM)	_	10		DEO 4"
	3D	10.0	5-3	Brown black fine to coarse sand, trace gravel,	F			REC=4"
		12.0	3-4	silt (SP-SM)				8-10': 0 ppm, no odor
								10-12': 0 ppm, no
						15		odor
	4D	15.0	4-3	Gray gravelly fine to coarse sand, trace silt				REC=1", possible
	10	17.0	3-2	(SP)				wash.
								15-17': 0 ppm, no odor
								13-17 . 0 ppin, no odoi
						20		20-22': 0 ppm, no odor
	5D	20.0	10-18	Top: Gray f-c sand, gravel, tr silt (GP-GM)		21		5D: WC=52
		22.0	6-2	Bot: Black organic silty clay (OH)				5D Bot: Petroleum
	6D	22.0	4-3	Black organic silty clay, some fine to coarse				odor.
15:00		24.0	3-2	sand, trace shells (OH)				6D: WC=42
09:00	7D	24.0	8-6	Black silty clay, trace fine sand, shell, wood		25		WC=51
05-21-15		26.0	3-4	(OH)				22-24': 0 ppm, no odor
Thursday	8D	26.0	6-6	Black organic silty clay, trace fine to medium				WC=41
Cloudy	0.0	28.0	3-3	sand, shells (OH)				24-26': 0 ppm, no odor
60°F	9D	28.0 30.0	5-4 5-4	Soft gray organic silty clay, trace shells (OH)	_	30		WC=56 26-28': 0 ppm, no odor
	10D	30.0	5-4 WH/24"	Do 9D (OH)	0	30		WC=58
	100	32.0	VVI 1/24	Do 9D (OH)				30-32': 0 ppm, no odor
		32.0						30-32 : 0 ppm, no odor
						35		
	11D	35.0	9-11	Do 9D, trace gravel (OH)				11D, 16D-17D:
		37.0	10-11					REC=1"
						38.5		
						40		
	12D	40.0	12-9	Brown fine to medium sand, some silt (SM)				40-42': 0 ppm, no odor
		42.0	9-8					
						4.4		
						44 45		
	13D	45.0	18-12	Brown clayey silt, trace silty clay (ML)		45		WC=33
	130	47.0	6-5	brown clayey siit, trace siity clay (ML)	M			45-47': 0 ppm, no odor
		47.0	0-5					45-47 . 0 ppm, no odor
						48.5		
						50		
	14D	50.0	15-14	Brown silty fine to medium sand, trace coarse	S			50-52': 0 ppm, no odor
		52.0	9-11	sand, gravel (SM)			↓	55 52. 5 PPIII, IIO Odol
	l			- , ,	1	1		

MRCE Form BL-1

BORING NO. M-23

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

BORING NO. M-23

SHEET 2 OF 4

FILE NO. 12320

SURFACE ELEV. 7.7±

RES. ENGR. TERESA SANDIFORD

DAILY		SAMI	DI E				CASING	TERESA SANDIFORD
DAILY	NO		1	CAMPLE DESCRIPTION	CTD A T A	DEDTU		DEMARKS
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH		REMARKS
Cont'd							DRILLED	
05-21-15							AHEAD	
Thursday							4"	
Cloudy								
60°F						55		
	15D	55.0	9-11	Brown gravelly fine to coarse sand, trace silt				FF F7' 1
	100	57.0	9-10	(SP-SM)				55-57': no odor
		37.0	9-10	(31 -31/1)				
						60	*	
	16D	60.0	25-24	Brown gravel (GP)				Gravel stuck in spoon
		62.0	28-17		_			tip.
					S			60-62': 0 ppm, no odor
								00-02 . 0 ppm, no odor
						65		
	17D	65.0	10-9	Brown gravel, trace coarse to fine sand (GP)		03		CF CF! 0
	טוו			brown graver, trace coarse to line sand (GP)				65-67': 0 ppm, no odor
		67.0	11-7					
						70		
	18D	70.0	9-10	Brown coarse to fine sand, some gravel, trace				70-72': 0 ppm, no odor
14:00		72.0	7-9	silt (SP-SM)				70 72:0 ppin; no odor
09:00			. •					
								Hard drilling from 74'
05-22-15						74.5		to 74.5'. TOR=74.5
Friday	100	75.0	400/0 5"	5 11		74.5		
Sunny	19D	75.0	100/0.5"	Boulder				from drilling.
70°F		75.0						Hard drilling from 75'
								to 80'.
13:30						80		
09:45	20D	80.0	100/0"	Gray rock fragments (GP)				
05-26-15	1C	80.0		Medium hard unweathered gray gneissic			*	Coring time from 10:32
	10	85.0	RQD=84%	schist, moderately jointed to jointed				to 10:46 at 2.5
Tuesday		65.0	KQD=04%	scriist, moderately jointed to jointed				
Sunny						0.5		minutes per foot.
70°F					R	85		
	2C	85.0		Hard unweathered gray gneissic schist,			*	Coring time from 11:02
		90.0	RQD=100%	massive				to 11:03 at 2 minutes
								per foot.
						90		
	3C	90.0	REC=92%	Hard unweathered gray gneissic schist,			*	*Coring time from
	30	95.0		moderately jointed				11:44 to 11:58 at
		95.0	NQD=92/0	moderately jointed				
						<u> </u>		2.75 minutes per foot.
12:00						95		End of Boring at 95'.
						1		WC=Water Content
								in percent of dry
								weight.
						100		· · · · · · ·
						-		

BORING NO. M-23

								BORING	NO.	M-23		
							SHEET	4	OF	4		
PROJECT		WEST 18					1 AVENUE	FILE NO.		12320		
LOCATION					, NEW Y			SURFAC	E ELEV.	7.		
BORING LO	OCATION	<u> </u>	SEE BOF	RING LO	OCATIO	N PLAN		DATUM		NAVD 88		
BORING EC	JUDMEN		ETHODS (کات کیا کات	BII IZING	BODEN	OI E					
DONING EC	ZUIF IVILI		E OF FEED	JI STAI	BILIZING	BOKEII	OLL					
TYPE OF BO	RING RIG		ING CORIN	G		CASING (JSED	X	YES	NO		
TRUCK	X		HANICAL			DIA., IN.	4	DEPTH, F	⊣	0 TC	60	
SKID			RAULIC			DIA., IN.		DEPTH, F		TC		
BARGE		ОТН	ER			DIA., IN.		 DEPTH, F1		TC	-	
OTHER				-		•		_ ′			-	
TYPE AND	SIZE OF	:				DRILLING	MUD USED	Х	YES	NO		
D-SAMPLER	2" O.	D. SPLIT S	POON			DIAMETE	R OF ROTARY BIT	Γ, IN.	_	3-7/8		
U-SAMPLER	<u></u>					TYPE OF	DRILLING MUD			QUIK MUD		
S-SAMPLER									_			
CORE BARRI	EL NX D	OUBLE BAI	RREL	= .		AUGER L	ISED		YES	X NO		
CORE BIT	NX D	IAMOND		_		TYPE AN	D DIAMETER, IN.					
DRILL RODS	NWJ			_,								
							HAMMER, LBS.		-	E FALL, IN.		
							R HAMMER, LBS.	140	AVERAG	E FALL, IN.	30	
		.==://=:0		. =		*USED AI	JTOMATIC HAMMI	ER.				
WATER LEY	VEL OBS				_							
DATE	TIME	DEPTH HOLI		EPTH OF CASING		PTH TO 'ATER		CONDITIC		SERVATION		
DATE	TIIVIL	TIOLI	_ '	JASING	VV	AILK	NO			RVATIONS MADE	<u> </u>	
							110	W/ (TEIX EE	VEL ODOLI	TOTAL MINER		
<u>PIEZOMETI</u>	ER INST	<u>ALLED</u>	YES		X NO	SK	ETCH SHOWN (ON				
STANDPIPE:		TYPE				ID, IN.	LEN	GTH, FT.		TOP ELEV.		
INTAKE ELEM	MENT:	TYPE				OD, IN.		GTH, FT.		TIP ELEV.		
FILTER:		MATERIAL				OD, IN.	LEN	GTH, FT.		BOT. ELEV.		
DAY 011441	TITIE 0											
PAY QUAN							NO 05 01 01 151	D) / TI IDE 0	4.14DI 50			
3.5" DIA. DRY			LIN.		80			SHELBY TUBE SAMPLES				
3.5" DIA. U-S			LIN.				NO. OF 3" UNDISTURBED SAMPLES					
CORE DRILL	ING IN RO	OCK	LIN.	F1	15		OTHER:			-		
BUDING CO		TOP				۸ ا ا ا ا		TESTINO				
BORING CO	JINTRAU	IUK	JOHN C	\ \ \ \ DDC	1.1	AQUIF	ER DRILLING &	IESTING	CO., INC.			
REMARKS			JOHN C	ZIVIT DEI			HELPERS OUTED UPON C	OMPI ETI)N			
RESIDENT	ENGINE	FR			TERESA			OIVIF LE I I	DATE	05.2	6-15	
CLASSIFIC		-	(J. MOS		TYPING CHEC	CK.	- DAIL	03-2	0 10	
MRCE Form BS-1				,, i=1\ i L	_ 3. 1/1000				RO	RING NO.	M-23	
											==	

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. 7.7±
RES. ENGR. TERESA SANDIFORD

					R		. ENGR.	TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
09:00								Hand excavated to 3'.
05-20-15								Brick layer encountered
Wednesday							4"	roller bit from 3' to 6'.
Partly Sunny								
65°F						5		
					'			
	1D	6.0	9-3	Top: Brn gravelly f-c sand, some clay (SC)	F			6-8': 0 ppm, faint
		8.0	2-1	Bot: Black clayey f-m sand, trace gravel (SC)	Г			
	2D	8.0	4-5					organic odor REC=1"
	20			Black gravel, some medium to coarse sand (GP)		40		REC=1
		10.0	5-4		,	10		
	3D	10.0	10-6	Brown, red gravelly fine to coarse sand, some				10-12': 0 ppm, no odor
		12.0	2-4	clay (SC)				11 -
						13.5		
						15		
	45	45.0	0.4		·	15		1440 05
	4D	15.0	3-1	Soft black organic silty clay, trace fine sand &				WC=65
		17.0	1-2	gravel (OH)				REC=3"
								15-17': 2 ppm, faint
					0			odor
					U	20		odoi
	rD.	20.0	4.0	Coft areas areas is allow trace fine and abolic	,	20		WC 50
	5D	20.0	1-2	Soft gray organic silty clay, trace fine sand, shells				WC=58
		22.0	2-2	(OH)				5D, 12D: REC=6"
	6D	22.0	3-6	Do 5D (OH)				WC=48
		24.0	8-3			24		20-26': 0 ppm, no odor
	7D	24.0	3-4	Brown silty clay, trace to some fine sand, gravel		25		
		26.0	4-6	(CL)				
	ONID							
	8NR	26.0	5-9	No recovery	V			
		28.0	12-18					WC=30
	9D	28.0	11-8	Brown & red brown silt varved with some clayey				28-30': 0 ppm, no odor
		30.0	8-13	silt (ML)		30	₩	30-32': 0 ppm, no odor
	10D	30.0	36-14	Red brown silty fine sand varved with some	•		*	30 32.0 ppin, no odor
		32.0	11-13	brown fine sand, some silt (SM)				
		32.0	11-13	blown line sand, some sin (ow)				
					S	35		35-37': 0 ppm, no odor
	11D	35.0	8-8	Brown fine sand, some silt (SM)	J			33-37 . 0 ppin, no odoi
		37.0	13-20					
								WC=Water Content
						40		
						40		in percent of dry
	12D	40.0	8-5	Top 1": Red brown silty fine sand (SM)	DR			weight.
		41.2	100/3"	Bot: Gray mic f-m sand, some silt (DR) (SM)	DIX	42		40-42': 0 ppm, no odor
	1C	42.0	REC=97%	Hard, unweathered to slightly weathered, gray			*	*Coring time from 13:42
		47.0	RQD=88%	gneissic schist, blocky, iron stained weathered				to 14:00.
		11.0	1142-0070	joints		45		10 1 1.001
				Jonits		73		
					R			
	2C	47.0	REC=96%	Hard unweathered gray gneissic schist, trace	17		*	*Coring time from 14:13
		52.0	RQD=96%	pegmatite, moderately jointed, iron stained				to 14:30.
				joints		50		1
				Jonno	•			
						EO		Find of Doning + FO
14:30						52		End of Boring at 52'.

BORING NO. M-24

M-24

							BORING NO			M-24			
								SHEET	3	OF	3		
PROJEC.	-	WEST 18				STREET/10Th	H AVENUE	FILE NO.		12320			
LOCATIO						EW YORK		SURFACI	E ELEV.		7±		
BORING	LOCATIO	`	SEE E	BORING	LOC	ATION PLAN		DATUM		NAVD 88			
BORING	EOI IIPMEI	NT AND M	IETHOL	S OF S	TΔRII	IZING BOREH	OLE						
DOMING	LQUII IVILI		E OF FE		IADIL	IZING BOKETI	<u>OLL</u>						
TYPE OF E	BORING RIG		ING CO			CASING U	ISED	X	YES	NO			
TRUCK		_	CHANICA			DIA., IN.	4	DEPTH, FT	4	0 TC	30		
SKID			RAULIC	-	Х	DIA., IN.		DEPTH, FT		TC			
BARGE		ОТН	IER			DIA., IN.		_ DEPTH, FT		тс	-		
OTHER	TRAC							- '					
TYPE AN	ID SIZE OF	:				DRILLING	MUD USED	X	YES	NO			
D-SAMPLE	ER 2" O.	D. SPLIT S	POON			DIAMETE	R OF ROTARY BIT	Γ, IN.		3-7/8			
U-SAMPLE	R					TYPE OF	DRILLING MUD			QUIK MUD			
S-SAMPLE	R												
CORE BAR	RREL NX D	OUBLE BAI	RREL			AUGER U	SED		YES	X NO			
CORE BIT	NX D	IAMOND				TYPE AN	D DIAMETER, IN.						
DRILL RO	DS NWJ												
						CASING I	HAMMER, LBS.		AVERAG	E FALL, IN.			
						*SAMPLE	R HAMMER, LBS.	140	AVERAG	E FALL, IN.	30		
						*USED AL	JTOMATIC HAMMI	ER.					
WATER L	EVEL OBS					I							
DATE	TINAT	DEPTH		DEPTH		DEPTH TO		CONDITIO	NO OF OR	OFF VATION			
DATE	TIME	HOLI	E	CASI	NG	WATER	NO			SERVATION	-		
							NO	WAIERLEV	EL OBSEI	RVATIONS MADI	<u></u>		
PIEZOME	ETER INST	ALLED	١	′ES	Χ	NO SK	ETCH SHOWN (ON					
						ī							
STANDPIP	E:	TYPE				ID, IN.	LEN	GTH, FT.		TOP ELEV.			
INTAKE EL	LEMENT:	TYPE				OD, IN.	LEN	GTH, FT.		TIP ELEV.			
FILTER:		MATERIAL	=			OD, IN.	LEN	GTH, FT.		BOT. ELEV.			
PAY QUA	<u>ANTITIES</u>												
3.5" DIA. D	RY SAMPLE	BORING	L	IN. FT.		42	NO. OF 3" SHEL	LBY TUBE SAMPLES					
3.5" DIA. U	I-SAMPLE B	ORING	L	IN. FT.			NO. OF 3" UNDI	STURBED S	AMPLES				
CORE DRI	LLING IN RO	OCK	L	.IN. FT.		10	OTHER:			-			
	CONTRAC	TOR				AQUIF	ER DRILLING &	TESTING (CO., INC.				
DRILLER			PAI	JL GAD			HELPERS						
REMARK	-						OUTED UPON C	OMPLETIC					
	NT ENGINE			<u> </u>		RESA SANDIF		217	DATE	05-2	0-15		
CLASSIF	ICATION C	HECK:		CHE	≺YL J.	MOSS	TYPING CHEC	JK:					
MRCE Form B	S-1								ВО	RING NO.	M-24		

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE LOCATION: NEW YORK, NEW YORK

MRCE Form BL-1

BORING NO. M-25

SHEET 1 OF 4

FILE NO. 12320

SURFACE ELEV. 12.4±

RES. ENGR. TERESA SANDIFORD SAMPLE DAILY **CASING** DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS **REMARKS PROGRESS** NO. 38-25 0.33 DRILLED **Asphalt from 0' to 1D 0.0 Gray black fine to coarse sandy gravel, trace 09:00 21-24 04-28-15 2.0 silt (Fill) (GM) AHEAD 0.33'. 2D 11-17 Brown fine to medium sand, brick, trace gravel, 2.0 Tuesday 0-6': 0 ppm, no odor Sunny 4.0 16-9 coarse sand, silt (Fill) (SP-SM) 55°F 3D 4.0 8-18 Brown fine to coarse sand, some brick, trace 5 17-11 gravel, silt (Fill) (SM) 6.0 4D 6.0 8-9 Gray black fine to coarse sand, some silt, 4D-6D: Petroleum 8.0 8-7 trace gravel (Fill) (SM) odor. 5D 8.0 11-17 Do 4D (Fill) (SM) 6-8': 18 ppm, faint 10 10.0 15-11 odor 6D 10.0 19-16 Gray black fine to coarse sandy gravel, trace 8-10': 175 ppm, odor 12.0 30-41 silt (Fill) (GP-GM) 10-12': 280 ppm, odor; grey sand grades to F schisty stone (0 ppm) 15 7NR 15.0 5-2 No recovery 2-1 17.0 20 8D 20.0 3-8 Red brown fine to coarse sand and brick 8D-12D: Petroleum 22.0 7-100/4" fragments, trace gravel, silt (Fill) (SP-SM) odor. Cobble dropped from 22' to 24'. 9D 24.0 1/12" Brown gravel and brick fragments, trace fine 25 REC=2" 26.0 1-4 to coarse sand (Fill) 26 20-22': 1800 ppm, 10D 26.0 17-22 Black brown fine to coarse sand, trace silty strong odor; lens of 21-19 gravel (SP-SM) 28.0 black sand 11D 28.0 5-6 Red brown fine to medium sand, trace silt, 24-26': 28 ppm, 30.0 10-12 some silt layer (SP-SM+ML) 30 moderate odor; grey; 12D 30.0 9-8 Red brown fine to medium sand, some silt, some mortar 11-12 trace mica (SM) 32.0 26-28': 5 ppm, odor; black sand grades to brown S 35 28-30': no odor 13D 35.0 4-5 Red brown silty fine sand, trace mica (SM) 30-32': 0 ppm, no odor 37.0 9-10 35-37': 0 ppm, no odor 40 14D 40.0 3-8 Red brown fine to medium sand, some silt, 40-42': 0 ppm 42.0 7-13 trace mica (SM) 43 1C 45 44.0 Medium hard slightly weathered gray gneissic Coring time from REC=87% schist, closely jointed to jointed 01:09 to 01:14 at 3.8 49.0 RQD=78% minutes per foot. R 2C: Didn't observe coring time for 2C. 50 2C 49.0 REC=93% Medium hard slightly weathered to Run paused for 20 54.0 RQD=67% unweathered gray gneissic schist, jointed to minutes to fix pump. closely jointed

BORING NO. M-25

PROJECT: WEST 18TH - WEST 19TH STREET/10TH AVENUE FILE NO. 12320
LOCATION: NEW YORK, NEW YORK SURFACE ELEV. RES. ENGR. TERESA SANDIFORD

						NEO		TERESA SANDIFORD
DAILY		SAMI	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION STR	RATA	DEPTH	BLOWS	REMARKS
Cont'd								
04-28-15								
Tues., Sunny					R			
						E 1		End of Doring at E4'
55°F, 14:30						54 55		End of Boring at 54'.
						55		
						60		
						6		
						65		
						70		
						75		
						80		
					•			
						0.5		
					,	85		
						90		
					•			
						95		
						100		
					ı	. 50		

BORING NO. M-25

M-25

							BORING	NO.	M-25		
							SHEET	4	OF	4	
PROJEC	т	WEST 18			STREET/10TH	AVENUE	FILE NO.		12320		
LOCATIO	-				EW YORK		SURFACI	E ELEV.		.4±	
BORING	LOCATION	<u>'</u>	SEE BORING	3 LOC	ATION PLAN		DATUM		NAVD 88		
BORING	FOLIIDMEN	NT AND ME	THODS OF S	STARII	IZING BOREH	OLE					
BORING	LQUIFINILI		OF FEED) I ADIL	IZING BOKETI	<u>JLL</u>					
TYPE OF F	BORING RIG		NG CORING		CASING L	ISFD	Х	YES	NO		
TRUCK		_	HANICAL		DIA., IN.	4	DEPTH, FT	-	0 TC	30	
SKID	-	HYDF	RAULIC	Х	DIA., IN.		_ DEPTH, FT		тс)	
BARGE		OTHE			DIA., IN.		_ DEPTH, FT		TC)	
OTHER	TRAC	K					-				
TYPE AN	D SIZE OF	:			DRILLING	MUD USED	X	YES	NO		
D-SAMPLE	2" O.	D. SPLIT SP	OON		DIAMETE	R OF ROTARY BIT	T, IN.		3-7/8		
U-SAMPLE	R				TYPE OF	DRILLING MUD			QUIK GEL		
S-SAMPLE	:R							7			
CORE BAR	RREL NX D	OUBLE BAR	REL		AUGER U			YES	X NO		
CORE BIT		IAMOND			TYPE AND	DIAMETER, IN.					
DRILL ROD	DS NWJ										
						IAMMER, LBS.		-	FALL, IN		
						R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30	
WATED I	EVEL OBS	SEDVATION	IS IN DODEL		"USED AC	JTOMATIC HAMME	ΞK.				
WAIEKL	LVEL OBS	DEPTH	NS IN BOREH DEPT		DEPTH TO						
DATE	TIME	HOLE			WATER		CONDITIO	NS OF OB	SERVATION		
						NO			RVATIONS MADE	<u> </u>	
					1						
PIEZOME	TER INST	<u>ALLED</u>	YES	Х	NO SKE	ETCH SHOWN (ON				
	_						a				
STANDPIP		TYPE			ID, IN.		GTH, FT.		TOP ELEV.		
INTAKE EL	EMENT:	TYPE			OD, IN.		GTH, FT.	-	TIP ELEV.	-	
FILTER:		MATERIAL			OD, IN.	LEIN	GTH, FT.	-	BOT. ELEV.	-	
PAY QUA	NITITIES										
	RY SAMPLE	BORING	LIN. FT.		44	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
	-SAMPLE B		LIN. FT.								
	LLING IN RO		LIN. FT.	-	10	NO. OF 3" UNDISTURBED SAMPLES OTHER:					
22.12 5111						· · · · · · · · · · · · · · · · · ·					
BORING	CONTRAC	TOR			AQUIFE	ER DRILLING &	TESTING (CO., INC.			
DRILLER			DOUG WO	OOD		HELPERS		, ==	LEO		
REMARK					OREHOLE GRO	DUTED UPON C	OMPLETIC	ON.			
	IT ENGINE	ER			RESA SANDIF			DATE	04-2	8-15	
CLASSIF	ICATION C	HECK:	CHE	RYL J.	MOSS	TYPING CHEC	CK:		<u> </u>		
MRCE Form B	S-1	•						ВО	RING NO.	M-25	