

Appendix 4

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		Brown, gravel		
38									
39					39.0		Brown Sand, traces of cobbles		
40									
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 _____ 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%	
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	 BOWSER MORNER
WATER	AT COMPLETION		3/21/2005	B—ROCK CORE		
OBSERVATIONS	OTHER		3/21/2005	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	
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							Brown Sand and gravel w/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 _____ 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							Sand	Some	11-35%	
23							Silt	And	36-50%	
24							Clay			
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 _____ 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	Trace	1-10%	
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	A - SPLIT SPOON	E - AUGER CUTTINGS
WATER	AT COMPLETION	<u> </u>	<u>3/21/2005</u>	B - ROCK CORE	
OBSERVATIONS	OTHER	<u> </u>	<u>3/21/2005</u>	C - SHELBY TUBE	
		<u> </u>	<u> </u>	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		
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 _____ 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	
							Major Component:	Minor Component Term			
		FROM	TO				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

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 3/22/2005

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	
							Gravel	Trace 1-10%	
							Sand	Some 11-35%	
							Silt	And 36-50%	
							Clay		
1					2.0		Sand and gravel		
2				Brown Sand and gravel, trace of cobbles					
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16					16.0		Brown Sandy gravel (wet)		
17									
18									
19									
20									
					21.0				

GROUND INITIAL _____ DATE 3/22/2005 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							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	<u>16.0</u>	<u>3/22/2005</u>	B - ROCK CORE	
OBSERVATIONS	OTHER	T	<u>3/23/2005</u>	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	



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

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		
							Gravel	Trace	1-10%	
1					1.0		Sand and Gravel			
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					
14							Brown fine Sand (wet)			
15										
16										
17										
18										
19										
20										

GROUND INITIAL _____ 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
		Major Component:	Minor Component Term							
		Gravel	Trace				1-10%			
							Sand	Some	11-35%	
		FROM	TO				Silt	And	36-50%	
							Clay			
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	
				D - SONIC	

