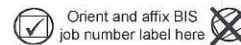




TR4: Technical Report
Soil Investigation
Must be typewritten.



1 Location Information *Required for all applications.*

House No(s) 478 Street Name West 130th Street
Borough Manhattan Block 1969 Lot 7 BIN 1089706 CB No. 109
Work on Floor(s) CEL,ROF,BAS, 001 - 009 Apt/Condo No(s)

2 Applicant Information *Required for all applications.*

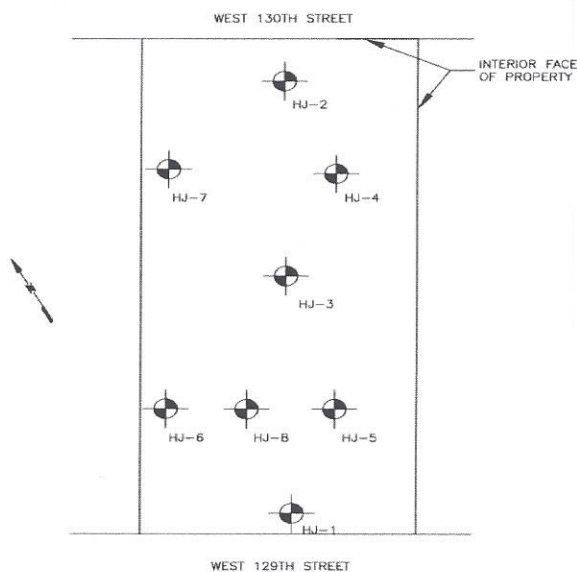
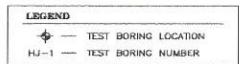
Last Name Wetzel First Name Cassandra Middle Initial A
Business Name GZA GeoEnvironmental of New York Business Telephone (212) 594-8140
Business Address 104 W. 29th Street, 10th Floor Business Fax (212) 279-8180
City New York State NY Zip 10001 Mobile Telephone (347)-242-7105
E-Mail cassandra.wetzel@gza.com License Number 83228
☒ P.E. ☐ R.A.

3 Required Borings / Test Pits *Required for all applications.*

Number of Test Pits as Required as per NYC Construction Codes: 4
Borings

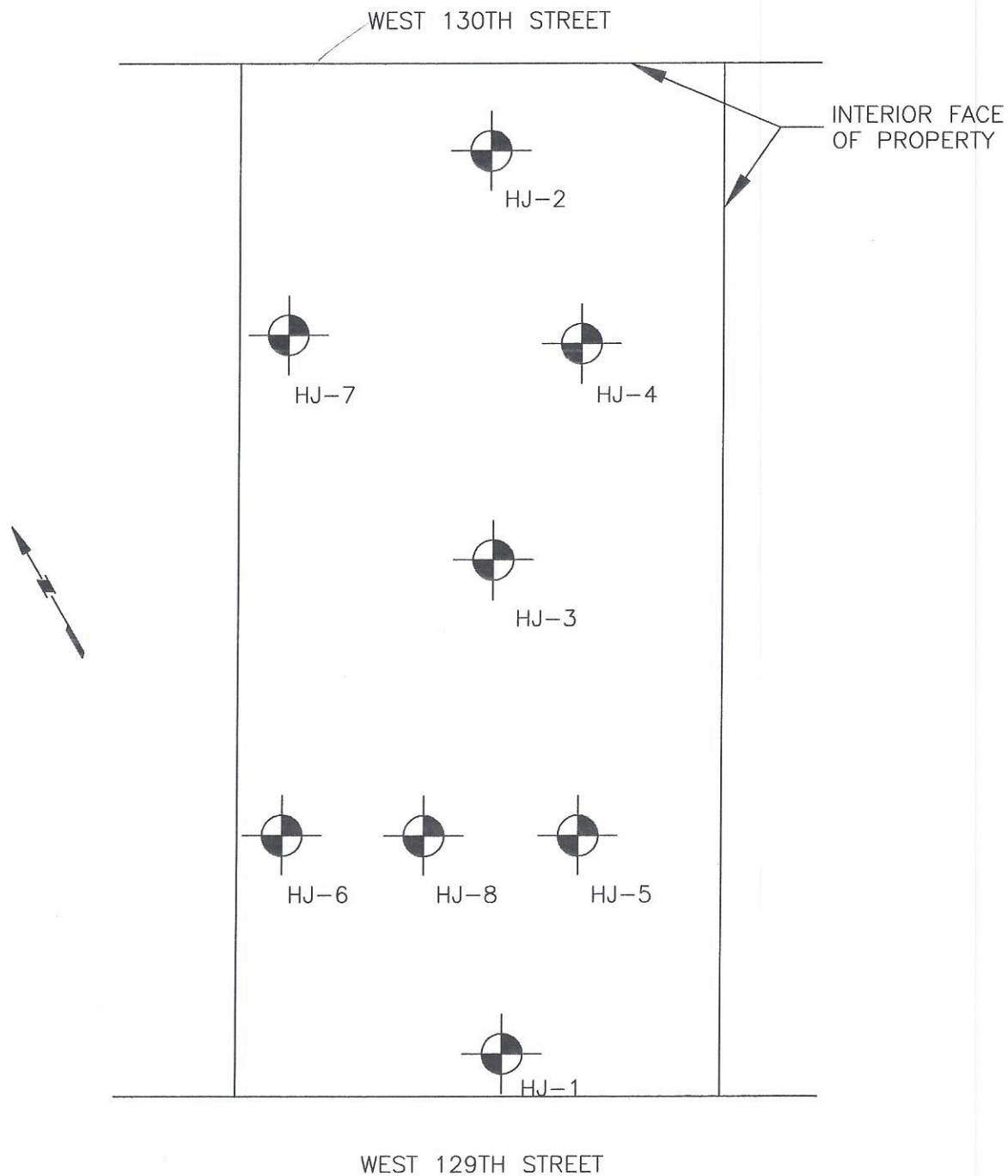
4 Plot Diagram *Required for all applications.*

Draw in ink to indicate scale. Show building outline or extension and location of all borings and/or test pits by dimensions. Borings and/or test pits shall be distributed according to the NYC Construction Codes.



LEGEND

-  — TEST BORING LOCATION
HJ-1 — TEST BORING NUMBER



HELLER AND JOHNSEN

Geotechnical Engineering Consultants

Foot of Broad Street, Stratford, CT 06615
(203) 380-8188 Fax: (203) 380-8198

DESIGNED BY: LFJ
CHECKED BY: MDT
DRAWN BY: MDT
SCALE: 1"=30'
DATE: DEC. 10, 2012

487 WEST 129TH STREET
MANHATTAN, NEW YORK

TEST BORING LOCATION PLAN

PROJECT No.

76704

FIGURE No.

1

HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615				TEST BORING REPORT			BORING NO. HJ-2	
PROJECT 487 West 129 th Street				GROUNDWATER READINGS			FILE NO. 76704	
LOCATION Harlem, New York				DATE	TIME	DEPTH	SHEET NO. 1 OF 2	
CLIENT Inner City Contracting, LLC				Water added by driller prior to reaching groundwater table			LOCATION SEE PLAN	
CONTRACTOR CMI Subsurface Investigations, Inc.							ELEVATION	
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES			
TYPE		FJ	SS		RIG TYPE Mobile B-61			
INSIDE DIAMETER (IN)		4	1-3/8		BIT TYPE Tri-cone Roller Bit			
HAMMER WEIGHT (LB)		--	140		DRILL HEAD			
HAMMER FALL (IN)		--	30		HAMMER TYPE Donut Hammer with Cathead and Rope			
DEPTH	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS			ELEV./DEPTH (FT)
0								
		3	SS1 4"	1.0	Very loose, brown, grey, fine to coarse SAND, some fine Gravel, little Silt, trace Plastic (Fill, SW Class 7).			0.4'
		2		3.0				
		1						
		2						
		51	SS2 0"	3.0	No Recovery.			
		9		4.0				
		50/0"						
5		60	SS3 6"	5.0	Hard drilling at 4'. Dark grey, fine to coarse GRAVEL, and fine to coarse Sand, trace Silt (Fill, GW, Class 7).			
		100/2"		5.7				
					Possible wood, 1' thick.			
		50/0"	SS4 0"	7.0	No Penetration.			7.0'
				7.0				
					Hard drilling from 7 to 15 feet.			
10		39	SS5 12"	10.0	Very dense, reddish brown, fine to coarse SAND, little fine Gravel, trace Silt (SW, Class 3a).			10.0'
		31		12.0				
		20						
		76						
15		14	SS6 7"	15.0	Dense, orange brown, brown, black, fine to coarse SAND, little fine Gravel, little Silt (SW, Class 3a).			
		18		17.0				
		24						
		26						
20		11	SS7 10"	20.0	Medium dense, reddish brown, fine to medium SAND, little Silt (SM, Class 3b).			
		11		22.0				
		14						
		16						
25		4	SS8 16"	25.0	Medium dense, reddish brown, fine SAND, some Silt (SM, Class 3b).			
		4		27.0				
		9						
		14						
					Note: Hard drilling from 29.5 to 31.5 feet, lots of chatter. Contractor drilled with water from the start of test boring.			
								29.5'

BOULDERS

HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615						TEST BORING REPORT			BORING NO. HJ-3		
PROJECT <u>487 West 129th Street</u>					GROUNDWATER READINGS			FILE NO. <u>76704</u>			
LOCATION <u>Harlem, New York</u>					DATE TIME DEPTH			SHEET NO. <u>1</u> OF <u>2</u>			
CLIENT <u>Inner City Contracting, LLC</u>					10/19/12 0810 25.0'			LOCATION <u>SEE PLAN</u>			
CONTRACTOR <u>CMI Subsurface Investigations, Inc.</u>					10/24/12 1245 25.0'			ELEVATION _____			
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES						
TYPE		FJ	SS		RIG TYPE	Mobile B-61					
INSIDE DIAMETER (IN)		4	1-3/8		BIT TYPE	Tri-cone Roller Bit					
HAMMER WEIGHT (LB)		--	140		DRILL HEAD						
HAMMER FALL (IN)		--	30		HAMMER TYPE	Donut Hammer with Cathead and Rope					
D E P T H	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS					ELEV./ DEPTH (FT)	STRATUM DESCRIPTION
0											CONCRETE SLAB
		10	SS1	1.0	Very loose, dark brown, grey, fine to coarse Sand, some fine Gravel, some Silt, trace Brick (Fill, SM, Class 7).					1.0'	
		1	3"	3.0							
		2									
		2									
		2	SS2	3.0	Brown, fine to coarse Sand, some fine to coarse Gravel, some Silt, little Steel (Fill, SM, Class 7).					5.0'	GRAVELLY SILTY SAND (FILL)
		100/5"	3"	3.9							
5		20	SS3	5.0	Medium dense, brown, fine to coarse SAND, some Silt, little fine to coarse Gravel (Fill, SM, Class 7).					5.0'	
		9	10"	7.0							
		6									
		5									
		6	SS4	7.0	Medium dense, brown, fine to medium SAND, little Silt (Fill, SP Class 7).					10.0'	SILTY SAND (FILL)
		6	12"	9.0							
		9									
		10									
10		66	SS5	10.0	Top 9": Reddish brown, fine to coarse SAND, some fine to coarse Gravel, little Silt (SW, Class 3a). Bottom 2": Light grey, fine to coarse SAND, little fine Gravel, little Silt (broken cobble, SW, Class 3a).					10.0'	GRAVELLY SAND
		100/5"	11"	10.9							
15		19	SS6	15.0	Dense, reddish brown, fine to coarse SAND, little Silt (SW, Class 3a).					15.0'	SAND
		25	11"	17.0							
		23									
		23									
					Hard drilling from 19 to 27 feet. Bentonite added after drilling to 20 feet.					20.0'	SANDY GRAVEL
20		88	SS7	20.0	Very dense, reddish brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt (GW, Class 2a).					20.0'	
		71	6"	22.0							
		66									
		46									
					No Recovery.					27.0'	SANDY SILT
25		48	SS8	25.0							
		27	0"	27.0							
		17									
		17									

HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615				TEST BORING REPORT			BORING NO. HJ-3	
PROJECT 487 West 129 th Street				GROUNDWATER READINGS			FILE NO. 76704	
LOCATION Harlem, New York				DATE 10/19/12			SHEET NO. 2 OF 2	
CLIENT Inner City Contracting, LLC				TIME 0810			LOCATION SEE PLAN	
CONTRACTOR CMI Subsurface Investigations, Inc.				DEPTH 25.0'			ELEVATION	
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES			
TYPE		FJ	SS	NX	RIG TYPE Mobile B-61			
INSIDE DIAMETER (IN)		4	1-3/8	2	BIT TYPE Tri Cone Roller Bit			
HAMMER WEIGHT (LB)		--	140		DRILL HEAD			
HAMMER FALL (IN)		--	30		HAMMER TYPE Donut Hammer with Cathead and Rope			
DATE					DATE 10/12/12 TO 10/18/12			
TIME					START 1300 FINISH 1000			
DRILLER					DRILLER Nick Moretti			
H&J REP					H&J REP Michal D. Thomas, P.E.			
D E P T H		CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS		
30		4	SS9	30.0	Top 16": Reddish brown, SILT, some fine Sand (ML, Class 5a). Bottom 5": Reddish brown, fine to medium SAND, some Silt (SM, Class 3a).			
35		15	21"	32.0				
40		22						
45		24						
50		6	SS10	35.0	Top 10": Reddish brown, fine to medium SAND, some Silt (SM, Class 3b). Bottom 8": Reddish brown, fine to coarse Gravel, some fine to coarse Sand, little Silt (GW, Class 2a).			
55		13	18"	37.0				
60		54						
65		83						
70		57	SS11	40.0	Reddish brown, fine to coarse SAND, little fine to coarse Gravel, little Silt (SW, Class 3a).			
75		100/5"	7"	40.9				
80								
85								
90								
95		50/1"	SS12	45.0	No Recovery.			
100			0"	45.1				
105								
110								
115		9 min.	C1	48.0	Grey, SCHIST, Fractured, slightly Weathered, RQD=27%, Class 1d.			
120		13 min.	22"	53.0				
125		11 min.						
130		11 min.						
135		12 min.						
140		11 min.	C2	53.0	Grey, SCHIST, very Fractured, slightly Weathered, RQD=7%, Class 1d. Core barrel clogged at 53.8 and 57.6 ft.			
145		12 min.	36"	58.4				
150		14 min.						
155		8 min.						
160		12 min.						
165		13 min.						
170								
175								
180								
185								
190								
195								
200								
205								
210								
215								
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HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615						TEST BORING REPORT							BORING NO. HJ-4											
PROJECT <u>487 West 129th Street</u> LOCATION <u>Harlem, New York</u> CLIENT <u>Inner City Contracting, LLC</u> CONTRACTOR <u>CMI Subsurface Investigations, Inc.</u>						GROUNDWATER READINGS <table border="1"> <tr> <th>DATE</th> <th>TIME</th> <th>DEPTH</th> </tr> <tr> <td>10/22/12</td> <td>0845</td> <td>24.3'</td> </tr> <tr> <td>10/24/12</td> <td>1250</td> <td>24.7'</td> </tr> </table>						DATE	TIME	DEPTH	10/22/12	0845	24.3'	10/24/12	1250	24.7'	FILE NO. <u>76704</u> SHEET NO. <u>1</u> OF <u>2</u> LOCATION <u>SEE PLAN</u> ELEVATION _____ DATUM _____ DATE <u>10/15/12</u> TO <u>10/19/12</u> START <u>1235</u> FINISH <u>1400</u> DRILLER <u>Nick Moretti</u> H&J REP <u>Michal D. Thomas, P.E.</u>			
DATE	TIME	DEPTH																						
10/22/12	0845	24.3'																						
10/24/12	1250	24.7'																						
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES																			
TYPE		FJ	SS	NX	RIG TYPE	Mobile B-61																		
INSIDE DIAMETER (IN)		4	1-3/8	2	BIT TYPE	Tri Cone Roller Bit																		
HAMMER WEIGHT (LB)		--	140		DRILL HEAD																			
HAMMER FALL (IN)		--	24		HAMMER TYPE	Donut Hammer with Cathead and Rope																		
D E P T H	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS							ELEV./DEPT (FT)	STRATUM DESCRIPTION											
0					Very dense, light grey, brown, fine to coarse SAND, some Silt, little fine to coarse Gravel (broken brick in tip) (Fill, SP Class 7).							0.7'	CONCRETE SLAB											
		12	SS1	1.0																				
		13	8"	2.3																				
		50/3"																						
5					No Recovery.								SILTY SAND WITH BRICK (FILL)											
		50/2"	SS2	3.0																				
			0"	3.2																				
10					Brown, grey, fine to coarse Sand, some fine to coarse Gravel, little Silt (Fill, SW, Class 7).							5.6'	POSSIBLE CONCRETE SLAB											
		50	SS3	5.0																				
		50/1"	6"	5.6																				
15					Very dense, reddish brown, fine to coarse SAND, little Silt, trace fine Gravel (SW, Class 3a).							6.5'	SAND											
		36	SS4	7.0																				
		26	12"	9.0																				
		26																						
20					Dense, reddish brown, fine to coarse SAND, little Silt, trace fine Gravel (SW, Class 3a).																			
		92																						
25					Very dense, reddish brown, black, fine to medium SAND, some Silt (SP, Class 3a).							25.0'	BOULDER											
		49	SS5	10.0																				
		40	1"	12.0																				
		30																						

HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615				TEST BORING REPORT			BORING NO. HJ-4	
PROJECT 487 West 129 th Street				GROUNDWATER READINGS			FILE NO. 76704	
LOCATION Harlem, New York				DATE 10/22/12 TIME 0845 DEPTH 24.3'			SHEET NO. 2 OF 2	
CLIENT Inner City Contracting, LLC				10/24/12 1250 24.7'			LOCATION SEE PLAN	
CONTRACTOR CMI Subsurface Investigations, Inc.							ELEVATION	
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES			
TYPE		FJ	SS		RIG TYPE Mobile B-61			
INSIDE DIAMETER (IN)		4	1-3/8		BIT TYPE Tri-cone Roller Bit			
HAMMER WEIGHT (LB)		--	140		DRILL HEAD			
HAMMER FALL (IN)		--	24		HAMMER TYPE Donut Hammer with Cathead and Rope			
DEPTH	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS			ELEV./DEPTH (FT)
30		14	SS9 0"	30.0	Very dense, reddish brown, fine to medium SAND, some Silt (SP, Class 3a). Note: The tip of the split spoon fell off of the sampler tube between the sampling process and the removal of the drill string. This may have resulted in the very high blow counts. No soil was in the sampler tube. The driller pounded a 3" sampler tube in an attempt to retrieve the tip. The soil description is based on the recovery in the 3" tube.			30.0'
		60		31.7				31.7'
		78						
		50/2"						
35					No Recovery. Note: SS10 sampled with a 3" split spoon and a 300 lb hammer, spoon bounced at 35.4 ft. No Recovery. A piece of the lost split spoon tip was stuck in the hole.			33.0'
		100/5"	SS10 0"	35.0				34.0'
		26 min.	C1 0"	35.4				35.0'
		7 min./5"	C2 0"	36.4				35.4'
					No Recovery. A second piece of the lost split spoon and may have prevented any recovery of a sample. The contractor advanced the roller bit to 39.0 ft. Grey, SCHIST, highly fractured, slightly weathered RQD=15%, Class 1d.			
40		15 min.	C3 24"	39.0				39.0'
		10 min.		44.0				
		7 min.						
		7 min.						
		10 min.						
45								44.0'
50								
55								
					Note: The contractor installed a 1 1/4" OD PVC monitoring well. 10 ft. screened PVC piping with 34 ft. solid PVC piping.			

HELLER AND JOHNSEN FOOT OF BROAD STREET STRATFORD, CONNECTICUT 06615				TEST BORING REPORT			BORING NO. HJ-7	
PROJECT 487 West 129 th Street				GROUNDWATER READINGS			FILE NO. 76704	
LOCATION Harlem, New York				DATE			SHEET NO. 2 OF 2	
CLIENT Inner City Contracting, LLC				TIME			LOCATION SEE PLAN	
CONTRACTOR CMI Subsurface Investigations, Inc.				DEPTH			ELEVATION	
				Driller added water from the start of the hole			DATUM	
ITEM		CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES			
TYPE		FJ	SS		RIG TYPE Mobile B-61			
INSIDE DIAMETER (IN)		4	1-3/8		BIT TYPE Tri-cone Roller Bit			
HAMMER WEIGHT (LB)		--	140		DRILL HEAD			
HAMMER FALL (IN)		--	30		HAMMER TYPE Donut Hammer with Cathead and Rope			
DEPTH	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE TYPE NO. & REC.	SAMPLE DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS			ELEV./DEPTH (FT)
30		5	SS9 18"	30.0	Top 12": Red/brown, fine SAND, some Silt (SM, Class 3b). Bottom 6": CLAY, little fine Sand, (CL, Class 5b).			
		12		32.0				
		9						
		8						
35					Top 10": Red/brown, fine SAND, and Silt (SM, Class 3b). Bottom 10": Red/brown, SILT, little fine Sand (ML, Class 5b).			
		11	SS10 20"	35.0				
		11		37.0				
		11						
40					Top 7": Red/brown, fine to coarse SAND, some Silt (SM, Class 3a). Bottom 1": Grey, Decomposed Schist Bedrock (GP, Class 2a).			
		47	SS11 8"	40.0				
		50/3"		40.8				
45								
50								
55								