

APPENDICES

APPENDIX 3

Boring Logs

BORING LOG

CLIENT Aggregate Industries
Chelsea, Michigan

PROJECT Sand and Gravel Exploration in Chelsea, MI

JOB No. 133873

LOCATION OF BORING :
As Directed

GROUND ELEV. _____ METHOD SONIC

DRILLING COMMENTS _____

DATE STARTED 3/21/2005

DATE ENDED 3/21/2005

DRILLERS JK, TW, SW

DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6" INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL			SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term		
							Gravel	Trace	1-10%	
1					4.0		Brown Sand and gravel			
2										
3										
4										
5					9.0		Brown Sand and gravel with cobbles			
6										
7										
8										
9										
10										
11					9.0		Brown Sand and gravel, some cobbles			
12										
13										
14										
15										
16										
17										
18										
19										
20										

GROUND INITIAL _____ DATE 3/21/2005 A — SPLIT SPOON E — AUGER CUTTINGS
 WATER AT COMPLETION _____ DATE 3/21/2005 B — ROCK CORE
 OBSERVATIONS OTHER _____ D — SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37					37.0				
38							Brown, gravel		
39					39.0				
40							Brown Sand, traces of cobbles		
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

GROUND INITIAL _____ DATE 3/21/2005 A — SPLIT SPOON E — AUGER CUTTINGS

WATER AT COMPLETION _____ DATE 3/21/2005 B — ROCK CORE

OBSERVATIONS OTHER _____ C — SHELBY TUBE

D — SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
51									
52									
53									
54									
55					55.5				
56						Gray silty Clay, some sand, trace cobbles			
57									
58									
59					59.0				

BOB 59.0'

GROUND	INITIAL	DEPTH	DATE	A-- SPLIT SPOON	E-- AUGER CUTTINGS
WATER	AT COMPLETION		<u>3/21/2005</u>	B-- ROCK CORE	
OBSERVATIONS	OTHER		<u>3/21/2005</u>	C-- SHELBY TUBE	
				D-- SONIC	



BORING LOG

CLIENT Aggregate Industries
Chelsea, Michigan

PROJECT Sand and Gravel Exploration in Chelsea, MI

JOB No. 133873

LOCATION OF BORING :
As Directed

GROUND ELEV. _____ METHOD SONIC

DRILLING COMMENTS _____

DATE STARTED 3/21/2005

DATE ENDED 3/21/2005

DRILLERS JK, TW, SW

DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6" INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
1					9.0		Brown Sand and gravel		
2									
3									
4									
5									
6									
7									
8									
9									
10					19.0		(Cobbles in Bit)		
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									



GROUND _____ INITIAL _____ DATE 3/21/2005 A — SPLIT SPOON E — AUGER CUTTINGS
 WATER _____ AT COMPLETION _____ DATE 3/21/2005 B — ROCK CORE
 OBSERVATIONS _____ OTHER _____ DATE _____ C — SHELBY TUBE
 D — SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

GROUND	INITIAL	DEPTH	DATE	A - SPLIT SPOON	E - AUGER CUTTINGS
WATER	AT COMPLETION		3/21/2005	B - ROCK CORE	
OBSERVATIONS	OTHER		3/21/2005	C - SHELBY TUBE	
				D - SONIC	



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
51									
52									
53									
54					54.0		Gray silty Clay, some sand		
55									
56									
57					57.0		Brown gray Sandy silt		
58									
59					59.0				

BOB 59

GROUND INITIAL _____ DEPTH _____ DATE 3/21/2005 A -- SPLIT SPOON E -- AUGER CUTTINGS
 WATER AT COMPLETION _____ DATE 3/21/2005 B -- ROCK CORE
 OBSERVATIONS OTHER _____ C -- SHELBY TUBE
 D -- SONIC



BORING LOG

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JOB No. 133873

LOCATION OF BORING :
As Directed

GROUND ELEV. _____ METHOD SONIC
 DRILLING COMMENTS _____

DATE STARTED 3/21/2005


DATE ENDED 3/21/2005

DRILLERS JK, TW, SW

DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6" INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY	
		FROM	TO				Major Component:	Minor Component Term		
1					1.0		Brown Sand & Gravel	Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
2							Brown Sand & gravel w/cobbles			
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15					15.0			Brown Sandy Gravel		
16										
17										
18										
19										
20					20.0		Gray Sandy Silt, some gravel and trace of cobbles			

GROUND INITIAL _____ DATE 3/21/2005 A -- SPLIT SPOON E -- AUGER CUTTINGS
 WATER AT COMPLETION _____ DATE 3/21/2005 B -- ROCK CORE
 OBSERVATIONS OTHER _____ DATE _____ C -- SHELBY TUBE
 D -- SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL			SPT "N" OR RECOVERY	
		FROM	TO				Major Component:	Minor Component Term			
							Gravel	Trace	1-10%		
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38					38.0						

BOB 38

GROUND	INITIAL	DEPTH	DATE	A — SPLIT SPOON E — AUGER CUTTINGS
WATER	AT COMPLETION		3/21/2005	B — ROCK CORE
OBSERVATIONS	OTHER		3/21/2005	C — SHELBY TUBE
				D — SONIC



BORING LOG

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JOB No. 133873

LOCATION OF BORING :
As Directed

GROUND ELEV. _____ METHOD SONIC

DRILLING COMMENTS _____

DATE STARTED 3/22/2005

DATE ENDED 3/23/2005

DRILLERS JK, TW, SW

DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6" INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
1					2.0		Sand and gravel		
2							Brown Sand and gravel, trace of cobbles		
3					16.0		Brown Sandy gravel (wet)		
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16					21.0				
17									
18									
19									
20									

GROUND INITIAL 16.0 DATE 3/22/2005 A— SPLIT SPOON E— AUGER CUTTINGS
 WATER AT COMPLETION 16.0 DATE 3/23/2005 B— ROCK CORE
 OBSERVATIONS OTHER T N C— SHELBY TUBE
 D— SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel	Trace 1-10%	
							Sand	Some 11-35%	
							Silt	And 36-50%	
							Clay		
22						Brown Sand and gravel			
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

GROUND	INITIAL	DEPTH	DATE	A -- SPLIT SPOON	E -- AUGER CUTTINGS
WATER	AT COMPLETION	16.0	3/22/2005	B -- ROCK CORE	
OBSERVATIONS	OTHER	T	3/23/2005	C -- SHELBY TUBE	
			N	D -- SONIC	



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
51									
52									
53									
54									
55									
56									
57									
58									
59					59.0				
60							Brown gray silty Sand		
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71					71.0				
72							Gray silty Clay, some sand		
73									
74									
75									
76									
77									
78									
79					79.0				

BOB 79.0

GROUND	INITIAL	DEPTH	DATE	A — SPLIT SPOON	E — AUGER CUTTINGS
WATER	AT COMPLETION	16.0	3/22/2005	B — ROCK CORE	
OBSERVATIONS	OTHER	T	3/23/2005	C — SHELBY TUBE	
			N	D — SONIC	



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GROUND ELEV. _____ METHOD SONIC

DATE STARTED 3/23/2005

DRILLING COMMENTS _____

DATE ENDED 3/23/2005

DRILLERS JK, TW, SW

DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6" INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
1					1.0		Sand and Gravel	Gravel Trace 1-10% Sand Some 11-35% Silt And 36-50% Clay	
2							Brown Sand and gravel, trace of cobbles		
3									
4									
5									
6									
7									
8									
9									
10					10.0			Brown sandy Gravel	
11									
12					12.5		Brown sand Silt		
13					13.5		Brown fine Sand (wet)		
14									
15									
16									
17									
18									
19									
20									

GROUND INITIAL 13.5 DATE 3/23/2005 A — SPLIT SPOON E — AUGER CUTTINGS
 WATER AT COMPLETION 3/23/2005 B — ROCK CORE
 OBSERVATIONS OTHER T N C — SHELBY TUBE D — SONIC



DEPTH, FT	SAMPLE NO.	DEPTH OF SAMPLE, FT		BLOWS ON SAMPLER PER 6 IN INTERVAL	DEPTH OF STRATUM, FT	GRAPHICS	CLASSIFICATION OF MATERIAL		SPT "N" OR RECOVERY
		FROM	TO				Major Component:	Minor Component Term	
							Gravel Sand Silt Clay	Trace 1-10% Some 11-35% And 36-50%	
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33					33.0	●●●●●●			
34						●●●●●●	Gray Sand and gravel with silty		
35						●●●●●●			
36						●●●●●●			
37					37.0	●●●●●●			
38						●●●●●●	Gray sandy Clay with gravel		
39					39.0	●●●●●●			

BOB 39.0'

GROUND	INITIAL	DEPTH	DATE	A — SPLIT SPOON	E — AUGER CUTTINGS
WATER	AT COMPLETION	13.5	3/23/2005	B — ROCK CORE	
OBSERVATIONS	OTHER	T	N	C — SHELBY TUBE	

