PROJECT: BAY PARK STP - PERIMETER FLOOD PROTECTION BAY PARK, NEW YORK

BORING NO. B-5A

SHEET 1 OF 2

FILE NO. 12047

SURFACE ELEV. 6.5

DAILY		SAM	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
11:45				Hand auger to 6'.			A STATE OF THE PARTY OF THE PAR	Offset from B-5.
10-14-13				For descriptions from 0' to 6', see boring B-5.			AHEAD	
Monday							4"	
Sunny								
65°F						5		
					F			
	1D	6.0	3-4	Brown gravelly fine to medium sand, trace				
		8.0	5-5	silt, coarse sand (SP)				•
	2D	8.0	3-8	Tan, orange & light brown fine to medium sand,		,		
		10.0	4-3	trace silt, gravel (SP-SM)		10		
	3D	10.0	1-2	Top 9": Tan f-m sand, some silt (SM)		10.8		M.
		12.0	2-2	Bot 9": Gray org clayey si, sm f sand seams (OL)				3D Bot: WC=35
	4UD	12.0	PUSH=24"	Gray fine to medium sand, trace silt (SP-SM)				Unsuccessful fixed
	798	14.0	REC=3"					piston tube; jarred
	5D	14.0	1-1	Top 8": Gray f-m sand, sm org silt, tr c sand (SM)		15		recovery.
		16.0	2-6	Bot 8": Gray organic silty clay, tr fine sand (OH)	O/S			5D Bot: WC=43
	6D	16.0	3-4	Top 5": Tan f-m sand, trace silt (SP-SM)				
		18.0	4-5	Bot 11": Gray org silty clay, tr fine sand (OH)				6D Bot: WC=57
	7D	18.0	1-2	Top 3": Do 6D, Bottom (OH)				7D Top: WC=50
		20.0	3-4	Bot 5": Blk org silty clay, sm f sand, tr peat (OH)		20	· · · · · · · · · · · · · · · · · · ·	7D Bot: WC=73
	8D	20.0	15-59	Brown fine to coarse sand, some gravel, trace				
		21.3	50/4"	silt (SP)				
	9D	22.0	20-33	Brown fine to medium sand, trace gravel, silt,		-		
		24.0	38-28	coarse sand (SP-SM)				
	10D	24.0	6-11	Gray fine to medium sand, trace silt, gravel		25		
		26.0	12-14	(SP-SM)				
	11D	26.0	8-8	Gray fine to medium sand, trace silt, coarse				
		28.0	14-18	sand (SP)				
	12D	28.0	10-36	Gray fine to medium sand, trace gravel, silt,				
		30.0	31-33	coarse sand (SP-SM)		30		
	13D	30.0	13-18	Gray & tan fine sand, some silt, trace medium				
		32.0	20-23	sand (SM)				
	14D	32.0	7-20	Tan fine to medium sand, trace silt, gravel				
15:30		34.0	32-36	(SP-SM)				
08:30	15D	34.0	12-17	Tan fine to coarse sand, trace gravel, silt	S	35		
10-15-13		36.0	18-25	(SP-SM)	-			
Tuesday	16D	36.0	10-20	Tan fine to medium sand, trace silt (SP-SM)				
Sunny		38.0	24-29					
65°F	17D	38.0	9-19	Do 16D (SP-SM)				
ļ		40.0	27-53			40		
Ì	18D	40.0	23-60	Tan fine to medium sand, trace silt, coarse				
		41.3	50/3"	sand, gravel (SP-SM)				
	19D	42.0	11-61	Do 18D (SP-SM)				
		43.3	50/4"					
	20D	44.0	6-8	Light brown fine to medium sand, trace silt		45		
		46.0	9-9	(SP-SM)				WC=Water Content
	21D	46.0	19-29	Light brown fine to medium sand, trace silt,				in percent of dry
		47.6	49-50/1"	coarse sand (SP-SM)				weight.
11:15	22D	48.0	39-50	Do 21D (SP-SM)				
11.13		49.6	69-50/1"			49.6		End of Boring at 49.6'.

PROJECT									BORING	NO.	B-5	Α
BORING LOCATION SEE BORING LOCATION PLAN DATUM NAVD 88									SHEET	2	OF	2
BORING LOCATION SEE BORING LOCATION PLAN DATUM NAVD 88	PROJECT	E	BAY P	ARK ST	P - PERIN	METER	FLOOD PA	OTECTION	FILE NO		12047	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE		_							SURFAC	E ELEV.		(20.0) 777
TYPE OF FEED TYPE OF BRING RIG	BORING LO	CATION	L	SE	E BORING	G LOC	ATION PLAI	N	DATUM		NAVD 8	8
TYPE OF FEED TYPE OF BRING RIG												
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TYPE OF BORING RIG	BORING EC	UIPMEN		- A C SH RE 2.3		ABILIZ	ING BOREHO	<u>DLE</u>				
TRUCK MOBILE B-58 MECHANICAL DIA., IN. 4 DEPTH, FT. FROM 0 TO 19	T									J.,		
SKID												
BARGE		MOBILE I						4				
OTHER	Anna 11 Anna 12				IC							
TYPE AND SIZE OF:	_			OTHER			DIA., IN.		DEPTH, F	T. FROM		0
D.SAMPLER 2° O. D. SPLIT SPOON TYPE OF DRILLING MUD EZ-MUD U-SAMPLER CORE BARREL CORE BARREL CORE BARREL CORE BIT DRILL RODS NWJ "CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30 SAMPLER FALL, IN. 30 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30 SA	OIHEH _											
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S-SAMPLER			D. 5PL	.11 59001	V				, IN.			
CORE BARREL CORE BIT TYPE AND DIAMETER, IN. HAND AUGER TOPILL RODS NWJ **CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30 **SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30 **USED SAFETY (SAMPLER) & AUTOMATIC (CASING) HAMMERS. WATER LEVEL OBSERVATIONS IN BOREHOLE DATE TIME DEPTH OF DEPTH OF CASING WATER CONDITIONS OF OBSERVATION NO WATER LEVEL OBSERVATIONS MADE. PIEZOMETER INSTALLED YES X NO SKETCH SHOWN ON STANDPIPE: TYPE ID, IN. LENGTH, FT. TOP ELEV. INTAKE ELEMENT: TYPE OD, IN. LENGTH, FT. TIP ELEV. FILTER: MATERIAL OD, IN. LENGTH, FT. BOT. ELEV. PAY QUANTITIES 3.5* DIA. DRY SAMPLE BORING LIN. FT. 39 6 NO. OF 3* UNDISTURBED SAMPLES 3.5* DIA. DRY SAMPLE BORING LIN. FT. 39 6 NO. OF 3* UNDISTURBED SAMPLES CORE DRILLING IN ROCK LIN. FT. OTHER: HAND AUGER BORING CONTRACTOR WARREN GEORGE, INC. DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK ODNALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS							TYPE OF	DRILLING MUD			EZ-MUD	
TYPE AND DIAMETER, IN.		-					AUGEDI	ICED		VEC	NO	
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FILTER: MATERIAL OD, IN. LENGTH, FT. BOT. ELEV. PAY QUANTITIES 3.5" DIA. DRY SAMPLE BORING LIN. FT. 4 NO. OF 3" SHELBY TUBE SAMPLES 3.5" DIA. CONTINUOUS SAMPLE BORING LIN. FT. 39.6 NO. OF 3" UNDISTURBED SAMPLES CORE DRILLING IN ROCK LIN. FT. OTHER: HAND AUGER BORING CONTRACTOR WARREN GEORGE, INC. DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS								-	2			
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CORE DRILLING IN ROCK LIN. FT. OTHER: HAND AUGER WARREN GEORGE, INC. DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS												
BORING CONTRACTOR DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS				30111114						J 220		
DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS	DI III-LI											
DRILLER CAESAR MOREIRA HELPERS LAWRENCE MILLER REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS	BORING CO	NTRACT	TOR					WARREN GEO	BGE INC			
REMARKS BOREHOLE TREMIE GROUTED UPON COMPLETION. RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS				CAF	SAR MOR	FIRA					NCE MILLE	B
RESIDENT ENGINEER PATRICK DONALDSON DATE 10-15-13 CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS		-		OAL			OLE TREMIE	-	V COMP			
CLASSIFICATION CHECK: CHERYL J. MOSS TYPING CHECK: CHERYL J. MOSS		ENGINE	FR								10-	15-13
					CHEE				(-	_ = 1111 ==		
	MRCE Form BS-1		,									B-5A

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-6U

SHEET 1 OF 2

FILE NO. 12047

SURFACE ELEV. 6.8

DAILY		SAM	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
12:00	1HA	0.0	HAND	Brown fine to medium sand, some gravel, trace			DRILLED	
10-07-13		2.0	AUGER	silt (SP-SM)			AHEAD	
Monday	2HA	2.0	HAND	Brown fine to coarse sand, some gravel, silt			4"	
Partly Cloudy		4.0	AUGER	(SM)	_			
70°F	ЗНА	4.0	HAND	Tan brown fine to medium sand, some gravel,	F	5		
12:25		6.0	AUGER	trace silt (SP-SM)			V	
08:00	4D	6.0	5-4	Brown fine to medium sand, some gravel, trace				
10-14-13		8.0	3-3	silt, coarse sand (SW-SM)		8		
Monday	5D	8.0	1-1	Brown organic silty clay, some peat, fine to				WC=117
Sunny		10.0	1-2	coarse sand (OH&Pt)		10		
60°F	6U	10.0	PUSH=24"	Medium gray organic silty clay, trace fine sand,				WC=58, pp=0.5, 0.75,
		12.0	REC=23"	shells (OH)				TV=0.25, 0.35
	7D	12.0	WH-1	Gray organic silty clay, some fine to medium				WC=48
		14.0	1-1	sand, trace shells (OH)	0			
				Carre, made entend (entry		15		
	8D	15.0	WR-WH/18"	Do 7D (OH)				WC=79
	-00	17.0		20.2 (01.)				
		- 17.0						
						18.5		
						20		
	9D	20.0	5-7	Brown fine to coarse sand, trace gravel, silt				
	30	22.0	10-10	(SP-SM)				
		22.0	10-10	(GF-SIVI)				
						25		
	100	05.0	10.10	Light have no fine to reading and the soul to		25		
	10D	25.0	12-16	Light brown fine to medium sand, trace silt,				
		27.0	21-28	gravel (SP-SM)				
						00		
	115	00.0	40.44	Light have a first to the first time and the first time.		30	-	
	11D	30.0	12-14	Light brown fine to medium sand, some silt				
		32.0	18-24	(SM)				
						33.5		
}						35		
ĺ	12D	35.0	29-47	Light brown fine to medium sand, trace silt				
		36.3	50/4"	(SP-SM)				
						40		WC=Water Content
	13D	40.0	19-37	Light brown & tan fine to medium sand, trace				in percent of dry
		41.8	52-50/4"	silt, coarse sand, gravel (SP-SM)				weight.
					S			
								pp=Pocket
						45		Penetrometer
	14D	45.0	13-36	Tan fine to medium sand, trace silt, gravel				Unconfined Compres-
		46.8	49-50/4"	(SP-SM)				sive Strength in tsf.
								TV=Torvane Shear
						50		Strength in tsf.
	15D	50.0	25-38	Do 14D (SP-SM)				-
12:15	100	00.0						

						BORING I	NO.	B-6L	J
						SHEET	2	OF	2
PROJECT BA				R FLOOD PR	OTECTION	FILE NO.		12047	
LOCATION				W YORK		SURFACE	ELEV.		.8
BORING LOCATION	SE	E BORIN	G LOC	CATION PLAN	N .	DATUM		NAVD 88	
BORING EQUIPMENT	AND METUC	De OE et	רו ווסאד	ING BODEHO	N E				
BONING EQUIPMENT	TYPE OF		ADILIZ	ING BONERC	<u>/LC</u>				
TYPE OF BORING RIG	DURING C			CASING U	ISED	X	YES	NO	
TRUCK DIETRICH 1				DIA., IN.	4	DEPTH, FT		0 TO) 6
SKID	HYDRAUL	-		DIA., IN.		DEPTH, FT		TO	
BARGE	OTHER			DIA., IN.		DEPTH, FT		TO	-
OTHER	, 750 B 500-10000			The same same of					
TYPE AND SIZE OF:				DRILLING	MUD USED	X	YES	NO	
D-SAMPLER 2" O. D	SPLIT SPOOM	ľ.		DIAMETE	R OF ROTARY BI	Γ, IN.		3-7/8	
U-SAMPLER				TYPE OF	DRILLING MUD			EZ-MUD	
S-SAMPLER									
CORE BARREL				AUGER U	SED	X	YES	NO	
CORE BIT				TYPE ANI	D DIAMETER, IN.		НА	ND AUGER/VA	CUUM
DRILL RODS NWJ									
					HAMMER, LBS.		AVERAGE	-	30
					R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
				*USED DO	ONUT HAMMER.				
WATER LEVEL OBSE		7		05051150					
DATE TIME	DEPTH OF HOLE	DEPTH	3 (2)	DEPTH TO WATER		CONDITIO	US OF ORS	SERVATION	
DATE THE	HOLL	OAGII	10	WATEH	NO I			VATIONS MAD	F
		+			110	WALLET EEV	LE ODOLII	Without Winte	
						7.1			
PIEZOMETER INSTAL	LED	YES	X	NO SKE	ETCH SHOWN C	N			
	YPE			ID, IN.		STH, FT.		TOP ELEV.	
	YPE			OD, IN.		STH, FT.		TIP ELEV.	
FILTER: N	MATERIAL			OD, IN.	LENC	ath, ft.		BOT, ELEV.	
DAY OUANITITIES									
PAY QUANTITIES		==		40.4		DV TUDE 04			
3.5" DIA. DRY SAMPLE E		LIN. FT.		43.4	NO. OF 3" SHEL				
3.5" DIA. CONTINUOUS SAN		LIN. FT.	100	2	NO. OF 3" UNDIS		AMPLES		
CORE DRILLING IN ROC	, K	LIN. FT.			OTHER: HAND A	NUGER)
BORING CONTRACTO	1 0				WARREN GEO	DOE INC			
DRILLER		AVE OSU	CH		HELPERS	INGE, ING.	10	GRANT	
REMARKS	U.			OLE TREMIE	_ NELFENS GROUTED UPO	N COMPLE		GIANI	
RESIDENT ENGINEER				RICK DONALE			DATE	10-1	4-13
CLASSIFICATION CHI		CHEE	RYL J. I		TYPING CHEC			ERYL J. MOS	
MRCE Form BS-1		O/ IEI						RING NO.	B-6U

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-7UP

SHEET 1 OF 4

FILE NO. 12047

SURFACE ELEV. 5.4

						HES	. ENGH.	PATRICK DONALDSO
DAILY		SAM	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
12:45	1HA	0.0	HAND	Brown fine to medium sand, some gravel, trace			DRILLED	
10-04-13		2.0	AUGER	silt (SP-SM)			AHEAD	
Friday	2HA	2.0	HAND	Tan fine to coarse sand, some gravel, trace			4"	
		4.0	AUGER	silt (SP)	_			
	ЗНА	4.0	HAND	Black organic silty fine sand, trace gravel (SM)	F	5		
13:05		6.0	AUGER					
14:00	4D	6.0	4-3	Black fine to medium sand, some wood, trace			*	
10-14-13		8.0	3-5	organic silty clay (SP-SC)				
Mon., Sun.	5D	8.0	4-3	Top 5": Blk f sandy organic silty clay, tr peat (OL)		8.4		5D: Top: WC=86
65°F, 15:00		10.0	3-2	Bot 16": Gray org si cl, tr f-c sa, gvl, pt, sls (OH)		10		5D: Bot: WC=54
08:15	6D	10.0	WH-1	Gray organic silty clay, some fine to coarse				WC=48
10-15-13		12.0	WH/12"	sand, trace gravel, wood, shells (OH)				
Tuesday	7U	12.0	PUSH=24"	Medium gray organic silty clay, trace fine sand,				WC=46, pp=0.5, 0.75,
Sunny		14.0	REC=24"	shells (OH)				TV=0.25, 0.3
65°F	8D	14.0	WH/18"	Gray organic silty clay, trace shells (OH)		15		WC=48
		16.0	1	and a game and and another (arr)	0			
	9D	16.0	1-1	Gray organic silty clay, trace peat (OH)				WC=81
	35	18.0	3-4	Cital organic sixy stay, trace pour (OT)				
	10D	18.0	WH-2	Gray organic silty clay, trace shells (OH)				WC=56
	100	20.0	2-4	dray organic sitty dray, trace shells (Orr)		20		VVO=30
	11D	20.0	1-1	Gray organic silty clay, trace peat (OH)		20		WC=97
	110	22.0	2-3	Gray Organic Sitty Clay, trace peat (Orl)				VVO-91
	120	22.0	19-20	Top 2": Do 10D (OH)		22.2		10D Ton: WC 100
	12D		20-18			22.2		12D Top: WC=129
	100	24.0		Bot 18": Gray f-c sand, sm gravel, tr silt (SP-SM)		25		
	13D	24.0	8-8	Brown gravelly coarse to fine sand, trace silt		25		
	110	26.0	12-17	(SP)				
	14D	26.0	22-20	Gray fine to medium sand, trace gravel, coarse				
		28.0	26-35	sand, silt (SP-SM)				
	15D	28.0	17-21	Gray fine to medium sand, trace silt (SP-SM)		- 00		
	100	30.0	23-18			30		
	16D	30.0	10-14	Gray fine to medium sand, trace silt, silty clay				WC=Water Content
		32.0	20-30	seams (SP-SM)	s			in percent of dry
	17D	32.0	24-25	Gray fine to medium sand, trace silt (SP-SM)				weight.
		34.0	16-24					
	18D	34.0	15-28	Do 17D (SP-SM)		35		pp=Pocket
		36.0	35-47					Penetrometer
	19D	36.0	27-39	Do 17D (SP-SM)				Unconfined Compres-
		38.0	40-50					sive Strength in tsf.
	20D	38.0	31-29	Do 17D (SP-SM)				
		40.0	36-61			40		TV=Torvane Shear
15:15	21D	40.0	37-49	Do 17D, trace coarse sand (SP-SM)				Strength in tsf.
10.10		41.2	50/2"			41.2		End of Boring at 41.2'.
1								
						45		
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					9			
and the same of th						50		
j								
To the second								

PROJECT: LOCATION:

Mueser Rutledge Consulting Engineers 14 Penn Plaza - 225 West 34th Street

New York, NY 10122

T: 917 339-9300 F: 917 339-9400

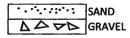
www.mrce.com

PIEZOMETER RECORD

PIEZOMETER OR BORING NO.	B-7UP
SHEET	2 OF 4
FILE NO.	12047
INSTALLATION DATE	10/15/13
RES ENGR.	PED

PIEZOMETER LOCATION:

STRATA GROUND SURFACE LEV. 5.4	DETA	INSTALLATION DETAILS			PIEZC	<u>INT</u> depth	AKE POINT to bottom, ft = pth to top, ft =	30.25'
////////	- V		. <u>g</u> .			diameter, in =		
0	33333	1000 2000 2000				<u>STA</u> eleva	NDPIPE/RISER tion of rim, ft =	5.2
						diameter, in =	<u>Z</u> , ft=	0.17 = 2r
	r		-8.4′	READIN	NG TIME	DEPTH – RIM	ELEVATION	T
	100		0.	DATE	CLOCK	TO WATER	OF WATER	REMARKS
	1.5			10/15	1710	2.5'	+2.7	
	2 7			10/16	1630	4.05'	+1.2	Wellneedstoder
	· ;			10/17	0725	4.0'	+1.2	
		1.		10/17	1525	5.5'	-0.3	
0				10/18	0715	4.65'	+0.6	
				10/18	1830	5.45'	-0.3	
	3333	35,57		10/21	0730	5.5'	-0.3	
	200001	200	-18'	10/21	1550	5.45'	-0.3	
				10/22		5.6'	-0.4	
	=	= ' : . †	-20,2.	10/22		4.8'	+0.4	
	1		- 22.2'	10/23	0710	5.6'	-0.4	PETROE EIT
	/ =		2200	10/23	0950	6.0'	1-0.8	BEFORE FAIT
				11/16	1050	5.95	-0.8	
				11/22	1338	5.6	-0.4	
	1	= :::		11/22	1428	5.85	-0.7	
(5)				11/26	1730	6.3	-1.1	-
					1015	5.3	-0.1	
	1,61			12/1	1010	5.55	-0.4	
		-	50.25'					
		- 5 -						
							ļ	
		1						





GROUND SURFACE ELEV. 5.4

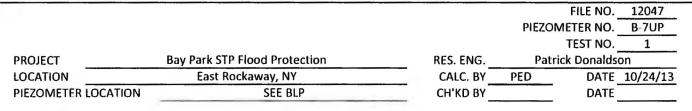
PIEZOMETER NO. 8-74P

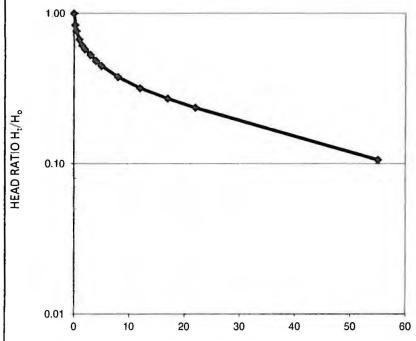


Mueser Rutledge Consulting Engineers 14 Penn Plaza - West 34th Street New York, NY 10122

VARIABLE HEAD PERMEABILITY TEST

SHEET 3 OF 4





STANDPIPE / RISER

DIAMETER, IN= 2

RADIUS, FT= 0.083

DEPTH TOP OF

CASING, FT= 0.25

BOREHOLE

DEPTH OF BOREHOLE, FT= 41.2

DIAMETER, IN= 4

RADIUS, FT= 0.167

ELEPSED TIME, Δt, MIN.

Average Permeability: 2.27E-04 ft/min

1.15E-04 rt/min

R	EADING TIM	E	TEST DEPTH	DEPTH	UNBALANCED	HEAD	PERME	ABILITY
DATE	CLOCK	Δt MIN.	RIM TO WATER ft.	RIM TO TIDE OR GWL, ft.	HEAD, H ft.	RATIO H _t /H _p	ft/min	cm/sec
10/23/2013	13:21		4.25	4.25	0.00		STATIC WA	TER LEVEL
	TIMER	0	0.00	4.25	4.25	1.00		
	1	0.25	0.70	4.25	3.55	0.84	1.02E-03	5.20E-04
		0.5	1.00	4.25	3.25	0.76	5.02E-04	2.55E-04
		1	1.40	4.25	2.85	0.67	3.73E-04	1.90E-04
		1.5	1.65	4.25	2.60	0.61	2.61E-04	1.33E-04
		2	1.80	4.25	2.45	0.58	1.69E-04	8.58E-05
		3	2.00	4.25	2.25	0.53	1.21E-04	6.15E-05
		4	2.20	4.25	2.05	0.48	1.32E-04	6.72E-05
		5	2.35	4.25	1.90	0.45	1.08E-04	5.49E-05
1		8	2.65	4.25	1.60	0.38	8.14E-05	4.14E-05
		12	2.90	4.25	1.35	0.32	6.04E-05	3.07E-05
		17	3.10	4.25	1.15	0.27	4.56E-05	2.32E-05
		22	3.25	4.25	1.00	0.24	3.97E-05	2.02E-05
10/23/2013	V	55	3.80	4.25	0.45	0.11	3.44E-05	1.75E-05

REMARKS

PIEZOMETER NO. B-7UP

										BORING	NO.	B-	7UP	
										SHEET	4	4 OF		4
PROJECT	Γ	BAY F	PARK STI	P - PER	IMETE	R FLC	OOD PF	ROTECTIO	NC	FILE NO	•	1204	17	
LOCATIO	RING EQUIPMENT AND METHO TYPE OF PE OF BORING RIG DURING DUCK DIETRICH 120 MECHAN DO HYDRAU RGE OTHER HER PE AND SIZE OF: AMPLER AMPLER RE BARREL RE BIT LL RODS NWJ TER LEVEL OBSERVATIONS III			BAY PA						SURFAC	E ELEV.		5.4	
BORING	PE OF BORING RIG DURING COFFEI DE OTHER DE AND SIZE OF: DE AMPLER DE BARREL RE BIT ILL RODS NWJ ATER LEVEL OBSERVATIONS IN BETT				NG LO	CATIC	N PLA	N		DATUM		NAVD	88	
DODING	- OLUB A -		D 44ET 10	50.05.6		7110 5								
BUHING	EQUIPME	<u>NI AN</u>			IABILI	ZING	BOREHO	<u> JLE</u>						
TVDE OE E	PORING RI	2					CASING	HEED			YES	NO		
TRUCK		_		18 1 5 K			DIA., IN.	4		DEPTH, F		0	то	7
SKID	DILITIO	11 120		-			DIA., IN.			DEPTH, F		- 0	то .	
BARGE				_			DIA., IN.			DEPTH, F			_ TO _	
OTHER			OTTIETT				2171., 114.	100		DEI 111, 1	1.11101		_ ,0 -	
TYPE AN	D SIZE OF	:				1	ORILLING	MUD USE	D	X	YES	NO		
D-SAMPLE	R 2" O	D. SP	LIT SPOON			(DIAMETE	R OF ROTA	ARY BIT	, IN.		3-7/8, 2-	15/16	
U-SAMPLE	R					-	TYPE OF	DRILLING	MUD			EZ-MU	JD	
S-SAMPLE	R													
CORE BAF	RREL					,	AUGER (JSED		X	YES	NO		
CORE BIT						•	TYPE AN	D DIAMETE	ER, IN.			HAND AU	JGER	
DRILL RO	OS NWJ													
								HAMMER,		140	_	SE FALL, IN.	30)
								R HAMMER	01.84 E16105 238540	140	_ AVERAG	SE FALL, IN.	30)
					<u> </u>	•	USED D	ONUT HAM	MER.					
WATERL	EVEL OB			1										
DATE	TIME		THE SPACE IN SECURIOR	DEPT			PTH TO ATER			CONDITIO	ONS OF O	BSERVATION	ı	
DATE	THE		HOLL	OAG	1110	***	AILH		NO V		70.2 (0.15 - 0.0 10) 30 NO	RVATIONS N		
											V			
	1										1015			

				,	,			1						
<u>PIEZOME</u>	TER INST	ALLE	<u> </u>	YES		NO	SK	ETCH SHO	O NWC	Ν	SI	EE SHEET N	10.2	
	_											_		
STANDPIP		TYPE	-	PV			D, IN.	2	-	TH, FT.	20	TOP ELEV		+5.2
INTAKE EL	EMEN1:	TYPE		SCREEN			DD, IN.	2-3/8	_	TH, FT.	10	TIP ELEV.	_	-25.1
FILTER:		MATE	HIAL	CLEAN	SAND		DD, IN.	4	_ LENG	iTH, FT.	12	BOT. ELE	/. _	-25.1
PAY QUA	NTITIES													
3.5" DIA. COI		AMPI F	RORING	LIN. FT.		33.2		NO OF 3	" SHELL	BY TUBE S	SAMPLES			
3.5" DIA. U				LIN. FT.	1 1	2				TURBED			1	
CORE DRII			2	LIN. FT.	-			OTHER: H			O/MINI EEO		6	
00								011121111		OGE!!				
BORING (CONTRAC	TOR						WARRE	N GEO	RGE. INC				
DRILLER	20 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	a 1550F 151	D	AVE OSL	JCH			HELPER				R GRANT		
REMARKS	3					WELL	INSTAL	LED. WEI		ER GRO				
RESIDEN		ER			-		DONAL				DATE		0-16-1	3
CLASSIFI	CATION C	HECK	:	CHE	RYL J.			TYPING	CHEC	< :	CI	HERYL J. M		
MRCE Form BS	S-1							_				RING NO.		-7UP

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-8U

SHEET 1 OF 2

FILE NO. 12047

SURFACE ELEV. 5.8

RES. ENGR. PATRICK DONALDSON

SAMPLE DAILY CASING NO. **DEPTH** BLOWS/6" SAMPLE DESCRIPTION STRATA DEPTH BLOWS REMARKS **PROGRESS** 1HA HAND Brown fine to coarse sand, some gravel, silt, DRILLED 13:15 0.0 2.0 **AUGER** trace vegetation (SM) **AHEAD** 10-04-13 2HA 2.0 HAND Brown & tan brown medium to fine sand, trace Black organic silty clay Friday F **AUGER** silt & black organic silty clay (SP-SM&OH) at 4'. Sunny 4.0 ЗНА 4.0 HAND Gray silty fine sand, trace gravel (SM) 5 Obstruction in hand 75°F 6.0 **AUGER** 6 auger at 5.3'; drove bar 14:45 3-2 Black fine to coarse sand, some gravel, organic 4D 6.0 to 6'. 12:10 10-8 4D: REC=3" 8.0 silt, trace peat (SM) 10-15-13 2-3 Top 3": Do 4D, trace gravel (OL) 5D 5D Top: WC=94 Tuesday 8.0 10 Bot 12": Gray organic silty clay, trace peat (OH) Sunny 10.0 7-6 5D Bot: WC=120 65°F 6D 10.0 1-2 Gray organic silty clay, trace fine to medium WC=70 12.0 2-2 sand, shells (OH) **7U** 12.0 PUSH=24" Medium gray organic clavey silt, trace fine sand. WC=51, pp=0.75, 14.0 REC=23" shells (OL) 0 TV=0.3 8D 2-2 Do 6D (OL) 15 14.0 WC=46 16.0 3-3 **9U** PUSH=24" Top: Soft gray org si cl, tr gvl, f-m sand (OH) 17.0 9U Top: WC=67, REC=23" Bot: Brown peat, trace organic silty clay (Pt) pp=0.1, TV=0.05 19.0 10D 19.0 Gray & brown organic silty clay, some peat 20 9U Bot: WC=240, 3-3 21 21.0 6-7 (OH&Pt) pp=1.5, TV=0.65 11D 9-22 Brown gravelly coarse to fine sand, trace silt 10D: WC=190 21.0 23.0 42-21 10D: REC=5" (SP) 25 12D 25.0 9-17 Green brown fine to medium sand, some 27.0 23-26 gravel, trace silt (SP-SM) 30 13D 30.0 11-26 Gray fine to medium sand, some gravel, trace 32.0 40-33 silt (SP-SM) 35 14D 35.0 11-9 Gray fine to medium sand, trace silt, coarse S 37.0 32-46 sand, gravel (SP-SM) 40 WC=Water Content 15D 40.0 29-65 Do 14D (SP-SM) in percent of dry 41.3 50/4" weight. pp=Pocket 45 Penetrometer 16D 45.0 8-28 Gray fine to medium sand, some gravel, trace Unconfined Compres-46.7 55-50/3" silt, coarse sand (SP) sive Strength in tsf. TV=Torvane Shear 50 Strength in tsf. 15:30 17D 27-50/5" 50.9 End of Boring at 50.9'. 50.0 Green brown fine to medium sand, trace 50.9 gravel, silt (SP-SM)

								BORING	NO.	B-8	U	
								SHEET	2	OF	2	
PROJECT		BAY F	ARK STE	- PERIN	1ETEF	R FLOOD PR	OTECTION	FILE NO.		12047		
LOCATIO	N			BAY PAF	K, NE	W YORK		SURFACE	E ELEV.		5.8	
BORING L	OCATION	1	SE	BORING	G LOC	ATION PLAI	N	DATUM		NAVD 8	8	
BORING E	QUIPMEN	NT AN	D METHO	DS OF ST	ABILIZ	ING BOREHO	DLE					
			TYPE OF F									
TYPE OF B	ORING RIC	à	DURING C	ORING		CASING	USED	X	YES	NO		
TRUCK	MOBILE	B-58	MECHANIC	CAL		DIA., IN.	4	DEPTH, FT		О Т	O 19	
SKID		2 0 2010	HYDRAUL	ic		DIA., IN.		DEPTH, FT		т	то	
BARGE			OTHER			DIA., IN.		DEPTH, FT			0	
OTHER										200 d 1111111	P1-16/04 P	
TYPE AND	SIZE OF					DOLLING	MUD USED	~	YES	NO		
			IT CDOOM						169		40	
	SAMPLER SAMPLER SAMPLER SAMPLER DRE BARREL DRE BIT RILL RODS NWJ						R OF ROTARY BIT	, IIV.	3-7/8, 2-15/16 EZ-MUD			
						TYPE OF	DRILLING MOD			EZ-MUD	1	
						AUGER L	ISED	v	YES	NO		
	TILL						D DIAMETER, IN.	^	TES	HAND AUG	ED	
	S NW.I					THEAN	O DIAMETER, IN.			TIAND ACC	LI1	
DI IILL I IOD	14440					*CASING	HAMMER, LBS.	140	AVERAGE	FALL IN	30	
							R HAMMER, LBS.		-	FALL, IN.	30	
							AFETY (SAMPLER		-			
WATER LI	EVEL OBS	SERVA	TIONS IN	BOREHO	l F	0025 0	AI ETT (OAMI EETT	, a no romi	1110 (0/10)	rvo) r iz iviiviici		
		7	PTH OF	DEPTH		DEPTH TO			200 72			
DATE	TIME		HOLE	CASIN	7	WATER		CONDITIO	NS OF OB	SERVATION		
					-		NO N	VATER LEV	EL OBSEF	RVATIONS MA	DE.	
PIEZOMET	TER INST	ALLEC)	YES	X	NO SKI	ETCH SHOWN O	N				
STANDPIPE	E:	TYPE				ID, IN.	-	STH, FT.		TOP ELEV.		
INTAKE ELI	EMENT:	TYPE				OD, IN.	LENC	STH, FT.	***	TIP ELEV.		
FILTER:		MATE	RIAL			OD, IN.	LENG	STH, FT.		BOT. ELEV.		
PAY QUAN	NTITIES											
3.5" DIA. DF		BORI	NG	LIN. FT.		44.9	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
3.5" DIA. CON	ITINUOUS S	AMPLE	BORING	LIN. FT.	-		NO. OF 3" UNDIS	STURBED S	AMPLES		2	
CORE DRIL	LING IN RO	OCK		LIN. FT.			OTHER: HAND A	UGER			6	
	CONTRAC	TOP					WARREN GEO	DGE INC				
BORING C DRILLER	ONTRAC	ION	CAE	SAR MOR	EIDA	V	HELPERS	HGE, INC.	Ι Δ\Λ/D	NCE MILLEI	-	
REMARKS						MOVED 9 PO	_ HELPERS REHOLE GROUT	ED LIBON			1	
RESIDENT		EP		ALL CASII		RICK DONALE			DATE		16-13	
CLASSIFIC			•	CHEC	YL J. I		TYPING CHEC			ERYL J. MOS		
		ILON		UNLE	I L J. 1	VIOGO	_ 1111110 0000			RING NO.	B-8U	
MRCE Form BS-	- I								DUI	IIIIQ IIQ.	D-0U	

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-9
SHEET 1 OF 2
FILE NO. 12047
SURFACE ELEV. 7.4

DAILY		SAM	PLE				CASING	PATRICK DONALDSC
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
08:30	1HA	0.0	HAND	Brown fine to medium sand, some silt, trace	**			**Asphalt slab from
10-07-13		2.0	AUGER	gravel, coarse sand, asphalt (SM)				0' to 0.46' at surface.
Monday	2HA	2.0	HAND	Tan brown fine to coarse sand, some gravel,			4"	
Sunny		4.0	AUGER	trace silt (SP)				
70°F	ЗНА	4.0	HAND	Black organic clayey silt, some fine to medium	F	5		
09:45		6.0	AUGER	sand, trace gravel (OL)				
08:45	4D	6.0	6-14	Brown silty fine to medium sand, some gravel,				REC=6"
10-16-13		8.0	11-8	trace coarse sand (SM)				
Vednesday	5D	8.0	4-8	Top 10": Brn f-m sand, sm gvl, tr silt, c sand (SP)		8.8		
Overcast,		10.0	18-18	Bot 14": Gray organic silty clay, sm f-c sand (OH)		10		5D Bot: WC=82
Light Rain	6D	10.0	2-7	Tan fine to medium sand, trace silt, gravel,				
60°F		12.0	6-6	coarse sand, peat (SP)	0			
	7D	12.0	4-4	Top 6": Tan f-m sand, sm gvl, tr silt (SP-SM)				
		14.0	6-7	Bot 12": Gray & brn org si clay, sm peat (OH&Pt)		14		7D Bot: WC=106
	8D	14.0	4-13	Brown medium to fine sand, trace organic silt,		15	Y	75 500. 110-100
	00	16.0	9-11	coarse sand, gravel, vegetation (SP-SM)				
	9D	16.0	7-9	Brown medium to fine sand, trace organic silt,				
	30	18.0	10-9	coarse sand, gravel, vegetation (SP-SM)				
	10D	18.0	4-10	Green brown fine to medium sand, trace silt,				
	100	20.0	10-18	gravel, coarse sand (SP)		20		
	11D	20.0	19-16	Green brown fine to medium sand, trace silt		20		
	110	22.0	18-19	(SP-SM)				
	120		9-16	N 7 A 50 MADE				
	12D	22.0		Do 11D (SP-SM)				
	100	24.0	18-19	Constitute to modify and to a self (CD CM)		05		
	13D	24.0	9-16	Gray fine to medium sand, trace silt (SP-SM)		25		
	440	26.0	17-18	0				
	14D	26.0	11-25	Gray fine sand, trace silt, medium sand (SP-SM)				
	450	28.0	28-30					
	15D	28.0	8-12	Gray & light brown fine to medium sand, trace		- 00		
	100	30.0	15-21	silt, clayey silt seams (SP-SM)		30		
	16D	30.0	8-22	Light brown fine to medium sand, trace silt	S			
		32.0	28-29	(SP-SM)	3			
	17D	32.0	9-18	Gray fine to medium sand, trace silt (SP-SM)				
		34.0	23-23					
	18D	34.0	10-23	Gray fine to medium sand, some silt (SM)		35		
		36.0	33-36					
	19D	36.0	4-13	Tan fine to medium sand, trace silt (SP-SM)				
1		38.0	21-23					
,	20D	38.0	4-19	Do 19D (SP-SM)				
ļ		40.0	33-37			40		
	21D	40.0	15-30	Light brown & gray fine to medium sand, trace				
ļ		42.0	39-38	silt (SP-SM)				
	22D	42.0	11-26	Light brown fine to medium sand, trace silt,				
		43.9	38-50/5"	coarse sand (SP-SM)				
-	23D	44.0	44-69	Do 22D (SP-SM)		45		WC=Water Content
į	-	46.0	79-81					in percent of dry
	24D	46.0	41-64	Light brown fine to medium sand, trace silt,				weight.
		47.4	50/5"	gravel (SP-SM)				
13:30	25D	48.0	30-50/4"	Do 24D (SP-SM)		48.8		End of Boring at 48.8
		48.8				50		
Į								

						BORING N	77-0-10-10-10-10-10-10-10-10-10-10-10-10-1	B-8	
						SHEET	2	OF	2
PROJEC1	ΓΕ	BAY PARK ST	A A A A A A A A	TER FLOOD PF	ROTECTION	FILE NO.		12047	
LOCATIO	N			NEW YORK		SURFACE	ELEV.		7.4
BORING I	LOCATION	ı Si	EE BORING L	OCATION PLA	N	DATUM		NAVD 8	8
BORING E	EQUIPMEN			ILIZING BOREHO	DLE				
		TYPE OF							
	BORING RIG			CASING	USED		YES	NO	
TRUCK	MOBILE			DIA., IN.	4	_ DEPTH, FT.			0 14
SKID		HYDRAU	LIC	DIA., IN.		DEPTH, FT.			0
BARGE OTHER		OTHER		DIA., IN.		DEPTH, FT.	. FROM	т	0
YPE AND	O SIZE OF	:		DRILLING	MUD USED	X	YES	NO	
SAMPLE	R 2" O.	D. SPLIT SPOO	N	DIAMETE	R OF ROTARY BI	IT, IN.		3-7/8	
J-SAMPLE				TYPE OF	DRILLING MUD	-		EZ-MUD	
S-SAMPLE CORE BAF				ALICER	ICED	V	VEC	NO	
	IHEL	NE THE RESERVE TO THE		AUGER U	ER USED X YES NO E AND DIAMETER, IN. HAND AUGER				
ORE BIT	S NWJ			I TPE AN	U DIAMETER, IN.	-		HAND AUG	=r
THILL HOL	JO INVO			CARING	HAMMER, LBS.	140	AVEDAGE	FALL, IN.	30
					R HAMMER, LBS.			FALL, IN.	30
					AFETY (SAMPLEF			The state of the s	1.50.000
NATERI	EVEL ORS	ERVATIONS I	N BOREHOLE		ALLIT (SAMIFEE)	ij a no i Olivin	ilo (casi	ING) HAWWEN	J.
	LVLLODO	DEPTH OF	DEPTH OF						
DATE	TIME	HOLE	CASING	WATER		CONDITION	IS OF OBS	SERVATION	
					NO	WATER LEVI	EL OBSER	VATIONS MAI	DE.
		×							
PIEZOME	TER INSTA	ALLED	YES	X NO SKI	ETCH SHOWN (ON			
TANDDID	c.	TVDE		ID IN	LEN	CTU ET		TOD ELEV	
TANDPIP NTAKE EL		TYPE		ID, IN.		GTH, FT.		TOP ELEV.	
	EMEN I:			OD, IN.		GTH, FT.		TIP ELEV.	_
ILTER:		MATERIAL		OD, IN.	LEN	GTH, FT.		BOT. ELEV.	-
AY QUA	<u>NTITIES</u>								
.5" DIA. DI	RY SAMPLE	BORING	LIN. FT.	4	NO. OF 3" SHEL	BY TUBE SA	MPLES		
.5" DIA. CO	NTINUOUS SA	AMPLE BORING	LIN. FT.	38.8	NO. OF 3" UNDI	STURBED SA	AMPLES		
ORE DRIL	LING IN RO	OCK	LIN. FT.		OTHER: HAND	AUGER			6
ORING (CONTRAC	ГOR			WARREN GEO	ORGE, INC.			
			ESAR MOREIR	RA	HELPERS	70.000	LAWRE	NCE MILLER	3
INILLEN									
	3		BOF	REHOLE TREMIE	GROUTED UPC	ON COMPLE	TION.		
REMARKS	S T ENGINE			REHOLE TREMIE PATRICK DONALI			TION. DATE	10-	16-13
		R	F				DATE	10- ERYL J. MOS	

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-10
SHEET 1 OF 2
FILE NO. 12047
SURFACE ELEV. 6.2

DAILY		SAMF	PLE				CASING	PATRICK DUNALDS
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
08:00	1HA	0.0	HAND	Brown fine to coarse sand, some gravel, silt			DRILLED	
10-08-13		2.0	AUGER	(SM)			AHEAD	
Tuesday	2HA	2.0	HAND	Brown gravelly fine to medium sand, trace silt	_		4"	
Clear		4.0	AUGER	(SP-SM)	F		i	
60°F	ЗНА	4.0	HAND	Brown fine to medium sand, some silt, trace		5		Rig chatter from 5' to
00 /	0,	6.0	AUGER	gravel (SM)		6		6'.
	4D	6.0	8-6	Dark gray fine sandy organic silt (OL)				REC=3"
		8.0	4-2	Dank gray mile carrey organic on (OL)				. 120-0
	5D	8.0	3-3	Gray & black f-c sandy organic clay & peat,	0			WC=153
	00	10.0	3-4	trace fine sand seams (OH&Pt)		10		****
	6D	10.0	1-2	Top 7": Do 5D (OH&Pt)		10.6		6D Top: WC=230
	- 00	12.0	2-2	Bot 22": Dk gray f-m sa, sm silt, tr gvl, c sa (SM)		10.0		ob 10p. ** 0=200
	7D	12.0	4-3	Gray fine to coarse sand, some silt, gravel				
	70	14.0	6-10	(SM)				
14:50	8D	14.0	9-9	Green brown fine to medium sand, trace silt,		15		
07:30	00	16.0	10-13	gravel, coarse sand (SP)		13		
	9D	16.0	11-14	Do 8D (SP)				
10-09-13	90		14-18	D0 6D (SP)				
ednesday	100	18.0	10-16	Cross brown fine to madium and trace silt				
Overcast	10D	18.0		Green brown fine to medium sand, trace silt		20		
60°F	110	20.0	17-18	(SP)		20		
	11D	20.0	11-12	Do 10D (SP-SM)				
	100	22.0	15-18	D 400 (00 014)				
	12D	22.0	11-17	Do 10D (SP-SM)				
		24.0	19-20			- 05		
	13D	24.0	7-11	Gray brown fine sand, trace medium sand,		25		
		26.0	15-16	silt (SP)				
	14D	26.0	13-16	Do 10D (SP)				
		28.0	14-13					
	15D	28.0	9-15	Green brown fine to medium sand, trace coarse	_			
		30.0	22-22	sand, silt (SP-SM)	S	30		
	16D	30.0	9-11	Green brown fine sand, trace medium sand,				
		32.0	17-15	silt (SP)				
	17D	32.0	17-18	Do 16D (SP)				
		34.0	18-19					
	18D	34.0	14-18	Light brown fine to medium sand, trace gravel,		35		
		36.0	21-21	coarse sand, silt (SP-SM)				
	19D	36.0	22-31	Do 18D (SP-SM)				
,		38.0	36-48					
	20D	38.0	15-25	Light brown fine to medium sand, trace silt,	İ			
		39.8	44-50/4"	coarse sand (SP)		40		
	21D	40.0	21-51	Light brown fine to coarse sand, trace silt,	į			
		41.3	50/4"	gravel (SP-SM)				
	22D	42.0	46-51	Light brown fine to medium sand, trace coarse				
		43.3	50/4"	sand, silt (SP-SM)				
	23D	44.0	33-50/4"	Light brown fine to medium sand, trace silt,		45		WC=Water Content
		44.8		gravel (SP-SM)				in percent of dry
	24D	46.0	59-50/3"	Tan fine to medium sand, trace gravel, coarse				weight.
12:30		46.7		sand, silt (SP-SM)				
12.30	25D	48.0	37-50/3"	Do 24D (SP-SM)		48.7		End of Boring at 48.7
		48.7				50		
	1							

						BURING		D- 1	5 - 10	
						SHEET	2	OF	2	
PROJECT		BAY PARK S		TER FLOOD PF	ROTECTION	FILE NO.	_	12047		
LOCATIO	N			, NEW YORK		SURFAC	E ELEV.		6.2	
BORING L	OCATIO	N SE	EE BORING	LOCATION PLA	N	DATUM		NAVD 8	38	
BORING E	QUIPME	NT AND METH	ODS OF STA	BILIZING BOREHO	DLE					
		TYPE OF	FEED			_	7			
TYPE OF B	ORING RIC	G DURING	CORING	CASING	USED	X	YES	NO		
TRUCK	DIETRIC	H 120 MECHAN	IICAL	DIA., IN.	4	DEPTH, F	Γ. FROM	0	TO 9	
SKID		HYDRAU	LIC	DIA., IN.		DEPTH, FT	Γ. FROM		ТО	
BARGE		OTHER		DIA., IN.		DEPTH, FT	Γ. FROM		го	
OTHER										
TYPE AND	SIZE OF	·:		DRILLING	G MUD USED	X	YES	NO		
D-SAMPLE		D. SPLIT SPOC	N		R OF ROTARY BI	L		3-7/8		
U-SAMPLE		2. 0. 2 0. 00			DRILLING MUD	., ., .,		EZ-MUD)	
S-SAMPLE					WIOD			-2-WIOL		
CORE BAR				AUGER (ISED	Х	YES	NO		
CORE BIT	IILL				ID DIAMETER, IN.		123	HAND AUG	ED	
DRILL ROD	S NWJ			TIFEAN	DUANCIEN, IN.			TIAND ACC	icn	
DI WEE I NOD	0 14440			*CASING	HAMMER, LBS.	140	AVEDAGE	FALL, IN.	30	
					R HAMMER, LBS.		_	FALL, IN.	30	
					E STUT E BEAU ESCANOLISM NO MARCA	. 140	AVERAGE	FALL, IN.	30	
MATERIA	EVEL OB	SEDVATIONS I	N BOBELOI (ONUT HAMMER.					
WAICHL	EVELOB	SERVATIONS I								
DATE	TIME	DEPTH OF HOLE	DEPTH O CASING	F DEPTH TO WATER		CONDITIO	NS OF OR	SERVATION		
DATE	THVIC	HOLL	OAGING	WAILI	NO		OBSERVATIONS MADE.			
			+		110	WATERICEV	LL ODOL!	IVATIONO WA	IDC.	
					+					
					_					
					+					
DIEZOME	TED INICT	ALLED	Tyre	V NO SK	ETOU CHOWN	DNI.				
PIEZOME	IER INST	ALLED	YES	X NO SK	ETCH SHOWN ()N				
STANDPIPE	Ε:	TYPE		ID, IN.	LEN	GTH, FT.		TOP ELEV.		
NTAKE ELI	EMENT:	TYPE		OD, IN.	LEN	GTH, FT.		TIP ELEV.		
FILTER:		MATERIAL		OD, IN.	LEN	GTH, FT.		BOT. ELEV.		
		**************************************				and the second section of the section of t				
PAY QUAN	NTITIES									
3.5" DIA. DF		E BORING	LIN. FT.	4	NO. OF 3" SHEL	BY TUBE SA	AMPLES			
		AMPLE BORING	LIN. FT.	38.7	NO. OF 3" UNDI					
CORE DRIL			LIN. FT.		OTHER: HAND				6	
BORING C	ONTRAC	00.14.00.00			WARREN GEO	ORGE, INC.				
DRILLER			DAVE OSUCH		HELPERS		JF	GRANT		
REMARKS				BOREHOLE GRO	OUTED UPON C	OMPLETIO	N.			
RESIDENT	ENGINE	ER	F	PATRICK DONALI	DSON		DATE	10-	09-13	
CLASSIFIC	CATION C	HECK:	CHERY	_ J. MOSS	K:	СН	ERYL J. MO	SS		
MRCE Form BS-	-1						BOF	ING NO.	B-10	

PROJECT: LOCATION:

BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-11

SHEET 1 OF 2

FILE NO. 12047

SURFACE ELEV. 7.9

RES. ENGR. PATRICK DONALDSON

						TES		PATRICK DONALDSON
DAILY		SAMF					CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	
10:05	1HA	0.0	HAND	Brown fine to coarse sand, some gravel, trace			DRILLED	
10-07-13		2.0	AUGER	silt, glass (SP-SM)			AHEAD	
Monday	2HA	2.0	HAND	Brown fine to coarse sand, some gravel, trace			4"	
Overcast		4.0	AUGER	silt (SP-SM)				
70°F	ЗНА	4.0	HAND	Brown fine to medium sand, some silt (SM)	F	5		
10:35		6.0	HAND	200				
08:45	4D	6.0	10-3	Brown & black fine to coarse sand, some				REC=6"
10-16-13		8.0	3-12	gravel, trace organic silty clay (SP-SC)				
Wednesday	5D	8.0	21-12	Gray fine to medium sand, some silt, trace			*	
Overcast		10.0	11-8	gravel (SM)		10		
60°F	6D	10.0	1-1	Brown peat & organic silty clay, trace fine				WC=199
		12.0	1-2	sand (Pt&OH)				
	7D	12.0	2-3	Top 3": Brn f sandy organic silt, sm peat (OL&Pt)	0			7D Top: WC=102
		14.0	3-2	Bot 18": Gray fine to medium sand, some	-			
				organic clay, trace coarse sand (SC)		15		
Ī	8D	15.0	1-3	Top 6": Gray m-f sand, sm clay, tr c sa, gvl (SC)		15.5		
		17.0	4-3	Bot 7": Brown fine to coarse sand, some gravel,				
				trace silt (SP-SM)				
Ī								
						20		
ĺ	9D	20.0	5-6	Gray clayey medium to fine sand (SC)				
12:45		22.0	7-6					
08:30								
10-17-13								
Thursday						25		
Light Rain,	10D	25.0	5-7	Brown fine to medium sand, trace silt (SP)			i	
Overcast		27.0	8-10	, ,	_			
					S			
						30		
	11D	30.0	6-12	Brown fine to medium sand, trace coarse				
-		32.0	14-17	sand, silt, gravel (SM)				
		2002001-0030-0000						
						35		
	12D	35.0	12-15	Brown fine to coarse sand, trace gravel, silt				
		37.0	11-14	(SP)				
		-						
						38.5		
						40		
	13D	40.0	18-25	Brown fine to medium sand, trace gravel, silt				
		42.0	21-27	(SP-SM)				
La								
-						45		
	14D	45.0	31-54	Do 13D (SP-SM)				
		46.3	50/4"					WC=Water Content
-								in percent of dry
								weight.
-						50		giitti
			100/08		, !			
	15D	50.0	100/6"	Tan fine to coarse sand, some gravel, trace		50.5	1	End of Boring at 50.5'.

BORING NO.

B-11

						BORING NO		B-11		
						SHEET	2	OF	2	
PROJECT		BAY PARK ST	P - PERIMET	TER FLOOD PR	OTECTION	FILE NO.		12047		
LOCATIO	N		V-0 2 15 25 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NEW YORK		SURFACE E	LEV.		.9	
BORING L	OCATION	N SE	E BORING L	OCATION PLAI	V	DATUM		NAVD 88	8	
		AT AND METH	DDC OF CTAR	II IZINIO DODENIO	N. F.					
BOHING E	QUIPME	TYPE OF		ILIZING BOREHO	<u>)LE</u>					
TYPE OF B	ODING DI			CASING	ICED	X YE	e –	NO		
TRUCK	171 10000000000000000000000000000000000	H 120 MECHAN		DIA., IN.	4	DEPTH, FT. F		0 TC	9	
SKID	DIETRICI	HYDRAU		DIA., IN.		DEPTH, FT. F		тс	-	
BARGE		OTHER		DIA., IN.	4	DEPTH, FT. F		тс		
OTHER		OTTIETT		DIA., IN.	-		I IOIVI			
TYPE AND	SIZE OF	:		DRILLING	MUD USED	X YE	s	NO		
D-SAMPLE	R 2" O.	D. SPLIT SPOO	N	DIAMETE	R OF ROTARY BI	T, IN.		3-7/8		
U-SAMPLE	R			TYPE OF	DRILLING MUD					
S-SAMPLE	R									
CORE BAR	REL			AUGER U		X YE	S	NO		
CORE BIT				TYPE AN	D DIAMETER, IN.		F	IAND AUGE	R	
DRILL ROD	S NWJ									
					HAMMER, LBS.		ERAGE FA		30	
					R HAMMER, LBS.	. 140 AV	ERAGE FA	LL, IN.	30	
===					ONUT HAMMER.					
WATERL	EVEL OBS	SERVATIONS II								
DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING			CONDITIONS	OE OBSEE	NATION		
DATE	THVIE	HOLE	CASING	WATER	NO		ONDITIONS OF OBSERVATION TER LEVEL OBSERVATIONS MADE.			
			1	+	140	VVAILITELVEL	OBSERVA	TIONS WAD	L.	
						31 (80)		27.00		
					· ·					
PIEZOME	TER INST.	ALLED	YES 2	X NO SKE	ETCH SHOWN (ON				
STANDPIPE	Ε:	TYPE		ID, IN.		GTH, FT.	TC	OP ELEV.		
NTAKE ELI	EMENT:	TYPE		OD, IN.		GTH, FT.		P ELEV.		
FILTER:		MATERIAL		OD, IN.	LEN	GTH, FT.	BC	OT. ELEV.	-	
	UTITIES									
<u>Pay Quan</u> 3.5" dia. df		E BODING	LIN ET	11 E	NO OF SECURE	DV THE CARA	DI EC			
			LIN. FT. LIN. FT.	44.5	NO. OF 3" SHEL		-			
CORE DRIL		AMPLE BORING			NO. OF 3" UNDI			6		
JONE DRIL	LING IN RO	JUN	LIN. FT.		OTHER, MANUA	NUCER				
BORING C	ONTRAC	TOR			WARREN GEO	ORGE, INC.				
DRILLER	2		AVE OSUCH		HELPERS		JR GI	RANT		
REMARKS	3			EHOLE TREMIE	-	N COMPLETION				
RESIDENT		ER		ATRICK DONALE			TE	10-1	7-13	
CLASSIFIC			CHERYL		TYPING CHECK: CHERYL J. MC					
				J. WICOG	THE HALL OFFICE		0111111			

PROJECT: LOCATION: BAY PARK STP - PERIMETER FLOOD PROTECTION

BAY PARK, NEW YORK

BORING NO. B-12

SHEET 1 OF 2

FILE NO. 12047

SURFACE ELEV. 8.2

911999		04445	V.E.					PATRICK DONALDSC
DAILY	NO	SAMF		CAMPLE DESCRIPTION	CTDATA	DEDTU	CASING	
PROGRESS	NO. 1HA	DEPTH 0.0	BLOWS/6" HAND	SAMPLE DESCRIPTION Brown fine to medium sand, some silt, trace	STRATA	DEPIH	BLOWS	REMARKS
11:00	ПА	2.0	AUGER	gravel, vegetation (SM)				
10-07-13	OLIA			Brave fine to modium and come gravel	F			
Monday	2HA	2.0	HAND	Brown fine to medium sand, some gravel, trace silt, coarse sand (SP-SM)	F			
Overcast		4.0	AUGER	trace siit, coarse sand (SP-SM)		5		
70°F, 11 25						3		Ob - 4 4 4
								Obstruction at 5'.
								End of Boring at 5'.
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